

## **Survival and Performance of Cultivated Perennial Legume Species in Arizona**

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In May, 1989, DELEP began trial plantings of legumes in field plots located at the University of Arizona Campus Agricultural Center (CAC field 6), in Tucson. The initial purpose of these trials was to evaluate various taxa for their adaptability to the local climate. An additional goal was seed-increase to augment DELEP's seed bank. As the field trials continued, the plants also served as a source of plant material for several research projects, primarily involving screening for bioactive compounds with pharmaceutical applications. Those plants that performed well and had an attractive growth form, foliage or flowers were also evaluated for their potential as landscape plants. In 1991, a site for frost-sensitive woody legumes was established at the Yuma Mesa Agricultural Center, in Yuma, AZ. In 1997 a field for woody shrubs, suffrutescent perennials and some herbaceous perennial species was planted at a second location at the CAC (field 3) and in 1998 a field for trees was put in at the West Campus Agricultural Center (WCAC). Together, the Tucson fields comprise approximately 3.5 acres and the Yuma fields add an additional 4 acres. Plantings in these fields have continued through 2010 with additional plants to be installed in the future.

With a few exceptions, the plants used in these field trials have been propagated at DELEP's CAC facilities. In most cases, the plants are planted out from 1-gallon or 2-gallon containers, with some plants grown on to 5-gallon size prior to planting. Depending on planting location and eventual mature size, between 2 and 10 plants of each accession (the six-digit accession number follows the botanical name in the plant summaries) are propagated. Most planting has taken place during the spring and summer months to optimize establishment and growth prior to winter. Newly planted plants are protected with poultry netting to exclude rabbits. This is removed when the plants are larger. The fields are irrigated by either flood irrigation or drip irrigation. In 2004, we began retrofitting the original CAC field (field 6) with a drip irrigation system. It had been flood-irrigated up to that point. The WCAC field was provided with drip irrigation from the outset. CAC field 3 and the Yuma fields are flood-irrigated. Irrigation in the CAC fields is provided on an as-needed basis with the irrigation schedule adjusted to reflect the age of the plantings, season, and rainfall. The Yuma fields have been irrigated once every three weeks in the summer months and once every six weeks in the winter following an initial establishment period for the early plantings there. Manual and chemical weed control is performed as needed. Larger woody species are pruned when young to encourage development of an arborescent form and to keep them off the ground to facilitate weed control beneath them. Otherwise, pruning is performed mainly to remove portions of the plants that have been damaged by storms or freezing temperatures.

The soil at the different fields varies considerably. The CAC fields are located in the floodplain of Rillito Creek and the WCAC field is on the floodplain of the Santa Cruz River. The soil in field 6 at the CAC is sandy clay while field 3 has a heavier clay soil. At the WCAC field the soil is a sandy loam. The pH at the Tucson field sites is alkaline. The Yuma fields are located on an area of stabilized sand. Both the CAC and WCAC fields are located in areas subjected to cold air drainage and experience regular freezing temperatures in winter. In some years, overnight temperatures fall below 20° F (-6.6° C). These fields provide excellent locations in which to evaluate cold tolerance in tropical and subtropical legume species.

A few general observations may be drawn from the information collected during this study. As expected, freezing temperatures accounted for the greatest number of plants that failed to survive. Many plants died during their first winter and some of these might have survived had they been larger. The particularly cold freeze of December 1996, when temperatures in CAC field 6 fell to 15° F (-9.4° C) killed a number of plants that had survived previous winters with relatively minor damage. A severe freeze also struck the Tucson and Yuma fields in January of 2007 when the Yuma Mesa Agricultural Center recorded a low of 23° F (-5 ° C). Sensitivity to freezing temperatures sometimes varies between plants from different accessions of the same species and even between individual plants within a single accession.

The second largest cause of mortality seems to be soil conditions. Many Australian taxa that occur naturally in areas with acidic, sandy soils quickly declined and died when planted in the alkaline clay soil at the CAC fields. This was most noticeable during the hot, humid summer months. Others persisted for a year or two but grew little if any, developed chlorosis, and frequently exhibited considerable stem die-back before expiring. It was not determined if soil conditions alone or in combination with pathogens resulted in the deaths of these plants. Several species that had been planted in CAC field 3 had done well until the summer of 1999 when a combination of over 6 in (150 mm) of rain during July and a broken water main resulted in that field being inundated with standing water for a period of four weeks. The majority of the species in the field showed little or no ill effects from this event.

Predation by rabbits and gophers accounted for the loss of a number of plants in CAC field 6 and the Yuma fields. Rabbits were primarily a problem with young/small plants, however, gophers appear to have caused fatal damage to several large shrubs and at least one tree. Damage by chewing or sucking insects caused little apparent damage, and this was confined to certain species.

A number of plants died for reasons that were not determined. Some newly planted plants simply disappeared without a trace. Some small plants may have been accidentally destroyed during weed removal. Others may have been killed by pathogens or herbivores. Had there been shorter intervals between field evaluations, it might have been possible to determine the cause of death of some of these plants.

DELEP is keenly aware of its responsibility to avoid introducing plants that could become ecosystem weeds. To date, 59 taxa of legumes have been observed to reproduce from seeds in DELEP's field plots. It must be kept in mind that these fields are artificial environments that provide optimum conditions for germination and growth. The soil is regularly disturbed during weed control operations and ample moisture is present at intervals during the growing season. Arid environments present difficult challenges for the establishment of woody plants outside of riparian habitats as evidenced by the lack of infestations of exotic woody species in upland areas of the Sonoran Desert surrounding cities and towns with their abundance of non-native trees and shrubs.

Vigilance is essential, however, particularly with plants that are not native to southwestern North America. Of the 47 taxa of legumes observed to reproduce from seeds in the Tucson field sites, 17 are native to Arizona and 7 others are native to areas of the Sonoran Desert outside of Arizona. Only 10 taxa that reproduced in the original Tucson field site (CAC field 6) are native to areas outside of North America and of these, 5 subsequently died out. Five volunteer taxa have survived in the fields: *Caesalpinia gilliesii* is widely cultivated across the southwestern U.S. and often becomes feral around settlements. *Senna artemisioides* subsp. *filifolia* and *Senna artemisioides* subsp. *petiolaris* are widely grown as landscape plants in desert areas of southern and central Arizona. These Australian

natives have been observed to establish occasionally along roads or in desert areas adjacent to landscapes where they are cultivated. *Senna aphylla* is represented by a single plant that volunteered adjacent to a parent plant in CAC field 6. *Mimosa farinosa* presents some concern as hundreds of seedlings have volunteered in the field where the parent plants are growing. Since irrigation has been reduced, new seedlings have been few, however, these are being removed and this species will not be made available for horticulture. Only 2 legume taxa not native to areas in the vicinity of the CAC fields, *Senna hirsuta* var. *glaberrima* and *Senna lindheimeriana*, have been observed to germinate outside of the irrigated areas of the Tucson fields. Both of these are native to areas of eastern Pima County at a slightly higher elevation.

Interestingly, none of the Australian acacias except for *Acacia stenophylla* have been observed to reproduce from seeds in DELEP's fields, though many have profuse seed production. Two plants of *Acacia stenophylla* became established in CAC field 3 following extensive flooding in that field during the summer of 1999. In habitat, they are found along seasonally flooded watercourses and seasonal swamps, though they perform quite well in desert landscapes.

Several taxa have been observed to produce root-suckers under cultivation in DELEP's fields. These include *Acacia ampliceps*, *Acacia jennerae*, *Acacia salicina*, *Geoffroea decorticans* and *Prosopis reptans* var. *cinerascens*.

### **Legume Taxa Observed to Reproduce from Seeds in DELEP Field Evaluation Sites**

Occurrence: F – Frequent, more than 20 plants

O – Occasional, 5-20 plants

R – Rare, less than 5 plants

<u>Taxonomic Name</u>	<u>Occurrence</u>
<i>Acacia angustissima</i> var. <i>angustissima</i> (Tucson)	O
<i>Acacia farnesiana</i> (Tucson)	R
<i>Acacia furcifispina</i> (Tucson)	R
<i>Acacia millefolia</i> (Tucson)	R
<i>Acacia modesta</i> (Yuma)	O
<i>Acacia nebrownii</i> (Tucson)	R
<i>Acacia neovernicosa</i> (Tucson)	R
<i>Acacia nilotica</i> (Yuma)	R
<i>Acacia roemeriana</i> (Tucson)	O
<i>Acacia stenophylla</i> (Tucson)	R
<i>Acacia villosa</i> (Tucson)	R
<i>Brongniartia alamosana</i> (Yuma)	O
<i>Caesalpinia gilliesii</i> (Tucson)	O
<i>Caesalpinia mexicana</i> (Tucson)	R
<i>Caesalpinia palmeri</i> (Tucson)	F
<i>Caesalpinia platyloba</i> (Yuma)	R
<i>Calliandra californica</i> (Tucson)	R
<i>Calliandra eriophylla</i> (Tucson)	R
<i>Dalea pulchra</i> (Tucson)	O
<i>Eysenhardtia orthocarpa</i> (Tucson)	O
<i>Eysenhardtia texana</i> (Tucson)	O

<i>Indigofera sphaerocarpa</i> (Tucson)	R
<i>Indigofera suffruticosa</i> (Tucson)	O
<i>Haematoxylum brasiletto</i> (Yuma)	O
<i>Havardia mexicana</i> (Tucson)	R
<i>Leucaena leucocephala</i> (Yuma)	F
<i>Lonchocarpus capassa</i> (Yuma)	R
<i>Lysiloma candidum</i> (Yuma)	O
<i>Macroptillium atropurpureum</i> (Tucson)	O
<i>Mimosa asperata</i> (Tucson)	R
<i>Mimosa dysocarpa</i> (Tucson)	R
<i>Mimosa emoryana</i> (Tucson)	F
<i>Mimosa ephedroides</i> (Tucson)	R
<i>Mimosa farinosa</i> (Tucson)	F
<i>Mimosa palmeri</i> (Yuma)	R
<i>Nissolia schottii</i> (Tucson)	R
<i>Parkinsonia aculeata</i> (Tucson)	R
<i>Parkinsonia florida</i> (Tucson)	O
<i>Peltophorum africanum</i> (Tucson)	R
<i>Pithecellobium dulce</i> (Yuma)	F
<i>Prosopis glandulosa</i> var. <i>torreyana</i> (Yuma)	O
<i>Prosopis pubescens</i> (Tucson)	F
<i>Prosopis reptans</i> var. <i>cinerascens</i> (Tucson)	R
<i>Prosopis velutina</i> (Tucson)	O
<i>Rhynchosia senna</i> var. <i>texana</i> (Tucson)	O
<i>Senna aphylla</i> (Tucson)	R
<i>Senna artemisioides</i> subsp. <i>xartemisioides</i> (Tucson)	F
<i>Senna artemisioides</i> subsp. <i>filifolia</i> (Tucson)	F
<i>Senna artemisioides</i> subsp. <i>petiolaris</i> (Tucson)	O
<i>Senna artemisioides</i> subsp. <i>xsturtii</i> (Tucson)	F
<i>Senna confinis</i> (Tucson)	F
<i>Senna covesii</i> (Tucson)	F
<i>Senna durangensis</i> (Tucson)	O
<i>Senna hirsuta</i> var. <i>glaberrima</i> (Tucson)	F
<i>Senna lindheimeriana</i> (Tucson)	F
<i>Senna occidentalis</i> (Tucson)	O
<i>Senna pleurocarpa</i> var. <i>pleurocarpa</i> (Tucson)	R
<i>Senna roemeriana</i> (Tucson)	F
<i>Sutherlandia frutescens</i> (Tucson)	O
<i>Tephrosia purpurea</i> (Tucson)	F

The frequency of evaluations varies from yearly to once every several years depending on the field and the length of time since the field was originally planted. Information recorded for plant specimens growing in the field plots includes survival, freeze damage and other problems, height or size, general health and appearance, and flowering/fruiting. Accessions located in different fields

have separate entries.

#### CAC Field 6

1990: evaluation completed spring 1990 for 1989 growing season and 1989-1990 winter.  
 1991: evaluation completed spring 1991 for 1990 growing season and 1990-1991 winter.  
 1992: evaluation completed spring 1992 for 1991 growing season and 1991-1992 winter.  
 1993: evaluation completed spring 1993 for 1992 growing season and 1992-1993 winter.  
 1994: evaluation completed spring 1994 for 1993 growing season and 1993-1994 winter.  
 1995: evaluation completed spring 1995 for 1994 growing season and 1994-1995 winter.  
 1997: evaluation completed spring 1997 for 1995-1996 growing seasons and 1995-1996/1996-1997 winters.  
 2001: evaluation completed autumn 2001 for 1997-2001 growing seasons.  
 2004: evaluation completed spring 2004 for 2002-2003 growing seasons and 2001-2002 – 2003-2004 winters.  
 2006: evaluation completed spring 2006 for 2004-2005 growing seasons and 2004-2005-2005-2006 winters.  
 2007: evaluation completed spring 2007 for 2006 growing season and 2006-2007 winter.  
 \* no field evaluation was completed for Border 2 in 1995.

#### CAC Field 3

2000: evaluation completed spring 2000 for 1997-1999 growing seasons and 1997-1998 – 1999-2000 winters.  
 2004: evaluation completed spring 2004 for 2001-2003 growing seasons and 2000-2001 – 2003-2004 winters.  
 2006: evaluation completed spring 2006 for 2004-2005 growing seasons and 2004-2005-2005-2006 winters.  
 2007: evaluation completed spring 2007 for 2006 growing season and 2006-2007 winter.

#### WCAC

2004: field evaluation was completed in summer 2004 only for all plants.  
 2006: evaluation completed spring 2006 for 2004-2005 growing seasons and 2004-2005-2005-2006 winters.  
 2007: evaluation completed spring 2007 for 2006 growing season and 2006-2007 winter.

#### Yuma

1991: evaluation completed July 1991 for initial planting in spring 1991 and in December 1991.  
 1992: evaluation completed October 1992 for remainder of 1991 and 1992 growing seasons.  
 1993: evaluation completed January 1994 for 1993 growing season.  
 1994: evaluation completed January 1995 for 1994 growing season.  
 1995: evaluation completed December 1995 for 1995 growing season.  
 1996: evaluation completed February 1997 for 1996 growing season.  
 1997: evaluation completed March 1998 for 1997 growing season.  
 1999: evaluation completed November 1999 for 1998 and 1999 growing seasons.  
 2000: evaluation completed December 2000 for 2000 growing season.  
 2001: evaluation completed December 2001 for 2001 growing season.  
 2002: evaluation completed December 2002 for 2002 growing season.  
 2004: evaluation completed December 2004 for 2003 and 2004 growing seasons.  
 2005: evaluation completed December 2005 for 2005 growing season.  
 2006: evaluation completed December 2006 for 2006 growing season.  
 2007: evaluation completed December 2007 for 2007 growing season.  
 2008: evaluation completed December 2008 for 2008 growing season.  
 2009: evaluation completed December 2009 for 2009 growing season.

#### **Dates of Initial Planting**

CAC Field 6      Border 2 - first planting 18 May 1989  
                           Border 3 - first planting 14 July 1992  
                           Border 4 - first planting 08 April 1991

<u>CAC Field 3</u>	first planting July 1997
<u>WCAC</u>	first planting September 1998
<u>Yuma</u>	Block 24 - first planting March 1991 Block 30 - first planting March 1992

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### **Plants surviving at least three years**

*Acacia acuminata* 90-0044 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994 (2)	1' tall, no freeze damage but rodent browsed, healthy
1995 (2)	3'/3.5' tall, no freeze damage, healthy
1997 (2)	5'/6' tall, 1=foliage frozen and partial die-back to 3' from stem tips, 1=severe foliage damage and some die-back to 2' from stem tips, healthy, recovering
2001 (2)	6' tall, no freeze damage, healthy, these plants have never flowered
2004 (2)	7.5'/8.5' tall, no freeze damage, healthy
2006 (2)	7.5'/8.5' tall, no freeze damage, healthy but no flowering
2007 (2)	8.5'/10' tall, no freeze damage, healthy, no flowering ever observed

*Acacia acuminata* 90-0044 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1)	4' tall, no freeze damage, healthy
1997 (1)	5' tall, minor freeze damage to foliage, healthy
2001 (1)	6' tall, no freeze damage, healthy
2004 (1)	9' tall, no freeze damage, healthy
2006 (1)	9' tall, no freeze damage, healthy
2007 (1)	9' tall, no freeze damage, healthy, superb specimen but has never flowered

*Acacia adsurgens* 91-0302 Tucson (CAC field 6) – planted April 1993 (1 plant)/1994 (3 plants)

1994 (1)	2' tall, no freeze damage, healthy
1995 (4)	2-3.5' tall, 2=dead-cause undetermined (frozen?), 1=some freeze damage, growing; 1=no freeze damage, healthy
1997 (2)	6'/8' dead-froze to ground and did not recover

*Acacia adsurgens* 91-0302 Tucson (CAC field 3) – planted July 1998 (1 plant)

2000 (1)	1.5' tall, no freeze damage, healthy
2004 (1)	8' tall, stems to 1" thick were frozen, recovering, fair condition
2006 (1)	6.5' tall, considerable dieback-cause undetermined but 2 stems remain healthy
2007 (1)	6' tall, dead-froze with stems 3" thick killed

*Acacia amoena* 94-0064 Tucson (CAC field 3) – planted July 1998 (2 plants)

2000 (2)	1'/1.5' tall, minor freeze damage to stem tips, healthy
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2004 (2) dead ca. 2001-cause undetermined but likely not well-adapted to heavy soils.

*Acacia ampliceps* 90-0045 Tucson (CAC field 6) – planted April 1991 (4 plants)

1993 (4) 7-9' tall, froze to ground, vigorous regrowth from base, numerous root suckers in 1992  
 1994 (4) 7' tall, froze back 3' from stem tips at ca. 25°F, froze to ground at 18°F; rapid recovery, many root suckers, flowers in 1993  
 1995 (3) 6-9' tall, froze to near ground, vigorous, healthy regrowth, flowers  
 1997 (4 + suckers) to 7' tall, froze to ground, vigorous regrowth  
 2001 (4 + suckers) to 8' tall, these plants freeze to the ground each year, vigorous regrowth, flowers  
 2004 (suckers) original plants are gone-removed in 2001, but a few suckers continue to emerge each year and freeze to the ground the following winter.  
 2006 (suckers) 4-5.5' tall, froze to ground, healthy, vigorous regrowth  
 2007 (suckers) 4-6' tall, froze to ground (stems to 1" thick killed), healthy, vigorous regrowth

*Acacia amythethophylla* 90-0500 Yuma – planted March 1992 (2 plants)/ January 1994 (2 plants)

1992 (2) both= 2.5' tall, healthy, slow growth  
 1993 (2) 3'/3.5' tall, healthy, slow growth  
 1994 (4) 1-6' tall, fair to good condition, slow to moderate growth  
 1995 (4) 2-8' tall, healthy, slow to moderate growth  
 1996 (4) 2.5-10' tall, healthy, slow growth, 1=flowers in 1996  
 1997 (4) 3-11' tall, healthy, slow growth, 2=flowers  
 1999 (4) 5-13' tall, healthy, slow growth, 3=flowers  
 2000 (4) 6-15' tall, healthy, slow growth, all=flowers but no fruit  
 2001 (4) 6-17' tall, healthy, slow growth, 3=flowers but no fruit  
 2002 (4) 7-17' tall, healthy, slow growth, 3=flowers but no fruit  
 2004 (4) 2=8'/8' tall, healthy regrowth from base (top killed by fire), 2=20'/22' tall, healthy, moderate growth, flowers only-this species has flowered heavily for years but no fruiting has been observed-the cause for this is undetermined  
 2005 (4) 7'/11'/15'/17' tall, healthy, slow growth, 3=flowers  
 2006 (4) 8'/11'/17'/20' tall, healthy, slow growth, 3=flowers  
 2007 (4) 6'/10'/15'/20' tall, froze back to 5' from stem tips to stems 1.5-3" thick, vigorous regrowth  
 2008 (4) 6'/12'/18'/20' tall, healthy, recovered from 2007 freeze, 2=flowers  
 2009 (4) 6'/12'/22'/ca. 25' tall, healthy, 2 larger plants are substantially taller, 2=flowers

*Acacia aneura* 90-0245 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994 (2) 1.5' tall, no freeze damage, healthy  
 1995 (2) 3' tall, no freeze damage, healthy, flowers  
 1997 (2) 11'/12' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) 14' tall, no freeze damage, healthy, flowers/fruit  
 2004 (2) 16' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 18'/18' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 20'/22' tall, no freeze damage, healthy, flowers/fruit

*Acacia angustissima* var. *angustissima* 90-0597 Tucson (CAC field 6) – planted August 1991 (4 plants)

1993 (4) 5-6' tall, froze to ground, vigorous regrowth, flowers/fruit in 1992  
 1994 (4) 4-7' tall, froze back 2-4' from stem tips, rapid recovery, flowers/fruit  
 1995 (4) 5-7' tall, froze back 6"-18" from stem tips, healthy regrowth, flowers/fruit, some reseeding in field  
 1997 (4) 5-8' tall, most stems froze to ground, healthy, flowers/fruit  
 2001 (4 + numerous volunteers) 5-7' tall, most stems freeze back considerably each winter, healthy, vigorous, flowers/fruit  
 2004 (4 + volunteers) 5-8' tall, most stems froze to near the base, healthy recovery, flowers/fruit

2006 (4 + volunteers) 6-10' tall, most stems froze to base, healthy, vigorous regrowth, flowers/fruit  
 2007 (4 + volunteers) 4-9' tall, most stems froze to near base (to 6' from tips but some froze back only 1' from tips, healthy, vigorous regrowth, flowers/fruit

***Acacia angustissima* var. *angustissima*** 90-0597 Tucson (CAC field 3) – planted summer 1997 (4 plants)  
 2000 (4) 4-7' tall, stems froze back 1-4' from tips, vigorous regrowth, healthy, flowers/fruit  
 2004 (4) 6-7' tall, froze to ground, vigorous recovery, healthy, flowers/fruit  
 2006 (4) 5-7' tall, stems froze back to 1' from tips, healthy, flowers/fruit  
 2007 (4) 6.5-9' tall, variable freeze damage w/ stems killed back 1-4' from tips, vigorous regrowth, flowers/fruit

***Acacia angustissima* var. *suffrutescens*** 88-0038 Tucson (CAC field 6) – planted September 1990 (1 plant)/August 1991 (1 plant)  
 1991 (1) 10" tall, froze to ground, healthy regrowth  
 1992 (2) 2'3' tall, stems froze back ca. 1', healthy, vigorous regrowth, flowers/fruit in 1991, 1992  
 1993 (2) 2.5'/3.5' tall, froze to ground, vigorous regrowth, flowers/fruit  
 1994 (2) 2'5' tall, most stems froze to ground, vigorous regrowth, flowers/fruit  
 1997 (2) 7' tall, froze to ground, healthy, vigorous regrowth  
 2001 (2) both dead by summer 2000–drought

***Acacia angustissima* var. *suffrutescens*** 90-0652 Tucson (CAC field 3) – planted summer 1997 (4 plants)  
 2000 (4) 3.5-5' tall, froze to ground, vigorous regrowth, flowers/fruit  
 2004 (4 + 2 volunteer plants) 3.5' tall, froze to ground, healthy regrowth, flowers/fruit  
 2006 (4 + 2 volunteer plants) 4-5' tall mass, stems froze back 1-2', healthy regrowth, flowers/fruit  
 2007 (4) 5-6' tall, most stems froze back 2-3' from tips, vigorous recover, healthy, flowers/fruit

***Acacia aroma*** 91-0472 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 2' tall, moderate freeze damage (stems killed to 1/8" in diameter), healthy regrowth  
 1994 (2) 3' tall by 6' across, minor freeze damage with stems killed 10" back from tips; healthy, vigorous  
 1995 (2) 6'7' tall, no freeze damage, healthy, vigorous, flowers in 1994, 1995 (no fruit)  
 1997 (2) 11' tall, some twigs frozen back to 1' from tips, healthy, vigorous, flowers/fruit  
 2001 (2) 13' tall, no freeze damage, healthy, flowers/fruit  
 2004 (2) 14' tall, some stems froze back to 1' from tips, healthy, flowers/fruit  
 2006 (2) 14'/14' tall, no freeze damage, healthy with attractive spreading canopies, flowers/fruit  
 2007 (2) 13'/13' tall, foliage froze and most twigs froze back 3-6" from tips, healthy regrowth, flowers/fruit

***Acacia ashbeyae*** 90-0048 Tucson (CAC field 6) – planted April 1991 (2 plants)  
 1993 (2) 5' tall x 8' across, minor tip damage on some twigs, healthy  
 1994 (2) 5'6' tall x 10' across, no freeze damage, healthy, flowers in 1993  
 1995 (2) 5'6' tall, no freeze damage, healthy, flowers/fruit in 1994  
 1997 (2) 5'7' tall, most stems killed by freezing, some healthy regrowth  
 2001 (2) declined and died 1998-1999-never really recovered from 1996 freeze but may be short-lived

***Acacia ataxacantha*** 91-0053 Yuma – planted March 1992 (3 plants)/March 1996 (1 plant)  
 1992 (3) all died back to base and appear dead  
 1993 (3) 3"-1.5' tall, recovered somewhat-fair to poor condition due to severe browsing  
 1994 (3) 2-10" tall, poor condition, apparently browsing is continuing  
 1995 (3) 4"-3' tall, poor to fair condition, 2 plants recovering with slow growth  
 1996 (3) 1=died in 1996-cause undetermined, 2=1.5'3' tall, fair condition, little apparent growth  
 1997 (2) 1=died back to base but apparently still alive, 1=1' tall, fair condition with some die-back  
 1999 (2) 1=died in 1998-cause undetermined, 1=1.5' tall, healthy, slow growth

2000 (1) 1.5' tall, healthy but no apparent growth  
 2001 (1) the last died in 2001-no cause was apparent for the poor performance of this species

*Acacia atramentaria* 89-0114 Tucson (CAC field 6) – planted September 1989 (4 plants)

1990 (4) no freeze damage, healthy  
 1991 (4) 3' tall, no freeze damage, healthy, spreading stems  
 1992 (4) 4-6' tall, no freeze damage, healthy  
 1993 (4) 5-7' tall, no freeze damage, healthy  
 1994 (4) 7-9' tall, no freeze damage, healthy  
 1997 (4) 12-15' tall, no freeze damage, healthy  
 2001 (4) 2=dead in 1999-cause undetermined, 2=11'/14' tall, no freeze damage, healthy  
 2004 (2) 1=10', dead summer 2004-drought, 1=16' tall, no freeze damage, fair condition-drought stressed  
 2006 (1) 14' tall, no freeze damage but some die-back probably related to lack of moisture, fair condition  
 2007 (1) 13' tall, died-cause undetermined but could have been senescence aided by drought. These plants never flowered at this site

*Acacia aulacocarpa* 91-0309 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 2' tall, froze to ground, recovering  
 1994 (2) 1=dead-froze to ground and did not recover, 1=3.5' tall, froze to ground, healthy regrowth  
 1995 (1) 4.5' tall, froze to ground, vigorous regrowth  
 1997 (1) 4' tall, froze to ground, healthy  
 2001 (1) dead-missing-cause undetermined

*Acacia berlandieri* 88-0001 Tucson (CAC field 6) – planted September 1989 (4 plants)/April 1990 (1 plant)

1990 (4) 2=no freeze damage, 2=slight freeze damage  
 1991 (5) 4' tall, no freeze damage, healthy  
 1992 (5) 3-5' tall, no freeze damage, healthy, vigorous, flowers/fruit in 1991, 1992  
 1993 (5) 4-6' tall, no freeze damage, healthy, flowers/fruit  
 1994 (5) 4-6' tall, no freeze damage, healthy, flowers/fruit  
 1997 (5) 6.5-9' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 2001 (5) 7-10' tall, no freeze damage, healthy, flowers/fruit  
 2004 (5) 2=dead-killed by gophers ca. 2002, 3=8-10' tall, no freeze damage, healthy, flowers/fruit  
 2006 (3) 1=7.5' tall, no freeze damage but most stems dead due to shade, 2=7'/10' tall, no freeze damage but some stems dead due to shade, no flowering  
 2007 (3) 1=5' tall, no freeze damage but girdled by rabbits, poor condition, 2=7.5'/10' tall, no freeze damage, healthy with less shade, flowers/fruit

*Acacia berlandieri* 90-0418 Tucson (CAC field 3) – planted March 1998 (2 plants)

2000 (2) 4' tall, 1=froze to ground, vigorous recovery, 1=no freeze damage, healthy, flowers in spring 2000  
 2004 (2) 6/7' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 7.5'/8' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 7.5'/8' tall, no freeze damage, healthy, flowers/fruit

*Acacia bivenosa* 90-0051 Tucson (CAC field 6) – planted April 1991 (3 plants)

1993 (3) 1=3' tall, dead-froze to ground and did not recover, 1=8' tall (3" diameter trunk), dead-froze to ground and did not recover, 1=7' tall, froze to near ground, regrowing  
 1994 (1) 7' tall, froze to main trunk-rapid recovery; flowers in spring 1994  
 1995 (1) 8' tall, no freeze damage, healthy; flowers/fruit in 1994, flowers in 1995  
 1997 (1) 10' tall, dead-froze to ground and did not recover

*Acacia borleae* 98-0006 Tucson (CAC field 3) – planted summer 2001 (2 plants)

2004 (2) 6.5' tall, a few stems died back to 6" from tip, healthy, flowers/fruit  
 2006 (2) 8'9' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 7.5/9' tall, some stems froze back 2-10" from tips only, healthy, flowers/fruit

***Acacia brachybotrya*** 90-0052 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994 (1) 3' tall, no freeze damage, healthy, vigorous  
 1995 (1) 6' tall, no freeze damage, healthy; flowers  
 1997 (1) 7' tall, some leaf burn and minor twig die-back from freeze, healthy  
 2001 (1) declined and died ca. 1999-2000-cause undetermined (drought?)

***Acacia brachybotrya*** 90-0052 Tucson (CAC field 3) – planted March 1998 (2 plants)

2000 (2) 6.5' tall, no freeze damage, flowers in 2000, 1=top died following July 1999 flooding, base healthy, 1=healthy  
 2004 (2) 1=died-cause undetermined but may be related to waterlogging, 1=9' tall, some freeze damage to foliage but no damage to stems, healthy  
 2006 (2) 1=9' tall, no freeze damage, healthy, flowers in 2006, 1=data missing but apparently recovered from base  
 2007 (2) 8.5'/8.5' tall, 40% of foliage frozen (all on some stems and none on others), both=flowers in 2007

***Acacia brachystachya*** 91-0315 Tucson (CAC field 6) – planted August 1992 (2 plants)

1993 (2) 1' tall, 1=died in fall 1992-cause undetermined, 1=no freeze damage, healthy  
 1994 (1) 4' tall, no freeze damage, healthy, vigorous, flowers  
 1995 (1) 7.5' tall, no freeze damage, healthy, flowers/fruit  
 1997 (1) 11' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 2001 (1) 14' tall, no freeze damage, healthy, flowers/fruit  
 2004 (1) 13' tall, no freeze damage, healthy, flowers/fruit  
 2006 (1) 17' tall, no freeze damage, healthy, flowers/fruit  
 2007 (1) 16' tall, no freeze damage, healthy, flowers/fruit

***Acacia brandegeeania*** 95-0007 Yuma – planted December 1995 (2 plants)

1996 (2) 1"/4" tall, fair condition, little growth  
 1997 (2) 1'1' tall, fair to good condition, slow growth  
 1999 (2) 2'2' tall, healthy, slow growth  
 2000 (2) 2'2' tall, healthy, little apparent growth  
 2001 (2) 2.5'/3.5' tall, healthy, slow growth  
 2002 (2) 2.5'/3.5' tall, healthy, little apparent growth  
 2004 (2) 5'/6' tall, healthy, slow growth, this species resembles *Acacia rigidula*  
 2005 (2) 6.5'/6.5' tall, healthy, size increasing  
 2006 (2) 7'7' tall, healthy, slow growth  
 2007 (2) 7'8' tall, no freeze damage, healthy, little growth, both=flowers in 2007  
 2008 (2) 7'7' tall, healthy, little growth in past year  
 2009 (2) 8'8' tall, healthy, slow growth

***Acacia brevispica*** 99-0177 Tucson (CAC field 3) – planted April 2002 (1 plant)

2004 (1) 3.5' tall, froze to ground, healthy recovery  
 2006 (1) 4' tall, considerable (to 2' from tips) freeze damage, recovering  
 2007 (1) 5' tall, froze to ground (stems to 1/4" thick killed), healthy recovery

***Acacia caffra*** 91-0049 Yuma – planted March 1992 (2 plants)

1992 (2) 3'/5' tall, healthy, moderate to fast growth  
 1993 (2) 8'/8' tall, healthy, vigorous growth

1994	(2)	9'/10' tall, healthy, vigorous
1995	(2)	10'/12' tall, healthy, moderate growth
1996	(2)	11'/16' tall, healthy, slow to moderate growth
1997	(2)	12'/18' tall, healthy, slow growth
1999	(2)	15'/15' tall, healthy, slow to moderate growth, no evidence of flowering
2000	(2)	1=10' tall, healthy but top died, 1=16' tall, healthy, slow growth
2001	(2)	10'/17' tall, healthy, slow growth, no evidence of flowering
2002	(2)	1=fair condition-declining, no growth, 1=20' tall, healthy, moderate growth
2004	(1)	1=died in 2004-cause undetermined but this plant had lacked vigor for years, 1=25' tall, healthy, moderate growth, no evidence of flowering has been observed on this species here
2005	(1)	20' tall, healthy
2006	(1)	20' tall, healthy, little change in size, no flowers
2007	(1)	20' tall, no freeze damage, healthy, little apparent growth
2008	(1)	ca. 25' tall, healthy, significant growth in last year
2009	(1)	ca. 25' tall, healthy, little change in size, no evidence of flowering

*Acacia cana* 97-0041 Tucson (CAC field 3) – planted April 2002 (1 plant)

2004	(1)	4' tall, no freeze damage, healthy, beautiful silvery foliage and nice form
2006	(1)	5.5' tall, no freeze damage, healthy, flowers
2007	(1)	6' tall, 10% of foliage frozen only, healthy, flowers/fruit

*Acacia catechu* 92-0139 Yuma – planted March 1994 (2 plants)

1994	(2)	3'/6' tall, healthy, vigorous growth, 1=flowers/fruit
1995	(2)	7'/8' tall, healthy, vigorous
1996	(2)	9'/10' tall, healthy, vigorous with moderate growth, both=flowers/fruit in 1996
1997	(2)	9'/10' tall, healthy but little growth, flowers/fruit
1999	(2)	9'/9' tall, healthy but little growth, flowers/fruit
2000	(2)	9'/9' tall, healthy but little increase in size, flowers/fruit
2001	(2)	10'/11' tall, healthy, slow growth, flowers/fruit
2002	(2)	11'/13' tall, healthy, slow growth, flowers/fruit
2004	(2)	15'/15' tall, healthy, slow growth, flowers/fruit
2005	(2)	16'/16' tall, healthy, slow growth, flowers/fruit
2007	(2)	16'/18' tall, outer stems froze back to 1' from tips, healthy, vigorous regrowth, 1=flowers/fruit
2008	(2)	13'/15' tall, healthy, slow growth, both=flowers/fruit
2009	(2)	17'/18' tall, healthy, moderate growth, flowers/fruit

*Acacia caven* 89-0115 Tucson (CAC field 6) – planted September 1990 (6 plants)

1990	(6)	no freeze damage, healthy
1991	(6)	3-6' tall, no freeze damage (leaves undamaged at 19° F), some vigorous, some low vigor
1992	(6)	3-9' tall, no freeze damage, 4=healthy and vigorous, 2=stunted w/ some die-back, 2=first flowers in 1992
1993	(6)	3-10' tall, no freeze damage, some vigorous - some low vigor, flowers/fruit
1994	(6)	3-12' tall, no freeze damage, 3=vigorous, 2=low vigor, 2=flowers/fruit, 1=dead of undetermined causes
1997	(5)	11-14' tall, (1=dead in 1995, 2=dead in 1996); leaf burn only, healthy, flower/fruit
2001	(2)	1=dead in 1999 - undetermined (senescent?), 1=12' tall, no freeze damage fair condition, declining w/ dead limbs.
2004	(1)	14' tall, no freeze damage, senescent-most limbs dead
2006	(1)	14' tall, died in 2005-senescent

*Acacia cardiophylla* 90-0054 Tucson (CAC field 6) – planted April 1991 (2 plants)

1993 (2) 1=died in 1992-cause undetermined, 1=3' tall, no freeze damage, low vigor  
 1994 (1) 1' tall, no freeze damage, low vigor  
 1995 (1) 1' tall, no freeze damage, low vigor  
 1997 (1) dead-missing-cause undetermined-may have been root-bound or perhaps not adapted to local soil

*Acacia carolae* 90-0055 Tucson (CAC field 6) – planted April 1993 (1 plant)/April 1994 (1 plant)  
 1994 (1) 2.5' tall, some leaf and twig tip burn from freeze, slightly chlorotic but healthy  
 1995 (2) 2.5' tall, 1=minor leaf burn, healthy; 1=froze back to 1.5' from stem tips, low vigor  
 1997 (1) 4' tall, dead-froze to ground and did not recover, the other plant died ca. 1995-cause undetermined

*Acacia citrinoviridis* 90-0060 Tucson (CAC field 6) – planted April 1992 (2 plants)  
 1993 (2) 3'/3.5' tall, 1=dead-froze to ground and did not recover, 1=froze to ground, regrowing  
 1994 (1) 2.5' tall, froze to ground, healthy regrowth  
 1995 (1) 2' tall, froze to base, healthy regrowth  
 1997 (1) 2.5' tall, froze to ground, healthy  
 2001 (1) dead-missing-cause undetermined

*Acacia citrinoviridis* 90-0060 Tucson (CAC field 3) – planted March 1998 (2 plants)  
 2000 (2) 7' tall, minor freeze damage to a few stems only, healthy, vigorous  
 2004 (2) 1=6' tall, froze to ground with stems to 1.5" thick killed, recovering, fair condition, 1=13' tall, severe freeze damage to foliage but no damage to stems, healthy, flowers/fruit  
 2006 (2) 1=6' tall, froze to ground again, regrowth emerging from base, flowers in 2005, 1=17' tall, no freeze damage, healthy  
 2007 (2) 5'/16' tall, froze to ground (stems to 5" thick killed), healthy regrowth

*Acacia cochlearis* 91-0319 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) 6" tall, 1=dead-cause undetermined, 1=no freeze damage, healthy  
 1995 (1) 1' tall, no freeze damage, healthy  
 1997 (1) 1.5' tall, froze to ground, healthy recovery  
 2001 (1) dead-missing-cause undetermined

*Acacia cochliacantha* 89-0001 Tucson (CAC field 6) – planted June 1989 (1 plant)  
 1990 (1) severe freeze damage, vigorous regrowth  
 1991 (1) 5' tall, froze to ground, vigorous regrowth  
 1992 (1) 8' tall, very minor tip die-back, healthy, vigorous  
 1993 (1) 8' tall, froze to ground (stems to 2" diameter were killed), healthy regrowth  
 1994 (1) 7' tall, froze to ground, vigorous regrowth  
 1997 (1) 7' tall, froze to ground, healthy growth  
 2001 (1) 4' tall, dead summer 2001 - repeatedly froze to ground, shaded by adjacent plants, drought may have finally killed it

*Acacia cometes* 91-0320 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) 3" tall, no freeze damage, browsed by rabbits, healthy  
 1995 (1) 6" tall x 1.5' wide, no freeze damage, healthy  
 1997 (1) dead and gone by 1997-cause undetermined

*Acacia conferta* 90-0062 Tucson (CAC field 6) – planted April 1991 (1 plant)  
 1992 (1) 2.5' tall, no freeze damage, healthy  
 1993 (1) 2.5' tall, no freeze damage, slow growth  
 1994 (1) 2.5' tall, no freeze damage, low vigor  
 1997 (1) dead sometime in 1995-1996-cause undetermined

***Acacia constricta*** 88-0086 Tucson (CAC field 6) – planted April 1990 (3 plants)

1990	(3)	no freeze damage, healthy
1991	(3)	3-5.5' tall, no damage, healthy
1992	(3)	6-8' tall, no freeze damage, healthy, vigorous, flowers/fruit in 1991 and 1992
1993	(3)	7-8' tall, no freeze damage, healthy, flowers/fruit
1994	(3)	7-9' tall, no freeze damage, healthy, flowers/fruit
1997	(3)	8-14' tall, no freeze damage, healthy, flowers/fruit
2001	(3)	No freeze damage, 1=8' tall, poor condition due to shade, 2=9'/16' tall, healthy, flowers/fruit
2004	(3)	No freeze damage, 1=10' tall, fair condition-shaded, 2=15'/18', healthy, flowers/fruit
2006	(3)	10'/11'/12' tall, no freeze damage, healthy but one is excessively shaded, flowers/fruit
2007	(3)	No freeze damage, 1=9' tall, poor condition due to excessive shade, 2=9'/14' tall, healthy, flowers/fruit

***Acacia constricta*** 90-0431 Tucson (CAC field 3) – planted summer 1997 (4 plants)

2000	(4)	4-7' tall, no freeze damage, healthy, flowers/fruit from 1999
2004	(4)	4-10' tall, no freeze damage, healthy, flowers/fruit
2006	(4)	5.5-11' tall, no freeze damage, healthy, flowers/fruit
2007	(4)	10-13' tall, no freeze damage, healthy, flowers/fruit

***Acacia cornifolia*** 90-0063 Tucson (CAC field 6) – planted April 1992 (4 plants)

1993	(4)	4-6.5' tall, froze to ground, healthy regrowth
1994	(3)	4-6' tall, froze to ground, 1=dead-froze, 2=healthy regrowth
1995	(2)	4'/6' tall, healthy, vigorous; 1=no freeze damage, 1=some stems froze back to 3' from tips
1997	(2)	8'/11' tall, froze to ground, vigorous regrowth
2001	(2)	4'/5' tall, freeze to ground in most winters, vigorous regrowth but slower due to reduced irrigation, no flowering observed
2004	(2)	4'/7' tall, froze to ground, vigorous recovery, healthy
2006	(2)	4.5'/6.5' tall, froze to ground, fair condition, regrowing
2007	(2)	4'/6' tall, froze to ground, slow regrowth, too cold sensitive for this site

***Acacia cornigera*** 94-0139 Yuma – planted December 1995 (2 plants)

1996	(2)	4.5'/6' tall, healthy, moderate to fast growth
1997	(2)	7'/7.5' tall, healthy, moderate growth
1999	(2)	7.5'/8' tall, healthy, slow growth, 1=flowers/fruit, 1=flowers only
2000	(2)	7.5'/8.5' tall, healthy, slow growth, flowers/fruit
2001	(2)	8'/9' tall, healthy, slow growth, flowers only
2002	(2)	8'/9' tall, poor condition-declining with many dead branches-cause undetermined, flowers only
2004	(2)	1=4' tall, poor condition, top dead-sprouts from base, 1=8' tall, poor condition, some growth but most stems dead-cause for the decline of these plants is undetermined, no flowering
2005	(2)	1=6' tall, poor condition, declining, flowers/fruit, 1=8' tall, fair condition, flowers
2006	(2)	6'/8' tall, poor condition but still putting out growth
2007	(2)	1.5'/4' tall, both plants froze to base to stems 2" thick, healthy regrowth
2008	(2)	2.5'/7' tall, healthy, these look better than in the past several years but do not do well at this site
2009	(2)	7'/9' tall, healthy, slow to moderate growth, these continue to look better, 1=flowers

***Acacia coulteri*** 94-0141 Yuma – planted December 1995 (2 plants)

1996	(2)	4.5'-5' tall, healthy, moderate growth
1997	(2)	5'/6' tall, healthy, slow growth
1999	(2)	5'/6' tall, healthy, little apparent growth
2000	(2)	5'/6' tall, healthy but little or no growth

2001	(2)	6'/6.5' tall, healthy, slow growth
2002	(2)	6'/6.5' tall, healthy, little apparent growth
2004	(2)	6'/7.5' tall, healthy, slow growth
2005	(2)	6.5'/7' tall, healthy, little apparent growth in past year
2006	(2)	7'/7.5' tall, healthy, slow growth
2007	(2)	7'/7.5' tall, no freeze damage, healthy, little change in size
2008	(2)	7.5'/8' tall, healthy, slow growth, larger plant=flowers/fruit in 2008
2009	(2)	8'/8.5' tall, healthy, slow growth, both=flowers/fruit

*Acacia crassifolia* 91-0192 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993	(2)	1' tall, severe freeze damage (stems killed to ¼" in diameter), healthy regrowth
1994	(2)	2'/2.5' tall, severe freeze damage (stems killed back to 1' from tips), healthy regrowth, flowers in fall 1993
1995	(2)	1=6" tall, low vigor; subsequently died-cause undetermined, 1=2.5' tall, minor stem tip damage, healthy, flowers
1997	(1)	2.5' tall, froze to ground, healthy, flowers
2001	(1)	2.5' tall, some winter freeze damage most years, healthy but slow growing
2004	(1)	3' tall, foliage frozen and stems killed back 6-9" from tips, healthy but slow growing
2006	(1)	3.5' tall, stems froze back to 6" from tips, healthy growth
2007	(1)	3.5' tall, all foliage froze and stems froze back to 1' from tips, fair condition

*Acacia craspedocarpa* 90-0065 Tucson (CAC field 6) – planted April 1991 (3 plants)

1993	(3)	1=1.5' tall, dead-cause undetermined, 2=1.5'/2.5' tall, no freeze damage, healthy, slow growth
1994	(2)	2'/4' tall, healthy, no freeze damage, flowers in spring 1993 and 1994
1995	(2)	3.5'/6' tall, no freeze damage, healthy, flowers/fruit in 1995
1997	(2)	5'/7' tall, minor freeze damage to leaf margins and twig tips only, healthy, flowers/fruit
2001	(2)	8'/9' tall, no freeze damage, healthy, flowers/fruit
2004	(2)	8.5'/10' tall, no freeze damage, healthy, flowers/fruit

*Acacia craspedocarpa* 92-0217 Tucson (CAC field 3) – planted July 1998 (2 plants)

2000	(2)	2.5'/3' tall, no freeze damage, healthy
2004	(2)	7' tall, no freeze damage, healthy, flowers/fruit
2006	(2)	8'/8' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	7.5'/7.5' tall, no freeze damage, healthy, flowers/fruit

*Acacia cyclops* 90-0096 Tucson (CAC field 6) – planted April 1991 (2 plants)

1993	(2)	7'/8' tall, froze to near ground (some stems to 5" in diameter), regrowing
1994	(2)	1=dead-cause undetermined (data missing)
1995	(1)	7.5' tall, no freeze damage, healthy, vigorous
1997	(1)	11' tall, dead-froze to ground and did not recover

*Acacia davyi* 99-0008 Tucson (CAC field 3) – planted summer 2001 (2 plants)

2004	(2)	6' tall, froze to ground with stems to 1" thick killed, vigorous recovery, healthy
2006	(2)	both dead-cause undetermined

*Acacia deanii* 92-0201 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995	(2)	1=dead-froze to ground and did not recover; 1=1.5' tall, froze back to 6" from base, healthy recovery
1997	(1)	4' tall, froze to ground, healthy recovery
2001	(1)	12' tall, no subsequent freeze damage, healthy, vigorous, flowers/fruit from 1999
2004	(1)	15' tall, no freeze damage, healthy, flowers in 2003

2006 (1) 13' tall, no freeze damage, healthy overall but with some dead stems-drought(?), no flowers  
 2007 (1) 14' tall, no apparent freeze damage but some stems are dead, fair condition, no flowers, subsequently died in autumn of 2007-cause undetermined

***Acacia decurrens*** 89-0387 Tucson (CAC field 6) – planted April 1990 (3 plants)

1991 (3) 1=dead-cause undetermined, 2=1-2.5' tall, moderate health  
 1992 (2) 1=dead fall 1991-cause undetermined, 1=7.5' tall, no freeze damage, healthy but some chlorosis and tip die-back in summer 1991, vigorous  
 1993 (1) 9' tall, no freeze damage, healthy  
 1994 (1) 11' tall, no freeze damage, healthy  
 1995 (1) declined and died in late 1994/early 1995-senescent?

***Acacia decurrens* var. *dealbata*** 89-0388 Tucson (CAC field 6) – planted April 1990 (3 plants)

1991 (3) 2-4' tall, no freeze damage, healthy  
 1992 (3) 4-8' tall, no freeze damage, healthy but some chlorosis and tip die-back in summer 1991, vigorous  
 1993 (3) 2=8' tall, froze to ground-dead, 1=3.5' tall, minor freeze damage, fair health  
 1994 (1) 4' tall, some dead stems but not freeze damaged, low vigor, plant continued to decline and died ca. 1994-1995 -senescent?

***Acacia difformis*** 94-0077 Tucson (CAC field 3) – planted July 1998 (1 plant)/summer 2000 (1 plant)

2000 (1) 3.5' tall, minor freeze damage to foliage only, healthy, vigorous  
 2004 (2) 5.5'/7.5' tall, no freeze damage, healthy  
 2006 (2) 6.5'/8.5' tall, minor freeze damage to foliage only, healthy, 1=flowers in 2006  
 2007 (2) 6'8' tall, minor freeze damage to foliage only, healthy, flowers

***Acacia eremophila*** 90-0103 Tucson (CAC field 6) – planted April 1992 (1 plant)

1993 (1) 2' tall, froze back to near ground, regrowing  
 1994 (1) 14" tall by 2' across, no freeze damage, moderately healthy  
 1995 (1) 4' tall, no freeze damage, healthy  
 1997 (1) dead-missing-cause undetermined

***Acacia eriocarpa*** 91-0044 Yuma – planted March 1992 (2 plants)

1992 (2) both 10" tall, healthy but little growth  
 1993 (2) 2"/3" tall, poor condition due to severe browsing  
 1994 (2) 1=6" tall, poor condition, 1=2.5' tall, fair condition, both slow growth.  
 1995 (2) 1=died in 1995-cause undetermined but this plant had declined following severe browsing,  
 1=3' tall, poor condition, slow growth  
 1996 (1) 4' tall, fair condition, some growth  
 1997 (1) 3' tall, poor condition with some die-back  
 1999 (1) died in 1998-cause undetermined-these never did well at this site

***Acacia erioloba*** 89-0310 Tucson (CAC field 6) – planted April 1990 (2 plants)

1991 (2) 1.5' tall, no freeze damage, slow but healthy  
 1992 (2) 2' tall, no freeze damage, considerable gnawing, healthy  
 1993 (2) 2' tall, no freeze damage, rodent/rabbit problems  
 1994 (2) 2' tall, no freeze damage, slow but healthy growth  
 1997 (2) 2'/2.5' tall, no freeze damage, fair, almost no growth  
 2001 (2) dead ca. 1999-2000-gophers and drought may have contributed to the death of these plants but they never grew well here. The plants may have been root-bound when planted.

*Acacia erubescens* 91-0051 Yuma – planted March 1993 (2 plants)

1993	(2)	1=died in 1993-cause undetermined, 1=2.5' tall, healthy
1994	(1)	6' tall, healthy, moderate growth
1995	(1)	7' tall, healthy, slow growth
1996	(1)	9' tall, healthy, slow growth
1997	(1)	10' tall, healthy, slow growth
1999	(1)	11' tall, healthy, slow growth, no evidence of flowering
2000	(1)	13' tall, healthy, slow growth
2001	(1)	15' tall, healthy, slow growth, no evidence of flowering
2002	(1)	15' tall, healthy, slow growth
2004	(1)	20' tall, healthy, moderate growth, attractive growth form and papery bark but dangerous hooked thorns
2005	(1)	22' tall, healthy, has an attractive rounded canopy
2006	(1)	18' tall, healthy, little apparent growth
2007	(1)	18' tall, no freeze damage, healthy, no apparent change in size in past year
2008	(1)	25' tall, healthy, vigorous growth in past year, flowers/fruit in 2008
2009	(1)	28' tall, healthy, moderate growth, flowers/fruit

*Acacia farnesiana* 88-0065 Tucson (CAC field 6) – planted June 1989 (5 plants)

1990	(5)	minor twig damage on some plants, healthy
1991	(5)	7' tall, some freeze damage, vigorous regrowth, flowers
1992	(5)	7' tall, no freeze damage, healthy, flowers/fruit in 1991-1992
1993	(5)	7-8' tall, no freeze damage, healthy but slow growth, flowers/fruit
1994	(5)	8-9' tall, no freeze damage, healthy, flowers/fruit
1997	(5)	11-13' tall, some twigs froze back 2-3', fair, flowers/fruit
2001	(5)	10-13' tall, fair to healthy but little growth (some shading problems), flowers/fruit
2004	(5)	10-14' tall, most limbs on each plant are dead due to shading and drought, 2=flowers/fruit
2006	(5)	3=died in 2005 from insufficient moisture, 2=6"/3.5' tall, no freeze damage but severely stressed due to lack of moisture and shade from adjacent plants
2007	(2)	1=died in 2006-drought, 1=3' tall, stems froze back 1-3' from tips, weak recovery

*Acacia fasciculifera* 91-0333 Tucson (CAC field 6) – planted July 1992 (2 plants)/April 1994 (2 plants)

1993	(2)	1.5' tall, froze to ground, healthy regrowth
1994	(2)	2.5' tall, 1=froze back 1.5' from stem tips, upper leaves frozen, 1=minor tip die-back, minor leaf margin burn, healthy
1995	(4)	2 (planted 1992)=4'/5' tall, minor leaf burn, healthy, vigorous, 1 (planted 1994)=1' tall, died-freeze?, 1=6" tall, stem tips froze, sprouting from base
1997	(3)	1=died ca. 1996-froze?, 2=6.5'/7.5' tall, froze to ground, healthy recovery
2001	(2)	3'/6.5' tall, considerable freeze damage in winter, healthy
2004	(2)	5'/8' tall, froze to stems 1" in diameter, healthy, recovering
2006	(2)	1=4.5' tall, froze to base, healthy regrowth, 1=7.5' tall, froze to stems to 1" thick, healthy regrowth
2007	(2)	3'/5.5' tall, froze to base to stems 1" thick, healthy regrowth, a tough plant suitable for a milder site

*Acacia fleckii* 91-0129 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993	(2)	2.5/3' tall, froze to ground, slow regrowth
1994	(2)	18" tall, 1=dead-cause undetermined, 1=no freeze damage, healthy
1995	(1)	2.5' tall, no freeze damage, healthy, low vigor
1997	(1)	6' tall, froze to ground, healthy recovery
2001	(1)	dead-missing-cause undetermined but may have died from drought and repeated freezing

*Acacia fleckii* 91-0499 Yuma – planted March 1992 (3 plants)/February 1995 (1 plant)

1992	(3)	1-2' tall, healthy, slow growth
1993	(3)	1=died in 1993-cause undetermined, 2=4'/7' tall, healthy, moderate growth, 1=flowers/fruit
1994	(2)	8'/10' tall, healthy, moderate growth, 1=flowers/fruit
1995	(3)	2-10' tall, healthy, slow growth, 2=flowers/fruit
1996	(3)	4-12' tall, healthy, slow growth with spreading low-branched habit, 2=flowers/fruit
1997	(3)	6-16' tall, healthy, moderate growth, 2=flowers/fruit
1999	(3)	9-15' tall, healthy, slow to moderate growth, 2=flowers/fruit
2000	(3)	10-15' tall, healthy, slow growth, 2=flowers/fruit
2001	(3)	11-22' tall, healthy, slow to fast growth, all=flowers/fruit
2002	(3)	11-22' tall, healthy, slow growth, flowers/fruit
2004	(3)	12-25' tall, healthy, slow growth, flowers/fruit
2005	(3)	13'/20'/25' tall, healthy, slow growth, flowers/fruit
2006	(3)	13'/17'/22' tall, healthy, little apparent growth, flowers/fruit
2007	(3)	13'/18'/22' tall, no freeze damage, healthy, no change in size in past year, flowers/fruit
2008	(3)	14'/20'/28' tall, healthy, largest tree put on substantial growth, flowers/fruit
2009	(3)	14'/22'/ca. 35' tall, healthy, largest plant has substantially increased in height, flowers/fruit

***Acacia furcispina*** 91-0474 Tucson (CAC field 6) – planted August 1992 (2 plants)

1993	(2)	1' tall, froze to ground, 1=dead-froze and did not recover, 1=healthy regrowth
1994	(1)	4.5' tall, some stems froze to near ground, healthy
1995	(1)	7.5' tall, no freeze damage, healthy, flowers in 1994, 1995
1997	(1)	12' tall, few twigs froze back 1' from tips, healthy, flowers/fruit
2001	(1)	13' tall, no freeze damage, healthy, flowers/fruit
2004	(1)	18' tall, some stems froze back to 6" from tips, healthy, flowers/fruit
2006	(1)	18' tall, no freeze damage, healthy, flowers/fruit
2007	(1)	17' tall, no freeze damage, healthy, flowers/fruit

***Acacia furcispina*** 91-0475 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000	(2)	7'/8' tall, no freeze damage, healthy, flowers/fruit from 1999
2004	(2)	12' tall, minor freeze damage to some stem tips, healthy, flowers/fruit
2006	(2)	12' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	14' tall, some stem tips died back up to 8" from tip, healthy, flowers/fruit

***Acacia galpinii*** 91-0106 Yuma – planted March 1992 (2 plants)

1992	(2)	both=5' tall, healthy, moderate growth
1993	(2)	8'/8' tall, healthy, moderate growth
1994	(2)	17'/18' tall, healthy, vigorous growth
1995	(2)	18'/20' tall, healthy, slow growth
1996	(2)	24'/25' tall, healthy, vigorous growth
1997	(2)	25'/25' tall, healthy, slow growth
1999	(2)	25'/25' tall, healthy, slow growth but stout trunks and dense foliage
2000	(2)	30'/30' tall, healthy, fast growth, no evidence of flowering
2001	(2)	35'/35' tall, healthy, fast growth, trunks are ca. 1.5' dbh
2002	(2)	both ca. 35' tall, healthy, slow growth
2004	(2)	both ca. 40' tall, healthy, moderate growth, these plants have not been observed to flower or fruit
2005	(2)	both ca. 40' tall, healthy, little apparent increase in size
2006	(2)	both ca. 40' tall, healthy, little change in size
2007	(2)	both ca. 40' tall, no freeze damage including foliage, healthy, no apparent change in size
2008	(2)	both ca. 45' tall, healthy, seem to have grown in past year
2009	(2)	both ca. 45' tall, healthy, little apparent change in size, no evidence of flowering

*Acacia galpinii* 91-0107 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993	(2)	3'8" tall, froze to ground (3.5" diameter trunk), vigorous regrowth
1994	(2)	7'9" tall, froze to near base (stems froze back 1-5' from tips), vigorous regrowth
1995	(2)	10'11" tall, stems froze back 3-4' from tips, healthy, vigorous
1997	(2)	15'18" tall, froze back approx. 4' from stem tips on outer limbs, healthy, vigorous
2001	(2)	17'20" tall, some outer stems freeze each winter, healthy, slow growth since irrigation reduced
2004	(2)	16'22" tall, stems froze to main trunks (to ½" in diameter), healthy recovery
2006	(2)	22'25" tall, stems froze back to 6' from tips, regrowing, healthy
2007	(2)	26'30" tall, stems froze back to 6' from tips (to 2" thick), healthy regrowth

*Acacia gerrardii* subsp. *negevensis* 89-0153 Tucson (CAC field 6) – planted September 1989 (4 plants)

1990	(4)	no freeze damage, healthy
1991	(4)	3' tall, no freeze damage, 1=some rodent chewing, healthy
1992	(4)	3'-7' tall, no freeze damage, healthy, vigorous, first flowers in June 1992
1993	(4)	7-10' tall, some stems froze back 1' from tip (to 1/8" diameter), healthy, flowers/fruit
1994	(4)	9-11' tall, no freeze damage, healthy, flowers/fruit 1993
1997	(4)	14-18' tall, minor twig die-back to 1', vigorous, healthy, flowers/fruit
2001	(4)	1=dead-declined in 2000 probably due to gophers. This plant exhibited weak growth in 2001 but then died, 3=17-18' tall, healthy, flowers/fruit
2004	(3)	20-22' tall, no recent freeze damage, healthy, flowers/fruit
2006	(3)	2=16'/18' tall, no freeze damage but many dead stems-drought?, 1=17' tall, no freeze damage, healthy, flowers/fruit
2007	(3)	18'/18'/18' tall, major die-back on all (2-6' from stem tips)-freeze and perhaps lack of irrigation, 1=healthy, 2=fair condition

*Acacia glomerata* 91-0150 Yuma – planted March 1993 (3 plants)

1993	(3)	6"-1' tall, fair condition, little growth
1994	(3)	all 1' tall, poor to fair condition, little growth
1995	(3)	1=died in 1995-cause undetermined, 2=1' tall, fair condition, no growth
1996	(2)	1=died in 1996-cause undetermined, 1=1' tall, poor condition-declining, no growth
1997	(1)	died in 1997-cause undetermined- apparently not adapted to this site

*Acacia gnidioides* 91-0340 Tucson (CAC field 6) – planted July 1992 (1 plant)

1993	(1)	3.5' tall, no freeze damage, healthy
1994	(1)	4' tall, no freeze damage, healthy
1995	(1)	6' tall, no freeze damage, healthy, flowers/fruit in 1995
1997	(1)	dead– missing-cause undetermined

*Acacia goetzei* subsp. *goetzei* 95-0014 Yuma – planted March 1996 (4 plants)

1996	(4)	1=died in 1996-cause undetermined, 3=2"-1' tall, fair to good condition, little growth
1997	(3)	2=died in 1997-cause undetermined, 1=2' tall, healthy, slow growth
1999	(1)	2' tall, healthy but little growth
2000	(1)	2' tall, healthy but no growth
2001	(1)	5' tall, healthy, moderate growth
2002	(1)	5' tall, healthy, no height increase
2004	(1)	6.5' tall, healthy, slow growth
2005	(1)	8' tall, healthy
2006	(1)	9' tall, healthy, slow growth
2007	(1)	8' tall, froze back to 3' from stem tips to stems 1" thick, vigorous regrowth
2008	(1)	9' tall, healthy, recovered from freeze damage
2009	(1)	9' tall, healthy, no height increase, no evidence of flowering

<i>Acacia grandicornuta</i>	99-0010	Tucson (CAC field 3) – planted summer 2001 (2 plants)
2004	(2)	5'6' tall, froze to ground with stems to 1.5" thick killed-no previous freeze damage to 20° F, healthy recovery
2006	(2)	3'3' tall, 1=froze to ground, dead, 1=froze to ground, healthy regrowth
2007	(1)	3' tall, froze to ground (stems to 1" thick killed), healthy regrowth
<i>Acacia greggii</i>	88-0063	Tucson (CAC field 6) – planted May 1989 (9 plants)
1990	(9)	no damage, healthy
1991	(9)	5=removed in 1990, 1=removed in June 1991, 3=6-9' tall, no freeze damage, healthy, vigorous
1992	(3)	8-10' tall, no freeze damage, healthy, vigorous, flowers/fruit spring 1992
1993	(3)	8-11' tall, no freeze damage, healthy, flowers/fruit
1994	(3)	8-11" tall, no freeze damage, healthy, flowers/fruit 1993, 1994
1997	(3)	11-15' tall, no freeze damage, healthy, flowers/fruit
2001	(3)	13-17' tall, no freeze damage, healthy, flowers/fruit
2004	(3)	15-18' tall, no freeze damage, healthy, flowers/fruit
2006	(3)	15'/17'/18' tall, no freeze damage, healthy, flowers/fruit
2007	(3)	15'/16'/16' tall, no freeze damage, healthy, flowers/fruit
<i>Acacia haematoxylon</i>	91-0222	Tucson (CAC field 6) – planted April 1994 (2 plants)
1995	(2)	1' tall, no freeze damage, low vigor
1997	(2)	3.5' tall, leaves froze in December 1996 but no freeze damage to stems, healthy
2001	(2)	5' tall, no freeze damage, healthy but slow growing, flowers/fruit from 1999
2004	(2)	5' tall, no freeze damage, healthy but almost no growth due to limited irrigation, flowers/fruit
2006	(2)	5'/5.5' tall, no freeze damage, fair condition with ca. half of stems dead-cause undetermined, 1=few flowers/fruit
2007	(2)	4.5'/5.5' tall, no freeze damage to foliage or stems, fair condition, no flowers
<i>Acacia harpophylla</i>	91-0346	Tucson (CAC field 6) – planted July 1992 (2 plants)
1993	(2)	1' tall, some freeze damage (stems froze back 2-6" from tips), healthy
1994	(2)	2.5' tall, no freeze damage, healthy
1995	(2)	3'/5' tall, no freeze damage, healthy
1997	(2)	5'/8' tall, dead-froze to ground and did not recover
<i>Acacia harveyi</i>	91-0347	Tucson (CAC field 6) – planted July 1992 (2 plants)
1993	(2)	2' tall, foliage and stem tip damage from freezing, healthy regrowth
1994	(2)	1=3.5' tall, no freeze damage, healthy, vigorous, flowers in fall 1993, 1=1.5' tall, no freeze damage, chlorotic but vigorous growth
1995	(2)	4'/5' tall, no freeze damage, healthy, flowers in 1994, 1995
1997	(2)	died in summer 1996-cause undetermined-plants had been healthy but declined rapidly
<i>Acacia harveyi</i>	91-0347	Tucson (CAC field 3) – planted July 1998 (1 plant)
2000	(1)	3' tall, no freeze damage, healthy
2004	(1)	7.5' tall, foliage froze and minor freeze damage to stems, healthy, flowers/fruit
2006	(1)	9' tall, no freeze damage but some dead stems-cause undetermined, fair condition, flowers/fruits
2007	(1)	7.5' tall, dead-froze with stems to 4" thick killed
<i>Acacia havilandii</i>	91-0348	Tucson (CAC field 6) – planted July 1992 (1 plant)
1993	(1)	2.5' tall, no freeze damage, healthy
1994	(1)	4' tall, no freeze damage, healthy
1995	(1)	4' tall x 10' wide, no freeze damage, healthy

1997 (1) 7' tall, minor freeze damage to foliage, healthy  
 2001 (1) dead-missing-cause undetermined

***Acacia hebeclada* subsp. *hebeclada*** 91-0133 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993 (2) 3' tall x 5' across, froze to ground, vigorous regrowth  
 1994 (2) 4' tall x 8' across, froze back to 3' from stem tips, healthy regrowth  
 1995 (2) 6'/7' tall, 1=stems girdled-resprouting from base, healthy, vigorous; 1=no freeze damage, healthy, vigorous  
 1997 (3) 1 new plant from root sucker, 5'/8' tall, minor freeze damage to twig tips, healthy, flowers/fruit  
 2001 (3) 6'-7.5' tall, no freeze damage, healthy, 1=flowers/fruit  
 2004 (3) 8' tall, minor freeze damage to stem tips, healthy, flowers/fruit  
 2006 (3) 7.5'/9'/9' tall, no freeze damage, healthy, spreading plants, flowers/fruit  
 2007 (3) 8'/9'/9' tall, stems froze back 1-6" from tips, healthy, flowers/fruit

***Acacia hereroensis*** 98-0007 Tucson (CAC field 3) – planted summer 2001 (2 plants)

2004 (2) 5'/6' tall, stems froze back to 6" from tips, healthy, flowers/fruit  
 2006 (2) 9'/9' tall, stems froze back to 1' from tips, healthy, flowers/fruit  
 2007 (2) 7.5'/9' tall, stems froze back 1-3' from tips on upper and outer parts of both plants, vigorous regrowth

***Acacia itaephylla*** 91-0353 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1' tall, both plants froze to ground, 1=dead-froze, 1=recovering  
 1994 (1) 1' across, minor freeze damage, somewhat chlorotic  
 1995 (1) 1.5' tall, no freeze damage, healthy  
 1997 (1) dead-missing

***Acacia jennerae*** 90-0079 Tucson (CAC field 6) – planted April 1991 (1 plant)

1992 (1) no freeze damage, healthy, fast growth  
 1993 (1) 11' tall, no freeze damage, healthy, vigorous, flowers in 1993  
 1994 (1) 14' tall, no freeze damage, healthy, flowers/heavy fruit in spring 1994  
 1995 (1) 15' tall, no freeze damage, healthy, vigorous, major limbs split in windstorm, flowers/fruit  
 1997 (1 + suckers) 12' tall, several root suckers, minor freeze damage to leaf tips only-flower buds  
     undamaged, healthy, vigorous, some wind damage, flowers/fruit  
 2001 (1 + suckers) 13' tall, no freeze damage, healthy, flowers/fruit  
 2004 (1 + suckers) 15' tall, no freeze damage, healthy, flowers/fruit

***Acacia jennerae*** 90-0079 Tucson (CAC field 6) – planted April 1992 (4 plants)

1993 (4) 3-5' tall, 3=no freeze damage, healthy, vigorous, 1=froze to ground, vigorous regrowth  
 1994 (4) 5-10' tall, no freeze damage, healthy, 1=flowers/fruit in spring 1994  
 1997 (4 + suckers) 12-16' tall, no freeze damage, healthy, vigorous, profusely suckering, flowers/fruit  
 2001 (4 + suckers) 1=16' tall, died in summer 2001-cause undetermined, 1=fair condition and 2=healthy, flowers/fruit  
 2004 (4 + suckers) no freeze damage, 1=17' tall, dead-cause undetermined, 1=9' tall, died to ground-cause  
     undetermined but not freeze-related, recovering, 1=14' tall, fair condition-drought stress, 1=19' tall,  
     fair condition-drought stress  
 2006 (3 + suckers) 2=died-cause undetermined, 1=16' tall, no freeze damage, healthy (original plant),  
     flowers/fruit  
 2007 (1 + suckers) 15' tall, 50% of foliage froze and some stems froze back to 8' from tips while other stems were  
     undamaged, healthy recovery

***Acacia karroo*** 89-0396 Tucson (CAC field 6) – planted April 1990 (2 plants)

1991 (2) 3' tall, minor freeze damage

1992 (2) 3' tall, slight tip damage, healthy, vigorous  
 1993 (2) 4-6' tall, moderate freeze damage (some stems killed to ½" diameter), vigorous regrowth  
 1994 (2) 5' tall, some stem die-back (to 3' from tips), vigorous and healthy  
 1997 (2) 4-6'tall, froze back approx. 3-4', healthy, vigorous regrowth  
 2001 (2) 3'/4' tall, both dead in summer 2001-gophers destroyed roots, stems regularly freeze back to the main trunk in winter

*Acacia karroo* 91-0054 Yuma – planted March 1993 (1 plant)  
 1993 (1) 1.5' tall, healthy, slow growth  
 1994 (1) 3.5' tall, healthy, slow growth  
 1995 (1) 8' tall, healthy, vigorous growth  
 1996 (1) 13' tall, healthy, fast-growth-vigorous  
 1997 (1) 14' tall, healthy, slow growth but vigorous  
 1999 (1) 16' tall, healthy, slow growth  
 2000 (1) 20' tall, healthy, moderate growth, no evidence of flowering  
 2001 (1) 20' tall, healthy, slow growth with little change in size  
 2002 (1) 20' tall, healthy, little change in size  
 2004 (1) 25' tall, healthy, moderate growth, no evidence that this plant has flowered here though it may have done so in the summer  
 2005 (1) ca. 25' tall, healthy  
 2006 (1) ca. 25' tall, healthy, little apparent change in size  
 2007 (1) ca. 25' tall, no freeze damage, healthy, little apparent growth, no evidence of flowering  
 2008 (1) ca. 28' tall, healthy, moderate growth  
 2009 (1) ca. 30' tall, healthy, slowly getting larger, no evidence of flowering

*Acacia kempeana* 91-0356 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 1'/1.5' tall, some freeze damage to stem tips, slow but healthy  
 1994 (2) 3.5' tall, no freeze damage, healthy, flowers in 1994  
 1997 (2) 1=2' tall, dead-cause undetermined, 1=9' tall, severe freeze damage to foliage only, healthy  
 2001 (1) 11' tall, no freeze damage, healthy, flowers/fruit  
 2004 (1) 12' tall, no freeze damage, healthy, flowers/fruit  
 2006 (1) 13' tall, no freeze damage, healthy, flowers/fruit  
 2007 (1) 14' tall, minor damage to some outer phyllodes and some stems froze back to 3" from tips, healthy

*Acacia kempeana* 91-0356 Tucson (CAC field 3) – planted March 1998 (2 plants)  
 2000 (2) 6' tall, no freeze damage, healthy, flowers in spring 2000  
 2004 (2) 10' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 12'/12' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 10'/12' tall, minor freeze damage to some phyllode tips, healthy, flowers/fruit

*Acacia leiocalyx* 90-0080 Tucson (CAC field 6) – planted April 1991 (1 plant)  
 1992 (1) data missing  
 1993 (1) 9' tall, severe freeze damage (stems killed to 2" in diameter), vigorous regrowth  
 1994 (1) 12' tall, freeze damage to some leaves and some stems froze back to 3' from tips, healthy, vigorous  
 1995 (1) 18' tall, minor freeze damage to leaves, healthy, vigorous  
 1997 (1) 18' tall, outer stems froze back to 6-10' from tips, vigorous, healthy  
 2001 (1) 18' tall, died rather suddenly in summer 2001-cause undetermined by may have been senescent

*Acacia leuderitzii* var. *leuderitzii* 91-0143 Yuma – planted March 1992 (2 plants)  
 1992 (2) 1=1.5' tall, healthy but heavily browsed, 1=4' tall, healthy, no browsing  
 1993 (2) 1=appears to be dead due to browsing, 1=10' tall, healthy, vigorous growth

1994	(2)	1=3' tall, recovered and healthy, slow growth, 1=14' tall, healthy, vigorous growth
1995	(2)	6'/14' tall, healthy, slow to moderate growth, 1=flowers/fruit in 1995
1996	(2)	9'/16' tall, healthy, slow to moderate growth, both=flowers/fruit
1997	(2)	14'/22' tall, healthy with vigorous growth, flowers/fruit
1999	(2)	15'/18' tall, healthy, slow growth, flowers/fruit
2000	(2)	15'/18' tall, healthy, little height increase, flowers/fruit
2001	(2)	16'/22' tall, healthy, slow to moderate growth, flowers/fruit
2002	(2)	16'/18' tall, healthy, little apparent change in size, flowers/fruit
2004	(2)	25'/25' tall, healthy, moderate to fast growth, flowers/fruit, attractive but spiny trees w/ upright growth form
2005	(2)	25'/25' tall, healthy, little growth, flowers/fruit
2006	(2)	27'/27' tall, healthy, slow growth, flowers/fruit
2007	(2)	27'/27' tall, minor freeze damage to stem tips only, healthy, little growth, flowers/fruit
2008	(2)	both ca. 30' tall, healthy, moderate growth in past year, flowers/fruit
2009	(2)	both ca. 30' tall, healthy, little apparent change in size, flowers/fruit

*Acacia maitlandii* 91-0364 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994	(1)	2.5' tall, minor leaf burn from freeze, chlorotic
1995	(1)	4' tall, freezing caused minor stem tip damage, somewhat chlorotic
1997	(1)	6' tall, dead-froze to ground and did not recover

*Acacia melanoxylon* 89-0390 Tucson (CAC field 6) – planted April 1990 (2 plants)

1991	(2)	2' tall, no freeze damage, healthy
1992	(2)	3'/6' tall, no freeze damage, healthy
1993	(2)	3'/7' tall, no freeze damage, fair health - plants declined during 1993 and died - senescent?

*Acacia mellifera* subsp. *dentiens* 91-0140 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994	(1)	3' tall, freeze caused minor twig die-back (to 1' from tips), healthy
1995	(1)	6' tall, no freeze damage, healthy
1997	(1)	10' tall, freezing causes occasional twig die-back to 6" from tips, healthy, vigorous
2001	(1)	11' tall, no recent freeze damage, healthy
2004	(1)	15' tall, no freeze damage, healthy, this plant has flowered sparingly but no fruits developed
2006	(1)	16' tall, no freeze damage, healthy, flowers/fruit in 2006
2007	(1)	17' tall, stems froze back 1-3" from tips only, healthy, flowers in 2007

*Acacia microcarpa* 91-0367 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994	(1)	1' tall, no freeze damage, healthy
1995	(1)	2.5' tall, no freeze damage, healthy
1997	(1)	4.5' tall, dead-froze to ground and did not recover

*Acacia microcarpa* 91-0367 Tucson (CAC field 3) – planted March 1998 (2 plants)

2000	(2)	2'/3' tall, no freeze damage, healthy
2004	(2)	1=dead-missing-cause undetermined, 1=4' tall, foliage frozen and minor freeze damage to stems, healthy recovery
2006	(1)	4' tall, no freeze damage but several stems have died-cause undetermined
2007	(1)	5.5' tall, 90% of foliage frozen and stem tips froze back 1-6" from tips, fair condition

*Acacia millefolia* 89-0340 Tucson (CAC field 6) – planted April 1990 (4 plants)

1991	(4)	1=dead - cause undetermined, 3=3' tall, healthy but some rodent gnawing
1992	(3)	3-5' tall, no freeze damage, healthy, vigorous
1993	(3)	3-5' tall, minor tip die-back, healthy, flowers/fruit 1992

1994	(3)	3-6' tall, minor twig tip damage, healthy, flowers/fruit 1993
1997	(3)	6-8' tall, some die-back 3-4' from stem tips, healthy, vigorous, flowers/fruit
2001	(3)	5-7' tall, some die-back each year, healthy, flowers/fruit
2004	(3)	5-7' tall, some die-back to 1' from stem tips, fair condition-drought stress, flowers/fruit
2006	(3)	4'7'7.5' tall, some die-back to 1' from stem tips, healthy, flowers/fruit
2007	(3)	3.5'7'7' tall, most stems froze back to near base, healthy regrowth, flowers/fruit

***Acacia millefolia*** 89-0344 Tucson (CAC field 6) – planted April 1990 (4 plants)

1991	(4)	2-2.5' tall, no freeze damage, healthy
1992	(4)	3-4' tall, no freeze damage, healthy, vigorous, flowers/fruit 1991, 1992
1993	(4)	3-5' tall, minor twig die-back (stems killed to 1/8" diameter), healthy, flowers/fruit
1994	(4)	4-5.5' tall, minor twig die-back, healthy, flowers/fruit 1993, flowers 1994
1997	(3)	1=6' tall, 2=8' tall, froze back approx. 2' on some twigs, healthy-vigorous, flowers/fruit
2001	(3)	5-7'tall, some die-back each year, healthy, flowers/fruit, several plants that volunteered from seeds are now as large as the parent plants
2004	(5)	3 original plants + 2 volunteer plants, 6-7' tall, some die-back to 1' from stem tips, fair condition-drought stress, flowers/fruit
2006	(5)	4.5-7' tall, some die-back to 1' from stem tips, healthy, flowers/fruit
2007	(5)	6-7' tall, variable die-back to 1' from stem tips-typical for this species, healthy to fair condition, slow growth

***Acacia millefolia*** 89-0344 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000	(3)	4.5-5.5' tall, no freeze damage, healthy, flowers/fruit
2004	(3)	2=dead-missing-cause undetermined, 1=6' tall, minor die-back of some stems to 1' from tips, no freeze damage, healthy, flowers/fruit
2006	(1)	7' tall, minor freeze damage to stem tips only, healthy, flowers/fruit in 2005
2007	(1)	6.5' tall, many stems froze back 1-4' from tips (to 1.5" thick), vigorous recovery, flowers in 2007

***Acacia modesta*** 92-0085 Yuma – planted March 1994 (4 plants)

1994	(4)	4-5' tall, healthy, moderate growth, 1 plant=flowers/fruit
1995	(4)	6.5-9' tall, healthy, moderate growth, all-flowers/fruit
1996	(4)	8-15' tall, healthy, moderate to fast growth, flowers/fruit
1997	(4)	8-14' tall, healthy, slow vertical growth but spreading and low-branched, flowers/fruit
1999	(4)	9-14' tall, healthy, slow growth, flowers/fruit
2000	(4)	10-16' tall, healthy, slow growth, flowers/fruit-this species has exceptionally heavy fruit set
2001	(4)	10-15' tall, healthy, little change in size, flowers/fruit
2002	(4)	10-15' tall, healthy, little change in size, flowers/fruit, some volunteer plants in adjacent areas of the field
2004	(4)	11-22' tall, healthy, slow to moderate growth, flowers/fruit
2005	(4)	13'/17'/18'/22' tall, healthy, flowers/fruit
2006	(4)	1=died in 2006-cause undetermined, 3=14'/20'/20', healthy, slow growth, flowers/fruit
2007	(3)	15'/22'/23' tall, no freeze damage, healthy, slow growth, flowers/fruit
2008	(3)	16'/22'/25' tall, healthy, slow growth, flowers/fruit
2009	(3)	15'/25'/25' tall, healthy, little apparent change in size, flowers/fruit

***Acacia montana*** 90-0087 Tucson (CAC field 3) – planted July 1998 (2 plants)

2000	(2)	1=dead-cause undetermined, 1=2' tall, no freeze damage, healthy
2004	(1)	5.5' tall, minor freeze damage to foliage only, healthy
2006	(1)	6' tall, minor freeze damage to foliage only, healthy
2007	(1)	6' tall, dead-froze with stems to 2.5" thick killed

*Acacia murrayana* 90-0090 Tucson (CAC field 6) – planted July 1991 (1 plant)/April 1992 (1 plant)

1992	(1)	data missing
1993	(2)	1=3.5' tall, dead-froze to ground and did not recover, 1=5' tall, severe freeze damage (stems killed to 3" in diameter), regrowing
1994	(1)	4' tall, no freeze damage, healthy
1995	(1)	5' tall, no freeze damage, healthy
1997	(1)	6' tall, dead-froze to ground and did not recover

*Acacia nebrownii* 91-0012 Yuma – planted March 1992 (4 plants)

1992	(4)	3-4' tall, healthy, moderate growth, 3=flowers in fall 1992
1993	(4)	1=8' tall, poor condition, 3=7-8' tall, healthy, vigorous, flowers/fruit
1994	(4)	1=died in 1994, cause undetermined but possibly due to excess water leaking from adjacent irrigation canal, 3=9-10' tall, healthy, flowers/fruit
1995	(3)	11-12' tall, healthy, slow growth, flowers/fruit
1996	(3)	11-12' tall, healthy (1=tipped to side), slow growth, flowers/fruit
1997	(3)	10-14' tall, 1=fair condition, little growth, 2=healthy, slow growth, flowers/fruit
1999	(3)	1=8' tall, fair condition, no apparent growth, 2=14'/14' tall, healthy, slow growth, flowers/fruit
2000	(3)	1=died in 2000-cause undetermined-possibly excess water as this is adjacent to irrigation canal, 2=8'/14' tall, healthy, slow growth, 1=flowers/fruit
2001	(2)	10'/17' tall, healthy, slow to moderate growth, both=flowers/fruit
2002	(2)	10'/17' tall, healthy, little change in size, flowers/fruit
2004	(2)	14'/16' tall, healthy, slow growth, flowers/fruit, an attractive small tree w/ interesting bark
2005	(2)	14'/17' tall, healthy, little change in size, flowers/fruit
2006	(2)	12'/15' tall, healthy, little growth, flowers/fruit
2007	(2)	14'/16' tall, minor freeze damage to stem tips/foliage frozen, healthy, slow growth, flowers/fruit
2008	(2)	15'/18' tall, healthy, slow growth, flowers/fruit
2009	(2)	16'/20' tall, healthy, slow growth, flowers/fruit

*Acacia nebrownii* 91-0012 Tucson (CAC field 6) – planted April 1994 (2 plants)/1997 (2 plants)

1995	(2)	1.5' tall, 1=dead-froze to ground and did not recover, 1=froze to ground, vigorous recovery
1997	(1)	6' tall, froze to ground, healthy recovery
2001	(3)	1=dead in 2000-cause undetermined, 2=3' tall, healthy but freeze to ground in winter
2004	(2)	1=dead ca. 2002-may have been killed by gophers, 1=5' tall, froze to ground, some regrowth but low vigor due to limited irrigation
2006	(1)	5.5' tall, froze to base, fair condition, healthy regrowth, flowers/fruit
2007	(1)	5' tall, froze to base to stems 1" thick, fair condition, regrowing

*Acacia nebrownii* 91-0012 Tucson (CAC field 3) – planted March 1998 (2 plants)

2000	(2)	6'/6.5' tall, froze to ground, vigorous recovery, flowers/fruit in 1999
2004	(2)	9' tall, froze to near base with stems to 1.5" thick killed, vigorous recovery, flowers/fruit
2006	(2)	7'/7' tall, severe freeze damage with stems to 1" thick killed, vigorous regrowth
2007	(2)	6'7' tall, froze to ground with stems to 2" killed, vigorous regrowth

*Acacia neovernicosa* 89-0294 Tucson (CAC field 6) – planted April 1990 (3 plants)

1991	(3)	2-4' tall, no freeze damage, healthy
1991	(3)	7' tall, no freeze damage, healthy, flowers/fruit in 1991, 1992
1993	(3)	5-7' tall, no freeze damage, healthy, flowers/fruit
1994	(3)	6-10' tall, no freeze damage, healthy, flowers/fruit in 1993, 1994
1997	(3)	8-13' tall, no freeze damage, healthy, flowers/fruit
2001	(3)	1=dead ca. 1999-undetermined cause, 2=7' tall (stems sprawled out), no freeze damage, healthy, flowers/fruit

2004 (2) dead ca. 2001-2002-gophers and shade, 1 volunteer plant=7' tall, no freeze damage, healthy, flowers/fruit  
 2006 (1) 8' tall, no freeze damage, healthy, flowers/fruit  
 2007 (1) 8' tall, no freeze damage, healthy, flowers/fruit

*Acacia neovernicosa* 90-0436 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000 (3) 6' tall, no freeze damage, healthy, flowers/fruit from 1999  
 2004 (3) 9-10' tall, no freeze damage, healthy, flowers/fruit  
 2006 (3) 11' tall, no freeze damage, healthy, flowers/fruit  
 2007 (3) 12' tall, no freeze damage, healthy, flowers/fruit

*Acacia nilotica* 90-0252 Yuma – planted March 1992 (1 plant)

1992 (1) 6' tall, healthy, vigorous growth  
 1993 (1) 11' tall, healthy, vigorous  
 1994 (1) 18' tall, healthy, vigorous, flowers/fruit  
 1995 (1) 18' tall, healthy, vigorous though no height increase, flowers/fruit  
 1996 (1) 23' tall, healthy, vigorous  
 1997 (1) 25' tall, healthy, vigorous, flowers/fruit  
 1999 (1) 22' tall, healthy, vigorous but no height increase, flowers/fruit  
 2000 (1) 22' tall, healthy, little size increase, flowers/fruit  
 2001 (1) 25' tall, healthy, moderate growth, flowers/fruit, pruning is an ongoing issue  
 2002 (1) 25' tall, healthy, slow growth, flowers/fruit  
 2004 (1) ca. 35' tall, healthy, vigorous growth, flowers/fruit  
 2005 (1) 25' tall, healthy, flowers/fruit  
 2006 (1) ca. 25' tall, healthy, little change in size, flowers/fruit  
 2007 (1) died in 2007-cause undetermined but not freeze-related, still alive in March 2007

*Acacia nilotica* 90-0267 Yuma – planted March 1991 (1 plant)

1991 (1) 3' tall x 6' spread, healthy, vigorous growth  
 1992 (1) 7' tall, healthy, vigorous, flowers in fall 1992  
 1993 (1) 12' tall, healthy, vigorous, flowers/fruit  
 1994 (1) 18' tall, healthy, vigorous, flowers/fruit  
 1995 (1) 17' tall, healthy, vigorous though no height increase  
 1996 (1) 20' tall, healthy, vigorous, flowers/fruit  
 1997 (1) 25' tall, healthy, vigorous, flowers/fruit  
 1999 (1) 25' tall, healthy, vigorous but little height increase, flowers/fruit  
 2000 (1) 25' tall, healthy, little size change, flowers/fruit, low-hanging limbs  
 2001 (1) 30' tall, healthy, vigorous growth, flowers/fruit  
 2002 (1) 30' tall, healthy, slow growth, flowers/fruit  
 2004 (1) ca. 30' tall, healthy, vigorous but little increase in height, flowers/fruit  
 2005 (1) ca. 30' tall, healthy, flowers/fruit  
 2006 (1) ca. 35' tall, healthy, vigorous, flowers/fruit  
 2007 (1) ca. 35' tall, no apparent freeze damage, healthy, little apparent change in size, flowers/fruit  
 2008 (1) ca. 35' tall, healthy, slow growth, flowers/fruit  
 2009 (1) ca. 35' tall, healthy, flowers/fruit

*Acacia nilotica* subsp. *kraussiana* 91-0055 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995 (2) 3' tall, froze to base, vigorous regrowth  
 1997 (2) 6' tall, froze to ground, healthy  
 2000 (2) dead ca. 1998-1999-froze to ground each winter

<i>Acacia notabilis</i>	89-0103	Tucson (CAC field 6) – planted September 1989 (5 plants)
1990	(5)	severe leaf burn and moderate stem die-back, regrowing
1991	(5)	3=2.5' tall, no freeze damage, 1=flowers 1991, 2=dead-froze in winter 1990-1991
1992	(3)	4-5' tall, no freeze damage, healthy, flowers/fruit
1993	(3)	4-5' tall, froze to near ground. 1=dead-froze, 2=slow regrowth, 1=flowers/fruit in 1993
1994	(2)	5' tall, no freeze damage, healthy, flowers/fruit 1994
1997	(2)	1=dead ca. 1996-cause undetermined, 1=7.5' tall, healthy, foliage and some twigs killed, healthy regrowth, flowers/fruit
2001	(1)	7' tall, no freeze damage, healthy, flowers/fruit
2004	(1)	6' tall, minor freeze damage to foliage only, healthy, flowers/fruit
2006	(1)	5.5' tall, no freeze damage, fair condition, flowers
2007	(1)	5.5' tall, 80% of foliage and all but 1 stem froze, poor condition, plant died in summer 2007
<i>Acacia notabilis</i>	91-0021	Tucson (CAC field 3) – planted March 1998 (2 plants)
2000	(2)	2.5/3' tall, no freeze damage, healthy
2004	(2)	4' tall, some freeze damage to foliage and minor stem damage, healthy, flowers/fruit
2006	(2)	4'/4' tall, 1=dead-cause undetermined, 1=no freeze damage, healthy, flowers in 2005
2007	(1)	5' tall, no freeze damage, healthy
<i>Acacia nysophylla</i>	96-0066	Tucson (CAC field 3) – planted April 2002 (2 plants)
2004	(2)	2.5' tall, no freeze damage, healthy
2006	(2)	1=3' tall, no freeze damage, healthy, flowers in 2006, 1=4' tall, most stems dead-cause undetermined and some stems are healthy
2007	(2)	3.5'/3.5' tall, 10% of phyllodes of one plant frozen but no stem damage, healthy, 1 plant=flowers in 2007
<i>Acacia obtecta</i>	91-0372	Tucson (CAC field 6) – planted April 1993 (2 plants)
1994	(2)	6" tall, minor freeze damage, browsed by rabbits but otherwise healthy
1995	(2)	6" - 2' tall, no freeze damage, low vigor but healthy
1997	(2)	1=dead-missing, 1=3' tall, froze to ground, healthy regrowth
2001	(1)	6' tall, no freeze damage, healthy
2004	(1)	7.5' tall, foliage froze only, healthy
2006	(1)	8' tall, no freeze damage, healthy but no flowers
2007	(1)	8.5' tall, no freeze damage, healthy
<i>Acacia occidentalis</i>	90-0407	Tucson (CAC field 6) – planted April 1990 (1 plant)
1991	(1)	1.5' tall, no freeze damage, healthy
1992	(1)	6' tall, no freeze damage, vigorous growth in March but defoliated w/ some branch die-back in April/May - regrowth in June but not as vigorous
1993	(1)	6' tall, no freeze damage, healthy but some drought die-back in spring 1992
1994	(1)	6' tall, no freeze damage, healthy
1997	(1)	10' tall, no freeze damage, fair-low vigor
2001	(1)	14' tall, no freeze damage, healthy, flowers/fruit beginning 1999
2004	(1)	20' tall, no freeze damage, healthy, flowers/fruit
2006	(1)	15' tall, no freeze damage, healthy, flowers/fruit
2007	(1)	13' tall, no apparent freeze damage, healthy but no flowers
<i>Acacia oswaldii</i>	96-0067	Tucson (CAC field 3) – planted summer 2001 (1 plant)/April 2002 (1 plant)
2004	(2)	3' tall, severe freeze damage to foliage but no stem damage, healthy
2006	(2)	3.5'/3.5' tall, 1=died in winter of 2005/2006-cause undetermined, 1=no freeze damage but some

2007	(1)	stems dead, healthy overall 4.5' tall, no freeze damage, fair condition
<b><i>Acacia pachyacra</i></b> 90-0093 Tucson (CAC field 6) – planted August 1991 (2 plants)		
1992	(2)	data missing
1993	(2)	4'/6.5' tall, slight freeze damage to foliage/twig tips, healthy, flowers/fruit in spring 1993
1994	(2)	9' tall, no freeze damage, healthy, flowers/fruit
1995	(2)	12' tall, no freeze damage (1=major limb died in spring 1995), flowers/fruit
1997	(2)	10'/15' tall, major die-back of stems (non-freeze) and freeze damage to foliage, declining, some flowers/fruit
2000	(2)	1=dead in 1998-appears to be age-related, 1=dead in 1999-age?, these continued to decline and finally died-cause undetermined but may be short-lived
<b><i>Acacia papyrocarpa</i></b> 90-0121 Tucson (CAC field 6) – planted April 1994 (4 plants)		
1995	(4)	9"-4.5' tall, no freeze damage, healthy
1997	(4)	1=3' tall, dead-appears to have been killed by freezing; 3=2.5-7' tall, freeze damage to foliage, healthy
2001	(3)	2=died ca. 1999-2000 (drought?), 1=6.5' tall, no freeze damage, healthy
2004	(1)	8' tall, no freeze damage, healthy
2006	(1)	11' tall, died in autumn of 2005-cause undetermined-just dried up
<b><i>Acacia patagiata</i></b> 91-0386 Tucson (CAC field 6) – planted 1994 (2 plants)		
1995	(2)	3' tall x 4-6' wide, no freeze damage, healthy, first flowers in 1995
1997	(2)	5' tall, some leaf and twig burn from December 1996 freeze, healthy
2001	(2)	1=6' tall, poor condition-all but one stem died in summer 2001 (drought?), 1=5' tall, healthy, flowers only but fruit in some previous years
2004	(2)	1=dead ca. 2002-cause undetermined, 1=6.5' tall, some freeze damage to foliage only, healthy
2006	(1)	6.5' tall, no freeze damage, healthy, flowers but no fruit
2007	(1)	6.5' tall, no apparent freeze damage, fair condition-insufficient irrigation, declined and subsequently died in summer of 2007-cause undetermined
<b><i>Acacia patagiata</i></b> 91-0386 Tucson (CAC field 3) – planted July 1998 (2 plants)		
2000	(2)	2' tall x 4-6' wide, no freeze damage, healthy
2004	(2)	4.5'/6' tall, severe freeze damage to foliage but no stem damage, healthy
2006	(2)	4.5'/6' tall, no freeze damage, healthy but somewhat chlorotic
2007	(2)	1=5' tall, dead-froze, 1=6' tall, 75% of foliage froze, low vigor
<b><i>Acacia pendula</i></b> 90-0123 Tucson (CAC field 6) – planted July 1991 (1 plant)		
1993	(1)	3.5' tall, no freeze damage, healthy, vigorous
1994	(1)	6' tall, no freeze damage, healthy
1995	(1)	7' tall, no freeze damage, healthy
1997	(1)	11' tall, minor freeze-back to 1' from stem tips and severe freeze damage to foliage, healthy
2001	(1)	12' tall, fair condition, slow growth since irrigation reduced
2004	(1)	12' tall, poor condition-mostly dead due to freeze + drought stressed-a few twigs have new leaves
2006	(1)	12' tall, some phyllodes froze and some stems froze back to 1' from tips, fair condition-top dead but healthy below
2007	(1)	9' tall, foliage and some stems froze, fair condition, little growth
<b><i>Acacia pennatula</i> subsp. <i>pennatula</i></b> 89-0003 Tucson (CAC field 6) – planted June 1989 (3 plants)		
1990	(3)	moderate freeze damage, regrowing
1991	(3)	7' tall, froze to ground, vigorous regrowth

1992	(3)	6-8' tall, very minor tip die back (to 9" from stem tips), healthy, vigorous
1993	(3)	12' tall, froze to ground (stems killed to 3" in diameter), 1=dead-froze, 2=regrowing
1994	(2)	10' tall, froze to ground, slow regrowth
1997	(2)	6' tall, froze to ground, healthy, moderate regrowth
2001	(2)	1=dead in 1998, 1=dead in 2000-froze to base each winter, shading and drought finished them

***Acacia pennatula* subsp. *pennatula*** 96-0001 Yuma – planted February 1997 (1 plant)

1999	(1)	7' tall, healthy, moderate growth
2000	(1)	8.5' tall, healthy, slow growth
2001	(1)	14' tall, healthy, vigorous growth
2002	(1)	15' tall, healthy, slow growth, flowers/fruit in 2002
2004	(1)	20' tall, healthy, moderate growth, flowers/fruit
2005	(1)	22' tall, healthy, flowers/fruit
2006	(1)	20' tall, healthy, little change in size, flowers/fruit
2007	(1)	20' tall, no apparent freeze damage, healthy, little apparent growth, flowers/fruit
2008	(1)	24' tall, healthy, vigorous growth, no flowering
2009	(1)	ca. 25' tall, healthy, little change in size, flowers/fruit

***Acacia pennatula* subsp. *pennatula*** 96-0002 Yuma – planted February 1997 (1 plant)

1999	(1)	6' tall, healthy, moderate growth
2000	(1)	7.5' tall, healthy, slow growth
2001	(1)	9' tall, healthy, moderate growth
2002	(1)	10' tall, healthy, slow growth
2004	(1)	14' tall, healthy, slow growth
2005	(1)	13' tall, healthy, little growth
2006	(1)	14' tall, healthy, little change in size, flowers/fruit in 2006
2007	(1)	14' tall, no apparent freeze damage, healthy, little apparent growth, flowers/fruit
2008	(1)	19' tall, healthy, vigorous growth, no flowering
2009	(1)	18' tall, healthy, little change in size, flowers/fruit

***Acacia permixta*** 98-0008 Tucson (CAC field 3) – planted summer 2001 (2 plants)

2004	(2)	6'/7' tall, some stems froze back to 2' from tips, healthy, flowers/fruit
2006	(2)	7'/9' tall, no freeze damage, healthy, flowers/fruit in 2005
2007	(2)	9'/10' tall, froze to near ground to stems 2" thick, vigorous regrowth

***Acacia peuce*** 90-0320 Tucson (CAC field 6) – planted April 1991 (4 plants)

1992	(4)	6"-1' tall, no freeze damage, serious browsing damage, slow growth
1993	(4)	6"-1' tall, no freeze damage, healthy but very slow growing
1994	(4)	1' tall, 1=died of undetermined causes, 3=no freeze damage, healthy but browsed
1997	(3)	1' tall, 1=died of undetermined causes, 2=no freeze damage, poor health, almost no growth
2001	(2)	1=died ca. 1998-1999- cause undetermined, 1.5' tall, poor condition with no growth, has been declining and is mostly dead
2004	(1)	died ca. 2002 after steady decline-cause undetermined

***Acacia polyacantha*** 90-0253 Yuma – planted March 1994 (2 plants)

1994	(2)	10"/3.5' tall, slow growth, 1=poor condition, 1=good condition
1995	(2)	3'/10' tall, healthy, moderate to fast growth
1996	(2)	8.5'/16' tall, healthy, vigorous growth
1997	(2)	13'/20' tall, healthy, vigorous growth
1999	(2)	20'/28' tall, healthy, vigorous growth
2000	(2)	20'/28' tall, healthy but some lower limbs have died (self-pruning?), little or no height increase

2001	(2)	27'/30' tall, healthy, slow to rapid growth, no evidence of flowering
2002	(2)	27'/30' tall, healthy, little change in size
2004	(2)	27'/35' tall, healthy, slow to moderate growth, these plants have not been observed to flower here
2005	(2)	27'/35' tall, healthy, little change in size, several stems on smaller plant have died
2006	(2)	27'/30' tall, healthy, little apparent growth, no evidence of flowering
2007	(2)	27'/30' tall, stems froze back to 3' from tips to stems 1" thick, healthy regrowth but smaller plant has numerous dead stems along trunk not related to freeze
2008	(2)	ca. 30'/35' tall, healthy, significant growth in past year
2009	(2)	1=ca. 30' tall, poor condition with considerable die-back, 2-ca. 35' tall, healthy, little change in size

*Acacia pravissima* 91-0376 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994	(1)	2.5' tall, no freeze damage, healthy but slightly chlorotic
1995	(1)	4' tall, no freeze damage, healthy
1997	(1)	6' tall, leaves frozen, main stems froze to ground but lowest branches undamaged, fair condition
2001	(1)	dead-missing-cause undetermined

*Acacia pruinocarpa* 90-0126 Tucson (CAC field 6) – planted April 1993 (2 plants)/April 1994 (2 plants)

1994	(2)	2-2.5' tall, 1=minor leaf burn, 1=moderate leaf burn and top kill; healthy
1995	(4)	2 (planted 1992)= 3'/4' tall, minor leaf burn, healthy; 2 (planted 1994)= 1.5' tall, minor leaf burn, healthy
1997	(4)	4-8' tall, froze to ground, all with healthy regrowth (1 died spring 1997-cause undetermined)
2001	(3)	1=4' tall, healthy, 2=7/8' tall, healthy, flowers/fruit from 1999
2004	(3)	foliage mostly frozen, 1=3' tall-stems frozen to 1/4" in diameter, 1=8' tall-stems frozen to 1/2" thick, 1=10' tall-stems frozen to 3" in diameter, healthy, recovering, flowers/fruit in 2003
2006	(3)	3'/6'/8' tall, most stems froze to near base (to 1" thick), fair condition, recovering
2007	(3)	5'/6.5'/7' tall, froze to near base (to stems 2" thick), fair condition, recovering

*Acacia quornensis* 99-0146 Tucson (CAC field 3) – planted April 2002 (2 plants)

2004	(2)	3' tall, foliage frozen and some stems froze to ground but a few stems had only minor damage, healthy
2006	(2)	6'/6.5' tall, no freeze damage, healthy, 1=flowers
2007	(2)	6.5'/6.5' tall, froze to ground with stems to 1" thick killed, 1=dead-froze, 1=slow regrowth from base

*Acacia ramulosa* 90-0129 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994	(2)	1-2' tall, no freeze damage, browsed by rabbits, healthy
1995	(2)	no freeze damage, 1=6" tall, severely browsed, 1 = 2' tall, healthy
1997	(2)	dead-missing-cause undetermined

*Acacia redolens* 89-0131 Tucson (CAC field 6) – planted July 1991 (4 plants)

1993	(4)	1-1.5' tall x 3-6' across, 2=no freeze damage, 2=moderate freeze damage, healthy
1994	(4)	2' tall x 8' across, 2=no freeze damage, healthy; 2=moderate freeze damage, slow recovery
1995	(4)	4-6' across, no freeze damage, 2=healthy, 2=poor condition
1997	(4)	2=dead-froze to ground and did not recover, 2=froze back 1-2' from stem tips, healthy, flowers/fruit
2001	(2)	4' tall, no recent freeze damage, healthy, flowers/fruit
2004	(2)	5' tall, minor freeze damage to foliage and some stem tips, healthy, flowers/fruit
2006	(2)	4'/5' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	5'/5' tall, no freeze damage, healthy, flowers/fruit

*Acacia redolens* 90-0631 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000	(2)	1=1' tall, partially dead, low vigor-cause undetermined, 1=2.5' tall x 7' across, no freeze damage, healthy, flowers in 2000
2004	(2)	1=declined and died-cause undetermined, 1=4' tall x 10' across, no freeze damage, healthy, flowers/fruit
2006	(1)	4' tall x 14' across, no freeze damage, healthy, flowers/fruit
2007	(1)	5' tall x 10' across, some stems froze back to 1' from tips and some foliage damaged, healthy, flowers/fruit
<i>Acacia rigidula</i>	89-0158	Tucson (CAC field 6) – planted April 1990 (4 plants)
1991	(4)	1' tall, no freeze damage, healthy
1992	(4)	2.5' tall, no freeze damage, healthy
1993	(4)	2-3.5' tall, no freeze damage, healthy
1994	(4)	3-6' tall, no freeze damage, healthy, flowers/few fruit in 1994
1997	(4)	6-9' tall, no freeze damage, healthy
2001	(4)	6-11'tall, 3=healthy, 1=fair condition w/ some dead stems
2004	(4)	no freeze damage, 1=3.5' tall, all but one stem dead, 1=6.5' tall, fair condition, 2=11'/12' tall, healthy, flowers
2006	(4)	1=died ca. 2005-cause undetermined, 3=6.5/10'/11' tall, no freeze damage, healthy but no flowers
2007	(3)	6.5'/10/11' tall, variable die-back 1-6' from stem tips-possibly due to lack of moisture but apparently not due to freezing, healthy regrowth, no flowers
<i>Acacia rivas</i>	92-0211	Tucson (CAC field 6) – planted April 1993 (2 plants)
1994	(2)	4' tall, no freeze damage, healthy, vigorous, flowers
1995	(2)	8' tall, no freeze damage, healthy (some browsing), vigorous, flowers/fruit
1997	(2)	12-13' tall, minor freeze damage to leaf tips only, healthy, vigorous, flowers/fruit
2001	(2)	13'/16' tall, no freeze damage, healthy, flowers/fruit
2004	(2)	11'/14' tall, no freeze damage, both plants were blown over in a storm in summer 2003 but appear healthy-this necessitated staking and considerable corrective pruning, flowers/fruit
2006	(2)	1=died-did not recover from blowdown, 1=6' tall, no freeze damage, poor condition-mostly dead, declining following blowdown
2007	(1)	3.5' tall, died-never recovered from blowdown
<i>Acacia roemeriana</i>	90-03xx	Tucson (CAC field 6) – planted July 1991 (5 plants)
1992	(5)	6"-3' tall, no freeze damage, some gnawing, healthy
1993	(5)	1-6' tall, no freeze damage, healthy but some gnawing, 1=flowers in 1993
1994	(5)	1-6' tall, no freeze damage, healthy, flowers/fruit 1994
1997	(5)	1.5-7' tall, no freeze damage, healthy, some=flowers/fruit
2001	(5)	1=dead 1999-rabbit browsing, 4=5-8' tall, no freeze damage, healthy, flowers/fruit
2004	(4)	5-8' tall, no freeze damage, healthy, flowers/fruit
2006	(4)	4'7'7'7.5' tall, no freeze damage, healthy, flowers/fruit
2007	(4)	4.5'7'8'8' tall, no freeze damage, healthy, flowers/fruit
<i>Acacia roemeriana</i>	90-0389	Tucson (CAC field 3) – planted summer 1997 (2 plants)
2000	(2)	4' /5.5' tall, no freeze damage, healthy, flowers/fruit
2004	(2)	10'/13' tall, no freeze damage, healthy, flowers/fruit
2006	(2)	7'/14' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	10'/18' tall, no freeze damage, healthy, flowers/fruit
<i>Acacia salicina</i>	90-0133	Tucson (CAC field 6) – planted April 1993 (2 plants)
1994	(2)	4' tall, minor leaf burn only, healthy, vigorous
1995	(2)	8'/10' tall, no freeze damage, healthy, flowers

1997 (2) 12'/16' tall, the foliage froze except for leaves in the top 3' of the taller tree, 1=stems froze back 6' from the tips, 1=some stems froze back 1' from the tips and other stems were undamaged  
 2001 (2) 14'/19' tall, healthy-vigorously root-suckering, flowers/fruit  
 2004 (2) 18'/20' tall + root suckers, foliage frozen except for uppermost part of both trees, healthy, flowers/fruit in 2003  
 2006 (2) 20'/22' tall + root suckers, minor freeze damage to foliage, healthy, flowers/fruit  
 2007 (2) 20'/24' tall + root suckers, all foliage frozen and stems froze back variably 1-8' from tips, fair condition, recovering

*Acacia saligna* 89-0386 Tucson (CAC field 6) – planted April 1990 (6 plants)  
 1991 (6) 4-7' tall, minor leaf burn at 19° F, healthy, vigorous  
 1992 (6) 12' tall, no freeze damage, healthy, vigorous, first flowers/fruit in spring 1992  
 1994 (6) 15-18' tall, some twigs with minor die-back (to 2' from stem tip), healthy, some plants w/ flowers/fruit in 1994  
 1997 (4) 2=dead in 1996--age/drought, all plants suffered severe foliage and stem damage at 15° F in December 1996.  
 2001 (3) 1=dead 1999-2000-drought/age, 2=7'/13' tall, fair, declining-drought/age  
 2004 (2) these died ca. 2002 from drought and age

*Acacia saligna* 89-0391 Tucson (CAC field 6) – planted April 1990 (6 plants)  
 1991 (6) 5-7' tall, minimal damage to twig tips and foliage, healthy, vigorous  
 1992 (6) 12' tall, no freeze damage, healthy, vigorous, first flowers/fruit in spring 1992  
 1994 (6) 15-18' tall, some twigs with minor die-back (to 2' from stem tips), healthy  
 1997 (2) 4=dead 1996-age/drought, 2=approx. 20' tall, froze back 6-8' from tips at 15° F in December 1996, healthy regrowth, vigorous, flowers/fruit in 1996 but not in 1997  
 2001 (2) 11'/14' tall, fair, declining-drought/age  
 2004 (1) 1=dead ca. 2002-drought and age, 1=14 tall, dead-poor condition-drought/senescence, December 2003 freeze finished it off

*Acacia schaffneri* 89-0178 Tucson (CAC field 6) – planted April 1990 (3 plants)  
 1991 (3) 2-4' tall, no freeze damage, healthy  
 1992 (3) 3-8' tall, no freeze damage, healthy  
 1993 (3) 6-8' tall, no freeze damage, healthy, 1=flowers in 1993  
 1994 (3) 7-11' tall, no freeze damage, healthy, flowers/fruit in 1994  
 1997 (3) 12-14' tall, no freeze damage, healthy, flowers/fruit in 1996, 1997  
 2001 (3) 11-14' tall, no freeze damage, healthy, flowers/fruit  
 2004 (3) 10-14' tall, no freeze damage, fair condition-some wind damage and drought stress, flowers/fruit  
 2006 (3) 1=8' tall, died-cause undetermined but possible root problems, 2=10'/14' tall, no freeze damage, healthy  
 2007 (2) 9'/12' tall, no freeze damage but declining slowly-root problems or lack of moisture, fair condition

*Acacia schottii* 90-0391 Tucson (CAC field 6) – planted July 1991 (3 plants)  
 1992 (3) 1-2' tall, no freeze damage, healthy  
 1993 (3) 1-2.5' tall, no freeze damage, healthy (some browsing)  
 1994 (3) 18"-4' tall, no freeze damage, healthy, flowers in spring 1994  
 1997 (3) 1.5-5' tall, no freeze damage, healthy (1=browsed), flowers/fruit  
 2001 (3) 1=dead in 2000-browsing, 2=4'/6' tall, no freeze damage, healthy, flowers/fruit  
 2004 (2) 1=5' tall, dead-killed by gophers ca. 2003, 1=3' tall, no freeze damage, poor condition-shaded

*Acacia schottii* 90-0391 Tucson (CAC field 3) – planted summer 1997 (3 plants)  
 2000 (3) 1=dead-cause undetermined, 2=3' tall, no freeze damage, healthy, flowers/fruit

2004 (2) 3.5'/6' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 4.5'/7' tall, no freeze damage, some rabbit gnawing, flowers/fruit  
 2007 (2) 3'/6.5' tall, no freeze damage, healthy, flowers/fruit

***Acacia sclerosperma*** 90-0134 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994 (1) 3' tall, froze to ground, vigorous regrowth  
 1997 (1) 9' tall, dead-froze to ground and did not recover. The dead branches of this plant folded inward as they dried, forming a turban-shape

***Acacia senegal* var. *leiorachis*** 91-0048 Yuma – planted March 1992 (2 plants)

1992 (2) 2.5'/3' tall, healthy, slow growth  
 1993 (2) 4.5'/5' tall, healthy, moderate growth  
 1994 (2) 6'/6.5' tall, healthy, moderate growth  
 1995 (2) 7'/7' tall, healthy, slow growth  
 1996 (2) 7.5'/10' tall, healthy, slow to moderate growth  
 1997 (2) 10'/10' tall, healthy, slow growth  
 1999 (2) 11'/16' tall, healthy, slow to fast growth, both=flowers/fruit  
 2000 (2) 13'/16' tall, healthy, slow growth, flowers/fruit  
 2001 (2) 15'/19' tall, healthy, slow to moderate growth, flowers/fruit  
 2002 (2) 15'/19' tall, healthy, little change in size, flowers/fruit  
 2004 (2) 16'/20' tall, healthy, slow growth, flowers/fruit  
 2005 (2) 15'/19' tall, healthy, little change in size, flowers/fruit  
 2006 (2) 16'/19' tall, healthy, little apparent growth, flowers/fruit  
 2007 (2) 1=16' tall, dead-froze to stems 5" thick, 1=19' tall, froze back to 6' from stem tips to stems 2" thick, poor condition, low vigor with only scattered new growth  
 2008 (1) 14' tall, poor condition with only a few live limbs, weak recovery from 2007 freeze, some flowers/fruit  
 2009 (1) 12' tall, poor condition, still struggling to recover from 2007 freeze

***Acacia senegal* var. *rostrata*** 91-0052 Yuma – planted March 1992 (2 plants)

1992 (2) 1.5'/3' tall, healthy, slow growth  
 1993 (2) 5'/5' tall, healthy, moderate to fast growth  
 1994 (2) 6.5'/7' tall, healthy, moderate growth  
 1995 (2) 7'/7.5' tall, healthy, slow height increase but making spreading thickets  
 1996 (2) 9'/10' tall, healthy, slow to moderate growth, 1=flowers/fruit in 1996  
 1997 (2) 11'/11' tall, healthy, slow growth but dense low-branched thickets, both=flower/fruit  
 1999 (2) 9'/12' tall, healthy, slow growth, flowers/fruit  
 2000 (2) 10'/13' tall, healthy, slow growth, flowers/fruit  
 2001 (2) 12'/14' tall, healthy, slow growth, flowers/fruit  
 2002 (2) 12'/14' tall, healthy, little change in size, flowers/fruit  
 2004 (2) 14'/16' tall, healthy, slow growth, flowers/fruit  
 2005 (2) 14'/16' tall, healthy, little change in size, flowers/fruit  
 2006 (2) 14'/16' tall, healthy, little apparent growth, flowers/fruit  
 2007 (2) 14'/16' tall, foliage and some stem tips froze only, healthy, little apparent growth, flowers/fruit  
 2008 (2) 18'/18' tall, healthy, significant growth in past year, flowers/fruit  
 2009 (2) 18'/20' tall, healthy, slow growth, flowers/fruit

***Acacia sessilis*** 91-0389 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994 (1) 2' tall, no freeze damage, healthy  
 1995 (1) 2' tall, no freeze damage, healthy but little growth  
 1997 (1) dead-missing-cause undetermined

*Acacia sieberiana* 91-0460 Yuma – planted March 1994 (4 plants)

1994	(4)	1=dead-cause undetermined, 3=3-5' tall, healthy, moderate growth
1995	(3)	5-6.5' tall, healthy, slow growth
1996	(3)	6-14' tall, healthy, slow to fast growth-vigorous
1997	(3)	10-20' tall, healthy, fast growth-vigorous
1999	(3)	10-22' tall, healthy, slow growth but vigorous
2000	(3)	14-28' tall, healthy, slow to moderate growth, canopies are beginning to spread
2001	(3)	15-30' tall, healthy, slow growth, no evidence of flowering
2002	(3)	15-30' tall, healthy, slow growth
2004	(3)	22-ca. 40' tall, healthy, moderate to fast growth, these plants have not been observed to flower at this site, an attractive shade tree
2005	(3)	20'/25'/ca. 40' tall, healthy
2006	(3)	18'/20'/ca. 40' tall, healthy, little change in size, no evidence of flowering
2007	(3)	15'/18'/ca. 35' tall, froze back to 5' from stem tips to stems 1" thick, healthy, vigorous regrowth
2008	(3)	18'/21'/ca. 35' tall, healthy, moderate growth
2009	(3)	20'/28'/ca. 40' tall, healthy, substantial growth on 2 larger trees, no evidence of flowering

*Acacia sieberiana* var. *woodii* 89-0338 Tucson (CAC field 6) – planted April 1990 (2 plants)

1991	(2)	2.5' tall, froze to ground, vigorous regrowth
1992	(2)	3.5'/7' tall, froze back 3' from stem tips, vigorous regrowth
1993	(2)	6'/9' tall, froze to near ground (stems killed to 4" in diameter), vigorous regrowth
1994	(2)	4'/8' tall, froze to ground, vigorous regrowth
1997	(2)	7' tall, froze to ground, vigorous regrowth
1999	(2)	4' tall, froze to ground, some recovery but plants declined in 1998 due to reduced irrigation and apparently died of drought stress-no regrowth in 1999

*Acacia spectabilis* 90-0135 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995	(2)	2'/5' tall, no freeze damage, healthy
1997	(2)	1=2.5' tall, dead-cause undetermined, 1=6.5' tall, no apparent freeze damage but significant twig die-back 6"-1' from tips, fair condition
2001	(1)	dead-declined and died by 1998-cause undetermined

*Acacia stenophylla* 92-0194 Tucson (CAC field 6) – planted April 1993 (1 plant)/April 1994 (2 plants)

1994	(1)	4' tall, no freeze damage, some browsing by rabbits, healthy
1995	(3)	4-5' tall, 1=died in 1994-cause undetermined, 2=no freeze damage, healthy
1997	(2)	6-8' tall, froze to near ground, slow recovery, 1=healthy, 1=poor condition, both plants flowers/fruit in 1996
2001	(2)	1=died by 1998-cause undetermined, 1=9' tall, no freeze damage, healthy
2004	(1)	10' tall, foliage frozen and some stems killed back to 2' from tips, fair condition
2006	(1)	10' tall, foliage froze and many stems frozen throughout but some live stems, fair condition
2007	(1)	9' tall, died-froze, this plant was consistently more freeze-sensitive than those in Arizona horticulture

*Acacia* sp. s.n. (Peru) Yuma – planted March 1992 (2 plants)

1992	(2)	6'/7' tall, healthy, vigorous growth
1993	(2)	14'/15' tall, healthy, vigorous growth
1994	(2)	21'/23' tall, healthy, vigorous, first flowers in 1994
1995	(2)	25'/25' tall, healthy, vigorous, flowers but no fruits
1996	(2)	25'/25' tall, healthy, vigorous with drooping limbs, flowers only
1997	(2)	30'/30' tall, healthy, vigorous growth, flowers only
1999	(2)	25'/25' tall, healthy, vigorous, flowers

2000	(2)	25'/30' tall, healthy, vigorous, flowers only, drooping limbs are a maintenance issue
2001	(2)	30'/30' tall, healthy, vigorous, flowers only, ongoing pruning required to keep limbs off ground
2002	(2)	both ca. 30' tall, healthy, vigorous but size seems to have stabilized, flowers only
2004	(2)	both ca. 35' tall, healthy, vigorous growth, the trees have flowered for years but no fruits have been observed, the low-hanging branches are a major maintenance issue
2005	(2)	both ca. 35' tall, healthy, vigorous, flowering on both plants but no fruit
2006	(2)	both ca. 35' tall, healthy, little change in size, flowers only
2007	(2)	both ca. 35' tall, some stems froze back to 4' from tips, vigorous regrowth
2008	(2)	both ca. 35' tall, healthy, recovered from 2007 freeze, flowers only
2009	(2)	both ca. 35' tall, healthy, little change in size, flowers

*Acacia tetragonophylla* 90-0114 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994	(2)	2.5' tall, no freeze damage, browsed by rabbits, healthy
1995	(2)	4'/4.5' tall, no freeze damage, healthy, flowers/fruit
1997	(2)	4'/5' tall, severe freeze damage-foliage mostly killed, 1=froze to near ground-recovering, 1=some stems froze back to 2' from tips, flowers/fruit
2001	(2)	7'/8.5' tall, no recent freeze damage, healthy, flowers/fruit
2004	(2)	8.5'/10' tall, some freeze damage to foliage only, healthy, flowers/fruit
2006	(2)	9'/11' tall, minor freeze damage to a few phyllodes and stem tips (to 1' from tips), healthy, flowers/fruit
2007	(2)	8'/10' tall, foliage frozen except in center of canopies and stems froze back 2"-2' from tips, healthy recovery

*Acacia tetragonophylla* 92-0216 Tucson (CAC field 3) – planted March 1998 (2 plants)

2000	(2)	4.5'/6' tall, 1=died following July 1999 flooding, 1=top died (flooding?) but base is healthy and growing, flowers in 2000
2004	(1)	6' tall, foliage and many stems froze though a few stems sustained only minor freeze damage, healthy
2006	(1)	7' tall, some stems froze back to 1' from tips, healthy, flowers in 2006
2007	(1)	7' tall, froze to ground to stems 6" thick, weak regrowth from base

*Acacia trineura* 90-0116 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993	(2)	5' tall, no freeze damage, healthy, vigorous
1994	(2)	8'/9' tall, no freeze damage, healthy, flowers/fruit in spring 1994
1995	(2)	9'/11' tall, no freeze damage, healthy, flowers/fruit
1997	(2)	1=died in summer-fall 1996-cause undetermined (senescent?), 1=11' tall, no freeze damage, healthy, flowers/fruit. This plant subsequently declined and died ca. 1998-1999-cause undetermined but may be short-lived

*Acacia uncinata* var. *uncinata* 90-0118 Tucson (CAC field 6) – planted 1992 (4 plants)

1993	(4)	2-3' tall, 3=dead-froze to ground and did not recover, 1=froze back 6-10" from stem tips, chlorotic
1995	(1)	2.5' tall, minor freeze damage to twigs, healthy but slow growth, flowers in 1995
1997	(1)	6' tall, minor freeze damage to foliage and twig tips, healthy, flowers
2001	(1)	died ca. 1999—the drought may have been too much for it

*Acacia victoriae* 89-0101 Tucson (CAC field 6) – planted September 1989 (6 plants)

1990	(6)	no freeze damage, healthy
1991	(6)	4' tall, no freeze damage, healthy
1992	(6)	5-9' tall, no freeze damage, 1=blown down and subsequently removed, 5=healthy, vigorous, flowers/fruit in 1992
1993	(5)	7-10' tall, no freeze damage, healthy, flowers/fruit, 1 plant removed in 1993
1994	(4)	8-14' tall, no freeze damage, healthy, flowers/fruit

1997	(4)	7-18' tall, no freeze damage, healthy, vigorous, flowers/fruit
1999	(4)	1=died June 1999-cause undetermined (senescent?), 3=12-18' tall, no freeze damage, healthy, flowers/fruit
2001	(3)	1=died 2000-drought/age, 2=16'/18' tall, fair, declining (senescent?), flowers/fruit
2004	(2)	1=died 2003-age, 1=19' tall, no freeze damage, declining-senescent, flowers/fruit
2006	(1)	16' tall, no freeze damage but declining with dead limbs in canopy, some flowers/fruit
2007	(1)	16' tall, 50% of foliage froze, mostly dead-senescent, died later in 2007
 <i>Acacia victoriae</i> 89-0101 Tucson (CAC field 6) – planted April 1990 (4 plants)		
1991	(4)	1.5-2.5' tall, no freeze damage, 2=chlorotic and of low vigor, 2=healthy
1992	(4)	no freeze damage, 2=3' tall, chlorotic-low vigor, 2=6' tall, healthy, vigorous, first flowers/fruit in 1992
1993	(4)	4-7.5' tall, no freeze damage, 2=chlorotic-low vigor, 2=healthy, flowers/fruit
1994	(4)	2=5' tall (chlorotic), 2=9'tall (normal), no freeze damage, healthy, flowers/fruit
1999	(4)	2 (chlorotic plants)=dead September 1998-drought/senescence, 1=mostly died spring 1999 but some recovery evident summer 1999, 1=10' tall, no freeze damage, healthy, flowers/fruit
2001	(2)	both died in 2000-drought/age
 <i>Acacia villosa</i> 90-0258 Tucson (CAC field 6) – planted August 1991 (3 plants)		
1992	(3)	froze to ground, vigorous regrowth, healthy
1993	(3)	7-8' tall, froze to ground, vigorous regrowth, flowers in fall 1992
1994	(3)	7-9' tall, froze to ground, vigorous regrowth, flowers
1995	(3)	8-12' tall, froze to base, vigorous regrowth, flowers/fruit
1997	(3)	6-9' tall, froze to ground, vigorous, healthy, flowers
2001	(3)	2=3-4' tall, repeatedly froze to ground-drought finished off 1 plant and the other is nearly dead, 1=6' tall, healthy but freezes to ground each winter
2004	(1)	9' tall, froze to base, recovering, healthy
2006	(1)	8' tall, froze to ground, vigorous regrowth, plant has divided into several from original base, flowers in 2005
2007	(1)	7' tall, froze to base, weak regrowth due to insufficient irrigation, poor condition
 <i>Acacia villosa</i> 90-0258 Tucson (CAC field 3) – planted summer 1997 (1 plant)		
2000	(1)	5' tall, froze to ground, vigorous recovery, flowers in 1999
2004	(1)	8.5' tall, froze to ground, vigorous recovery, flowers in 2003
2006	(1)	10' tall, froze to ground, vigorous recovery, flowers in 2005 but no fruit
2007	(1)	10' tall, froze to ground (stems to 1" thick), vigorous recovery
 <i>Acacia viscidula</i> 90-0147 Tucson (CAC field 6) – planted August 1991 (1 plant)		
1992	(2)	data missing
1993	(2)	1=4' tall, dead-froze to ground and did not recover, 1=4.5' tall, froze back to stems ½" in diameter, healthy regrowth
1994	(1)	5.5' tall, no freeze damage, healthy
1995	(1)	7.5' tall, no freeze damage, healthy, flowers in 1994
1997	(1)	10' tall, foliage frozen and stems frozen back 1-2' from tips, healthy regrowth
2001	(1)	10' tall, no freeze damage, healthy, flowers only
2004	(1)	8' tall, no freeze damage, healthy
2006	(1)	10' tall, no freeze damage, healthy, no flowers
2007	(1)	9' tall, minor freeze damage to some phyllodes, fair condition, subsequently died in summer/autumn of 2007-cause undetermined
 <i>Acacia viscidula</i> 90-0147 Tucson (CAC field 3) – planted March 1998 (2 plants)		

2000 (2) 4.5'/5' tall, no freeze damage, healthy, vigorous  
 2004 (2) 8' tall, no freeze damage, healthy  
 2006 (2) 8'9' tall, no freeze damage, healthy, 1=flowers in 2006  
 2007 (2) 8.5'/8.5' tall, no apparent freeze damage but some stems died spring 2007-cause undetermined, healthy, flowers in 2007

*Acacia visco* 89-0113 Tucson (CAC field 6) – planted September 1989 (2 plants)  
 1990 (2) no freeze damage, healthy  
 1991 (2) 5' tall, no freeze damage, healthy, vigorous  
 1992 (2) 9' tall, no freeze damage, healthy, vigorous, flowers in 1991, 1992 but no fruit  
 1993 (2) 9' tall, no freeze damage, healthy, flowers  
 1994 (2) 10' tall, no freeze damage, healthy, flowers in 1993, flowers and a few fruit in 1994  
 1997 (2) 14'/16' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) 1=declined and died 2000-drought (and bark beetles?), 1=18' tall, no freeze damage, healthy (some dead stems), flowers/fruit  
 2004 (1) 22' tall, no freeze damage, healthy but drought stressed-declined rapidly in fall 2004, flowers/fruit

*Acacia willardiana* 89-0143 Yuma – planted March 1992 (6 plants)/January 1994 (1 plant)  
 1992 (6) 1=dead-cause undetermined, 1=8" tall-alive but severely browsed, 4=6-9' tall, healthy, vigorous growth  
 1993 (5) 1=dead in 1993-cause undetermined by may have been killed by browsing, 4=8-10' tall, healthy, moderate growth  
 1994 (5) 5-13' tall, healthy, moderate growth  
 1995 (5) 8-17' tall, healthy, moderate growth, 1=flowers in 1995  
 1996 (5) 10-18' tall, healthy, slow growth, flowers and perhaps fruits in summer but no evidence  
 1997 (5) 13-18' tall, healthy, slow growth, no evidence of fruiting  
 1999 (5) 12-20' tall, healthy, slow growth, no fruits evident  
 2000 (5) 13-20' tall, healthy, little or no height increase, may have flowered and fruited in summer  
 2001 (5) 16-22' tall, healthy, slow to moderate growth, flowers/fruit on at least some plants  
 2002 (5) 16-25' tall, healthy, slow to moderate growth, flowers/fruit  
 2004 (5) 1=3' of new growth from base (top appears to have been killed by fire), 4=18-25' tall, healthy, slow growth, some flowers/fruit  
 2005 (5) 7'/16'/20'/25'/25' tall, healthy, flowers/fruit  
 2006 (5) 8'/17'/20'/20'/22' tall, healthy, little change in size, flowers/fruit  
 2007 (5) 9'/16'/20'/20'/22' tall, no apparent freeze damage, healthy, little apparent growth, no evidence of flowering this year  
 2008 (5) 11'/20'/25'/25'/25' tall, healthy, significant growth in past year  
 2009 (5) 13'/25'/25'/25'/25' tall, healthy, slow growth, 1=flowers/fruit

*Acacia wrightii* 90-0444 Tucson (CAC field 6) – planted July 1991 (2 plants)  
 1992 (2) no freeze damage, healthy  
 1993 (2) 4.5' tall, no freeze damage, healthy  
 1994 (2) 7' tall, no freeze damage, healthy, flowers/fruit in spring 1994  
 1995 (2) 8' tall, no freeze damage, healthy, flowers/fruit  
 1997 (2) 10'/11' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) 13'/15' tall, no freeze damage, healthy, flowers/fruit  
 2004 (2) 16'/17' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 16'/18' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 16'17' tall, no freeze damage, healthy, flowers/fruit

*Acacia xanthophloea* 90-0259 Yuma – planted March 1992 (4 plants)

1992	(4)	3-7' tall, healthy, moderate to fast growth
1993	(4)	1=14' tall, healthy but blown over to 40°, vigorous growth, 3=8-12' tall, healthy, vigorous growth
1994	(4)	13-22' tall, healthy, vigorous growth
1995	(4)	15-20' tall, healthy, slow to moderate growth
1996	(4)	18-25' tall, healthy, moderate to fast growth, spectacular yellow-green bark
1997	(4)	17-30' tall, healthy, slow to fast growth (one plant is especially vigorous)
1999	(4)	14-24' tall, healthy, slow growth
2000	(4)	14-28' tall, healthy, slow growth, no evidence of flowering
2001	(4)	16-28' tall, healthy, slow growth
2002	(4)	16-30' tall, healthy, slow growth
2004	(4)	15-30' tall, healthy, little apparent growth, no evidence of flowering on these plants has been observed at this site, beautiful bark and growth form
2005	(4)	14'/20'/22'/35' tall, healthy
2006	(4)	1=12' tall, fair condition, substantial die-back, 3=20'/22'/35' tall, healthy, no evidence of flowering
2007	(4)	1=12' tall, poor condition, major dieback to trunk-not freeze related, 3=18'/20'/ca. 35' tall, some stems froze back to 3' from tips, healthy, regrowing
2008	(4)	1=died in 2008-cause undetermined, 3=20'/25'/ca. 35' tall, healthy, slow to moderate growth
2009	(3)	1= 22' tall, fair condition, taller but some die-back in crown, 2=28'/ca. 40' tall, healthy, moderate growth, no evidence of flowering

***Albizia amara* subsp. *sericocephala* 90-0428 Yuma – planted March 1993 (1 plant)/January 1994 (1 plant)**

1993	(1)	6" tall, poor condition due to browsing
1994	(2)	3'/3' tall, healthy, moderate growth
1995	(2)	4'/4.5' tall, healthy, slow growth
1996	(2)	4'/5.5' tall, healthy, slow growth
1997	(2)	6'/6.5' tall, healthy, slow growth
1999	(2)	6.5'/8' tall, healthy, slow growth
2000	(2)	6.5'/8' tall, healthy, little size change
2001	(2)	10'/11' tall, healthy, moderate growth, no evidence of flowering
2002	(2)	10'/11' tall, healthy, little change in size
2004	(2)	12'/13' tall, healthy, slow growth, no flowering has been observed on these trees
2005	(2)	14'/17' tall, healthy, faster growth this past year
2006	(2)	11'/14' tall, healthy, little apparent growth
2007	(2)	11'/13' tall, some stems froze back to 3' from tips, healthy, regrowing
2008	(2)	15'/18' tall, healthy, vigorous growth, recovered from 2007 freeze
2009	(2)	18'/22' tall, healthy, moderate growth, no evidence of flowering

***Albizia anithelmintica* 91-0130 Yuma – planted March 1992 (4 plants)**

1992	(4)	1-2' tall, healthy, slow growth, minor to moderate browsing
1993	(4)	1-2.5' tall, fair to good condition, slow growth
1994	(4)	2-5' tall, healthy, slow to moderate growth
1995	(4)	2.5-7' tall, healthy, slow growth
1996	(4)	3-10' tall, healthy, slow to moderate growth-tending to spread with low branches
1997	(4)	4-11' tall, healthy, slow growth
1999	(4)	8-14' tall, healthy, slow to moderate growth, 1=flowers/fruit
2000	(4)	9-14' tall, healthy, slow growth-mostly spreading, no evidence of flowering
2001	(4)	11-14' tall, 1=poor condition/3=healthy, slow growth
2002	(4)	1=9' tall, fair condition-recovering from major die-back, 3=10-14' tall, fair to good condition, slow growth
2004	(4)	1=died in 2003-cause undetermined, 3=10-17' tall, healthy, slow growth, the lack of any further flowering is surprising as 1 plant had produced fruit in 1999

2005	(3)	14'/20'/22' tall, healthy, faster growth this past year
2006	(3)	13'/18'/20' tall, healthy, little change in size, 2=flowers/fruit
2007	(3)	1=12' tall, dead-cause undetermined but possibly not freeze related, still alive in March 2007, 1=16' tall, stems froze back to 6' from tips to stems 2" thick, healthy regrowth, 1=20' tall, stems froze back to 2' from tips, healthy regrowth
2008	(2)	14'/22' tall, healthy, recovered from 2007 freeze, 1=flowers/fruit
2009	(2)	12'/25' tall, healthy, 1=flowers/fruit

***Albizia brevifolia*** 91-0046 Yuma –planted March 1993 (6 plants)

1993	(6)	3-6' tall, healthy except for minor browsing on one plant, moderate growth
1994	(6)	3.5-8' tall, healthy, slow to moderate growth
1995	(6)	4.5-10' tall, healthy, slow growth
1996	(6)	5.5-13' tall, healthy, slow to moderate growth-generally upright growth habit
1997	(6)	6.5-13' tall, healthy, slow growth
1999	(6)	7.5-16' tall, healthy, slow to moderate growth
2000	(6)	7.5-20' tall, healthy, slow growth, no evidence of flowering
2001	(6)	8-20' tall, healthy, slow growth
2002	(6)	8-20' tall, healthy, little change in size from previous year
2004	(6)	9-26' tall, healthy, slow to moderate growth, no flowering has been observed on these plants
2005	(6)	10-25' tall, healthy, little change in size
2006	(6)	10'/10'/14'/20'/20'/25' tall, healthy, little apparent growth, 1=flowers/fruit
2007	(6)	highly variable response to freeze: 1=10' tall, stems froze back to 8' from tips to stems 1" thick, 1=10' tall, stems froze back to 3' from tips to stems 1" thick, 1=12' tall, stems froze back to near base to stems 4" thick, 1=15' tall, stems froze back to 12' from tips to stems 3" thick, 1=25' tall, no apparent freeze damage, 1=27' tall, stems froze back to 3' from tips, all=healthy with vigorous regrowth on plants sustaining freeze damage
2008	(6)	10'/12'/16'/22'/24'/28' tall, healthy, recovered from 2007 freeze, vigorous growth, 2 largest plants=flowers/fruit
2009	(6)	13'16'/17'/24'/26'/27' tall, healthy, little change in size, no flowering

***Albizia forbesii*** 90-0464 Yuma – planted March 1993 (2 plants)

1993	(2)	5' tall, healthy, moderate growth
1994	(2)	4'5' tall, healthy but little growth
1995	(2)	4.5'/6' tall, fair condition-low vigor, slow growth
1996	(2)	4.5'/5' tall, poor to fair condition, no growth
1997	(2)	1=4.5' tall, fair condition, 1=5' tall, poor condition, no growth
1999	(2)	4.5'/4.5' tall, poor to fair condition, little or no growth
2000	(2)	1=2.5' tall, poor condition w/ die-back, 1=4.5' tall, fair condition, no growth
2001	(2)	2.5'/4' tall, poor to fair condition, no apparent growth and some die-back
2002	(2)	1=died in 2002-cause undetermined, 1=5' tall, healthy but no apparent growth
2004	(1)	1=6.5' tall, healthy, slow growth, these plants may have been root-bound when planted
2005	(1)	6.5' tall, healthy, no growth
2006	(1)	6.5' tall, apparently healthy but no growth
2007	(1)	6.5' tall, dead-apparently froze, but had not grown in years possibly due to root problems

***Albizia harveyi*** 90-0492 Yuma – planted March 1992 (4 plants)

1992	(4)	1=4" tall, poor condition-severe browsing, 3=1.5' tall, healthy, slow growth, minor browsing
1993	(4)	1=2" tall, poor condition due to browsing, 3=2.5-6' tall, healthy, slow to fast growth
1994	(4)	1=9" tall, healthy-recovering from browsing, slow growth, 3=3-7' tall, healthy, moderate growth
1995	(4)	1-8" tall, healthy, no growth, 3=7-8' tall, healthy, slow to moderate growth
1996	(4)	1=declined and died in 1996-cause undetermined, 3=7-10' tall, healthy, slow growth

1997	(3)	8-11' tall, healthy, slow growth, upright growth habit
1999	(3)	10-14' tall, healthy, slow to moderate growth
2000	(3)	12-15' tall, healthy, slow growth, no evidence of flowering
2001	(3)	14-15' tall, healthy, slow growth
2002	(3)	14-18' tall, healthy, slow to moderate growth
2004	(3)	20-22' tall, healthy, moderate growth, no flowering has been observed on these plants
2005	(3)	22'/23'/25' tall, healthy, moderate growth
2006	(3)	17'/18'/20' tall, healthy, little apparent growth
2007	(3)	1=17' tall, stems froze back to 3' from tips, 2=18'/20' tall, no apparent freeze damage to stems, all-foliage frozen, healthy
2008	(3)	23'/25'/25' tall, healthy, vigorous growth in past year
2009	(3)	23'/25'/25' tall, healthy, little change in size, no evidence of flowering

***Albizia julibrissin*** 91-0612 Tucson (CAC field 6) – planted July 1992 (4 plants)

1993	(4)	1.5' tall, no freeze damage, healthy
1994	(4)	4' tall, no freeze damage, healthy, vigorous, (2 plants removed in 1994 to reduce crowding)
1995	(2)	4-5' tall, no freeze damage, healthy, flowers in 1994, 1995
1997	(2)	5-6' tall, no freeze damage, 1=poor condition; 1=healthy, flowers/fruit
2001	(2)	1=removed in 1999, 1=died back to base due to drought, weak resprouting in 2001 but subsequently died from lack of water

***Albizia lebbeck*** 92-0140 Yuma – planted March 1994 (2 plants)

1994	(2)	5'/6.5' tall, healthy, moderate growth
1995	(2)	7'/10' tall, healthy, slow to moderate growth
1996	(2)	9'/12' tall, healthy, slow growth, robust trunk and high canopy
1997	(2)	15'/15' tall, healthy, moderate to fast growth
1999	(2)	13'/16' tall, healthy, slow growth
2000	(2)	14'/16' tall, healthy, slow growth, no evidence of flowering
2001	(2)	14'/16' tall, healthy, little change in size
2002	(2)	16'/18' tall, healthy, slow growth
2004	(2)	18'/20' tall, healthy, slow growth, no flowering has been observed on these plants
2005	(2)	24'/27' tall, healthy, substantial growth this past year, flowers/fruit on both plants
2006	(2)	18'/20' tall, healthy, little apparent growth, flowers/fruit
2007	(2)	18'/20' tall, no apparent freeze damage, healthy, no apparent change in size, flowers/fruit
2008	(2)	22'/25' tall, healthy, vigorous growth in past year, flowers/fruit
2009	(2)	28'/35' tall, healthy, vigorous growth continued this year, flowers/fruit

***Albizia sinaloensis*** 90-0015 Yuma – planted March 1992 (4 plants)

1992	(4)	1=6" tall, alive but severely browsed, 3=2.5-4.5' tall, healthy, moderate growth
1993	(4)	7-9' tall, healthy, fast growth
1994	(4)	12-13' tall, healthy, fast growth
1995	(4)	12-15' tall, healthy, slow growth but vigorous
1996	(4)	13-18' tall, healthy, slow to moderate growth
1997	(4)	15-19' tall, healthy, slow growth but lush appearance
1999	(4)	12-18' tall, 2=poor to fair condition-declining with some die-back-cause undetermined, 2=healthy, slow growth
2000	(4)	12-16' tall, poor to fair condition with all plants showing significant branch death and areas of dead bark on limbs and trunk-cause undetermined as these had thrived in earlier years
2001	(4)	14-18' tall, all=poor condition with considerable die-back/declining, some live stems w/ leaves
2002	(4)	10-15' tall, all=poor condition with much dead wood-cause undetermined, some new stems
2004	(4)	10-15' tall, all=poor condition-mostly dead but some stems are still alive-cause undetermined

2005	(4)	10'/12'/14'/15' tall, 3=fair condition-some recovery, 1=poor condition but still alive
2006	(4)	14'/16'/16'/16' tall, poor condition, some live stems
2007	(4)	1=18' tall, poor condition-mostly dead, 1=18' tall, fair condition, no apparent freeze damage, 1=16' tall, fair condition, stems froze back to 1' from tips, 1=18' tall, healthy, no apparent freeze damage
2008	(4)	15'/16'/18'/18' tall, fair condition, all growing but suffer from an undetermined problem at this site
2009	(4)	18'/18'/19'/20' tall, fair condition, growing but not really recovering

*Albizia sinaloensis* 90-0015 Tucson (CAC field 6) – planted April 1994 (2 plnnts)

1995	(2)	1.5'/2' tall, froze to base, vigorous regrowth
1997	(2)	4' tall, froze to ground, healthy, vigorous (6' regrowth)
2001	(2)	4'/6' tall, freeze to ground each winter, healthy, vigorous
2004	(2)	7' tall, froze to ground, healthy recovery

*Albizia versicolor* 95-0017 Yuma – planted February 2001 (2 plants)

2001	(2)	4'/4.5' tall, healthy, slow growth
2002	(2)	4.5'/5.5' tall, healthy, slow growth
2004	(2)	6'/7' tall, healthy, slow growth
2005	(2)	6.5'/7.5' tall, healthy, slow growth
2006	(2)	6.5'/8' tall, healthy, little growth
2007	(2)	4.5'/4.5' tall, froze to base to stems 2" thick, vigorous regrowth
2008	(2)	6'/6.5' tall, healthy, vigorous growth, recovered from 2007 freeze
2009	(2)	6'/7.5' tall, healthy, slow growth

*Amblygonocarpus andongensis* 91-0060 Yuma – planted March 1993 (2 plants)

1993	(2)	6"/8" tall, fair condition, no apparent growth
1994	(2)	6"/1' tall, poor condition, no growth
1995	(2)	1=died in 1995-cause undetermined, 1=5" tall, poor condition, no growth
1996	(1)	died in 1996-cause undetermined-apparently not adapted to this site

*Amorpha fruticosa* 90-0247 Tucson (CAC field 6) – planted August 1991 (3 plants)

1992	(3)	no freeze damage, healthy
1993	(3)	no freeze damage, healthy
1994	(3)	3-4' tall, no freeze damage, healthy, flowers/fruit in spring 1994
1995	(3)	2.5-4.5' tall, no freeze damage, healthy, flowers/fruit
1997	(3)	4' tall, no freeze damage, healthy, flowers/fruit
2001	(3)	1'3"/5.5' tall, no freeze damage, 2=healthy, 1=poor condition-some browsing, flowers/fruit
2004	(3)	1=dead-browsing likely finished it off, 2=2.5"/5.5' tall, no freeze damage, healthy, flowers/fruit

*Amorpha fruticosa* 91-0517 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000	(3)	4-6.5' tall, no freeze damage, healthy, first flowers/fruit in 1999
2004	(3)	4-7' tall, no freeze damage, healthy, flowers/fruit
2006	(3)	1=5' tall, barely alive w/few leaves-undetermined, 2=4"/6.5' tall, no freeze damage, healthy, flowers/fruit
2007	(3)	2=dead-cause undetermined, 1=6.5' tall, many stems died back 1-2' from tips-cause undetermined, vigorous growth

*Anadenanthera colubrina* 91-0478 Yuma – planted March 1994 (2 plants)

1994	(2)	1'4' tall, healthy, slow to moderate growth
1995	(2)	2'3.5' tall, healthy, slow growth
1996	(2)	2.5'5' tall, fair to good condition, slow growth

1997	(2)	5'/6' tall, healthy, slow to moderate growth
1999	(2)	5'/8' tall, healthy, slow growth, 1=flowers/fruit in 1999
2000	(2)	5'/9' tall, healthy, slow growth, 1=flowers/fruit
2001	(2)	8'/12' tall, healthy, moderate growth, 1=flowers/fruit
2002	(2)	8'/12' tall, healthy, little change in size, both=flowers/fruit
2004	(2)	12'/14' tall, healthy, slow growth, flowers/fruit
2005	(2)	15'/18' tall, healthy, moderate growth, flowers/fruit
2006	(2)	13'/14' tall, healthy, little growth and leaning to east due to proximity of <i>Acacia nilotica</i> , flowers/fruit
2007	(2)	12'/15' tall, no freeze damage, healthy, slow growth, flowers/fruit
2008	(2)	15'/16' tall, healthy, slow growth, flowers/fruit
2009	(2)	16'/20' tall, healthy, slow to moderate growth, flowers/fruit

*Anadenanthera colubrina* 91-0478 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995	(2)	1=6" tall, no freeze damage, healthy; 1=dead-missing-cause undetermined
1997	(1)	4' tall, froze to ground, healthy regrowth
2001	(1)	4' tall, healthy but slow growth due to limited irrigation
2004	(1)	dead ca. 2002-cause undetermined by probably a result of insufficient irrigation

*Astragalus cerasocrenus* 88-0043 Tucson (CAC field 6) – planted June 1989 (2 plants)

1990	(2)	no freeze damage, healthy
1991	(2)	no freeze damage, healthy, flowers/fruit
1992	(2)	1'/1.5' across, no freeze damage, healthy, flowers/fruit, plants seem to have died out in late 1992/early 1993-cause undetermined

*Astragalus peristereus* 88-0051 Tucson (CAC field 6) – planted June 1989 (1 plant)

1990	(1)	no freeze damage, healthy
1991	(1)	no freeze damage, low vigor, flowers
1992	(1)	2.5' across, no freeze damage, healthy, flowers/fruit in 1991, 1992, plants seem to have died out in late 1992-cause undetermined

*Atelea cubensis* 93-0033 Yuma – planted February 1995 (6 plants)

1995	(6)	2=died in 1995-cause undetermined, 4=2.5-4' tall, healthy, slow to moderate growth
1996	(4)	3-4.5' tall, healthy, slow growth
1997	(4)	3-6.5' tall, healthy, slow growth, attractive foliage
1999	(4)	3.5-8' tall, healthy, slow growth, 3=flowers in 1999
2000	(4)	3.5-10' tall, healthy, little size increase, 3=flowers
2001	(4)	4-15' tall, healthy, slow to rapid growth, 3=flowers/fruit
2002	(4)	5-15' tall, healthy, slow growth, 3=flowers/fruit
2004	(4)	7.5-20' tall, healthy, slow to moderate growth, all=flowers + 3=fruit
2005	(4)	9'/15'/20'/20' tall, healthy, slow growth, flowers/fruit
2006	(4)	10'/15'/18'/19' tall, healthy, little change in size, flowers/fruit
2007	(4)	7'/10'/18'/18' tall, stems froze back 1-5' from tips to stems 1" thick, healthy, vigorous regrowth
2008	(4)	10'/13'/20'/22' tall, healthy, vigorous growth, recovered from 2007 freeze, 2=flowers/fruit
2009	(4)	9'/15'/20'/22' tall, healthy, little change in size, no flowering

*Balsamocarpion brevifolium* 89-0116 Tucson (CAC field 6) – planted April 1991 (2 plants)

1992	(2)	2.5' tall, no freeze damage, healthy
1993	(2)	2.5'/3.5' tall, minor damage to growing stem tips only, healthy, flower buds on 1 plant in spring 1993
1994	(2)	3-4' tall, no freeze damage, healthy, 1=flowers in 1994
1997	(2)	1=dead in 1996-cause undetermined, 1=5' tall, no freeze damage, healthy, flowers/fruit
1999	(1)	5' tall, died in summer of 1999-cause undetermined

***Baptisia australis*** 92-0007 Tucson (CAC field 6) – planted July 1992 (4 plants)

1993	(4)	1=died in 1992-cause undetermined, 3=froze to ground, vigorous regrowth, flowers in spring 1993
1994	(3)	3=froze to ground (herbaceous), vigorous regrowth, flowers
1995	(3)	1.5' tall, froze to ground, vigorous regrowth, flowers
1997	(3)	dead missing-cause undetermined but may be short-lived

***Bauhinia forficata*** 92-0044 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994	(2)	1' tall, no freeze damage, heavily browsed by rabbits but otherwise healthy
1995	(2)	2.5'/4' tall, no freeze damage, but top 3' of the plant died, healthy
1997	(2)	4' tall, froze to ground, healthy, flowers/fruit
2001	(2)	both died from drought in 1999-2000, froze to base each winter

***Bauhinia lunarioides*** 89-0181 Tucson (CAC field 6) – planted April 1991 (1 plant)/July 1991 (2 plants)

1992	(3)	2' tall, no freeze damage, healthy, 1=flowers in spring 1991
1993	(3)	1-3' tall, 1=dead-cause undetermined, 2=no freeze damage, healthy, 1=flowers in 1993
1994	(2)	4' tall, stems girdled by rabbits and killed, 1=dead-girdling, 1=vigorous regrowth from base
1997	(1)	7' tall, no freeze damage, healthy, flowers/fruit
2001	(1)	10' tall, no freeze damage, healthy, flowers/fruit
2004	(1)	10' tall, no freeze damage, healthy, flowers/fruit
2006	(1)	10' tall, no freeze damage, healthy, flowers/fruit
2007	(1)	9.5' tall, no freeze damage, healthy but slow to leaf out-drought

***Bauhinia lunarioides*** 89-0181 Tucson (CAC field 3) – planted July 1998 (3 plants)

2000	(3)	6-16" tall, 1=died back to ground-cause undetermined, regrowing, 2=no freeze damage, healthy (1=flowers in 2000)
2004	(3)	1=died-cause undetermined, 2=2'/3.5' tall, no freeze damage, healthy, flowers
2006	(2)	2.5'/4.5' tall, no freeze damage but some dieback on 1 plant-cause undetermined, flowers
2007	(2)	1=3' tall, froze to ground to stems 1/4" thick, healthy regrowth, 1=5' tall, no freeze damage, healthy, flowers/fruit

***Bauhinia lunarioides*** 90-0398 Tucson (CAC field 6) – planted in 1991 (2 plants)

1992	(2)	6"-1' tall no freeze damage, healthy
1993	(2)	1' tall, no freeze damage, healthy
1994	(2)	1.5' tall, no freeze damage, healthy, flowers/fruit in 1994
1997	(2)	2.5' tall, no freeze damage, healthy, slow growth, flowers/fruit
2001	(2)	3.5'/4' tall, no freeze damage, healthy, slow growth, flowers/fruit
2004	(2)	4' tall, no freeze damage, healthy, little growth, flowers/fruit
2006	(2)	4'/4.5' tall, no freeze damage but small plant has some dead stems-drought, low vigor, flowers/fruit
2007	(2)	2'/4.5' tall, no freeze damage, low vigor, larger plant=flowers

***Bauhinia macranthera*** 90-0455 Tucson (CAC field 6) – planted 1994 (3 plants)

1995	(3)	6" tall, no freeze damage, low vigor, browsed in 1994
1997	(3)	1' tall, 1=dead- cause undetermined; 2=no freeze damage, healthy
2001	(2)	1=dead-missing-cause undetermined by may have died from drought, 1=4.5' tall, no freeze damage, healthy
2004	(1)	6.5' tall, no freeze damage, healthy, flowers in spring 2004
2006	(1)	7' tall, stems froze back to 6" from tips, healthy, flowers in 2005 and 2006 but no fruit
2007	(1)	7' tall, stems froze back 1-3" from tips, healthy, flowers in 2007, no fruit

***Bauhinia macranthera*** 90-0455 Tucson (CAC field 3) – planted July 1998 (2 plants)

2000 (2) 1.5' tall, 1=froze to ground, healthy regrowth, 1=no freeze damage, healthy  
 2004 (2) 4' tall, no freeze damage, healthy, first flowering in 2004  
 2006 (2) 1=4' tall, died-cause undetermined, 1=4.5' tall, no freeze damage, healthy, flowers  
 2007 (1) 6' tall, stems froze back 1-3" from tips only, healthy, flowers

***Bauhinia natalensis*** 99-0023 Tucson (CAC field 3) – planted summer 2001 (2 plants)/2002 (1 plant)  
 2004 (3) 1-2' tall, 1=dead-froze to ground and did not recover, 2=froze to ground, recovering, fair condition  
 2006 (2) 1'/1.5' tall, dead-froze

***Bauhinia reticulata*** 91-0459 Yuma – planted March 1994 (3 plants)

1994 (3) 1-3' tall, healthy, slow growth  
 1995 (3) 2.5-3.5' tall, healthy, slow growth  
 1996 (3) 3-6' tall, healthy, slow to moderate growth  
 1997 (3) 6-7' tall, healthy, slow to moderate growth with spreading growth habit  
 1999 (3) 7-8.5' tall, healthy, slow growth  
 2000 (3) 7-12' tall, healthy, slow to moderate growth, no evidence of flowering  
 2001 (3) 8-12' tall, healthy, slow growth  
 2002 (3) 8-14' tall, healthy, slow growth  
 2004 (3) 11-14' tall, healthy, slow growth, no evidence of flowering, these plants closely resemble  
*Bauhinia thonningii*  
 2005 (3) 11'/12'/15' tall, healthy, little change in size  
 2006 (3) 9'/10'/16' tall, healthy, little apparent growth, no flowering  
 2007 (3) 8'/10'/10' tall, major freeze damage-froze to stems 4" thick, healthy, vigorous regrowth  
 2008 (3) 12'/14'/15' tall, healthy, vigorous growth, recovered from 2007 freeze  
 2009 (3) 12'/14'/14' tall, healthy, little change in size, no flowering

***Bauhinia thonningii*** 91-0071 Yuma – planted March 1993 (4 plants)/January 1994 (2 plants)

1993 (4) 1.5-5' tall, healthy, slow to moderate growth  
 1994 (6) 2-6' tall, healthy, slow growth  
 1995 (6) 2.5-6' tall, healthy, slow growth  
 1996 (6) 4-7' tall, healthy, slow growth  
 1997 (6) 4.5-8.5' tall, healthy, slow growth  
 1999 (6) 1=died in summer 1999-cause undetermined (gophers?), 5=6-9' tall, healthy, slow growth  
 2000 (5) 6.5-9' tall, healthy, slow growth, some lower limbs have died, no evidence of flowering  
 2001 (5) 7.5-12' tall, healthy, slow to moderate growth  
 2002 (5) 5.5-12' tall, healthy, slow growth, gopher burrowing around these plants  
 2004 (5) 1=died in 2003-killed by gophers, 4=9-15' tall, healthy, slow growth, these plants have not  
 been observed to flower at this site, lower/inner limbs die over time  
 2005 (4) 7.5'/12'/13'/16' tall, healthy, first flowers on all plants  
 2006 (4) 8'/10'/13'/16' tall, healthy, no flowering evident  
 2007 (4) 1=7' tall, froze to main trunk to stems 6" thick, healthy, vigorous regrowth, 3=7.5'/10'/14' tall,  
 froze to stems 3" thick, healthy, vigorous regrowth  
 2008 (4) 7.5'/8'/12'/20' tall, healthy, vigorous growth in past year, recovered from 2007 freeze  
 2009 (4) 8'/8'/9'/17' tall, healthy, no apparent growth in past year, no flowering

***Bauhinia tomentosa*** 91-0061 Yuma – planted March 1992 (4 plants)

1992 (4) 1=died in 1992-cause undetermined, 3=6"-1.5' tall, poor condition-severely browsed  
 1993 (3) 1=deid in 1993-cause undetermined, 2=1' tall, fair to poor condition, little growth  
 1994 (2) 1=died in 1994-cause undetermined, 1=1' tall, poor condition, no growth  
 1995 (1) died in 1995-cause undetermined but apparently not adapted to this site

***Bauhinia caronii*** 94-0032 Yuma – planted December 1995 (2 plants)

1996	(2)	1=2" tall, poor condition-die back, 1=1.5' tall, healthy, slow growth
1997	(2)	1=6" tall, fair condition with some growth, 1=2.5' tall, healthy, slow growth
1999	(2)	1=died ca. 1998-cause undetermined, 1=4' tall, healthy, slow growth
2000	(1)	4' tall, healthy, little size change
2001	(1)	6' tall, healthy, slow growth
2002	(1)	7' tall, healthy, slow growth
2004	(1)	8' tall, healthy, slow growth
2005	(1)	12' tall, healthy, moderate growth this past year
2006	(1)	12' tall, healthy, little apparent growth
2007	(1)	16' tall, no apparent freeze damage, healthy, vigorous growth, flowers/fruit in 2007
2008	(1)	18' tall, healthy, slow growth, flowers/fruit
2009	(1)	20' tall, healthy, slow growth, flowers/fruit

***Bauhinia caronii*** 94-0033 Yuma – planted December 1995 (3 plants)

1996	(3)	8-10" tall, fair to good condition, little growth
1997	(3)	2=died in 1996-cause undetermined, 1=1' tall, healthy, slow growth
1999	(1)	died in 1999-cause undetermined

***Bolusanthus speciosus*** 90-0496 Yuma – planted March 1992 (6 plants)

1992	(6)	1.5-3' tall, healthy, slow growth
1993	(6)	3-7.5' tall, healthy, moderate growth
1994	(6)	5-12' tall, healthy, vigorous growth
1995	(6)	7-14' tall, healthy, slow to moderate growth
1996	(6)	8-16' tall, healthy, slow growth
1997	(6)	10-18' tall, healthy, slow growth, beautiful weeping glossy foliage and fissured cinnamon-colored bark, upright form
1999	(6)	11-17' tall, healthy, slow growth, no evidence of flowering though these should be large enough
2000	(6)	12-18' tall, healthy, slow growth
2001	(6)	12-19' tall, healthy, slow growth, no evidence of flowering
2002	(6)	12-19' tall, healthy, slow growth
2004	(6)	13-22' tall, healthy, slow growth, the lack of flowering on these plants is puzzling, beautiful trees
2005	(6)	12-22' tall, healthy, little change in size, 1=flowers/fruit on 1 branch
2006	(6)	13'/14'/16'/19'/20'/20' tall, healthy, little apparent growth, 2=some flowers/fruits
2007	(6)	15'/16'/21'/23'/23'/24' tall, no freeze damage except foliage froze, healthy, moderate growth, no flowering
2008	(6)	16'/17'/20'/20'/24'/26' tall, healthy, slow growth, 2=flowers/fruit, beautiful trees
2009	(6)	16'/18'/23'/26'/26'/28' tall, healthy, slow to moderate growth, 1=flowers/fruit

***Bolusanthus speciosus*** 91-0496 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993	(2)	3-4' tall, 1=dead-froze to ground and did not recover, 1=froze to ground, vigorous regrowth
1994	(1)	4' tall, minor freeze damage to some stem tips and some leaves frozen, healthy, vigorous
1995	(1)	7' tall, minor freeze damage to twig tips, healthy, vigorous; partially defoliated by caterpillars
1997	(1)	10' tall, foliage frozen and stems froze back approx. 2' from tips, healthy, vigorous
2001	(1)	5' tall-stems died to ground in 2000 due to drought stress, healthy regrowth but some winter freeze damage
2004	(1)	7' tall, stems froze back to 1' from tips, vigorous regrowth
2006	(1)	9' tall, foliage froze and stems froze back 1-2' from tips, healthy, recovering
2007	(1)	8' tall, froze to base (stems to 1.5" thick), fair condition, recovering, partially defoliated by caterpillars

***Bronniartia alamosana*** 89-0006 Tucson (CAC field 6) – planted May 1989 (3 plants)

1990	(3)	severe freeze damage-all plants killed to the ground, at least one regrowing
1991	(3)	2=dead-froze in 1989-90, 1=regrowth to 2' tall, froze to ground but regrowing
1992	(1)	4' tall, froze back 1' from tips, slow regrowth, abnormal foliage - mites?
1993	(1)	4.5' tall, froze back to ground, regrowing
1994	(1)	5.5' tall, froze to ground, regrowing
1997	(1)	7.5' tall, froze to ground, healthy, vigorous regrowth
2001	(1)	6' tall, freezes to ground each winter, healthy, vigorous regrowth
2004	(1)	7' tall, froze to ground, healthy, vigorous growth despite drought
2006	(1)	6' tall, froze to ground, slow recovery, fair condition
2007	(1)	4.5' tall, froze to ground, healthy recovery

***Bronniartia alamosana*** 89-0398 Yuma – planted March 1991 (4 plants)

1991	(4)	3-5' tall, healthy, moderate to fast growth
1992	(4)	3-9' tall, healthy, 1=little growth, 3=moderate to fast growth
1993	(4)	4-13' tall healthy, fast growth on all but one plant
1994	(4)	6-17' tall, healthy, vigorous growth
1995	(4)	5-15' tall, healthy, vigorous but little height increase
1996	(4)	5-19' tall, healthy, 1=slow growth, 3=vigorous, 2=flowers/fruit in 1996
1997	(4)	8-18' tall, healthy, slow to moderate growth, 2=flowers/fruit
1999	(4)	8-20' tall, healthy, slow growth, 2=flowers/fruit
2000	(4)	10-23' tall, healthy, slow growth, 2=flower/fruit
2001	(4)	12-23' tall, healthy, slow growth, few flower/fruit
2002	(4)	12-23' tall, healthy, little change in size, 3=flowers/fruit
2004	(4)	16-25' tall, healthy, slow growth, 2=flowers/fruit
2005	(4)	18'/24'/24'/26' tall, healthy, slow growth, 3=flowers/fruit
2006	(4)	13'/18'/25'/28' tall, healthy, little change in size, no evidence of flowering this year
2007	(4)	1=12' tall, stems froze back to 8' from tips to stems 2" thick, healthy, vigorous regrowth, 1=17' tall, exposed stems on west side froze back to 8' from tips to stems 1.5" thick, other stems undamaged, healthy, vigorous regrowth, 2=25'/27' tall, some stems froze back 1-3' from tips only, healthy, vigorous growth, a 14' tall volunteer plant froze to the base to stems 3" thick
2008	(4)	16'/20'/25'/30' tall, healthy, vigorous growth, recovered from 2007 freeze
2009	(4)	20'/24'/28'/30' tall, healthy, slow to moderate growth, half of largest tree split out in high winds, no flowering

***Bronniartia minutifolia*** 91-0009 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000	(2)	1=dead-rotted following flooding in July 1999, 1=3' tall, died back to base following flooding in 1999 but is recovering
2004	(1)	6' tall, no freeze damage, healthy, flowers
2006	(1)	6' tall, froze back to 1' from stem tips, healthy, vigorous regrowth, flowers
2007	(1)	5' tall, some stems froze to base (to 1" thick) while other stems froze back only 6" from tips, new growth appears healthy

***Bronniartia tenuifolia*** 90-0454 Tucson (CAC field 6) – planted April 1991 (7 plants)

1992	(7)	data missing
1993	(7)	3=dead-rabbit browsing, 4=killed to ground by browsing/freezing, recovering, flowers/fruit in 1992
1994	(4)	1' tall, froze to ground, healthy regrowth, flowers in 1994, 1=dead-gophers
1995	(3)	1' tall, froze to ground, healthy regrowth, 1=dead-gophers
1997	(2)	1' tall, froze to ground, healthy
2001	(2)	2" tall, heavily browsed but still hanging on. These subsequently died ca. 2002 of drought and

animal depredations.

***Bronniartia sp.*** 93-0140 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993	(2)	1' tall, stems froze back 2-4" from tips, healthy (defoliated by caterpillars in 1992), flowers in fall 1992
1994	(2)	2' tall, no freeze damage, healthy, flowers/fruit fall 1993, flowers spring 1993
1995	(2)	2.5' tall, no freeze damage, severe caterpillar infestations, flowers in 1994, 1995
1997	(2)	1=dead-froze to ground and did not recover; 1=stems froze back 1' from tips, 2.5' tall, healthy, flowers only
2001	(1)	2.5' tall, fair condition, flowers only. This plant flowers for much of the summer but it is apparently too hot and fruit do not begin to develop until temperatures moderate in the fall. Developing pods were killed by freezing temperatures before they could mature. The plants were defoliated by caterpillars in most years.

***Butea monosperma*** 93-0084 Yuma – planted March 1995 (2 plants)

1995	(2)	2'/2.5' tall, fair to good condition, slow growth
1996	(2)	1'/2' tall, fair to good condition, little apparent growth
1997	(2)	1=6" tall, poor condition-near death-cause undetermined, 1=4' tall, healthy, slow growth
1999	(2)	1=died ca. 1998/1999-cause undetermined (gophers?), 1=4' tall, healthy, little apparent growth
2000	(1)	3' tall, healthy, slightly smaller but good foliage and new stems
2001	(1)	died in 2001-killed by gophers

***Caesalpinia bonduc*** 92-0246 Yuma – planted March 1994 (2 plants)

1994	(2)	1'/1.5' tall, healthy, slow growth
1995	(2)	2' tall, healthy, slow growth
1996	(2)	1=died in 1996-cause undetermined, 1=4.5' tall, healthy, moderate growth, flowers in 1996
1997	(1)	6' tall, healthy, slow growth
1999	(1)	7' tall, healthy, slow growth, flowers in 1999
2000	(1)	7' tall, fair condition, little growth and some die-back, flowers but no fruit
2001	(1)	died in 2001-cause undetermined but gophers may have killed it-this plant died rapidly as dried leaves remained on the stems

***Caesalpinia cacalaco*** 90-0480 Yuma – planted March 1992 (4 plants)

1992	(4)	1-2' tall, healthy, slow growth
1993	(4)	2.5-3' tall, healthy, slow growth
1994	(4)	3-4' tall, healthy, slow growth
1995	(4)	3.5-4' tall, healthy, slow growth
1996	(4)	4-6' tall, healthy, slow growth
1997	(4)	4-7' tall, healthy, slow growth, all=flowers in 1996/1997
1999	(4)	5.5-8' tall, healthy, slow growth, all=flowers in 1999
2000	(4)	6-8' tall, healthy, slow growth, flowers
2001	(4)	1=died in 2001-cause undetermined, 3=6.5-9' tall, healthy, slow growth, flowers/fruit
2002	(3)	7-10' tall, healthy, slow growth, flowers/fruit
2004	(3)	9-10' tall, healthy, slow growth, flowers/fruit
2005	(3)	10'/10' tall, healthy, little change in size, flowers/fruit
2006	(3)	12'/12'/13' tall, healthy, slow growth, flowers/fruit
2007	(3)	12'/12'/13' tall, outer stems froze back to 1' from tips, healthy, flowers/fruit
2008	(3)	10'/11'/12' tall, healthy, little change in size, flowers/fruit
2009	(3)	11'/12'/14' tall, healthy, slow growth, flowers/fruit

***Caesalpinia cacalaco*** 90-0480 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993	(2)	4.5' tall, 1=dead-froze to ground and did not recover, 1=froze to ground, slow regrowth
1994	(1)	1' tall, froze to ground, healthy regrowth
1995	(1)	6.5' tall, minor freeze damage to stem tips, healthy
1997	(1)	8.5' tall, froze to ground, healthy, vigorous
2001	(1)	6' tall, freezes to ground each winter, healthy, vigorous
2004	(1)	8.5' tall, froze to ground, healthy regrowth
2006	(1)	8.5' tall, froze to ground, healthy, vigorous regrowth
2007	(1)	7' tall, froze to base (stems to 1" thick), healthy, vigorous regrowth

***Caesalpinia gilliesii*** 88-0003 Tucson (CAC field 6) – planted June 1989 (7 plants)

1990	(7)	no freeze damage, healthy
1991	(7)	4-5' tall, no freeze damage, healthy, flowers/fruit in summer 1990
1992	(7)	7-8' tall, no freeze damage, healthy, vigorous, flowers/fruit
1993	(7)	7' tall, no freeze damage, healthy, flowers/fruit
1994	(7)	7-8' tall, no freeze damage, healthy, flowers/fruit
1997	(7)	to 9' tall, no freeze damage (some natural die-back), healthy, flowers/fruit
2001	(7)	2=dead-cause undetermined (age?), 5=5-9' tall, healthy (some natural die-out), flowers/fruit
3004	(7)	5 original plants plus 2 volunteer plants, no freeze damage, variably senescent but some stems alive, flowers/fruit
2006	(7)	last of original plants have died-senescence, but volunteer plants remain

***Caesalpinia gilliesii*** 88-0003 Tucson (CAC field 3) – planted summer 1997 (4 plants)

2000	(4)	7-8' tall, no freeze damage, healthy, flowers/fruit
2004	(4)	3=dead-senescence, 1=8' tall (plus one volunteer seedling), no freeze damage, healthy, flowers/fruit
2006	(1)	7' tall, top died back but resprouting from base
2007	(1 + 1 volunteer)	original plant died-senescent, volunteer plant died to base but is resprouting

***Caesalpinia mexicana*** 88-0004 Tucson (CAC field 6) – planted June 1989 (6 plants)

1990	(6)	moderate freeze damage, healthy, vigorous regrowth
1991	(6)	4' tall, froze to near ground, vigorous regrowth, flowers/fruit in 1990
1992	(6)	4-6' tall, no freeze damage, healthy, vigorous, flowers/fruit
1993	(6)	4-6' tall, froze to ground, vigorous regrowth, flowers/fruit
1994	(6)	4-6' tall, froze to ground, vigorous regrowth, flowers/fruit
1997	(5)	1=dead-cause undetermined, 5-7' tall, froze to ground, healthy, vigorous, flowers/fruit
2001	(5)	3=dead in late 1990's-cause undetermined but perhaps drought, 2=4-7' tall, froze to ground in some years, healthy, vigorous, flowers/fruit
2004	(4)	2 plants that appeared to be dead in 2001 were alive, 5-6' tall, major freeze damage to near base, healthy recovery but drought-stressed, some flowers/fruit
2006	(6)	4-9' tall, froze back 1-3' from tips, recovering, flowers/fruit
2007	(6)	4-8' tall, all froze to base to stems 1.5" thick, vigorous recovery

***Caesalpinia mexicana*** 88-0004 Tucson (CAC field 3) – planted summer 1997 (4 plants)

2000	(4)	6'-7.5' tall, froze to ground, vigorous recovery, healthy, flowers/fruit from 1998
2004	(4)	7-8' tall, some stems froze back to 1' from tips, healthy, flowers/fruit
2006	(4)	8-9' tall, no freeze damage, healthy, flowers/fruit
2007	(4)	8-10' tall, most stems froze back only 1' from tips, healthy, flowers/fruit

***Caesalpinia mexicana*** 89-0129 Tucson (CAC field 6) – planted August 1991 (2 plants)

1992	(2)	data missing
1993	(2)	data missing

1994	(2)	4' tall, 1=minor tip damage, 1=froze to near ground, vigorous regrowth, healthy, flowers/fruit in 1993
1997	(2)	6' tall, stems froze back to 3' from tips, vigorous regrowth, healthy, flowers/fruit
2001	(2)	6.5'/7.5' tall, these plants freeze back to the base in some winters, healthy, flowers/fruit
2004	(2)	6'/6.5' tall, major freeze damage with stems killed to ½" in diameter, healthy growth but drought-stressed, some flowers/fruit
2006	(2)	6'/6' tall, froze back 1-3' from stem tips, healthy regrowth, flowers/fruit
2007	(2)	6.5'/6.5' tall, froze back to stems ½" thick, vigorous recovery

***Caesalpinia nipensis*** 93-0014 Yuma – planted February 1995 (4 plants)

1995	(4)	6"-1.5' tall, healthy, slow growth
1996	(4)	6"-3' tall, fair to good condition, slow growth
1997	(4)	1=died in 1996-cause undetermined, 3=1.5-3.5' tall, fair to good condition, slow growth
1999	(3)	2-5' tall, fair to good condition, slow growth, 1=flowers in 1999
2000	(3)	2-5.5' tall, fair to good condition, slow growth 1=flowers
2001	(3)	2-6' tall, healthy, slow growth, 1=flowers only
2002	(3)	2-6' tall, healthy, little change in size
2004	(3)	3-7.5' tall, healthy, slow growth, 1=flowers only
2005	(3)	4'/4'9" tall, healthy, slow growth, 2=flowers/1 also fruit
2006	(3)	4'5"/10' tall, healthy, slow growth, 3=flowers/1 also fruit
2007	(3)	1'2"/6' tall, all froze to the base to stems 1" thick, vigorous regrowth, largest plant=flowers
2008	(3)	2'6"/8' tall, healthy, recovered from 2007 freeze, 1=flowers
2009	(3)	2.5'9" tall, fair condition, slow growth, larger plant overgrown by a volunteer <i>Lysiloma candidum</i> , 1=7' tall, healthy, slow growth, flowers

***Caesalpinia palmeri*** s.n. Yuma – planted March 1994 (2 plants)

1994	(2)	3'/3.5' tall, healthy, slow growth
1995	(2)	3.5'/5' tall, healthy, slow growth
1996	(2)	4'/6' tall, healthy, slow growth, 1=flowers/fruit in 1995
1997	(2)	3.5'/6.5' tall, healthy, slow growth, both=flowers/fruit in 1996
1999	(2)	1=3' tall, fair condition, little apparent growth, 1=7' tall, healthy, slow growth
2000	(2)	3'7' tall, fair to good condition, little size change, 1=flowers
2001	(2)	1=3' tall, poor condition, no growth, 1=7' tall, healthy, little size change, flowers/fruit
2002	(2)	1=3' tall, poor condition, no growth, 1=7' tall, healthy, no apparent growth, flowers/fruit
2004	(2)	1=died in 2004-cause undetermined but may have been root-bound, 1=7' tall, fair condition, no apparent growth, some flowers/fruit
2005	(1)	7' tall, fair condition, no growth, few flowers/fruit
2006	(1)	7' tall, healthy, no apparent growth, no flowering
2007	(1)	7' tall, no freeze damage, apparently healthy but no growth
2008	(1)	6' tall, apparently healthy but no growth or flowering
2009	(1)	7' tall, healthy, little change in size

***Caesalpinia palmeri*** s.n. Tucson (CAC field 6) – planted 1994 (2 plants)

1995	(2)	2.5'/4' tall, froze to ground; regrowth from base (ice on plants in winter)
1997	(2)	5' tall, froze to ground, healthy, vigorous growth to 6' tall
2001	(2)	6.5' tall, freezes to ground in most winters, healthy, flowers/fruit
2004	(2)	6.5'/7.5' tall, some stems froze back to 1' from tips, healthy, flowers/fruit
2006	(2)	7'/8.5' tall + numerous volunteer seedlings, some stems froze back to 1' from tips, healthy, flowers/fruit
2007	(2)	6.5'/7.5' tall, some twigs froze back 1-3" from tips, healthy, flowers/fruit, numerous seedlings are persisting

*Caesalpinia palmeri* 92-0188 Tucson (CAC field 3) – planted March 1998 (3 plants)/2002 (1 plant)

2000	(3)	1=dead-froze to ground and did not recover, 2=6'/6.5' tall, some stems froze back 1-6' from tips, healthy recovery, flowers/fruit from 1999
2004	(3)	6-9' tall, most stem tips frozen with some stems killed back to 2' from tips, healthy, flowers/fruit
2006	(3)	6'/9'/10' tall, a few stem tips froze back to 1' from tips, healthy, flowers/fruit
2007	(3)	6'/8'/9' tall, 1=all stems froze to ground (to 2" thick), vigorous regrowth, 2=most stems froze back only 6" from tips, all=healthy

*Caesalpinia paraguariensis* 90-0359 Yuma – planted March 1991 (2 plants)/March 1992 (1 plant)

1991	(2)	2' tall x 4' spread, healthy, slow to moderate growth
1992	(3)	2' tall x 4' spread, apparently healthy but little growth
1993	(3)	2-3' tall, fair condition with little additional growth
1994	(3)	2.5-3' tall, fair condition but slow growth
1995	(3)	2-3' tall, healthy but low vigor, little growth
1996	(3)	2.5-3' tall, healthy but little or no growth
1997	(3)	2-3' tall, fair condition, little growth
1999	(3)	2-3' tall, poor to fair condition, little or no growth
2000	(3)	1=died in 2000-cause undetermined but this species has not done well here, 2=2.5'/3' tall, fair condition, little or no growth
2001	(2)	1=died in 2001-cause undetermined but slowly declined-gophers may have finished it, 1=3' tall x 4' across, fair condition, little growth
2002	(1)	3' tall, fair condition, little change in size
2004	(1)	3' tall x 7' across, healthy, slow growth, this species is reported in the literature to dislike pure sand which may explain the poor performance at this site
2005	(1)	6.5' tall x 10' across, healthy, moderate growth
2006	(1)	6.5' tall x 10' across, healthy, little growth
2007	(1)	6.5' tall, no freeze damage, healthy but change in size
2008	(1)	8' tall x 10' across, healthy, slow growth
2009	(1)	9' tall, healthy, slowly developing into a tree

*Caesalpinia paraguariensis* s.n. (Jojoba Reta) Yuma – planted March 1992 (3 plants)

1992	(3)	2' tall x 4' spread, healthy, more rapid growth than 90-0359 this year
1993	(3)	1-2.5' tall, fair condition, little growth
1994	(3)	7"-3' tall, fair condition but slow growth
1995	(3)	2-3' tall, healthy but low vigor, little growth
1996	(3)	1-2' tall, fair to good condition, no apparent growth
1997	(3)	1-2.5' tall, fair condition, little growth
1999	(3)	2=2'/2.5' tall, poor to fair condition, slow growth, 1=4' tall, healthy, slow growth
2000	(3)	2-4' tall, poor to good condition, little or no growth
2001	(3)	1.5-2.5' tall, fair to good condition, little growth and some die-back
2002	(3)	1=died in 2002-cause undetermined, 2=2'/3' tall, healthy, but little or no growth
2004	(2)	3'/5' tall, healthy, slow growth, this species if reported in the literature to dislike pure sand which may explain the poor performance at this site
2005	(2)	4'/6' tall, healthy, slow growth
2006	(2)	4'/6' tall, 1=healthy, 1=fair condition, little apparent growth
2007	(2)	4'/6' tall, no freeze damage, healthy but little growth
2008	(2)	4'/6' tall, healthy, little growth
2009	(2)	5'/8' tall, healthy, slowly growing taller

*Caesalpinia paraguariensis* 90-0359 Tucson (CAC field 6) – planted July 1992 (1 plant)

1993	(1)	2' tall, minor freeze damage to twig tips, healthy
1994	(1)	4' across, twigs froze back to 2' from tips, healthy
1995	(1)	5' tall, no freeze damage, healthy
1997	(1)	7' tall, upper stems froze back 5' from tips, healthy recovery, bark peeling
1999	(1)	first flowers in June 1999
2001	(1)	6' tall, no freeze damage, healthy, widely sprawling growth form, flowers/fruit
2004	(1)	7' tall, no freeze damage, healthy, flowers/fruit
2006	(1)	8' tall, no freeze damage, healthy, flowers/fruit
2007	(1)	8' tall, no freeze damage, healthy, flowers/fruit

***Caesalpinia paraguariensis* 92-0006 Tucson (CAC field 6) – planted July 1992 (1 plant)**

1993	(1)	3' tall, no freeze damage, healthy
1994	(1)	4.5' tall, no freeze damage, healthy
1995	(1)	5' tall, no freeze damage, healthy
1997	(1)	6' tall, minor freeze damage with twigs killed back 6" from tips, healthy, bark peeling
1999	(1)	first flowers in June 1999
2001	(1)	6.5' tall, no freeze damage healthy, upright growth form, flowers/fruit
2004	(1)	6' tall, no freeze damage, healthy but little growth due to drought/reduced irrigation, flowers/fruit
2006	(1)	8.5' tall, no freeze damage, healthy, flowers/fruit
2007	(1)	7.5' tall, no freeze damage, healthy, flowers/fruit

***Caesalpinia platyloba* 89-0008 Yuma – planted March 1991 (1 plant)**

1991	(1)	1.5' tall, healthy, slow growth
1992	(1)	4' tall, healthy, moderate growth
1993	(1)	5' tall, healthy, slow growth, flowers/fruit in 1993
1994	(1)	9' tall, healthy, fast growth
1995	(1)	10' tall, healthy, slow growth, flowers/fruit
1996	(1)	10' tall, healthy, slow growth, flowers/fruit
1997	(1)	10' tall, healthy, little growth, flowers/fruit
1999	(1)	10' tall, healthy, minimal growth, flowers/fruit
2000	(1)	11' tall, healthy, slow growth, flowers/fruit
2001	(1)	10' tall, healthy, little size change, flowers/fruit
2002	(1)	10' tall, healthy, little or no growth, flowers/fruit
2004	(1)	22' tall, healthy, vigorous growth in the past 2 years, flowers/fruit
2005	(1)	18' tall, healthy, little growth, flowers/fruit
2006	(1)	18' tall, healthy, little apparent growth, flowers/fruit
2007	(1)	17' tall, stems froze back to 8' from tips to 3" thick, healthy, vigorous regrowth, no flowering
2008	(1)	22' tall, healthy, vigorous growth, mostly recovered from 2007 freeze, no flowering
2009	(1)	ca. 20' tall, healthy, slow growth, flowers/fruit

***Caesalpinia platyloba* 89-0411 Yuma – planted March 1992 (3 plants)**

1992	(3)	1.5-3' growth, healthy, slow to moderate growth
1993	(3)	4-4.5' tall, healthy, slow to moderate growth, 1=flowers/fruit in 1993
1994	(3)	6-7.5' tall, healthy, moderate growth
1995	(3)	7-9' tall, healthy, slow growth, 2=flowers/fruit
1996	(3)	7.5-10' tall, healthy, slow growth, all=flowers/fruit
1997	(3)	9-10' tall, healthy, slow growth, flowers/fruit
1999	(3)	8-12' tall, healthy, slow growth, flowers/fruit
2000	(3)	9-13' tall, healthy, slow growth, flowers/fruit
2001	(3)	8-12' tall, healthy, little size change, flowers/fruit
2002	(3)	8-12' tall, healthy, little or no growth, flowers/fruit

2004	(3)	15-23' tall, healthy, vigorous growth in the past 2 years, flowers/fruit
2005	(3)	15'/18'/20' tall, healthy, little growth in past year, flowers/fruit
2006	(3)	14'/19'/20' tall, healthy, little apparent growth, flowers/fruit
2007	(3)	11'/18'/22' tall, stems froze back to 8' from tips to stems 3" thick, healthy, vigorous regrowth, no flowering
2008	(3)	13'/14'/18' tall, healthy, mostly recovered from 2007 freeze, no flowering
2009	(3)	all ca. 20' tall, healthy, slow to fast growth, flowers/fruit

***Caesalpinia pulcherrima*** 88-0005 Tucson (CAC field 6) – planted September 1989 (4 plants)

1990	(4)	froze to ground, vigorous regrowth
1991	(4)	1.5' tall, froze to ground, not vigorous, some flowers
1992	(4)	4' tall, froze to ground, healthy regrowth, flower/fruit in 1991, 1992
1993	(4)	4' tall, froze to ground (1=dead-burrowing rodents), 3=vigorous regrowth, flowers/fruit
1994	(3)	3-4' tall, froze to ground, vigorous regrowth, flowers/fruit
1997	(3)	4-6' tall, froze to ground, healthy, vigorous, flowers/fruit
2001	(3)	4-6' tall, freezes to the ground each winter, healthy, vigorous, flowers/fruit
2004	(3)	4-7' tall, froze to ground-recovering, healthy but drought-stressed, flowers/fruit
2006	(3)	2.5'/6'/7' tall, most stems froze to near ground, healthy regrowth, flowers/fruit
2007	(3)	6'/6'/7.5' tall, froze to ground, vigorous recovery, flowers/fruit

***Caesalpinia pulcherrima*** 88-0005 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000	(3)	4' tall, froze to ground, healthy regrowth, flowers/fruit
2004	(3)	6' tall, froze to ground, vigorous regrowth, healthy, flowers/fruit
2006	(3)	6-6.5' tall, froze to ground, vigorous regrowth, healthy, flowers/fruit
2007	(3)	6'/6.5'/7' tall, froze to ground (stems to 1" thick), vigorous regrowth, healthy, flowers/fruit

***Caesalpinia pumila*** 89-0408 Yuma – planted March 1992 (5 plants)

1992	(5)	1=dead in 1992-cause undetermined, 4=8"-2' tall, fair condition, slow growth
1993	(4)	1=died in 1993-cause undetermined, 3=3-4' tall, healthy, slow to moderate growth
1994	(3)	4-6.5' tall, healthy, moderate growth, 2=flowers/fruit in 1994
1995	(3)	3.5-7' tall, healthy, slow growth, all=flowers/fruit
1996	(3)	4-7.5' tall, healthy, slow growth, flowers/fruit
1997	(3)	5-7.5' tall, healthy, slow growth, flowers/fruit
1999	(3)	5-6.5' tall, fair to good condition, little or no height increase, 1=flowers/fruit
2000	(3)	5-7' tall, fair to good condition, little size change, 2=flowers/fruit
2001	(3)	4-7' tall, fair to good condition, little size change, all=flowers/fruit
2002	(3)	4-7' tall, fair to good condition, little change in size but new stems from base, flowers/fruit
2004	(3)	6-10' tall, healthy, slow growth, flowers/fruit
2005	(3)	6'/7'/10' tall, healthy, little apparent growth, flowers/fruit
2006	(3)	6'/7'/10' tall, healthy, no apparent change in size, 2=flowers/fruit
2007	(3)	6'/6'/8' tall, all stems froze to base to stems 1" thick, healthy, vigorous regrowth, 1=flowers/fruit
2008	(3)	5'/10'/10' tall, healthy, vigorous growth, recovered from 2007 freeze, 2=flowers/fruit
2009	(3)	6'/10'/12' tall, healthy, slow growth, 2 smaller plants=flowers/fruit

***Caesalpinia sessilifolia*** 90-0442 Tucson (CAC field 6) – planted August 1992 (1 plant)

1993	(1)	1' tall, minor freeze damage to stem tips, healthy
1994	(1)	3.5' tall, no freeze damage, healthy, first flowers in fall 1993
1995	(1)	5' tall, no freeze damage, healthy, flowers/fruit
1997	(1)	5.5' tall, minor freeze damage to stem tips, healthy, flowers/fruit
2001	(1)	6' tall, no freeze damage, healthy, flowers/fruit
2004	(1)	6' tall, minor freeze damage to stem tips, healthy, flowers/fruit

2006 (1) 7' tall, no freeze damage, healthy, flowers/fruit  
 2007 (1) 6.5' tall, no freeze damage, healthy, flowers/fruit

***Caesalpinia sessilifolia*** 90-0442D Tucson (CAC field 3) – planted July 1998 (1 plant)

2000 (1) 2.5' tall, no freeze damage, healthy  
 2004 (1) 3' tall, no freeze damage, fair condition with low vigor  
 2006 (1) 3' tall, no freeze damage but most of plant is dead with only one live stem, low vigor  
 2007 (1) 3' tall, died winter 2006/2007-cause undetermined but did not freeze.

***Caesalpinia violacea*** 93-0015 Yuma – planted February 1995 (4 plants)

1995 (4) 1.5-2.5' tall, healthy, slow growth  
 1996 (4) 1.5-2.5' tall, healthy, little apparent growth  
 1997 (4) 3-6' tall, healthy, slow to fast growth  
 1999 (4) 1=died in 1999-cause undetermined, 3=3.5-7' tall, healthy, slow growth  
 2000 (3) 3.5-7' tall, healthy, little height increase, 1=flowers/fruit in 2000  
 2001 (3) 3-7.5' tall, healthy, slow growth, 1=flowers/fruit  
 2002 (3) 2=1'4" tall, fair condition, little or no growth, 1-7.5' tall, healthy, little change in size, flowers/fruit  
 2004 (3) 1=died in 2004-cause undetermined, 2=6'/10' tall, healthy, slow growth, flowers/fruit  
 2005 (2) 6.5'/11' tall, healthy, slow growth, flowers/fruit  
 2006 (2) 7'/11' tall, healthy, slow growth, larger plant=flowers/fruit, this species resembles *C. platyloba*  
 2007 (2) 3'/6' tall, stems froze back to 8' from tips to stems 2" thick , healthy, vigorous regrowth  
 2008 (2) 7.5'/11' tall, healthy, vigorous growth, recovered from 2007 freeze, no flowering  
 2009 (2) 8'/14' tall, healthy, slow growth, no flowering

***Calicotome villosa*** 92-0077 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995 (2) 4.5' tall, no freeze damage, healthy; flowers/fruit in 1995  
 1997 (2) 5'/6' tall, no freeze damage, healthy  
 2001 (2) 7' tall, no freeze damage, healthy but little growth perhaps due to reduced irrigation  
 2004 (2) dead ca. 2002-both plants appear to have been killed by gophers

***Calliandra californica*** 88-0006 Tucson (CAC field 6) – planted June 1989 (8 plants)

1990 (8) froze to near ground, vigorous regrowth  
 1991 (8) 1=dead-froze, 7=to 2.5' tall, froze to ground, vigorous regrowth, flowers/fruit in 1990  
 1992 (7) 1=dead-undetermined cause, 6=2-4' tall, minor tip damage, healthy, vigorous, flowers/fruit  
 1993 (6) 2-4' tall, severe freeze damage (to stems 1/4" in diameter), vigorous regrowth, flowers/fruit  
 1994 (6) 1-5.5' tall, froze to ground, vigorous regrowth, flowers/fruit  
 1997 () 3-4' tall, froze to ground, healthy regrowth  
 2001 () 3-4' tall, fair-poor, freezes to the ground each winter, low vigor-drought

***Calliandra californica*** 89-0010 Tucson (CAC field 6) – planted June 1989 (2 plants)

1990 (2) froze to ground, vigorous regrowth  
 1991 (2) 3' tall, froze to ground, vigorous regrowth, flowers/fruit in 1990  
 1992 (2) 4' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 1993 (2) 2-4' tall, severe freeze damage (to stems 1/4" in diameter), vigorous regrowth, flowers/fruit  
 1994 (2) 2-4.5' tall, froze to ground, vigorous regrowth, flowers/fruit  
 1997 (2) 3-4' tall, froze to ground, healthy regrowth  
 2001 () 1' tall, poor, freezes to the ground each winter, low vigor-drought  
 2004 (1) 5' tall, most stems froze to the ground, low vigor, drought-stressed, some flowers in previous years  
 2006 (1) 5.5' tall, froze to near ground, recovering, flowers/fruit in 2005  
 2007 (1) 5.5' tall, most stems froze to ground, recovering

*Calliandra californica* 89-0010 Tucson (CAC field 3) – planted summer 1997 (6 plants)

2000	(6)	2.3-5' tall, froze to ground, vigorous regrowth, healthy, flowers/fruit
2004	(6)	4-5' tall, froze to ground, vigorous recovery, healthy, flowers/fruit
2006	(6)	4.5-6.5' tall, stems froze back 1-2', healthy/vigorous, flowers/fruit
2007	(6)	4-6' tall, most but not all stems froze to base, vigorous regrowth, flowers/fruit

*Calliandra eriophylla* 90-0264 Tucson (CAC field 6) – planted April 1991 (8 plants)

1992	(8)	1-1.5' tall, no freeze damage, healthy, first flowers/fruit in 1992
1993	(8)	1-2.5' tall, no freeze damage, healthy, flowers/fruit
1994	(8)	1-2.5' tall, no freeze damage, healthy, flowers/fruit
1997	(8)	2.5-4' tall, some twigs froze back to 1' from tips, healthy, flowers/fruit
2001	(8)	2-3.5' tall, no freeze damage, healthy, flowers/fruit
2004	(8)	2-3' tall, no freeze damage, healthy but low vigor-drought, flowers/fruit
2006	(8)	1.5-2.5' tall, no freeze damage, healthy, flowers/fruit
2007	(8)	1-2.5' tall, stems froze back ca. 1' from tips, all but one plant are mostly dead, low vigor

*Calliandra eriophylla* 92-0131 Tucson (CAC field 3) – planted summer 1997 (6 plants)

2000	(6)	1-2.5' tall, no freeze damage, healthy, vigorous, flowers/fruit
2004	(6)	2-4' tall, no freeze damage, healthy, flowers/fruit
2006	(6)	1.5-4' tall, no freeze damage, healthy, flowers/fruit
2007	(6)	2=dead-cause undetermined, 4=2-3' tall mass, some stems froze back to 1' from tips, healthy, flowers/fruit

*Calliandra haematocephala* 91-0491 Yuma – planted March 1994 (5 plants)

1994	(5)	4.5-6' tall, healthy but slow growth and some environmental stress, flowers/fruit in greenhouse prior to planting
1995	(5)	4-6' tall, healthy but slow growth, flowers/fruit
1996	(5)	4-5' tall, fair condition-these seem stressed here, flowers but no fruit evident
1997	(5)	3-4' tall, fair to good condition, flowers but no fruit
1999	(5)	3-5.5' tall, healthy overall-though they appear a bit stressed here, flowers but no fruit
2000	(5)	2-6' tall, healthy, slow growth-dense but somewhat chlorotic foliage, flowers only
2001	(5)	3-6' tall, healthy, little size increase, flowers only
2002	(5)	2.5-6' tall, healthy, little change in size, flowers only
2004	(5)	1=3' tall, poor condition, little growth, 3=4-7' tall, fair to good condition, slow growth, some flowering but no fruit production-perhaps the climate here is too dry as these fruited in the greenhouse
2005	(5)	1=2.5' tall, fair condition, 4=5'/6'/7'/8' tall, healthy, flowers only
2006	(5)	1=3' tall, poor condition, 4=6'/6'/6.5'/7' tall, healthy, flowers only
2007	(5)	1=dead-froze, 4=froze to base, variable recovery but all are alive and growing, no flowering
2008	(4)	3'/3.5'/6'/6' tall, healthy, recovered from 2007 freeze
2009	(4)	2'/3'/4'/6' tall, poor to fair condition, struggling, no flowers

*Calliandra peninsularis* 89-0012 Tucson (CAC field 6) – planted June 1989 (2 plants)/1990 (2 plants)

1990	(2)	froze to ground, vigorous regrowth
1991	(4)	1=dead-froze, 3=2' tall, vigorous, first flowers/fruit in 1990
1992	(3)	2-3' tall, minor tip damage, healthy, vigorous, flowers/fruit
1993	(3)	3' tall, severe freeze damage (stems killed to 1/4" in diameter), vigorous regrowth, flowers/fruit
1994	(3)	1=dead-froze, 2=2-3' tall, froze to ground, vigorous regrowth, flowers/fruit
1997	(2)	1=dead-froze, 1=2' tall, froze to ground, fair condition
2001	(1)	dead ca. 1999, froze to ground each winter, drought may have finished it off

*Caragana tragacanthoides* 90-0287 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994 (2) 1' tall, no freeze damage, minor browsing, healthy  
 1995 (2) 2'/3.5' tall, no freeze damage, healthy  
 1997 (2) 6.5' tall, no freeze damage, healthy  
 2001 (2) 6.5' tall, no freeze damage, 1=healthy, 1=fair condition  
 2004 (2) 1=dead-cause undetermined but probably drought stress and perhaps gophers, 1=7' tall, no freeze damage, poor condition, most stems dead-drought.

***Cassia abbreviata*** 95-0018 Yuma – planted February 1997 (3 plants)/March 1998 (1 plant)/December 2004 (1 plant)

1997 (3) 2=died in 1997-cause undetermined, 1=2' tall, poor condition, little growth  
 1999 (2) 1'/2' tall, healthy but little apparent growth  
 2000 (2) 1=died in 2000-cause undetermined, 1(1998 plant)=2' tall, fair condition, no apparent growth  
 2001 (1) 1.5' tall, fair condition, no growth  
 2002 (1) 1.5' tall, fair condition, no noticeable growth  
 2004 (1) 1.5' tall, fair condition, no change in size-this plant has not grown since planting but remains alive-cause undetermined  
 2005 (2) 1.5'/2.5' tall, healthy, little apparent growth  
 2006 (2) 1.5'/2.5' tall, healthy, no apparent growth in past year  
 2007 (2) 1=1' tall, no freeze damage, healthy but no growth, 1=2' tall, froze to base, healthy, vigorous regrowth  
 2008 (2) 1.5'/3.5' tall, healthy, slow growth  
 2009 (2) 1=1.5' tall, fair condition, no growth, 1-3.5' tall, healthy, no growth

***Cercis canadensis var. mexicana*** 90-0371 Tucson (CAC field 6) – planted July 1991 (1 plant)

1992 (1) 6" tall, no freeze damage, some gnawing, healthy  
 1993 (1) 8" tall, no freeze damage, slow growth and browsing  
 1994 (1) 3' tall, no freeze damage, healthy, plant was apparently killed by gophers ca. 1996

***Cercis chingii*** 90-0291 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1.5' tall, no freeze damage, healthy  
 1994 (2) 2'/4' tall, no freeze damage, healthy, leaf-cutter bees working leaves  
 1995 (2) 4.5'/7' tall, no freeze damage, healthy (1=chlorotic)  
 1997 (2) 6'/7' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) 6'/7' tall, no freeze damage, healthy but little growth due to reduced irrigation, flowers/fruit  
 2004 (2) 1=5' tall, no freeze damage, most leaves dead-drought?, flowers/fruit 1=7' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 1=5' tall, died in 2005-cause undetermined but likely drought, 1=7' tall, no freeze damage, healthy, flowers/fruit  
 2007 (1) 7' tall, no freeze damage, fair condition-insufficient irrigation, no flowers

***Cercis glabra*** 91-0292 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 6" tall, no freeze damage, healthy  
 1997 (1) 2' tall, no freeze damage, healthy  
 2001 (1) 2.5' tall, no freeze damage, fair-little growth perhaps due to reduced irrigation  
 2004 (1) 4' tall, no freeze damage, healthy (leaf-cutter bees working foliage)  
 2006 (1) 4' tall, no freeze damage, healthy  
 2007 (1) 4' tall, died-cause undetermined but likely insufficient irrigation or perhaps gophers

***Cercis occidentalis*** 89-0018 Tucson (CAC field 6) – planted June 1989 (1 plant)

1990 (1) no freeze damage, healthy (leafcutter bee damage to leaves)  
 1991 (1) 6' tall, no freeze damage, healthy, vigorous  
 1992 (1) 9' tall, no freeze damage, healthy, vigorous

1993	(1)	9' tall, no freeze damage, healthy (leafcutter bee damage to leaves), first flowers in spring 1993
1994	(1)	10' tall, no freeze damage, healthy, flowers in fall 1993 and spring 1994
1997	(1)	14' tall, no freeze damage, healthy, flowers
2001	(1)	15' tall, no freeze damage, healthy but some stems died from drought stress, flowers
2004	(1)	15' tall, no freeze damage, fair condition-some stems appear to have died from drought stress, flowers
2006	(1)	14' tall, no freeze damage, considerable die-back likely due to drought stress, fair condition
2007	(1)	11' tall, died summer/fall of 2006 likely due to insufficient irrigation

***Chamaecrista greggii* var. *greggii*** 90-0438 Tucson (CAC field 6) – planted 1994 (1 plant)

1995	(1)	1' tall, no freeze damage, healthy, slow growth, flowers
1997	(1)	2.5' tall, no freeze damage, healthy, very slow growth, flowers
2001	(1)	1.5' tall, no freeze damage, healthy but very slow growth, flowers/few fruit
2004	(1)	3' tall, no freeze damage, poor condition-declining probably due to insufficient irrigation
2006	(1)	2.5' tall, no freeze damage, poor condition-died to base (insufficient irrigation?), weak regrowth
2007	(1)	died in summer/fall of 2006 probably due to insufficient irrigation

***Chamaecrista serpens* var. *wrightii*** 89-0304 Tucson (CAC field 6) – planted April 1991 (4 plants)

1992	(4)	data missing
1993	(4)	froze to ground, healthy regrowth, flowers/fruit in 1992, 1993
1994	(4)	6", froze to ground, 2=healthy regrowth, 2=dead-froze, flowers/fruit
1995	(1)	1' across, died back to ground, healthy regrowth
1997	(1)	dead-missing-cause undetermined

***Clitoria mariana*** 88-0062 Tucson (CAC field 6) – planted June 1989 (2 plants)

1990	(2)	1=dead-cause undetermined, 1=froze to ground, healthy regrowth
1991	(1)	froze to ground, regrowing, low vigor, flowers/fruit
1992	(1)	froze to ground, healthy regrowth, flowers/fruit
1993	(1)	1' tall, froze to ground, healthy regrowth, flowers/fruit
1994	(1)	2' tall, froze to ground, healthy regrowth, flowers/fruit
1997	(1)	1.5' tall, froze to ground, healthy, flowers/fruit
2001	(1)	dead in 2000-drought

***Clitoria mariana*** 88-0062D Tucson (CAC field 3) – planted summer 1997 (6 plants)

2000	(6)	5=dead-missing-may have been accidentally weeded as this area has an infestation of Bermuda grass, 1=froze to ground, healthy growth
2004	(1)	the last plant died out ca. 2000-2001-perhaps not adapted to heavy soils

***Colophospermum mopane*** 91-0016 Yuma – planted March 1992 (4 plants)

1992	(4)	1-2' tall, healthy, slow growth
1993	(4)	2-4.5' tall x spreading to 6', healthy, slow growth
1994	(4)	2.5-4' tall, healthy, slow growth
1995	(4)	4-7' tall, healthy, slow to moderate growth
1996	(4)	5-7.5' tall, healthy, slow growth
1997	(4)	6-10' tall, healthy, slow to moderate growth, all=flowers/fruit in 1996
1999	(4)	6.5-13' tall, healthy, slow to moderate growth, flowers/fruit
2000	(4)	7-15' tall, healthy, slow growth, flowers/fruit
2001	(4)	8-17' tall, healthy, slow growth, flowers/fruit
2002	(4)	8-17' tall, healthy, little change in size, flowers/fruit
2004	(4)	8-20' tall, healthy (1=tipped over due to gophers feeding on roots), slow growth, flowers/fruit, attractive growth form with beautiful dark green butterfly-like leaves and horizontal branches,

		fissured bark
2005	(4)	1=killed by gophers in 2005, 3=10'/14'/20' tall, healthy, flowers/fruit
2006	(3)	11'/12'/18' tall, healthy, little change in size in past year, flowers/fruit
2007	(3)	10'/12'/20' tall, 2 smaller trees=stems froze back 2-3' from tips, larger tree=no apparent freeze damage, all=healthy, flowers/fruit
2008	(3)	12'/14'/25' tall, healthy, slow to fast growth, flowers/fruit, largest plant is a beautiful tree
2009	(3)	12'/17'/22' tall, healthy, slow growth, largest plant only=flowers/fruit
<i>Colutea istria</i>	89-0385	Tucson (CAC field 6) – planted April 1990 (4 plants)/replanted-1991 (4 plants)
1991	(4)	all dead due to rodent burrowing
1992	(4)	3'5' tall, no freeze damage, healthy, first flowers/fruit in 1992
1993	(4)	4-6' tall, no freeze damage, healthy, flowers/fruit
1994	(4)	4-7' tall, no freeze damage, healthy, flowers/few fruit
1997	(4)	5-9' tall, no freeze damage, healthy, flowers/fruit
2001	(2)	2=dead ca. 1999-cause undetermined, but plants had become shaded and may have been senescent, 2=6'/7' tall, fair-poor (senescent or drought), flowers/fruit
2004	(2)	1=6' tall, dead-cause undetermined but shading, drought or age could have been factors, 1=6.5' tall, no freeze damage, healthy, flowers/fruit
2006	(2)	4'/6.5' tall, no freeze damage, stressed from drought and excessive shade from adjacent plants
2007	(2)	1=died-excess shade, 1=4' tall, no freeze damage, declining due to shade and insufficient irrigation
<i>Colutea istria</i>	89-0385	Tucson (CAC field 3) – planted summer 1997 (4 plants)
2000	(4)	1=dead from flooding in summer 1999, 1=died to ground following flooding, recovering, 2=7.5' tall, no freeze damage, healthy, flowers/fruit
2004	(3)	2=3'4' tall, no freeze damage, low vigor, 1=11' tall, no freeze damage, healthy, flowers/fruit
2006	(3)	4'/6'/11' tall, no freeze damage, healthy, flowers/fruit
2007	(3)	4'7'/11' tall, no freeze damage, healthy, flowers/fruit
<i>Colutea persica</i>	92-0025	Tucson (CAC field 6) – planted July 1992 (2 plants)/1993 (1 plant)
1993	(2)	1' tall, 1=died in 1992-cause undetermined, 1=no freeze damage, healthy
1994	(2)	1=dead-killed by rodents, 1=3' tall, healthy, no cold damage but browsed
1995	(1)	5' tall, no freeze damage, healthy
1997	(1)	5' tall, no freeze damage, healthy
2001	(1)	dead-missing,-probably succumbed to drought, gophers may have also been a factor
<i>Conzattia multiflora</i>	90-0352	Yuma – planted March 1993 (2 plants)/March 1994 (1 plant)
1993	(2)	8"/10" tall, fair condition, little growth
1994	(3)	1=died in 1994-cause undetermined, 2=1'/1.5' tall, fair condition, low vigor
1995	(2)	1=died in 1995-cause undetermined, 1(1994 plant)=1.5' tall, poor condition, no growth
1996	(1)	1.5' tall, fair condition, no growth
1997	(1)	died in 1997-cause undetermined but apparently not adapted to this site
<i>Coursetia axillaris</i>	92-0150	Tucson (CAC field 6) – planted April 1993 (1 plant)
1994	(1)	1.5' tall, no freeze damage, healthy, flowers in spring 1994
1995	(1)	4' tall, freeze caused minor stem tip damage, healthy, flowers
1997	(1)	4' tall, no freeze damage, healthy, flowers/fruit
2001	(1)	3.5' tall, no freeze damage, healthy, flowers/fruit
2004	(1)	4' tall, no freeze damage, healthy, few flowers
2006	(1)	4' tall, no freeze damage, healthy, flowers/fruit
2007	(1)	4' tall, minor damage to stem tips only, healthy

*Coursetia glandulosa* 89-0168 Tucson (CAC field 6) – planted April 1990 (4 plants)

1991	(4)	1=dead-cause undetermined, 3=healthy, vigorous, to 5' tall
1992	(3)	6' tall, no freeze damage, healthy, vigorous, flowers/fruit in spring 1992
1993	(3)	6-7' tall, severe freeze damage to near ground, vigorous recovery, flowers/fruit
1994	(3)	1=dead-killed by gophers, 2=5-7' tall, froze back to near ground, vigorous regrowth
1997	(2)	9' tall, froze back to 5' from stem tips, vigorous regrowth, healthy, no flowers in 1997
2001	(2)	8' tall, considerable freeze damage each winter, vigorous regrowth, healthy
2004	(2)	7' tall, froze back to base-healthy recovery
2006	(2)	6'/7.5' tall, froze back 1-3' from stem tips, healthy recovery
2007	(2)	6'/7.5' tall, froze back to near ground, healthy regrowth but needs more irrigation

*Coursetia glandulosa* 89-0168 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000	(3)	1-4.5' tall, froze to near ground, vigorous regrowth, healthy
2004	(3)	1=dead-missing-cause undetermined, 2=8' tall, variable freeze damage with many stems killed to ground, vigorous recovery, healthy
2006	(2)	8'/9' tall, stems froze back 1-3' from tips, slow recovery, 1=flowers/fruit in 2006
2007	(2)	8'/9' tall, froze to base (stems to 1/2" thick killed), vigorous regrowth, healthy

*Dalbergia melanoxylon* 90-0260 Yuma – planted March 1993 (1 plant)

1993	(1)	1.5' tall, healthy, slow growth
1994	(1)	3' tall, healthy, slow growth
1995	(1)	5' tall, healthy, slow growth
1996	(1)	7.5' tall, healthy, moderate growth
1997	(1)	10' tall, healthy, moderate growth, upright growth form w/ dense foliage
1999	(1)	10' tall, healthy, little height increase, flowers/fruit in 1999
2000	(1)	11' tall, healthy, slow growth, no evidence of flowering
2001	(1)	16' tall, healthy, vigorous growth, no flowering
2002	(1)	18' tall, healthy, slow growth
2004	(1)	16' tall, healthy, no increase in size, this plant has not been observed to flower since 1999, beautiful foliage and growth form
2005	(1)	16' tall, healthy, no apparent change in size, flowers only
2006	(1)	16' tall, healthy, no apparent growth, no evidence of flowering
2007	(1)	15' tall, stems froze back to 6' from tips to stems 1" thick, healthy, vigorous regrowth
2008	(1)	20' tall, healthy, vigorous growth, recovered from 2007 freeze
2009	(1)	25' tall, healthy, vigorous growth, no evidence of flowering

*Dalea albiflora* 88-0052 Tucson (CAC field 6) – planted June 1989 (6 plants)

1990	(6)	no freeze damage, healthy, flowers in 1990
1991	(6)	1=dead in spring 1990-cause undetermined, 5=no freeze damage, vigorous, flowers/fruit, then died in September 1990-apparently senescent. Seedlings volunteering in 1991
1992	(4)	(volunteer plants from originals), to 3.5' tall, no freeze damage, healthy, vigorous, flowers/fruit
1993	(4)	3' tall, partial die-back (no freeze damage), healthy, vigorous, flowers/fruit
1994	(@7)	2' tall, offspring of original plants, healthy, flowers/fruit
2001	(-)	these all appear to have died out due to age and drought. This species is short-lived.

*Dalea pulchra* 91-0185 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000	(3)	1=died in August 1999-waterlogging, 2=4.5'/5' tall, no freeze damage, healthy, flowers/fruit, 1 seedling
2004	(2)	2'/4' tall, both died spring 2004-cause undetermined but may have been senescent, seedling noted in 2000 is <i>Dalea greggii</i>

*Desmodium cinerascens* 88-0027 Tucson (CAC field 6) – planted May 1989 (7 plants)

1990	(7)	1=dead-cause undetermined, 6=froze back to near base, vigorous regrowth, healthy, flowers/fruit in 1990
1991	(6)	8' tall, froze to ground, vigorous regrowth, flowers/fruit
1992	(6)	1=dead-cause undetermined, 5=froze to ground, vigorous regrowth, flowers/fruit
1993	(5)	4-8' tall, froze to ground, vigorous regrowth, flowers/fruit
1994	(5)	6-8' tall, froze to ground, vigorous regrowth, flowers/fruit
1997	(5)	6-10' tall, froze to ground, healthy, vigorous, flowers/fruit
2001	(5)	3=dead-age/drought?, 2=3' tall, poor condition-drought stress
2004	(2)	dead ca. 2002-drought likely finished them off

*Desmodium cinerascens* 88-0027 Tucson (CAC field 3) – planted summer 1997 (5 plants)

2000	(5)	6-8' tall, froze to ground, vigorous growth, healthy, flowers/fruit
2004	(5)	8' tall, froze to ground, vigorous growth, healthy, flowers/fruit
2006	(3)	4.5-7' tall, froze to ground, 2=dead (senescence?), 3=healthy regrowth, flowers/fruit

*Ebenopsis ebano* 89-0179 Tucson (CAC field 6) – planted April 1990 (2 plants)

1991	(2)	1.5' tall, no freeze damage at 19° F
1992	(2)	2' tall, no freeze damage, healthy, first flowers in 1992
1993	(2)	3.5' tall, 1=no freeze damage, 1=slight freeze damage (stems killed to ¼" in diameter), healthy, flowers/fruit
1994	(2)	4' tall, a few stems died back to 3' from tips, most undamaged, healthy, flowers/fruit
1997	(2)	6' tall, some twigs froze back 1' from tips, healthy, flowers/fruit
2001	(2)	6/7' tall, no freeze damage, healthy, flowers/fruit
2004	(2)	7'/7.5' tall, some stems froze back to 1' from tips, healthy, flowers/fruit
2006	(2)	7'/7.5' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	7'/7' tall, foliage frozen and stems froze back 1-2' from tips, healthy regrowth

*Entada abyssinica* 90-0261 Yuma – planted March 1992 (2 plants)/March 1995 (1 plant)

1992	(2)	1.5'/2.5' tall, fair condition, slow growth
1993	(2)	1=3" tall, poor condition-declining, 1=2.5' tall, fair condition, no apparent growth
1994	(2)	1=died in 1994-cause undetermined, 1=2.5' tall, fair condition, no growth
1995	(2)	1'2' tall, fair condition, no growth
1996	(2)	1=1' tall, healthy, no growth, 1=3' tall, healthy, slow growth
1997	(2)	1=died in 1997-cause undetermined, 1=3.5' tall, healthy, slow growth
1999	(1)	3.5' tall, fair condition, no additional growth
2000	(1)	died in 2000-cause undetermined-may have been killed by gophers

*Entada chrysostachys* 91-0015 Yuma – planted March 1992 (3 plants)/March 1996 (1 plant)

1992	(3)	2-3' tall, fair condition, slow growth, minor to moderate browsing
1993	(3)	1=died in 1993-cause undetermined, 2=1'/2.5' tall, poor condition, little or no growth
1994	(2)	10"/3' tall, poor condition, slow growth
1995	(2)	1.5'/3.5' tall, poor condition but some growth
1996	(2)	1=died in 1996-cause undetermined, 2=1'/3.5' tall, poor condition, no apparent growth
1997	(2)	both plants died in 1997-cause undetermined but apparently not adapted to this site

*Enterolobium cyclocarpum* 89-0412 Yuma – planted March 1992 (2 plants)

1992	(2)	6'/6' tall, fair condition, slow growth
1993	(2)	1=died in 1993=cause undetermined, 1-6' tall, fair condition, considerable die-back
1994	(1)	7' tall, fair condition, little growth
1995	(1)	6.5' tall, fair condition, considerable die-back each year

1996 (1) 6.5' tall, fair condition, trying to grow  
 1997 (1) 7' tall, poor condition-mostly dead  
 1999 (1) finally died in 1998-cause undetermined

***Erythrina flabelliformis*** 88-0077 Tucson (CAC field 6) – planted June 1989 (5 plants)/1990 (3 plants)

1990 (5) no freeze damage, flower in 1990  
 1991 (8) 2=dead-frozen, 6=to 2.5' tall, some stems killed, healthy  
 1992 (6) 1=dead-frozen in 1991, 5=1-3' tall, died back to ground, vigorous regrowth, healthy  
 1993 (5) 1-3.5' tall, most stems froze to ground, healthy regrowth  
 1994 (5) 2-5' tall, most stems froze to ground, 1=some stems undamaged, flowers in spring 1994; all=vigorous regrowth  
 1997 (5) 1=1' tall, 4=5-7.5' tall, some stems froze to ground and others with no damage, healthy, vigorous, flowers/fruit  
 2001 (5) 1=dead and gone by 1998, 1=dead in 2000-cause undetermined, 3=3' tall, fair, little growth due to drought, flower/fruit in some previous years but not 2001  
 2004 (3) 3'/6' tall, some stems froze to ground and others were undamaged, healthy, 1=flowers/fruit

***Erythrina lysistemon*** 91-0011 Yuma – planted March 1992 (2 plants)

1992 (2) 3'/4' tall, healthy, moderate growth  
 1993 (2) 4'/6' tall, healthy, slow growth  
 1994 (2) 3.5'/7' tall, fair condition, slow growth  
 1995 (2) 5'/7.5' tall, healthy but some twig die-back, slow growth  
 1996 (2) 4.5'/8' tall, fair to good condition, slow growth and some die-back evident  
 1997 (2) 1=4' tall, poor condition, 1=8' tall, healthy  
 1999 (2) 4'/8' tall, fair condition w/ some die-back, new growth replaces dead stems.  
 2000 (2) 4'/8' tall, fair condition w/ continued stem die-back and regrowth  
 2001 (2) 5'/7' tall, poor condition w/ ongoing die-back  
 2002 (2) 2'/3' tall, poor condition w/ considerable die-back  
 2004 (2) 3'/4.5' tall, poor condition w/ continuing die-back, all species of *Erythrina* planted at this site have performed poorly-cause undetermined  
 2005 (2) 2'/3' tall, poor condition w/ continuing die-back and subsequent regrowth  
 2006 (2) both died in 2006-cause undetermined but these always struggled here with regular die-back

***Erythrina lysistemon*** 91-0011 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993 (2) 1=1' tall, dead-froze to ground and did not recover, 1=4' tall, froze to ground, vigorous regrowth  
 1994 (1) 2' tall, froze to ground, healthy regrowth  
 1995 (1) 4' tall, froze to base, vigorous regrowth  
 1997 (1) 3' tall, froze to ground, healthy regrowth  
 2001 (1) died ca. 1999-2000-cause undetermined but froze to ground each winter and perhaps lack of irrigation ultimately killed it

***Eysenhardtia orthocarpa*** 88-0033 Tucson (CAC field 6) – planted May 1989 (3 plants)

1990 (3) moderate freeze damage, healthy and regrowing  
 1991 (3) 6' tall, froze to ground, healthy, vigorous regrowth, flowers/fruit in 1991  
 1992 (3) 7-8' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 1994 (3) 12' tall, no freeze damage, healthy, flowers/fruit  
 1997 (3) 13-17' tall, minor freeze damage to stem tips, healthy, vigorous, flowers/fruit  
 2001 (3) 13-16' tall, no freeze damage, healthy but little growth due to limited irrigation, flowers/fruit  
 2004 (3) 16-18' tall, no freeze damage, fair condition-drought stress, flowers/fruit  
 2006 (3) 14'/15'/15', no freeze damage but considerable die-back due to drought stress, fair condition, some flowers/fruit

2007 (3) 1=15' tall, died-drought stress, 1=16' tall, major die-back due to drought stress and freezing, poor condition, 1=15' tall, variable die-back 1-10' from tips due to drought stress and freezing, fair condition

***Eysenhardtia orthocarpa*** 89-0028 Tucson (CAC field 6) – planted May 1989 (1 plant)

1990 (1) no freeze damage, healthy  
 1991 (1) 6' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 1992 (1) 8' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 1993 (1) 9' tall, no freeze damage, healthy, flowers/fruit  
 1994 (1) 12' tall, no freeze damage, healthy, flowers/fruit  
 1997 (1) 20' tall, minor damage to stem tips, healthy, vigorous, flowers/fruit  
 2001 (1) 20' tall, no freeze damage, healthy but little growth due to limited irrigation, flowers/fruit  
 2004 (1) 25' tall, no freeze damage, healthy but some drought stress, flowers/fruit  
 2006 (1) 23' tall, no freeze damage, healthy but some drought stress, flowers/fruit  
 2007 (1) 24' tall, stems froze back 1-4' from tips, vigorous regrowth, healthy but some drought stress, flowers/fruit

***Eysenhardtia orthocarpa*** 90-0263 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000 (2) 6.5'/7.5' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 2004 (2) 9'/10' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 10'/10' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 12'/12' tall, some stems froze back to 18" from tips, healthy, vigorous growth, flowers/fruit

***Eysenhardtia texana*** 91-0500 Tucson (CAC field 6) – planted July 1992 (4 plants)

1993 (4) 2' tall, no freeze damage, healthy, flowers/fruit in 1992, 1993  
 1994 (4) 3.5' tall, no freeze damage, healthy, flowers/fruit  
 1995 (4) 5-6' tall, no freeze damage, healthy, flowers/fruit, sporadically volunteering in field from seeds  
 1997 (4) 6.5-7.5' tall, no freeze damage, healthy, flowers/fruit  
 2001 (4) 8-9' tall, no freeze damage, healthy, flowers/fruit  
 2004 (4) 1=killed by gophers ca. 2001-2002, 3=8-10' tall, no freeze damage, healthy, flowers/fruit  
 2006 (3) 2=7'/8.5' tall, no freeze damage, healthy, flowers/fruit, 1=7' tall, no freeze damage, fair condition-some dead stems (drought?), flowers/fruit  
 2007 (3) 7.5'/7.5'/8.5' tall, no freeze damage, healthy, flowers/fruit

***Eysenhardtia texana*** 90-0500 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000 (3) 3.5-4.5' tall, no freeze damage, healthy, flowers/fruit  
 2004 (3) 5'-7' tall, no freeze damage, healthy, flowers/fruit  
 2006 (3) 5'/6.5'/7' tall, no freeze damage, healthy, flowers/fruit  
 2007 (3) 6'/6.5'/7' tall, no freeze damage, healthy, flowers/fruit

***Faidherbia albida*** 91-0047 Yuma – planted March 1992 (2 plants)

1992 (2) 6.5'/9' tall, healthy, vigorous growth, minor browsing  
 1993 (2) 12'/14' tall, healthy, vigorous growth  
 1994 (2) 25' tall, healthy, extremely vigorous growth  
 1995 (2) 30'/35' tall-each with a 10" diameter trunk, healthy, extremely vigorous growth  
 1996 (2) 40'/40' tall, healthy, extremely vigorous, these are impressive trees with a beautiful upright growth habit  
 1997 (2) 41'/41' tall, healthy, vigorous but height increase slowing, no evidence of flowering  
 1999 (2) 43'/43' tall, healthy, vigorous  
 2000 (2) 45'/45' tall, healthy, vigorous w/ root suckers that can grow to 10' in one season.  
 2001 (2) both ca. 50' tall, healthy, vigorous w/ root suckers each year from damaged roots, trunks are 2' dbh

2002 (2) both ca. 50' tall, healthy, vigorous w/ root suckers growing to 10' in one season  
 2004 (2) both ca. 50' tall, healthy, vigorous though little apparent increase in height, no flowering has been observed on these plants at this site, a beautiful tree for large spaces  
 2005 (2) both ca. 55' tall, healthy, vigorous, root sprouts from both plants are cut each year  
 2006 (2) both ca. 55' tall, healthy, vigorous including root sprouts, both=flowers/fruit in 2006  
 2007 (2) both ca. 55' tall, no apparent freeze damage, healthy, flowers/fruit  
 2008 (2) both ca. 55' tall, healthy, flowers/fruit, root sprouts grow back each year  
 2009 (2) both ca. 65' tall, healthy, vigorous growth, flowers/fruit

***Geoffroea decorticans*** 89-0161 Tucson (CAC field 6) – planted April 1990 (2 plants)/1991 (1 plant)

1991 (2) 1=dead-cause undetermined, 1=alive, 14" tall  
 1992 (2) 1'4" tall, no freeze damage, healthy  
 1993 (2) 2.5/4.5' tall, no freeze damage, healthy, 1=flowers in 1993  
 1994 (2) 4'/6.5' tall, no freeze damage, healthy  
 1997 (2) 5'7" tall, no freeze damage, healthy, 1=flowers/fruit in 1996, 1997  
 2001 (2) 6'8" tall, no freeze damage, healthy but growing slowly, flowers/fruit  
 2004 (2) 6'7.5" tall, no freeze damage, healthy but essentially no growth due to limited water, flowers/fruit  
 2006 (2) 6'8" tall, no freeze damage, drought stress, fair condition  
 2007 (2) 6'7.5" tall, no freeze damage, some stem die-back due to drought stress, fair condition, flowers

***Gleditsia amorphoides*** 92-0042 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1' tall, no freeze damage, healthy  
 1994 (2) 1' tall, no freeze damage, 1=healthy, 1=weak  
 1995 (2) 1' tall; 1=dead-apparently gnawed by rabbits, 1=top dead, healthy growth from below  
 1997 (1) 2' tall, partial die-back-cause undetermined but possibly insufficient water, fair condition  
 2001 (1) 1.5' tall, no freeze damage, fair condition, slow growing-just hanging on-likely needs more water  
 2004 (1) 1.5' tall, no freeze damage, fair condition-insufficient irrigation  
 2006 (1) 2.5' tall, appears dead-insufficient irrigation

***Gleditsia caspica*** 92-0026 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1.5' tall, no freeze damage, healthy  
 1994 (2) 4'8" tall, no freeze damage, healthy  
 1995 (2) 7'10" tall, no freeze damage, healthy, vigorous  
 1997 (2) 11'14" tall, no freeze damage, healthy  
 2001 (2) 11'15" tall, no freeze damage, fair condition-some limbs dead and little growth due to drought/reduced irrigation  
 2004 (2) 1=11' tall, no freeze damage, healthy, 1=14' tall, no freeze damage, fair condition-considerable stem die-back due to drought  
 2006 (2) 11'11" tall, no freeze damage, fair condition with some die-back due to insufficient irrigation  
 2007 (2) 7'11" tall, no freeze damage, apparently healthy but both died in autumn 2007-insufficient irrigation

***Gleditsia sinensis*** 89-0127 Tucson (CAC field 6) – planted July 1991 (2 plants)

1993 (2) 1' tall, no freeze damage, healthy  
 1994 (2) 1'2" tall, no freeze damage, healthy  
 1995 (2) 1'2" tall, no freeze damage, low vigor  
 1997 (1) 2' tall, no freeze damage, poor condition-low vigor  
 2001 (1) dead ca. 1998-1999, never did well-perhaps root-bound when planted

***Gleditsia triacanthos*** 88-0014 Tucson (CAC field 6) – planted June 1989 (3 plants)

1990 (3) no freeze damage, healthy  
 1991 (3) to 7' tall, no freeze damage, healthy

1992 (3) 8-15' tall, no freeze damage, healthy, vigorous, flowers in 1992  
 1994 (1) 12' tall, no freeze damage, healthy, flowers/fruit 1993, 1994 (2 plants removed in 1994)  
 1997 (1) 25' tall, no freeze damage, healthy, flowers/fruit  
 2001 (1) dead in 1999-drought

***Gleditsia triacanthos var. inermis*** 88-0067 Tucson (CAC field 6) – planted June 1989 (3 plants)

1990 (3) no freeze damage, healthy  
 1991 (3) 3-4' tall, no freeze damage, healthy  
 1992 (3) 11-16' tall, no freeze damage, healthy, vigorous  
 1994 (3) 12' tall, no freeze damage, healthy, flowers/fruit 1993, 1994 (1 plant removed in 1994)  
 1997 (2) 16-22' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) 1=dead in 1999-drought, 1=18' tall, no freeze damage, healthy  
 2004 (1) 16' tall, no freeze damage, poor condition-top portion dead due to drought stress, no flowers  
 2007 (1) died in 2005 due to insufficient irrigation

***Guibourtia conjugata*** 91-0065 Yuma – planted March 1993 (4 plants)

1993 (4) 6"-2' tall, fair to poor condition, slow growth  
 1994 (4) 1-1.5' tall, fair condition, very slow growth  
 1995 (4) 6"-1.5' tall, poor to fair condition, little or no growth  
 1996 (4) 6"-1.5' tall, vary from poor to good condition but no apparent growth  
 1997 (4) 6" -2' tall, poor to fair condition, little growth  
 1999 (4) 1=dead in 1998-gophers, 2=2" tall, poor condition-gophers burrowing around plants, 1=1' tall, fair condition-some die-back  
 2000 (3) 2"-1 tall, poor to fair condition, little change but still alive-some gopher burrowing  
 2001 (3) 1=died in 2001-appears to have been killed by gophers, 2=2"/5" tall, poor condition, no growth  
 2002 (2) 1 plant may still be alive but the other appears dead-probably killed by gophers  
 2004 (1) the last plant died in 2003-perhaps finished off by gophers

***Gymnocladus dioica*** 89-0417 Tucson (CAC field 6) – planted July 1991 (1 plant)

1993 (1) 1.5' tall, no freeze damage, healthy  
 1994 (1) 2' tall, no freeze damage, healthy  
 1995 (1) 3' tall, no freeze damage, healthy  
 1997 (1) 3.5' tall, no freeze damage, fair condition-low vigor  
 2001 (1) 5.5' tall, no freeze damage, healthy but very slow growth  
 2004 (1) 6' tall, no freeze damage, healthy, gophers seem to have left this plant alone  
 2006 (1) 6' tall, no freeze damage, healthy but slow  
 2007 (1) 6' tall, no freeze damage, healthy but little growth due to insufficient irrigation

***Haematoxylum brasiletto*** 89-0029 Yuma – planted March 1991 (3 plants)

1991 (3) all=2' tall, healthy, slow growth  
 1992 (3) 1.5-4.5' tall, healthy, slow to moderate growth, 1=flowers/fruit in 1992  
 1993 (3) 1=dead in 1993-cause undetermined, 1=2' tall, fair condition, little growth, 1=5' tall, healthy, slow growth, flowers/fruit  
 1994 (2) 1=2' tall, poor condition-low vigor, 1=7' tall, healthy, vigorous, flowers/fruit  
 1995 (2) 1=2' tall, healthy but stunted, 1=7.5' tall, healthy, slow growth, flowers/fruit  
 1996 (2) 1=2' tall, fair condition, no growth, 1=9' tall, healthy, slow growth, flowers/fruit  
 1997 (2) 1=1' tall, poor condition-declining but no apparent cause, 1=10' tall, healthy, slow growth, flowers/fruit  
 1999 (2) 1=died ca. 1998-cause undetermined but was always stunted (bad roots?), 1=10' tall, healthy, slow growth, flowers/fruit  
 2000 (1) 11' tall, healthy, slow growth, flowers/fruit

2001	(1)	13' tall, healthy, slow growth, flowers/fruit
2002	(1)	13' tall, healthy, little change in size, flowers/fruit
2004	(1)	14' tall, healthy, slow growth, flowers/fruit
2005	(1)	15' tall, healthy, slow growth, flowers/fruit
2006	(1)	14' tall, healthy, no apparent growth, flowers/fruit
2007	(1)	14' tall, stems froze back 1-5" from tips to stems $\frac{1}{2}$ " thick, healthy, vigorous regrowth, flowers/fruit
2008	(1)	16' tall, healthy, recovered from 2007 freeze, flowers/fruit
2009	(1)	16' tall, healthy, slow growth, flowers/fruit

***Haematoxylum brasiletto*** 89-0061 Yuma – planted March 1992 (3 plants)

1992	(3)	1.5-3' tall, healthy, slow to moderate growth
1993	(3)	4-7' tall, healthy, moderate to fast growth, all=flowers/fruit in 1993
1994	(3)	6.5-9' tall, healthy, vigorous, flowers/fruit
1995	(3)	all=10' tall, healthy, slow to moderate growth, flowers/fruit
1996	(3)	10-13' tall, healthy, slow to moderate growth, flowers/fruit
1997	(3)	12-14' tall, healthy, slow to moderate growth, flowers/fruit, attractive upright growth form w/ anastomosing trunk and limbs.
1999	(3)	11-14' tall, healthy, slow growth, flowers/fruit
2000	(3)	14-18' tall, healthy, moderate growth, flowers/fruit
2001	(3)	14-19' tall, healthy, slow growth, flowers/fruit
2002	(3)	14-22' tall, healthy, slow to moderate growth, flowers/fruit
2004	(3)	1=25' tall, poor condition-most trunks appear to be dead-cause undetermined but no evidence of gophers, 2=16'/18' tall, healthy, slow growth, flowers/fruit
2005	(3)	15'/18'/25' tall, 1=fair condition/2=healthy, flowers/fruit
2006	(3)	13'/15'/19' tall, all healthy now, little apparent growth, flowers/fruit
2007	(3)	13'/15'/19' tall, stems froze back 1-2' from tips, healthy, vigorous growth, flowers/fruit
2008	(3)	16'/16'/22' tall, healthy, recovered from 2007 freeze, flowers/fruit
2009	(3)	17'/18'/23' tall, healthy, slow growth, flowers/fruit

***Haematoxylum* sp. nov.** s.n. Yuma – planted February 1996 (2 plants)

1997	(2)	3'/3.5' tall, healthy, slow growth
1999	(2)	3'/3.5' tall, healthy, little apparent growth
2000	(2)	3'/3.5' tall, healthy but no apparent growth
2001	(2)	3.5'/5' tall, healthy, slow growth, 1=flowers/fruit in 2001
2002	(2)	3.5'/5' tall, healthy, little change in size, 1=flowers/fruit
2004	(2)	6.5'/8' tall, healthy, slow growth, both=flowers/fruit
2005	(2)	8.5'/10' tall, healthy, moderate growth, flowers/fruit
2006	(2)	7'9' tall, healthy, little apparent growth, flowers/fruit
2007	(2)	8'/10' tall, no apparent freeze damage, healthy, slow growth, flowers/fruit
2008	(2)	9'/10' tall, healthy, slow growth, flowers/fruit
2009	(2)	10'/13' tall, healthy, slow growth, flowers/fruit

***Havardia mexicana*** 89-0159 Tucson (CAC field 6) – planted April 1990 (3 plants)

1991	(3)	3' tall x 6' spread, no freeze damage, healthy, vigorous
1992	(3)	5-8' tall, no freeze damage, healthy, vigorous, first flowers/fruit in 1992
1993	(3)	6-8' tall, no freeze damage, healthy, vigorous, flowers/fruit
1994	(3)	7-14' tall, no freeze damage, healthy, flowers/fruit
1997	(3)	1=died in 1996-shade/crowding from adjacent trees, 2=no freeze damage, healthy, flowers/fruit
2001	(2)	no freeze damage, 1=14'tall, fair -impacted by shading, 1=22' tall, healthy, flowers/fruit
2004	(2)	no freeze damage, 1=15' tall, poor condition-most of plant dead-drought?, 1=25' tall, healthy, flowers/fruit

- 2006 (2) 1=15' tall, died in 2005 due to insufficient irrigation and possibly poor root structure, 1=30' tall, no freeze damage, healthy, flowers/fruit  
 2007 (1) 30' tall, no freeze damage, healthy, flowers/fruit

***Havardia mexicana*** 89-0159 Tucson (CAC field 6) – planted September 1990 (6 plants)

- 1991 (6) 2-3' tall, no freeze damage, healthy  
 1992 (6) 5-8' tall, no freeze damage, healthy, vigorous, first flowers/fruit in 1992  
 1993 (6) 6-9' tall, no freeze damage, healthy, flowers/fruit  
 1994 (6) 7-10' tall, no freeze damage, healthy, flowers/fruit  
 1997 (6) 1=died in 1996-cause undetermined, 5=no freeze damage, healthy, flowers/fruit  
 2001 (5) 17-20' tall, no freeze damage, healthy, flowers/fruit  
 2004 (5) 18-25' tall, no freeze damage, healthy, flowers/fruit  
 2006 (5) 10'/16'/23'/26'/28' tall, no freeze damage, 3=considerable stem die-back due to insufficient irrigation, 2=no die-back, overall healthy, flowers/fruit  
 2007 (5) 3-30' tall, no freeze damage, 2 smallest plant=poor condition, mostly dead with considerable die-back-possibly j-rooted and drought stressed, 3=healthy, flowers/fruit

***Havardia pallens*** 89-0157 Tucson (CAC field 6) – planted April 1990 (4 plants)

- 1991 (4) 1.5'-3' tall, minor twig damage, healthy  
 1992 (4) 7-8' tall, no freeze damage, healthy, vigorous, flowers/fruit in 1991, 1992  
 1993 (4) 7-8' tall, minor stem tip damage, healthy, flowers/fruit  
 1994 (4) 7-9' tall, minor twig die-back (to 1' from tips), healthy, flowers/fruit  
 1997 (4) 8-12' tall, minor twig freeze damage, healthy, flowers/fruit  
 2001 (4) 7-10' tall, some twig freeze damage in past winters, healthy but shows drought stress early, flowers/fruit  
 2004 (4) 7-9' tall, stems froze back to 1' from tips, healthy but some drought stress, flowers/fruit  
 2006 (4) 7.5'/7.5'/8'/9' tall, stems froze back to 6" from tips, healthy, flowers/fruit  
 2007 (4) 7'/7'/8'/8.5' tall, stems froze back to 1' from tips, healthy, flowers fruit

***Havardia sonorae*** 89-0066 Yuma – planted March 1992 (4 plants)

- 1992 (4) 1-3.5' tall, healthy, slow to moderate growth  
 1993 (1) 1=died in 1993-cause undetermined, 3=4-7' tall, healthy, moderate growth, 1=flowers/fruit in 1993  
 1994 (3) 3-9' tall, healthy, slow to moderate growth, flowers/fruit  
 1995 (3) 7.5-10' tall, healthy, slow to moderate growth, flowers/fruit  
 1996 (3) 1=7' tall, healthy but a ground-hugging mass of stems, little growth, 2=11'/12' tall, healthy, slow growth, flowers/fruit  
 1997 (3) 10-14' tall, healthy, slow to moderate growth, 2=flowers/fruit  
 1999 (3) 8-15' tall, healthy, slow growth, all=flowers/fruit  
 2000 (3) 1=6' tall, healthy, a mass of intertwined stems-heavily pruned, 2=14'/15' tall, healthy, little height increase, pruned up to reveal attractive bark, all 3=flowers/fruit  
 2001 (3) 1=6.5' tall, healthy but still a twining mass, 2=17'/22' tall, healthy, moderate to fast growth, flowers/fruit  
 2002 (3) 1=8' tall, healthy, slow growth (twining), 2=18-23' tall, healthy, slow growth, flowers/fruit  
 2004 (3) 1=7' tall, healthy but little growth and apparently permanently dwarfed, 2=19'/22' tall, healthy, slow growth, flowers/fruit  
 2005 (3) 1=6.5' tall, healthy but still a low thicket, 2=19'/23' tall, healthy, slow growth, flowers/fruit  
 2006 (3) 8'/20'/22' tall, healthy, little apparent growth and small plant remains a sprawling thicket, 2 larger plants=flowers/fruit  
 2007 (3) 7'/20'/22' tall, no freeze damage, healthy, 2 larger plants=flowers/fruit  
 2008 (3) 8'/23'/25' tall, healthy, slow to moderate growth, 2 larger plants=flowers/fruit

2009 (3) 9'/ca. 25'/ca. 25' tall, healthy, slow growth, 2 larger plants-flowers/fruit

*Indigofera sphaerocarpa* 88-0059 Tucson (CAC field 6) – planted June 1989 (3 plants)

1990 (3) data missing  
 1991 (3) data missing  
 1992 (3) 3-4.5' tall, some twig die-back, healthy, vigorous but brittle stems, flowers/fruit in 1991, 1992  
 1993 (2) 1=dead-cause undetermined, 1=5' tall, no freeze damage, healthy, flowers/fruit, these subsequently declined and died later in 1993-senescent

*Indigofera sphaerocarpa* 88-0068 Tucson (CAC field 6) – planted June 1989 (4 plants)

1990 (4) no freeze damage, healthy, flowers/fruit in 1990  
 1991 (4) 4' tall, no freeze damage, healthy, flowers/fruit  
 1993 (4) 3-5' tall, no freeze damage, healthy, flowers/fruit  
 1994 (4) 4-5' tall, 1=dead (senescent), 3=some stems dead, healthy, vigorous, flowers/fruit in 1993, these plants gradually declined and died in 1995-1996-senescent

*Indigofera sphaerocarpa* 89-0379 Tucson (CAC field 3) – planted summer 1997 (4 plants)

2000 (4) 3=died in 1998-1999-cause undetermined, 1=5' tall, no freeze damage, healthy, flowers/fruit  
 2004 (1) died ca. 2000-2001-short-lived

*Leucaena greggii* 88-0015 Tucson (CAC field 6) – planted June 1989 (4 plants)

1990 (4) no damage, healthy, flowers in 1990  
 1991 (4) 5' tall, minor freeze damage, healthy, flowers  
 1992 (4) 4.5-7' tall, minor stem tip damage, some stems died due to rodent gnawing, healthy, vigorous, flowers/fruit  
 1993 (4) 5'-8' tall, some stems frozen, healthy (some stems girdled by rabbits), flowers/fruit  
 1994 (4) 5-8' tall, some stems frozen, others undamaged, healthy, flowers/fruit  
 1997 (4) 5-12' tall, 2=healthy, 2=fair (shade from Acacia visco), some die-back 2-4' from stem tips  
 2001 (4) 1=dead ca. 1998-cause undetermined, 3=7-14' tall, no freeze damage, healthy, flowers/fruit  
 2004 (3) 8-14' tall, no freeze damage, healthy  
 2006 (3) 1=dead 2005-cause undetermined, 2=9'/13' tall, no freeze damage, healthy some flowers/fruit  
 2007 (2) 8.5'/12' tall, no freeze damage, some stems with die-back-apparently typical for this species, fair condition

*Leucaena lanceolata* 89-0032 Yuma – planted March 1991 (1 plant)/March 1992 (1 plant)

1991 (1) 6' tall, healthy, fast growth, flowers/fruit in fall 1991  
 1992 (2) 5'/8' tall, healthy, fast growth, both=flowers/fruit  
 1993 (2) 10'/14', healthy, vigorous growth, flowers/fruit  
 1994 (2) 15'/20' tall, healthy, vigorous growth, flowers/fruit  
 1995 (2) 15'/18' tall, healthy, vigorous though little increase in height, flowers/fruit  
 1996 (2) 18'/21' tall, healthy, moderate growth, flowers/fruit  
 1997 (2) 20'/25' tall, healthy, slow to moderate growth, flowers/fruit  
 1999 (2) 20'/25' tall, healthy, little height increase, flowers/fruit  
 2000 (2) 20'/25' tall, healthy, little change in size, flowers/fruit, brittle stems can break in wind  
 2001 (2) 27'/30' tall, healthy, moderate to rapid growth, flowers/fruit  
 2002 (2) 27'/30' tall, healthy, little change in size, flowers/fruit  
 2004 (2) 1=appears to have died in 2004-cause undetermined-this area was burned but the fire was kept away from the trunk of this plant, 1=30' tall, healthy, slow growth, flowers/fruit  
 2005 (1) 27' tall, healthy, slow growth, flowers/fruit  
 2006 (1) ca. 27' tall, healthy, little apparent growth, flowers/fruit  
 2007 (1) 27' tall, stems froze back to 20' from tips to limbs 5" thick, healthy, vigorous regrowth, no flowering

2008 (1) died in 2008-cause undetermined, had been recovering from 2007 freeze

***Leucaena leucocephala*** 88-0016 Tucson (CAC field 6) – planted May 1989 (3 plants)

1990 (3) froze to near ground, vigorous regrowth  
 1991 (3) 12' tall, froze to ground, vigorous regrowth, flowers/fruit  
 1992 (3) 15' tall, some stems froze back 8' from tip but others had only slight die-back, vigorous regrowth, flowers/fruit  
 1993 (3) 12-18' tall, froze to ground (to stems 5" in diameter), vigorous regrowth, flowers/fruit  
 1994 (3) 12-15' tall, froze to ground, vigorous regrowth, flowers/fruit  
 1997 (3) 15-20' tall, froze to ground, healthy, vigorous, flowers/fruit  
 2001 (3) 1=dead 2001-drought, 2=8.5/15 tall, freeze to ground each winter, healthy regrowth, some flowering but pods usually freeze before ripening  
 2004 (2) 12'/22' tall, froze to base-regrowing, fair condition-drought stress  
 2006 (2) both froze to ground, 1=4.5' tall, poor condition, base green but no growth yet, 1=10' tall, vigorous regrowth, healthy  
 2007 (2) 4'/9' tall, froze to base, both died-insufficient irrigation with repeated freezing

***Leucaena leucocephala*** 89-0031 Yuma – planted March 1991 (2 plants)

1991 (2) both 10' tall, healthy, vigorous growth, flowers/fruit in fall 1991  
 1992 (2) 15'/15' tall, healthy, vigorous growth, flowers/fruit  
 1993 (2) 20'/20' tall, healthy, vigorous growth, flowers/fruit  
 1994 (2) 30'/30' tall, healthy, extremely vigorous growth, flowers/fruit  
 1995 (2) 30'/30' tall, healthy, vigorous, flowers/fruit  
 1996 (2) 30'/30' tall, healthy, vigorous, flowers/fruit  
 1997 (2) 32'/35' tall, healthy, vigorous, flowers/fruit-seedlings volunteering in field are a problem  
 1999 (2) 30'/30' tall, healthy, vigorous but little height increase, flowers/fruit  
 2000 (2) 30'/30' tall, healthy, little change in size, flowers/fruit  
 2001 (2) 35'/35' tall, healthy, vigorous, flowers/fruit, numerous volunteer seedlings are a major problem  
 2002 (2) both ca. 40' tall, healthy, vigorous, flowers/fruit  
 2004 (2) both ca. 40' tall, healthy, vigorous, flowers/fruit, this species is a serious weed in areas with sufficient moisture  
 2005 (2) both ca. 40' tall, healthy, little change in size, flowers/fruit  
 2006 (2) both ca. 40' tall, healthy, little change in size, flowers/fruit  
 2007 (2) both ca. 40' tall, no apparent freeze damage, healthy, flowers/fruit  
 2008 (2) both ca. 40' tall, healthy, little change in size, flowers/fruit  
 2009 (2) both ca. 45' tall, healthy, appear to have grown in past year, flowers/fruit

***Leucaena pulverulenta*** 90-0382 Yuma – planted March 1992 (2 plants)

1992 (2) 1=1' tall, fair condition-severe browsing, 1=4' tall, healthy, moderate growth, minor browsing  
 1993 (2) 4'/6' tall, healthy, moderate growth, some browsing  
 1994 (2) 7.5'/9.5' tall, healthy, vigorous growth  
 1995 (2) 9'/10' tall, healthy, vigorous but slow height increase  
 1996 (2) 12'/13' tall, healthy, moderate growth  
 1997 (2) 14'/15' tall, healthy, slow growth, no evidence of flowering  
 1999 (2) 15'/15' tall, healthy, slow growth  
 2000 (2) 18'/18' tall, healthy, moderate growth  
 2001 (2) 20'/20' tall, healthy, slow growth, no evidence of flowering  
 2002 (2) 20'/20' tall, healthy, little change in size  
 2004 (2) 25'/25' tall, healthy, moderate growth, no flowering has been observed on these plants  
 2005 (2) 25'/25' tall, healthy, little change in size, no evidence of flowering  
 2006 (2) 22'/25' tall, healthy, little apparent growth, no flowering

2007 (2) 22'/25' tall, no freeze damage, healthy but little change in size  
 2008 (2) both ca. 30' tall, healthy, substantial growth in the past year  
 2009 (2) ca. 30'/ca. 35' tall, healthy, height increasing, no evidence of flowering

***Leucaena pulverulenta*** 90-0382 Tucson (CAC field 6) – planted April 1992 (1 plant)

1993 (1) 3' tall, froze to ground, vigorous regrowth, flowers  
 1994 (1) 6.5' tall, froze to ground, rapid regrowth  
 1995 (1) 8' tall, minor freeze damage with twig-tips killed, healthy, vigorous, flowers in 1994  
 1997 (1) 14' tall, froze back approx. 8' from stem tips (to limbs 2" in diameter), healthy, vigorous, flowers/fruit  
 2001 (1) 16' tall, froze back to stems 1" in diameter, healthy, vigorous  
 2004 (1) 17' tall, froze back to stems 2" in diameter, vigorous recovery  
 2006 (1) 22' tall, most stems froze back 1-2' from tips, healthy, vigorous  
 2007 (1) 20' tall, froze back to limbs 3" thick, fair condition, healthy regrowth

***Leucaena retusa*** 88-0017 Tucson (CAC field 6) – planted June 1989 (2 plants)

1990 (2) no freeze damage, healthy  
 1991 (2) 4' tall, no freeze damage, healthy, flowers/fruit in 1990  
 1992 (2) 4' tall, no freeze damage, extensive gnawing girdled many stems causing them to die - 1 plant resprouting from base, flowers/some fruit 1991, flowers on 1 plant in 1992  
 1993 (2) both plants died in 1992 due to girdling damage caused by rabbits

***Leucaena retusa*** 90-0414 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000 (2) 2'/3.5' tall, no freeze damage, healthy, 1=flowers in spring 2000  
 2004 (2) 1=3.5' tall, no freeze damage, fair condition, 1=6' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 4'/7' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 4.5'/6.5' tall, no freeze damage, healthy, flowers/fruit

***Leucaena retusa*** 04-0011 Tucson (CAC field 6) – planted August 1991 (2 plants)

1992 (2) data missing  
 1993 (2) no freeze damage, 1=5' tall, healthy, flower, 1=3' tall, girdled by rabbits-regrowing but subsequently died  
 1994 (1) 7' tall, no freeze damage, girdled by rabbits, healthy regrowth from base  
 1995 (1) 6' tall, healthy, no freeze damage  
 1997 (1) data missing  
 2001 (1) data missing-this plant has been killed to the ground by rabbits several times and appears to have been overlooked  
 2004 (1) 5' tall, no freeze damage, healthy  
 2006 (1) 6' tall, no freeze damage, healthy but some dead stems typical for this species, flowers/fruit  
 2007 (1) 5.5' tall, no freeze damage, healthy with typical twig death

***Lonchocarpus capassa*** 90-0493 Yuma – planted March 1992 (6 plants)

1992 (6) 2-5' tall, healthy, slow to moderate growth  
 1993 (6) 3-7' tall, healthy, slow to moderate growth  
 1994 (6) 5-11' tall, healthy, moderate growth  
 1995 (6) 1=5' tall, fair condition-chlorotic, little growth, 5=8-11' tall, healthy, slow to moderate growth  
 1996 (6) 4-14' tall, fair (1) to good (5) condition, moderate growth  
 1997 (6) 1=5' tall, healthy but slow growth, 5=14-18' tall, healthy, vigorous growth, flowers/fruit in 1996  
 1999 (6) 1=7.5' tall, healthy but slow growth, 5=15-23' tall, healthy, vigorous, flowers/fruit  
 2000 (6) 1=8' tall, healthy, slow growth, 5=16-23' tall, healthy, little size increase, flowers/fruit  
 2001 (6) 1=9' tall, healthy, slow growth, 5=17-25' tall, healthy, slow growth, 3=flowers/fruit

2002	(6)	1=9' tall, healthy, little or no growth, 5=17-25' tall, healthy, little change in size, 3=flowers/fruit (other 2 to north may be shaded by the trees to south)
2004	(6)	1=12' healthy, slow growth, 5=25-30' tall, healthy, moderate to fast growth, 3= flowers/fruit, despite their large leaves, these plants have done exceptionally well here and make excellent shade trees with a dense canopy and have an attractive appearance
2005	(6)	13'/17'/20'/25'/25' tall, healthy, vigorous, 4 largest=flowers/fruit
2006	(6)	14'/18'/25'/25'/25'/30' tall, healthy, vigorous, 3 southern plants only=flowers/fruit
2007	(6)	14'/18'/25'/25'/25'/30' tall, some twigs froze back to 3' from tips and foliage froze, healthy, vigorous regrowth, 3=flowers/fruit
2008	(6)	16'/20'/22'/28'/28'/30' tall, healthy, recovered from 2007 freeze, 3=flowers/fruit
2009	(6)	16'/ca. 28'/ca. 28'/ca. 30'/ca. 35'/ca. 35' tall, healthy, slow to moderate growth, 3=flowers/fruit

***Lonchocarpus capassa* 90-0493 Tucson (CAC field 6) – planted April 1994 (1 plant)**

1995	(1)	1.5' tall, froze to ground, chlorotic regrowth
1997	(1)	2' tall, froze to ground, vigorous regrowth
2001	(1)	2' tall, freezes to ground each winter, healthy growth-an amazing survivor
2004	(1)	2' tall, froze to ground, recovering
2006	(1)	6" tall, froze to ground, new growth is chlorotic this year
2007	(1)	1.5' tall, died-froze and did not recover, this amazing plant struggled for many years before dying

***Lonchocarpus hermannii* 90-0023 Yuma – planted March 1992 (3 plants)/January 1994 (3 plants)**

1992	(3)	6" -1.5' tall, fair to poor condition, slow growth
1993	(3)	all=3' tall, healthy, slow growth
1994	(6)	1-7' tall, healthy, slow to moderate growth
1995	(6)	1-9' tall, healthy, slow growth
1996	(6)	1-10' tall, healthy, slow growth
1997	(6)	1-14' tall, fair to good condition, slow to moderate growth, 2=flowers/fruit in 1996
1999	(6)	2-15' tall, fair to good condition, slow growth, 3=flowers/fruit
2000	(6)	2-18' tall, fair to good condition, slow to moderate growth, 4=flowers/fruit
2001	(6)	2-20' tall, healthy, slow growth, 3=flowers/fruit
2002	(6)	2-20' tall, healthy, little change in size, 3=flowers/fruit
2004	(6)	3-26' tall, healthy, slow to moderate growth, 3=flowers/fruit
2005	(6)	3'/10'/14'/15'/17'/20' tall, healthy, little change in size, 4=flowers/fruit
2006	(6)	3'/12'/15'/17'/19'/22' tall, healthy, slow growth, 5=flowers/fruit
2007	(6)	1.5'/12'/15'/17'/19'/22' tall, some stems froze back to 1' from tips and only minor leaf damage, healthy, 4=flowers/fruit
2008	(6)	2'/12'/15'/18'/18'/30' tall, healthy, substantial growth on largest tree, 4=flowers/fruit
2009	(6)	6'/14'/15'/25'/25'/ca. 35' tall, healthy, vigorous growth in the past year, 4=flowers/fruit

***Lotus wrightii* 88-0039 Tucson (CAC field 6) – planted May 1989 (8 plants)**

1990	(8)	3=dead-cause undetermined, 5=slight die back, healthy
1991	(5)	froze to ground, vigorous regrowth, flowers/fruit
1992	(5)	3=dead-cause undetermined, 2=froze to ground, healthy regrowth, flowers/fruit
1993	(1)	1=dead-cause undetermined, 1=froze to ground, recovering, flowers/fruit 1992
1994	(1)	dead-senescent?

***Lysiloma candidum* 91-0249 Yuma – planted March 1993 (6 plants)**

1993	(6)	2-7' tall, healthy, moderate to fast growth
1994	(6)	1=died in 1994-cause undetermined, 5=4-10' tall, healthy, moderate growth
1995	(5)	5-13' tall, healthy, slow to moderate growth
1996	(5)	6-17' tall, healthy, slow to moderate growth

1997	(5)	7.5-15' tall, healthy, slow growth, no evidence of flowering
1999	(5)	1=8' tall/4=20' tall, healthy, slow to fast growth
2000	(5)	1=8.5' tall, healthy, slow growth, 4=24' tall, healthy, moderate growth, flowers/fruit in 2000
2001	(5)	1=10' tall, healthy, slow growth, 4=ca. 25' tall, healthy, slow growth, flowers/fruit
2002	(5)	1=10' tall, healthy, little size change, 4=30' tall, healthy, moderate growth, perhaps some flowers/fruit in summer
2004	(5)	1=appears to have died in 2004-cause undetermined but trunk may have been scorched by fire, 1=30' tall, poor condition-top is mostly dead-may have been damaged by fire, stems sprouting from base, 1=10' tall, fair condition, little apparent growth-perhaps j-rooted when planted, 2=30' tall, healthy (no fire damage), little change in size, flowers/fruit
2005	(5)	1=died-cause undetermined, 4=10' 12'/35'/35' tall, healthy overall
2006	(4)	1=30' tall, fair condition, 3=11'/12'/30' tall, healthy, no apparent growth, no evidence of flowering
2007	(4)	highly variable response to freeze: 1=30' tall, dead-apparently froze, 1=10' tall, dead-froze, 1=12' tall, froze to base to stems 4" thick, healthy, vigorous regrowth, 1=30' tall, no apparent freeze damage, healthy
2008	(2)	1=dead-cause undetermined-30' tall plant that had survived the 2007 with no damage, 1=15' tall, healthy, vigorous growth following 2007 freeze
2009	(1)	12' tall, healthy, little growth

***Lysiloma divaricatum* 89-0067 Tucson (CAC field 6) – planted April 1990 (4 plants)**

1991	(4)	to 5.5' tall, froze back to near ground, vigorous regrowth
1992	(4)	1=dead-froze, 3=5' tall, froze to ground, vigorous regrowth
1993	(3)	4' tall, froze to ground, slow regrowth
1994	(3)	6" tall, all dead-repeated browsing and freezing, and shade from adjacent trees

***Lysiloma divaricatum* 89-0067 Yuma – planted March 1991 (4 plants)**

1991	(4)	all=2' tall, healthy, slow growth
1992	(4)	1.5-2.5' tall, healthy, little or slow growth
1993	(4)	1-3' tall, fair to good condition, slow growth, some browsing
1994	(4)	1.5-5' tall, healthy, slow to moderate growth
1995	(4)	2-6' tall, healthy, slow growth
1996	(4)	2-7.5' tall, healthy, slow growth, 1=flowers/fruit in 1995
1997	(4)	2-8' tall, fair to good condition, slow growth, 2-flowers/fruit in 1996
1999	(4)	4-11' tall, fair to good condition, slow to moderate growth, 3=flowers/fruit
2000	(4)	6.5-13' tall, fair to good condition, slow to moderate growth, 3=flowers/fruit
2001	(4)	7-12' tall, healthy, slow growth, 3=flowers/fruit
2002	(4)	8-12' tall, healthy, slow growth, 3=flowers/fruit
2004	(4)	11-15' tall, healthy, slow growth, all=flowers/fruit
2005	(4)	11'/12'/13'/15' tall, healthy, little change in size, flowers/fruit
2006	(4)	12'/14'/16'/16' tall, healthy, slow growth, flowers/fruit
2007	(4)	10'/12' /17'/20' tall, stems froze back to 1' from tips, healthy, flowers/fruit
2008	(4)	13'/15'/15' tall, healthy, flowers/fruit
2009	(4)	15'/18'/20'/20' tall, healthy, flowers/fruit

***Lysiloma watsonii* 88-0018 Tucson (CAC field 6) – planted May 1989 (10 plants)**

1990	(10)	1=dead-froze, 9=froze to ground, healthy regrowth
1991	(9)	4=removed, 5=3.5' tall, froze to near ground, vigorous regrowth
1992	(5)	3-6' tall, no freeze damage, healthy, vigorous, flowers/fruit in 1992
1993	(5)	4-6' tall, froze back to near ground, vigorous regrowth, flowers/fruit
1994	(5)	4-7' tall, froze back 1-3' from stem tips, vigorous regrowth, flowers/fruit
1997	(5)	4-9' tall, froze back 2-6' from stem tips, healthy, vigorous, flowers/fruit

2001 (5) 6-11' tall, some freeze damage, healthy, vigorous-many stems, flowers/fruit  
 2004 (5) 5-13' tall, most stems froze to  $\frac{1}{2}$ " in diameter, healthy, flowers/fruit  
 2006 (5) 5'/6'/6.5'/7.5'/12' tall, considerable damage with stems frozen back 2-9' from tips, healthy regrowth, some flowers/fruit  
 2007 (5) 3 plants (5'/5'/6' tall) froze to base, 2 with vigorous regrowth and 1 with little new growth, 1 plant 9' tall froze to stems 1" thick, vigorous regrowth, healthy, 1 plant 11' tall froze to stems 2.5" thick with some stems killed to ground, vigorous regrowth, healthy

***Macroptilium atropurpureum*** s.n. Tucson (CAC field 6) – planted August 1991/April 1992

1993 (many) freeze to ground in winter, vigorous regrowth and seedlings  
 1997 (few) these gradually died out, perhaps due to insufficient irrigation. The last of these seem to have disappeared ca. 1998

***Medicago arborea*** 90-0594 Tucson (CAC field 6) – planted 1991 (2 plants)

1992 (2) data missing  
 1993 (2) 2'/4' tall, no freeze damage, healthy, some browsing, flowers/fruit  
 1994 (2) 3'/5' tall, no freeze damage, healthy, flowers/fruit in spring  
 1995 (2) 3.5'-5' tall, no freeze damage, 1=healthy, flowers/fruit, 1=mostly dead-cause undetermined, some growth from base  
 1997 (2) both plants died ca. 1996-cause undetermined. This species does not do well in heavy soils and the plants were frequently browsed by rabbits.

***Medicago arborea*** 90-0594 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000 (3) 2'-2.5' tall, no freeze damage, 1=died following flooding in July 1999, 1=died back following flooding but is recovering-subsequently died later in 2000, 1=healthy, vigorous  
 2004 (1) died ca. 2001-not adapted to heavy soils and perhaps short-lived

***Mimosa aculeaticarpa* var. *biuncifera*** 89-0349 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000 (3) 4-4.5' tall, no freeze damage, healthy, flowers/fruit from 1999.  
 2004 (3) 4-6' tall, no freeze damage, healthy, flowers/fruit  
 2006 (3) 4'/5'/5' tall, no freeze damage, healthy, flowers/fruit  
 2007 (3) 6' tall mass, no freeze damage, healthy, flowers/fruit

***Mimosa asperata*** 90-0380 Tucson (CAC field 6) – planted August 1991 (4 plants)

1992 (4) data missing  
 1993 (4) 1=dead-froze to ground and did not recover, 3=7-8' tall, froze to ground, vigorous regrowth, flowers/fruit in 1992, 1993  
 1994 (3) 8-11' tall, froze to ground, healthy regrowth, flower/fruit  
 1995 (3) 9-11' tall, froze to base, vigorous regrowth, flowers/fruit  
 1997 (3) 5-8' tall, froze to ground, 2=dead-froze, 1=slow regrowth  
 2001 (1) dead and gone ca. 1998, froze to ground each winter, reduced irrigation may have finished last plant

***Mimosa asperata*** 90-0380D Tucson (CAC field 3) – planted summer 1997 (3 plants)/2002 (2 plants)

2000 (3) 2=dead-froze to ground in winter 1998-1999 and did not recover, 1=9' tall, froze to ground, vigorous regrowth, flowers/fruit  
 2004 (1 + 2 replacements) 7-8' tall, froze to ground, vigorous recovery, healthy, flowers/fruit  
 2006 (3) 6'/7.5'/7.5' tall, froze to ground, vigorous recovery, flowers/fruit  
 2007 (3) 6'/8'/9' tall, froze to ground, vigorous recovery, healthy, flowers/fruit

***Mimosa distachya* var. *laxiflora*** 89-0293 Tucson (CAC field 6) – planted April 1990 (4 plants)

1991 (4) 1=dead-froze, 3=to 5' tall, froze to ground, vigorous regrowth, flowers/fruit 1990, 1991

1992	(3)	1=died in 1991-cause undetermined, 2=6-8' tall, slight tip damage, healthy, vigorous, flowers/fruit
1993	(2)	7'/8' tall, severe freeze damage (stems killed to 1" in diameter), froze to ground, healthy regrowth, flowers/fruit
1994	(2)	7' tall, 1=stems froze back 1-3' from tips, 1=froze to ground, healthy regrowth, flowers/fruit
1997	(2)	8' tall, 1=froze to ground, regrowing, 1=die-back 1-2" from stem tips, healthy, flowers/fruit
2001	(2)	1=dead in 1999-gophers?, 1=6' tall, freezes to near ground each winter, flowers/fruit
2004	(1)	6' tall, stems froze back 1' from tips, healthy, flowers/fruit
2006	(1)	7' tall, stems froze back to 1' from tips, healthy, flowers/fruit
2007	(1)	7.5' tall, froze to ground, died-cause undetermined as it has survived previous freezes

***Mimosa distachya* var. *laxiflora*** 90-0244 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000	(2)	7' tall, stems froze back 1-6' from tips, vigorous regrowth, healthy, flowers/fruit from 1999
2004	(2)	7'/8' tall, most stems froze back to near ground, vigorous recovery, healthy, flowers/fruit
2006	(2)	7'/8' tall, some stems froze back to 2' from tips, healthy, flowers/fruit in 2005
2007	(2)	7'/8' tall, all outer stems froze back to 6' from tips (to 1" thick), vigorous recovery

***Mimosa dysocarpa*** 88-0026 Tucson (CAC field 6) – planted May 1989 (9 plants)

1990	(9)	no freeze damage, healthy
1991	(9)	2-4' tall x to 6' spread, no freeze damage, healthy, vigorous, flowers/fruit, 4 plants removed
1992	(5)	3-5' tall, some natural die-back of stems 1-1.5' from tips, healthy, flowers/fruit
1993	(5)	3-5' tall, some die-back in winter, healthy, vigorous growth, flowers/fruit
1994	(5)	3-5' tall, some stems killed back to 2' from tips, healthy, flowers/fruit
1997	(5)	3-5' tall, some stems died back 1-2" from tips, healthy, flowers/fruit
2001	(5)	4-6' tall, 3 of original plants still alive + volunteers, healthy, flowers/fruit
2004	(8)	4-7' tall, 3 of original plants + volunteers, fair condition-drought stress, few flowers/fruit
2006	(8)	3-7' tall, stems froze back 1-3' from tips, fair condition, flowers/fruit in 2005
2007	(8)	3-6' tall, several have died-drought stress, variable damage w/ some stems frozen back 1=2' from tips, fair condition

***Mimosa dysocarpa*** 88-0026 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000	(3)	6' tall, some stems froze back 2-4' from tips, healthy, vigorous, flowers/fruit
2004	(3)	7-8' tall, no apparent freeze damage, healthy, flowers/fruit
2006	(3)	6-7.5' tall, most stems froze back 1-3' from tips, healthy, flowers/fruit
2007	(3)	6.5-7.5' tall, stems froze back to near base (to 1.5" thick), vigorous regrowth

***Mimosa emoryana*** 91-0231 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993	(2)	2'/2.5' tall, no freeze damage, healthy
1994	(2)	3' tall by 5' wide, no freeze damage, healthy, flowers/fruit in 1993, 1994
1995	(2)	4'/5' tall, no freeze damage, healthy, flowers/fruit
1997	(2)	6' tall, no freeze damage, healthy, flowers/fruit
2001	(2)	6' tall, no freeze damage, healthy, flowers/fruit
2004	(2)	6'/8' tall, no freeze damage, healthy, flowers/fruit
2006	(2)	5.5'/7.5' tall, no freeze damage, healthy but with some dead stems-insufficient irrigation (?), flowers/fruit
2007	(2)	6.5'/7' tall, no freeze damage, healthy, flowers/fruit

***Mimosa emoryana*** 91-0231 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000	(3)	4-5' tall, no freeze damage, healthy, flowers/fruit from 1999
2004	(3)	7' tall, no freeze damage, healthy, flowers/fruit
2006	(3)	6.5'/7'/7' tall, no freeze damage, healthy, flowers/fruit
2007	(3)	6.5'/7'/7' tall, no freeze damage, healthy, flowers/fruit

***Mimosa ephedroides*** 91-0487 Tucson (CAC field 6) – planted 1994 (2 plants)

1995	(2)	2.5' tall, minor freeze damage to stem tips, healthy, flowers in 1994
1997	(2)	4'/5' tall, some stems froze back to 2' from tips on one plant only, healthy, flowers/fruit
2001	(2)	6' tall, no freeze damage, healthy, flowers/fruit
2004	(2)	6'/7' tall, no freeze damage, healthy, flowers/fruit
2006	(2)	6.5'/7.5' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	6.5'/7' tall, no freeze damage, healthy, flowers/fruit

***Mimosa ephedroides*** 91-0487D Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000	(3)	5' tall, no freeze damage, healthy, flowers/fruit from 1999
2004	(3)	6-7.5' tall, no freeze damage, healthy, flowers/fruit
2006	(3)	6.5'/7.5' tall, no freeze damage, healthy, flowers/fruit
2007	(3)	6'7'/7.5' tall, no freeze damage, healthy, flowers/fruit

***Mimosa farinosa*** 91-0482 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993	(2)	2' tall, some die-back of stems to 1/8" in diameter, defoliated, vigorous growth, flowers in spring 1993
1994	(2)	5'/7' tall; no freeze damage, healthy, flowers/fruit
1995	(2)	8' tall, no freeze damage, vigorous, flowers/fruit-seedlings coming up in field
1997	(2)	10'/11' tall, no freeze damage, healthy, vigorous, flowers/fruit-numerous seedlings are germinating in the field
2001	(2)	12'/13' tall, no freeze damage, healthy, flowers/fruit-no new seedlings since irrigation was curtailed
2004	(2)	14'/17' tall, no freeze damage, healthy, some seedlings continue to establish in field, flowers/fruit
2006	(2)	13'/16' tall, no freeze damage, healthy, some surviving seedlings, flowers/fruit
2007	(2)	11'/14' tall, no freeze damage, healthy, flowers/fruit

***Mimosa farinosa*** 91-0482D Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000	(2)	6.5'/7' tall, no freeze damage, healthy, flowers/fruit from 1999
2004	(2)	10' tall, no freeze damage, healthy, flowers/fruit
2006	(2)	10'/11' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	11'/11' tall, no freeze damage, healthy, flowers/fruit

***Mimosa grahamii*** 88-0036 Tucson (CAC field 6) – planted June 1989 (1 plant)

1990	(1)	no freeze damage
1991	(1)	2' tall, no freeze damage, flowers/fruit
1992	(1)	2' tall, no freeze damage, healthy, flowers/fruit
1993	(1)	2' tall, no freeze damage, healthy, flowers/fruit
1994	(1)	2' tall, no freeze damage, healthy, flowers/fruit
1997	(1)	3' tall, no freeze damage, healthy, flowers/fruit
2001	(1)	1' tall, no freeze damage, poor condition due to browsing and drought
2004	(1)	1' tall, no freeze damage, fair condition due to browsing and drought
2006	(1)	1' tall, no freeze damage, fair condition due to browsing and drought stress
2007	(1)	8" tall, apparently died-drought stress and gophers

***Mimosa grahamii*** 88-0036 Tucson (CAC field 3) – planted summer 1997 (1 plant)

2000	(1)	1.5' tall, no freeze damage, healthy, flowers/fruit in spring 2000
2004	(1)	died ca. 2001-cause undetermined

***Mimosa malacophylla*** 90-0415 Tucson (CAC field 3) – planted March 1998 (2 plants)

2000	(2)	3'/4' tall, froze to ground, healthy, vigorous recovery
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2004 (2) 6' tall, most stems froze to ground, vigorous recovery, healthy, flowers/fruit  
 2006 (2) 6' tall, froze to ground, vigorous recovery, healthy, flowers/fruit in 2005  
 2007 (2) 4' tall mass, froze to ground, vigorous recovery, healthy

***Mimosa palmeri*** 90-0022 Yuma – planted March 1992 (3 plants)

1992 (3)	4-6.5' tall, healthy, moderate to fast growth
1993 (3)	7-9' tall, healthy, vigorous, all=flowers/fruit in 1993
1994 (3)	7.5-11' tall, healthy, vigorous, flowers/fruit
1995 (3)	10-13' tall, healthy, moderate growth, flowers/fruit
1996 (3)	11-15' tall, healthy, slow growth, flowers/fruit
1997 (3)	12-15' tall, healthy, slow growth, flowers/fruit
1999 (3)	14-17' tall, healthy, slow growth, flowers/fruit
2000 (3)	14-17' tall, healthy, little size increase, flowers/fruit
2001 (3)	15-18' tall, healthy, slow growth, flowers/fruit in abundance each year
2002 (3)	15-20' tall, healthy, slow growth, flowers/fruit
2004 (3)	15-20' tall, healthy, little change in size, flowers/fruit
2005 (3)	15'/18'/20' tall, healthy, little change in size, flowers/fruit
2006 (3)	15'/15'/15' tall, healthy, no apparent growth, flowers/fruit
2007 (3)	2=15'/16' tall, no apparent freeze damage, 1=18' tall, stems froze back to 4' from tips, all=healthy, flowers/fruit
2008 (3)	16'/17'/20' tall, healthy, recovered from 2007 freeze, flowers/fruit
2009 (3)	16'/17'/20' tall, healthy, little change in size, flowers/fruit

***Mimosa strigillosa*** 90-0513 Tucson (CAC field 6) – planted April 1992 (4 plants)

1993 (4)	8' across, no stem damage but leaves browned-out in winter, vigorous, flowers/fruit
1994 (4)	15' across, no freeze damage, vigorous, flowers/fruit
1995 (4)	25' across, brown-out in winter, healthy, vigorous, flowers/fruit
1997 (4)	20' wide, brown-out with cold, healthy, vigorous, flowers/fruit
2001 (4)	mostly died out from drought but small patches persist in shaded areas, some flowers
2004 (4)	small but healthy patches persist in shaded areas
2006 (4)	appears to have died out-insufficient irrigation and perhaps too much shade

***Mimosa strigillosa*** 90-0513 Tucson (CAC field 3) – planted summer 1997 (4 plants)

2000 (4)	8-10' across, stems brown out in winter, healthy, flowers/fruit
2004 (4)	15' across, stems brown out in winter, healthy, flowers/fruit
2006 (4)	mass 15' across, stems brown out in winter, vigorous growth, flowers/fruit
2007 (4)	mass 10' x 20', stems brown out in winter, vigorous growth, flowers/fruit

***Mimosa xanti*** 89-0038 Yuma – planted March 1991 (2 plants)

1991 (2)	1.5'/2' tall, healthy, spreading growth habit
1992 (2)	2.5'/6' tall, healthy, moderate growth
1993 (2)	5'/8' tall, healthy, moderate growth
1994 (2)	6.5'/9' tall, healthy, moderate growth
1995 (2)	8'/8' tall, healthy, slow growth-these have formed sprawling thickets, both=flowers/fruits in 1995
1996 (2)	10'/12' tall, healthy, moderate growth, flowers/fruit
1997 (2)	9'/11' tall, healthy, slow growth, flowers/fruit
1999 (2)	10'/11' tall, healthy, vigorous but little height increase, flowers/fruit
2000 (2)	10'/12' tall, healthy, little change in size, flowers/fruit
2001 (2)	6'/9' tall, fair to good condition, smaller due to heavy pruning to remove <i>Baccharis</i> shrubs growing within these plants, flowers/fruit
2002 (2)	6'/9' tall, healthy, slow growth, 1=flowers/fruit

2004 (2) 8'9' tall, healthy, slow growth, 1=flowers/fruit  
 2005 (2) 8'9' tall, healthy, little change in size, 1=flowers/fruit  
 2006 (2) 7'8' tall, healthy, no apparent growth, both=flowers/fruit  
 2007 (2) 5'7' tall, stems froze to base to stems 2" thick, healthy regrowth  
 2008 (2) 6'9' tall, healthy, recovered from 2007 freeze, no flowering  
 2009 (2) 7'8' tall, healthy, little change in size, no flowering

**Mimosa sp.** 89-0107 Tucson (CAC field 6) – planted July 1991 (1 plant)  
 1993 (1) 7' tall, froze to ground, healthy regrowth  
 1994 (1) 8' tall, froze to ground, healthy regrowth, flowers in summer 1993  
 1995 (1) 8' tall, froze to ground, resprouting, flowers  
 1997 (1) 10' tall, froze to ground, vigorous regrowth, flowers  
 2001 (1) dead and missing ca. 1999-cause undetermined but gophers may have killed it

**Mimosa sp.** s.n. Yuma – planted March 1994 (2 plants)  
 1994 (2) 6'6' tall, healthy, vigorous  
 1995 (2) 8'8' tall, healthy, moderate growth, both=flowers/fruit in 1995  
 1996 (2) 9'10' tall, healthy, slow growth, flowers/fruit  
 1997 (2) 10'10' tall, healthy, slow growth, flowers/fruit  
 1999 (2) 10'11' tall, healthy, slow growth, flowers/fruit  
 2000 (2) 10'12' tall, healthy, slow growth, flowers/fruit-several seedlings nearby  
 2001 (2) 8'11' tall, healthy, somewhat smaller due to broken stems, flowers/fruit  
 2002 (2) 8'11' tall, healthy, little change in size, flowers/fruit  
 2004 (2) 8'11' tall, healthy, no apparent change in size, flowers/fruit  
 2005 (2) 8'11' tall, healthy, no change in size, flowers/fruit  
 2006 (2) 12'14' tall, healthy, moderate growth, flowers/fruit  
 2007 (2) 10'11' tall, no freeze damage, healthy, flowers/fruit  
 2008 (2) 11'12' tall, healthy, slow growth, flowers/fruit  
 2009 (2) 12'13' tall, fair condition-both plants appear stressed, no flowering

**Mundulea sericea** 91-0072 Yuma – planted March 1992 (4 plants)  
 1992 (4) 2-3' tall, healthy, slow to moderate growth  
 1993 (4) 2.5-5.5' tall, healthy, slow to moderate growth, all=flowers in 1993 and 1=fruit  
 1994 (4) 3-5' tall, healthy, moderate growth, flowers/fruit  
 1995 (4) 3.5-7' tall, healthy, slow growth, flowers/fruit  
 1996 (4) 4-8' tall, healthy, slow growth, flowers/fruit, attractive multiple-stemmed shrubs  
 1997 (4) 2=died in 1996-gophers may have been responsible, 2=5'9' tall, healthy, slow growth,  
     1=flowers/fruit  
 1999 (2) last 2 plants died in 1998/1999-gophers and perhaps short-lived

**Neptunia pubescens** 90-0508 Tucson (CAC field 6) – planted April 1992 (4 plants)  
 1993 (4) 10' across, stems partially froze, vigorous, flowers/fruit  
 1994 (4) 10' across, killed back to roots, slow recovery  
 1995 (4) data missing  
 1997 (4) apparently died out-cause undetermined but seems to need regular irrigation. Plants may also  
     have been smothered by adjacent *Mimosa strigillosa*.

**Nissolia schottii** 88-0088 Tucson (CAC field 6) – planted June 1989 (3 plants)  
 1990 (3) minor freeze damage, vigorous growth  
 1991 (3) vines to 3' long, froze to ground, vigorous regrowth, flowers/fruit  
 1992 (3) froze to ground, vigorous regrowth, flowers/fruit

1993 (3) froze to ground, vigorous regrowth, rodent problems-1=dead in 1993  
 1994 (2) 2' across, froze to ground, vigorous regrowth, browsed, no flowers  
 1997 (2) dead-these plants were regularly browsed by rabbits and this may have killed them

***Nissolia schottii*** 89-0406 Tucson (CAC field 3) – planted summer 1997 (6 plants)  
 2000 (6) froze to ground, vigorous regrowth, healthy, flowers/fruit  
 2004 (6) 5=dead-missing-cause undetermined, 1=froze to ground, healthy recovery, flowers/fruit  
 2006 (1) apparently dead, but a volunteer plant with flowers and fruit was present in 2010 on a nearby shrub.

***Olneya tesota*** 89-0152 Tucson (CAC field 6) – planted September 1989 (1 plant)  
 1990 (1) no freeze damage, healthy  
 1991 (1) 14" tall, minor freeze damage, healthy  
 1992 (1) 3.5' tall, no freeze damage, healthy, vigorous  
 1993 (1) 4' tall, some stem tips frozen (to 1/8" in diameter), healthy  
 1994 (1) 6' tall, twig die-back to 1' from tip, healthy  
 1997 (1) 12' tall, foliage froze and minor freeze damage to twigs, healthy  
 2001 (1) 18' tall, healthy, no freeze damage in recent years  
 2004 (1) 20' tall, no freeze damage, healthy  
 2006 (1) 19' tall, no freeze damage, healthy, first flowers 2006  
 2007 (1) 18' tall, leaves froze and some stems froze back 1-4" from tips, healthy

***Parkia biglobosa*** 91-0446 Yuma – planted March 1993 (2 plants)  
 1993 (2) 1' tall, fair condition, no growth  
 1994 (2) 6"/1' tall, poor condition, no growth  
 1995 (2) 1'1" tall, poor condition, no growth  
 1996 (2) 1'1" tall, poor to fair condition, no growth  
 1997 (2) 1=died in 1997-cause undetermined, 1=1' tall, healthy but no growth  
 1999 (1) 6" tall, poor condition-declining  
 2000 (1) 6" tall, poor condition-still struggling  
 2001 (1) died in 2001 after a heroic struggle-these may have had poor roots when planted

***Parkinsonia florida*** 88-0084 Tucson (CAC field 6) – planted June 1989 (4 plants)  
 1990 (4) no freeze damage, healthy  
 1991 (4) 4-7' tall, no freeze damage, healthy  
 1992 (4) 8-9' tall, no freeze damage, healthy, vigorous, first flowers/fruit 1991  
 1993 (4) 9' tall, no freeze damage, healthy, flowers/fruit  
 1994 (4) 10-11' tall, no freeze damage, healthy, flowers/fruit  
 1997 (4) 14-17' tall, no freeze damage, healthy, flowers/fruit  
 2001 (4) 13-20' tall, no freeze damage, healthy, flowers/fruit  
 2004 (4) 14-20' tall, no freeze damage, healthy, flowers/fruit  
 2006 (4) 12'13'15'15' tall, no freeze damage, healthy, flowers/fruit  
 2007 (4) 12'14'17'19' tall, no freeze damage, healthy, flowers/fruit

***Parkinsonia praecox* subsp. *praecox*** 89-0137 Tucson (CAC field 6) – planted April 1990 (2 plants)  
 1991 (2) 2.5' tall x 4' spread, no freeze damage, healthy  
 1992 (2) 5' tall, no freeze damage, healthy, vigorous, first flowers in 1992  
 1993 (2) 6'7' tall, 1=severe freeze damage (stems killed to 1" in diameter), 1=minor freeze damage (stems killed to 1/4" in diameter), healthy regrowth  
 1994 (2) 6'8' tall, very minor freeze damage to a few twigs, healthy, flowers/fruit  
 1997 (2) 12'17' tall, minor (6") freeze tip damage, healthy, vigorous, flowers/fruit  
 2001 (2) 14'15' tall, no freeze damage, healthy, flowers/fruit

2004 (2) 18' tall, some stems froze back 6" from tips, healthy, flowers/fruit  
 2006 (2) 14'/16' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 16'/19' tall, no freeze damage, healthy, flowers/fruit, 1 volunteer seedling

***Parkinsonia xsonorae*** 89-0110 Tucson (CAC field 6) – planted September 1989 (6 plants)

1990 (6) no freeze damage, healthy  
 1991 (6) 8"-3' tall, no freeze damage, healthy  
 1992 (6) 2-7' tall, no freeze damage, healthy, some vigorous/some not vigorous, first flowers in 1992  
 1993 (6) 3-7' tall, 2=minor twig damage, 2=moderate freeze damage (stems killed to 1/4" in diameter), 2=severe freeze damage (stems killed to 3" in diameter), recovering  
 1994 (6) 2-7.5' tall, 3=minor twig damage, 3=no damage, healthy  
 1997 (6) 2.5-11' tall, some stems of some plants froze back 1-3' from tips, healthy, flowers/fruit  
 2001 (6) 1=dead ca. 1998-cause undetermined but had low vigor-perhaps rootbound when planted, 5=7-14' tall, no freeze damage, healthy-fair condition, flowers/fruit  
 2004 (5) 7-20' tall, some stems froze back to 2' from tips, healthy  
 2006 (5) 8'/11'/11'/14'/17' tall, no freeze damage but some dead stems-cause undetermined, fair condition, flowers/fruit  
 2007 (5) 1=11' tall, died-apparently froze, 1=11' tall, main stem died-cause undetermined, flowers/fruit, 3=7'/11'/15' tall, some stems tips died back, healthy

***Parkinsonia texana* subsp. *macra*** 90-0381 Tucson (CAC field 6) – planted April 1991 (2 plants)

1992 (2) 2' tall, no freeze damage, healthy  
 1993 (2) 2' tall, no freeze damage, healthy but browsed  
 1994 (2) 2'/3' tall, no freeze damage, healthy but browsed  
 1997 (2) 4'/7' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) 7'/8' tall, no freeze damage, healthy, flowers/fruit  
 2004 (2) 8'/9' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 8'/9' tall, no freeze damage, healthy overall but 1 plant has several dead stems, flowers/fruit  
 2007 (2) 8'/9.5' tall, no freeze damage, healthy, flowers/fruit

***Parkinsonia texana* subsp. *texana*** 90-0378 Tucson (CAC field 6) – planted 1994 (2 plants)

1995 (2) 8"/1' tall, no freeze damage, healthy  
 1997 (2) 3'/4' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) No freeze damage, 1=6" tall, poor condition due to severe browsing, 1=5' tall, healthy, some browsing, flowers/fruit  
 2004 (2) 2.5'/7' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 3'/7' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 8'/9.5' tall, no freeze damage, healthy, flowers/fruit

***Parkinsonia* x 'Desert Museum'** s.n. Tucson (CAC field 6) – planted August 1991 (2 plants)

1992 (2) no freeze damage, healthy, vigorous  
 1993 (2) 7'/8' tall, no freeze damage, healthy, vigorous, flowers  
 1994 (2) 11' tall, no freeze damage, healthy, flowers/fruit  
 1995 (2) 15' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 1997 (2) 20' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) ca. 25' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 2004 (2) ca. 30' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 25'/25' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 30'/30' tall, no freeze damage, healthy, flowers/fruit

***Peltophorum africanum*** 90-0494 Yuma – planted March 1992 (4 plants)

1992	(4)	2-3' tall, healthy, slow to moderate growth, 1=minor browsing
1993	(4)	2.5-6.5' tall, healthy, slow to moderate growth
1994	(4)	7-9' tall, healthy, moderate to fast growth
1995	(4)	6-9' tall, healthy, slow growth, all=flowers/fruit in 1995
1996	(4)	9-12' tall, healthy, moderate growth, flowers/fruit
1997	(4)	9-12' tall, healthy, slow growth, flowers/fruit
1999	(4)	10-12' tall, healthy, slow height increase, flowers/fruit, dense foliage w/ many stems from base
2000	(4)	10-12' tall, healthy, little size increase, flowers/fruit
2001	(4)	12-15' tall, healthy, slow to moderate growth, only 2=flowers/fruit this year
2002	(4)	12-15' tall, healthy, little change in size, 3=flowers/fruit
2004	(4)	16-19' tall, healthy, slow growth, all=flowers/heavy fruit set
2005	(4)	14'/16'/17'/18' tall, healthy, little change in size, 3=flowers/fruit
2006	(4)	14'/16'/17'/18' tall, healthy, little apparent growth, all-flowers/fruit
2007	(4)	14'/16'/18'/20' tall, no apparent freeze damage, healthy, flowers/fruit
2008	(4)	20'/25'/25'/25' tall, healthy, substantial growth in the past year, flowers/fruit
2009	(4)	20'/22'/22'/25' tall, healthy, little change in size, flowers/fruit

***Peltophorum africanum*** 90-0494 Tucson (CAC field 6) – planted April 1992 (1 plant)

1993	(1)	5.5' tall, froze to ground, vigorous regrowth
1994	(1)	8' tall, froze to ground, vigorous regrowth
1995	(1)	8' tall, minor freeze damage to stem tips, healthy, vigorous
1997	(1)	9.5' tall, froze to ground, healthy, vigorous
2001	(1)	6' tall, freezes to ground each winter, healthy, vigorous
2004	(1)	8' tall, froze to base, healthy recovery
2006	(1)	9' tall, froze to ground, fair condition, vigorous regrowth
2007	(1)	7.5' tall, froze to ground (to stems 1" thick), fair condition, vigorous regrowth

***Peltophorum africanum*** 91-0132 Tucson (CAC field 3) – planted March 1998 (2 plants)

2000	(2)	4'/5' tall, froze to ground, vigorous regrowth, healthy
2004	(2)	9' tall, foliage killed and some stems froze back to 2' from tips, healthy, flowers/fruit
2006	(2)	13'/14' tall, 1=no freeze damage, 1=stems froze back to 1' from tips, healthy, flowers/fruit in 2005
2007	(2)	12'/14' tall, all foliage froze, 1=stems froze back to 1' from tips, 1=stems froze back to 6' from tips (to stems 2" thick), vigorous regrowth

***Peltophorum dubium*** 91-0154 Yuma – planted March 1992 (4 plants)

1992	(4)	2.5-7' tall, healthy, moderate growth
1993	(4)	1=4' tall, fair condition, slow growth, 3=13-14' tall, healthy, vigorous growth
1994	(4)	1=died in 1994-cause undetermined, 3=12-20' tall, healthy, slow to fast growth
1995	(3)	11-17' tall, healthy, slow growth
1996	(3)	15-20' tall, healthy, moderate growth, unusual trees with large leaves at the ends of the sparse branches
1997	(3)	18-22' tall, fair to good condition, moderate growth, no evidence of flowering
1999	(3)	15-17' tall, fair to good condition (1 plant partially tipped over), slow growth
2000	(3)	15-20' tall, fair to good condition, slow to moderate growth
2001	(3)	15-20' tall, fair to good condition (1 has some sunburn on bark), little overall change in size
2002	(3)	18-25' tall, healthy, slow to fast growth
2004	(3)	20-25' tall, healthy, slow growth, no flowering has been observed on these plants at this site
2005	(3)	22'/24'/28' tall, healthy, slow growth, 1=flowers
2006	(3)	all ca. 25' tall, healthy, little change in size, 1=flowers
2007	(3)	all ca. 25' tall, no apparent freeze damage, healthy, little growth
2008	(3)	ca. 25'/25'/30' tall, healthy, 1=flowers/fruit

2009 (3) ca. 35'/ca. 35'/ca. 40' tall, healthy, vigorous growth in the past year, no flowering

***Piscidia mollis*** 89-0044 Tucson (CAC field 6) – planted June 1989 (1 plant)

1990 (1)	moderate freeze damage, vigorous regrowth
1991 (1)	3' tall, froze to ground, vigorous regrowth
1992 (1)	5' tall, minor stem tip damage (to 6" from tips), healthy, vigorous
1994 (1)	4.5' tall, froze to ground, vigorous regrowth
1997 (1)	9' tall, froze back 6' from stem tips, vigorous regrowth, healthy
2001 (1)	8' tall, considerable freeze damage each winter, healthy, vigorous regrowth
2004 (1)	9' tall, stems froze to 2" in diameter, healthy, recovering
2006 (1)	8' tall, froze back 1-3' from tips (to stems ½" thick), vigorous recovery, healthy
2007 (1)	8.5' tall, froze to main trunks (to stems 3.5" thick, vigorous recovery, healthy

***Piscidia piscipula*** 93-0018 Yuma – planted February 1995 (1 plant)

1995 (1)	2.5' tall, healthy, slow growth
1996 (1)	2.5' tall, healthy, little growth
1997 (1)	2' tall, fair condition, little growth
1999 (1)	4' tall, healthy, slow growth
2000 (1)	4' tall, healthy, no apparent growth
2001 (1)	3' tall, fair condition w/ some die-back-cause undetermined
2002 (1)	died in 2002-cause undetermined

***Pithecellobium dulce*** 89-0046 Yuma – planted March 1991 (2 plants)

1991 (2)	7' tall, healthy, vigorous growth
1992 (2)	11'/12' tall, healthy, vigorous
1993 (2)	1=died in fall 1993-cause undetermined but may have been waterlogged from water leaking from adjacent irrigation canal, 1=16' tall, healthy, vigorous
1994 (1)	15' tall, healthy except for a major trunk that split out, vigorous
1995 (1)	20' tall, healthy, vigorous, flowers/fruit in 1995
1996 (1)	22' tall, healthy, vigorous with low-hanging branches, flowers/fruit
1997 (1)	28' tall, healthy, vigorous, flowers/fruit
1999 (1)	25' tall, healthy, vigorous, flowers/fruit-numerous seedlings
2000 (1)	25' tall, healthy, vigorous, flowers/fruit, low-hanging branches are a maintenance issue
2001 (1)	25' tall, healthy, vigorous, flowers/fruit
2002 (1)	ca. 30' tall, healthy, vigorous, flowers/fruit
2004 (1)	ca. 30' tall, healthy, vigorous, flowers/fruit
2005 (1)	ca. 30' tall, healthy, little change in size, flowers/fruit, seedlings volunteering beneath canopy
2006 (1)	ca. 30' tall, healthy, little apparent change in size but vigorous, flowers/fruit
2007 (1)	ca. 30' tall, many stems froze back to 3' from tips to stems 1" thick, healthy, vigorous regrowth
2008 (1)	ca. 40' tall, healthy, substantial growth in the past year, flowers/fruit
2009 (1)	ca. 35' tall, healthy, little change in size, flowers/fruit

***Pithecellobium unguis-cati*** 93-0012 Yuma – planted March 1994 (1 plant)

1994 (1)	4' tall, healthy, moderate growth
1995 (1)	3.5' tall, healthy, slow growth but spreading outward
1996 (1)	6' tall, healthy, moderate growth
1997 (1)	7' tall, healthy, slow growth with many stems growing downward and forming a thicket
1999 (1)	7' tall, healthy, slow growth, flowers/fruit in 1999
2000 (1)	7' tall, healthy, little change in size, flowers/fruit
2001 (1)	9' tall, healthy, slow growth, flowers/fruit
2002 (1)	9' tall, healthy, little change in size, flowers/fruit

2004	(1)	11' tall, healthy, slow growth, no evidence of flowering this year
2005	(1)	9' tall, healthy, little growth, flowers/fruit
2006	(1)	12' tall, healthy, flowers/fruit, this plant has a mounded form with arching stems
2007	(1)	13' tall, no freeze damage, healthy, slow growth, flowers/fruit
2008	(1)	15' tall, healthy, slow growth, flowers/fruit
2009	(1)	18' tall, healthy, moderate growth, flowers/fruit

***Prosopidastrum globosum*** 92-0014 Tucson (CAC field 6) – planted August 1992 (4 plants)

1993	(4)	1=dead-cuse undetermined, 3=1-1.5' tall, no freeze damage, healthy
1994	(3)	3-4' tall, no freeze damage, healthy, flowers/fruit in 1993, 1994
1995	(3)	4-6' tall, no freeze damage, healthy, flowers/fruit
1997	(3)	6-7' tall, no freeze damage, healthy, flowers/fruit
2001	(3)	6-8' tall, no freeze damage, healthy, flowers/fruit
2004	(3)	5-7' tall, no freeze damage, healthy, flowers/fruit
2006	(3)	4'/6'/6' tall, no freeze damage, 2=healthy, flowers/fruit, 1=fair condition-many dead stems due to shade from <i>Acacia salicina</i> , some flowers/fruit
2007	(3)	4.5'/5.5'/7' tall, no freeze damage, healthy, flowers/fruit

***Prosopis affinis*** 93-0068 Yuma – planted February 1995 (2 plants)

1995	(2)	1'/3' tall, healthy, slow growth
1996	(2)	3'/5' tall x 10' spread on the ground, healthy, slow vertical growth and moderate lateral growth
1997	(2)	5'/7' tall, healthy, slow upward growth but spreading laterally
1999	(2)	8.5'/9.5' tall, healthy, moderate growth
2000	(2)	8.5'/11' tall, healthy, slow to moderate growth, 1=flowers/fruit in 2000
2001	(2)	1=5' tall following heavy pruning, fair condition, 1=13' tall, healthy, slow growth but developing into a tree
2002	(2)	1=5', poor condition, little growth, 1=14', healthy, slow growth
2004	(2)	1=4' tall, fair condition, no apparent growth, 1=16' tall, healthy, slow growth, flowers/fruit
2005	(2)	1=4' tall, fair condition, no change in size, 1=14' tall, healthy, little change in size, no flowers
2006	(2)	1=4' tall, poor condition, declining, 1=13' tall, healthy, little apparent growth, no flowers
2007	(2)	3'/12' tall, minor freeze damage to twig tips, fair condition, little apparent growth
2008	(2)	6'/13' tall, fair condition with some growth
2009	(2)	5'/11' tall, fair condition, no apparent growth

***Prosopis alba*** 89-0109 Tucson (CAC field 6) – planted June 1989 (4 plants)

1990	(4)	no freeze damage, healthy
1991	(4)	6-8' tall, no freeze damage, healthy, spreading and thorny
1992	(4)	12-14' tall, no freeze damage, healthy, vigorous
1993	(4)	12-14' tall, no freeze damage, healthy
1994	(4)	15' tall, no freeze damage, healthy, flowers/fruit in 1993, 1994
1997	(4)	20-25' tall, no freeze damage, healthy, flowers/fruit
2001	(4)	20-25' tall, healthy, flowers/fruit
2004	(4)	22-24' tall, no freeze damage, 2=dying-disease (leaves drying/falling, limbs splitting and oozing), 2=healthy, flowers/fruit
2006	(4)	25-30' tall, no freeze damage, healthy overall though some limbs have died, flowers/fruit
2007	(4)	18-26' tall, no freeze damage, healthy, flowers/fruit

***Prosopis glandulosa* var. *torreyana*** 89-0049 Tucson (CAC field 6) – planted June 1989 (4 plants)

1990	(4)	no freeze damage, healthy
1991	(4)	4' tall, no freeze damage, healthy
1992	(4)	8-9' tall, no freeze damage, healthy, vigorous, flowers/fruit in 1991, 1992

1993	(4)	9' tall, no freeze damage, healthy, flowers/fruit
1994	(4)	9-12' tall, no freeze damage, healthy, flowers/fruit
1997	(4)	14-18' tall, no freeze damage, healthy, flowers/fruit
2001	(4)	15-19' tall, no freeze damage, healthy, flowers/fruit
2004	(4)	20-22' tall, no freeze damage, healthy but drought stressed, flowers/fruit
2006	(4)	1=removed in 2005, 3=21'/22'/24' tall, no freeze damage, healthy, flowers/fruit
2007	(3)	15'/18'/19' tall, no freeze damage, healthy, flowers/fruit

***Prosopis glandulosa* var. *torreyana*** 89-0156 Tucson (CAC field 6) – planted April 1990 (2 plants)

1991	(2)	1.5' tall, no freeze damage, healthy
1992	(2)	4' tall, no freeze damage, healthy
1993	(2)	4' tall, no freeze damage, healthy
1994	(2)	6' tall, no freeze damage, healthy, first flowers/fruit 1994
1997	(2)	8'/10' tall, no freeze damage, healthy, vigorous, flowers/fruit
2001	(2)	11'/12' tall, no freeze damage, healthy, flowers/fruit
2004	(2)	9'/10' tall, no freeze damage, healthy, flowers/fruit
2006	(2)	9'/10' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	9'/11' tall, no freeze damage, healthy, flowers/fruit

***Prosopis laevigata*** 90-0440 Tucson (CAC field 6) – planted July 1991 (1 plant)

1992	(1)	no freeze damage, healthy
1993	(1)	3.5' tall, no freeze damage, healthy
1994	(1)	5.5' tall, no freeze damage, healthy
1995	(1)	7' tall, no freeze damage, healthy, weeping growth habit
1997	(1)	11' tall, no freeze damage, healthy
2001	(1)	17' tall, no freeze damage, healthy
2004	(1)	20' tall, no freeze damage, healthy
2006	(1)	22' tall, no freeze damage, healthy, first flowers in 2006
2007	(1)	25' tall, no freeze damage, healthy

***Prosopis nigra*** 92-0052 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993	(2)	2' tall, no freeze damage, healthy
1994	(2)	4'/5' tall, no freeze damage, 1=girdled by rabbits-regrowth from base, 1=healthy
1995	(2)	1=dead-rabbit damage, 1=7' tall, no freeze damage, healthy, vigorous
1997	(1)	10' tall, no freeze damage, healthy, flowers/fruit
2001	(1)	12' tall, no freeze damage, healthy, flowers/fruit
2004	(1)	15' tall, no freeze damage, healthy
2006	(1)	14' tall, no freeze damage, healthy, no flowers
2007	(1)	17' tall, no freeze damage, healthy

***Prosopis pubescens*** 89-0051 Tucson (CAC field 6) – planted June 1989 (5 plants)

1990	(5)	no freeze damage, healthy, vigorous
1991	(5)	8-11' tall, no damage, extremely vigorous, flowers/fruit
1992	(5)	15' tall, no freeze damage, healthy, vigorous, flowers/fruit, many seedlings coming up in field
1993	(5)	14-16' tall, no freeze damage, healthy, flowers/fruit
1994	(5)	15-18' tall, no freeze damage, healthy, flowers/fruit
1997	(5)	20-25' tall, no freeze damage, healthy, flowers/fruit
2001	(5)	2=died in 1999-cause undetermined (drought?), 3=15-20' tall, no freeze damage, fair condition, flowers/fruit
2004	(3)	18-20' tall, no freeze damage, healthy, flowers/fruit
2006	(3)	16'/19'/20' tall, no freeze damage, fair condition with some dead limbs-drought stress, flowers/fruit

2007 (3) 20-25' tall, no freeze damage, 2=poor condition with much of canopy dead-insufficient irrigation, 1=healthy but no flowers in 2007

***Prosopis reptans* var. *cinerascens*** 90-0376 Tucson (CAC field 6) – planted April 1994 (5 plants)

1995 (5) 1' tall, no freeze damage, healthy, flowers  
 1997 (many) 1' tall, no freeze damage, healthy-several plants from root suckers, flowers/fruit  
 2001 (many) 1' tall, no freeze damage, healthy with numerous plants from root suckers, flowers/fruit  
 2004 (many) 1' tall, no freeze damage, healthy-continuing to spread by root suckers, flowers/fruit  
 2006 (many) 1.5' tall, no freeze damage, healthy and spreading, flowers/fruit  
 2007 (many) 1.5' tall, no freeze damage, healthy and spreading further, flowers/fruit

***Prosopis reptans* var. *cinerascens*** 90-0376 Tucson (CAC field 3) – planted summer 1997 (10 plants)

2000 (10) 1-1.5' tall, no freeze damage, healthy-spreading vigorously by root suckers, flowers/fruit from 1998  
 2004 (10 + root suckers) 1-1.5' tall, no freeze damage, removal in progress in 2004-root suckers have spread over 50' from original plants, flowers/fruit  
 2006 (many) original plants removed but root suckers continue to spread and appear in new areas, and are difficult to eradicate  
 2007 (many) root suckers continue to appear despite physical removal and use of herbicides, no freeze damage, vigorous, flowers/fruits

***Prosopis tamarugo*** 89-0119 Tucson (CAC field 6) – planted April 1990 (2 plants)

1991 (2) 1.5'/2.5' tall, some freeze damage to twigs  
 1992 (2) 3' tall, no freeze damage, healthy  
 1993 (2) 2.5'/3.5' tall, no freeze damage, healthy but slow growth  
 1994 (2) 2'/4' tall, no freeze damage, healthy but very slow growth  
 1997 (2) 1=dead in spring 1997-cause undetermined, 1=5' tall, fair condition but no new growth  
 1999 (1) 3' tall, some die-back then died in summer-fall 1998-possible drought stress though the plant was in poor condition and declining for several years-may have been root bound.

***Prosopis velutina*** 88-0085 Tucson (CAC field 6) – planted June 1989 (2 plants)

1990 (2) no freeze damage, healthy  
 1991 (2) 3'/6' tall, no freeze damage, healthy  
 1992 (2) 10' tall, no freeze damage, healthy, vigorous, first flowers in 1992  
 1993 (2) 10'/11' tall, no freeze damage, healthy, flowers/fruit  
 1994 (2) 11'/13' tall, no freeze damage, healthy, flowers/fruit  
 1997 (2) 12'/16' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) 13'/19' tall, no freeze damage, healthy, flowers/fruit  
 2004 (2) 14'/20' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 15'/22' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 12'/18' tall, no freeze damage, healthy, flowers/fruit

***Psorothamnus spinosus*** 89-0185 Tucson (CAC field 6) – planted April 1990 (2 plants)/September 1990 (2 plants)

1990 () data missing  
 1991 (2) 1=2.5' tall, healthy (from original planting), first flowers/fruit in 1991, 1=8" tall (from replant), healthy, 2 other plants died shortly after planting  
 1992 (2) 3'/6' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 1993 (2) 3'/7' tall, minor twig tip burn only, healthy, flowers/fruit  
 1994 (2) 7.5'/9' tall, minor twig tip burn only, healthy, flowers/fruit  
 1997 (2) 12' tall, no freeze damage, healthy, flowers/fruit  
 2001 (2) 12'/14' tall, no freeze damage, healthy though periods of major twig die-out, flowers/fruit

2004 (2) 12'/13' tall, no freeze damage, fair condition-major twig die-out (drought?), few flowers/fruit  
 2006 (2) 8'/10' tall, no freeze damage, fair condition-major twig die-back-this seems to be a typical condition, flowers/fruit in 2005  
 2007 (2) 1=6.5' tall, mostly dead-cause undetermined, 1=8'tall, fair condition with major die-out of twigs

***Psorothamnus spinosus*** 89-0185 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000 (2) 4.5'/7' tall, no freeze damage, healthy, vigorous, flowers/fruit from 1999  
 2004 (2) 1 died ca. 2001-cause undetermined, 1= 11' tall, no freeze damage, died suddenly in June 2004 while flowering-cause undetermined, root sucker developing fall 2004  
 2006 (1) root sucker 3' tall, no freeze damage, healthy  
 2007 (1) 4.5' tall, no freeze damage, healthy, flowers in June 2007

***Psorothamnus spinosus*** 90-0684 Yuma – planted March 1991 (4 plants)

1991 (4) all=4' tall, healthy, vigorous  
 1992 (4) 6-7' tall, healthy, vigorous  
 1993 (4) 7.5-10' tall, healthy, vigorous, all=flowers/fruit in 1993  
 1994 (4) 10-15' tall, healthy, vigorous, flowers/fruit  
 1995 (4) 12-17' tall, healthy, vigorous, flowers/fruit  
 1996 (4) 12-18' tall, healthy, slow growth, flowers/fruit  
 1997 (4) 14-19' tall, healthy, slow growth, flowers/fruit  
 1999 (4) 12-19' tall, healthy, little height increase, flowers/fruit  
 2000 (4) 12-19' tall, fair to good condition-considerable die-back of small branches, flowers/fruit  
 2001 (4) 1=died in 2001-cause undetermined but may have been senescent, 3=18-20' tall, poor to good condition, little growth w/ significant die-back, no information on flowering  
 2002 (3) 1=4' tall, poor condition, mostly dead, 2=18-20' tall, fair to good condition, no information on flowering  
 2004 (3) 1=died in 2003-senescent?, 1=died in 2004-senescent?, 1=20' tall, poor condition-declining with much die-back, some live stems with new growth  
 2005 (1) 8' tall, fair condition, some vigorous new growth  
 2006 (1) 12' tall, healthy, regenerating well after major dieback  
 2007 (1) 8' tall, no freeze damage, healthy  
 2008 (1) 11' tall, healthy though has never recovered to previous size  
 2009 (1) 11' tall, fair condition, low vigor with areas of dead twigs

***Pterocarpus lucens*** 91-0014 Yuma – planted March 1992 (1 plant)

1992 (1) 2.5' tall, healthy, slow growth  
 1993 (1) 4' tall, healthy, slow growth  
 1994 (1) 4.5' tall, healthy, slow growth  
 1995 (1) 6' tall, healthy, slow growth  
 1996 (1) 7' tall, healthy, slow growth  
 1997 (1) 9' tall, healthy, slow growth, attractive upright growth with rounded crown  
 1999 (1) 10' tall, healthy, slow growth, appears to have flower buds  
 2000 (1) 12' tall, healthy, slow growth  
 2001 (1) 12' tall, fair condition, no size increase, gophers are tunneling near this plant  
 2002 (1) 12' tall, killed by gophers-may also have had a bad root system, never fruited, and attractive tree worthy of further evaluation

***Pterogyne nitens*** 90-0358 Tucson (CAC field 6) – planted August 1991 (2 plants)

1993 (2) 2.5' tall, froze to ground (1" diameter trunk), healthy regrowth  
 1994 (2) 3' tall, froze to ground, 1=vigorous regrowth, 1=barely growing  
 1995 (2) 1.5'/7' tall, minor twig freeze-back, healthy, vigorous

1997 (2) 6'/10' tall, froze to ground, healthy regrowth  
 1999 (2) both plants dead-killed by gophers-an attractive small tree that deserves further evaluation

***Pterogyne nitens*** 90-0358 Yuma – planted March 1993 (2 plants)

1993 (2) 1=4" tall, poor condition, little growth, 1=1.5' tall, healthy, slow growth  
 1994 (2) 1=4" tall, fair condition, no growth, 1-2' tall, healthy, slow growth  
 1995 (2) 1-died in 1995-cause undetermined but may have had poor roots, 1=2' tall, fair condition-low vigor  
 1996 (1) 2.5' tall, fair condition, slow growth  
 1997 (1) 2.5' tall, fair condition, little apparent growth  
 1999 (1) 2' tall, fair condition, no apparent growth  
 2000 (1) 2' tall, fair condition, no apparent growth  
 2001 (1) 2' tall, healthy, little change in size  
 2002 (1) 2' tall, healthy, no apparent growth  
 2004 (1) 3' tall, healthy, slow growth, these plants were likely root-bound when planted  
 2005 (1) 3' tall, apparently healthy but no growth  
 2006 (1) 4' tall, healthy, slow growth  
 2007 (1) 4' tall, no freeze damage, healthy, no change in size  
 2008 (1) 6' tall, healthy, slow growth  
 2009 (1) 7.5' tall, healthy, slow growth

***Retama reatam*** 92-0084 Tucson (CAC field 6) – planted April 1993 (3 plants)

1994 (3) 1=died summer 1993-cause undetermined, 2=1' tall, no freeze damage, healthy  
 1995 (2) 2.5'/2.5' tall, no freeze damage, healthy  
 1997 (2) 2'/4' tall, no freeze damage, healthy  
 2001 (2) 3'/6.5' tall, no freeze damage, healthy, flowers/fruit from 1998  
 2004 (2) 3'/7' tall, no freeze damage, 1=healthy, 1=fair condition-drought stress?, flowers/fruit  
 2006 (2) 3.5'/6.5' tall, no freeze damage, fair condition-considerable die-back due to insufficient irrigation, few flowers/fruit  
 2007 (2) 3'/6.5' tall, outer stems dead-regrowing from inner stems, fair condition, no flowers

***Rhynchosia edulis*** 88-0050 Tucson (CAC field 6) – planted June 1989 (11 plants)

1990 (11) froze to ground, vigorous regrowth, 1=died-cause undetermined  
 1991 (10) froze to ground, vigorous regrowth, flowers/fruit  
 1992 (10) 3=dead-cause undetermined, 7=froze to ground, healthy, vigorous regrowth, flowers/fruit  
 1993 (7) 3=dead-cause undetermined, 4=froze to ground, vigorous regrowth, flowers/fruit  
 1994 (4) 2' across, froze to ground, vigorous regrowth, flowers/fruit  
 1997 (4) all dead by 1997-insufficient irrigation or senescence?

***Rhynchosia precatoria*** 88-0073 Tucson (CAC field 6) – planted June 1989 (4 plants)

1990 (4) 2=dead-cause undetermined, 2=minor freeze damage, vigorous growth  
 1991 (2) froze to ground, vigorous regrowth, flowers/fruit  
 1992 (4) froze to ground, vigorous regrowth (2 new plants-seedlings), flowers/fruit  
 1993 (4) froze to ground, vigorous regrowth, flowers/fruit  
 1994 (2) 2=dead-cause undetermined, 2=2' across, froze to ground, vigorous regrowth, flowers/fruit  
 1997 (2) all dead by 1997-insufficient irrigation or senescence?

***Rhynchosia pyramidalis*** 89-0052 Tucson (CAC field 6) – planted June 1989 (2 plants)

1990 (2) froze to ground, vigorous regrowth  
 1991 (2) froze to ground, regrowing, flowers/fruit  
 1992 () data missing  
 1993 () data missing

1994 (1) 2' across, froze to ground, vigorous regrowth, flowers/fruit  
 1997 (1) died by 1997-insufficient irrigation or senescence?

***Rhynchosia pyramidalis*** 89-0052 Tucson (CAC field 3) – planted summer 1997 (6 plants)

2000 (6) froze to ground, vigorous regrowth, flowers/fruit  
 2004 (6) 5=dead ca. 2003 due to efforts to remove *Prosopis reptans* var. *cinerascens*, 1=froze to ground, vigorous growth, flowers/fruit  
 2006 (1) large mass freezes to the ground in winter, vigorous regrowth, flowers/fruit  
 2007 (1) mass freezes to ground in winter, vigorous regrowth, flowers/fruit

***Rhynchosia senna* var. *texana*** 88-0070 Tucson (CAC field 6) – planted June 1989 (3 plants)

1990 (3) froze to ground, vigorous regrowth  
 1991 (3) froze to ground, vigorous regrowth, flowers/fruit  
 1992 (3) froze to ground, vigorous regrowth – twining stems to 4' long, flowers/fruit  
 1993 (3) froze to ground, vigorous regrowth, flowers/fruit  
 1994 (2) 1=dead-cause undetermined, 2=2' tall, froze to ground, healthy regrowth, flowers/fruit  
 1997 (2) froze to ground, healthy, vigorous, flowers/fruit  
 2001 (2) freezes to ground each winter, healthy, vigorous, flowers/fruit

***Rhynchosia senna* var. *texana*** 88-0070 Tucson (CAC field 3) – planted summer 1997 (6 plants)

2000 (6) froze to ground, healthy, vigorous, flowers/fruit  
 2004 (6) 5=dead in 2003 due to efforts to remove *Prosopis reptans* var. *cinerascens*, 1+volunteer plants, froze to ground, vigorous growth, flowers/fruit  
 2006 (1) mass freezes to ground in winter, vigorous regrowth, healthy, flowers/fruit  
 2007 (1 + 1 volunteer) mass froze to ground, vigorous regrowth, healthy, flowers/fruit

***Robinia neomexicana*** 88-0076 Tucson (CAC field 6) – planted June 1989 (4 plants)/June 1990 (1 plant)

1990 (4) no freeze damage, healthy  
 1991 (5) 4 original plants died in 1990-cause undetermined, 1=8' tall, no freeze damage, healthy, vigorous  
 1992 (1) 15' tall, no freeze damage, healthy, flowers in spring 1992-no fruit  
 1993 (1) 16' tall, no freeze damage, healthy, flowers  
 1994 (1) 15' tall, no freeze damage, healthy, flowers/fruit  
 1997 (1) 20' tall, no freeze damage, healthy, flowers/fruit  
 2001 (1) 20' tall, healthy but lost some limbs due to drought, little growth, flowers/fruit  
 2004 (1) declined and died during 2002 due to insufficient irrigation

***Robinia pseudoacacia*** 90-0200 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1=6" tall, 1=5' tall, no freeze damage, healthy, vigorous  
 1994 (2) 1=dead-cause undetermined, 1=15' tall, no freeze damage, healthy  
 1995 (1) 18' tall, no freeze damage, healthy, vigorous  
 1997 (1) 20' tall, no freeze damage, healthy, flowers/fruit  
 2001 (1) 18' tall, no freeze damage, healthy, flowers only in 2001, lower vigor since irrigation reduced but made it through 1999-2000 drought  
 2004 (1) 12' tall, no freeze damage, fair condition-significant die-back due to drought stress, flowers/fruit  
 2006 (1) 13' tall, no freeze damage, healthy but has died back considerably due to insufficient irrigation  
 2007 (1) 11' tall, no freeze damage, fair condition-insufficient irrigation, flowers

***Robinia* sp.** 92-0031 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 4'/5' tall, no freeze damage, healthy (leafcutter bee damage), vigorous  
 1994 (2) 9'/15' tall, no freeze damage, healthy, vigorous, flowers/fruit in spring 1994  
 1995 (2) 10'/15' tall, no freeze damage, healthy, vigorous, flowers/fruit

1997	(2)	14'/15' tall, no freeze damage, healthy, flowers/fruit
2001	(2)	13'/17' tall, no freeze damage, healthy, flowers/fruit, lower vigor since irrigation reduced but made it through 1999-2000 drought
2004	(2)	no freeze damage, 1=12' tall, poor condition-much die-back due to drought, 1=healthy but low vigor, flowers/fruit
2006	(2)	1=died in 2005-insufficient irrigation, 1=16' tall, no freeze damage, healthy but some die-back due to insufficient irrigation, flowers/fruit
2007	(1)	17' tall, no freeze damage, healthy, flowers/fruit

*Schotia brachypetala* 95-0022 Yuma – planted December 1995 (4 plants)

1996	(4)	1=died in 1996-cause undetermined, 3=1.5-2.5' tall, fair to good condition, slow growth
1997	(3)	2-2.5' tall, fair to good condition, slow growth
1999	(3)	2-3' tall, fair to good condition, slow growth
2000	(3)	2-3' tall, fair to good condition, little change in size
2001	(3)	2-2.5' tall, fair to good condition, no apparent growth
2002	(3)	2-3' tall, healthy, slow growth
2004	(3)	3.5-7' tall, healthy, slow growth
2005	(3)	6'7'/8' tall, healthy, slow to moderate growth
2006	(3)	6.5'7'/8' tall, healthy, little change in size in past year
2007	(3)	1=6.5' tall, stems froze back to 1' from tips, healthy, 2=5'9' tall, no freeze damage, healthy
2008	(3)	data missing
2009	(3)	7'9'/15' tall, healthy, slow to moderate growth, developing into attractive small trees

*Schrankia hystericina* 90-0511 Tucson (CAC field 6) – planted August 1991 (6 plants)

1992	(6)	data missing
1993	(6)	4=dead-cause undetermined, 2=froze to ground, vigorous regrowth
1994	(2)	1' tall, healthy but some browsing, flowers in 1993, 1994
1995	(2)	1' tall, froze to ground, resprouting
1997	(2)	dead-missing-cause undetermined but animal damage and freezing may have finished them off

*Senna aciphylla* 90-0150 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993	(2)	1.5' tall, minor freeze die-back, healthy, vigorous, flowers in 1993
1994	(2)	3' tall, healthy, slight freeze damage, flowers/fruit in spring 1994
1995	(2)	3' tall, minor freeze damage to stem tips and foliage, healthy, flowers/fruit
1997	(2)	4'4.5' tall, dead-froze to ground and did not recover

*Senna aciphylla* 90-0150 Tucson (CAC field 3) – planted March 1998 (3 plants)

2000	(3)	1=dead-cause undetermined, 1=dead-froze to ground and did not recover, 1=1.5' tall, froze to ground except 1 stem which was undamaged, healthy, flowers/fruit in 2000
2004	(1)	died ca. 2001-cause undetermined but may have frozen

*Senna aphylla* 91-0486 Tucson (CAC field 6) – planted 1994 (1 plant)

1995	(1)	3' tall, no freeze damage, healthy, first flowers/fruit in 1994
1997	(1)	6' tall, minor freeze damage to stem tips, healthy, flowers/fruit
2001	(1)	9' tall, no freeze damage, healthy, flowers/fruit
2004	(1)	8' tall, no freeze damage, healthy, flowers/fruit, one volunteer seedling from 2002-2003
2006	(1)	7.5' tall, no freeze damage, healthy, masses of flowers/fruit
2007	(1)	8.5' tall, no freeze damage, healthy, flowers/fruit

*Senna aphylla* 91-0486 Tucson (CAC field 3) – planted March 1998 (1 plant)/2002 (2 plants - 91-0486D)

2001	(3)	5' tall, no freeze damage, healthy, vigorous, flowers/fruit from 1999
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2004 (3) 5-6' tall, no freeze damage, healthy, flowers/fruit  
 2006 (3) 7'8"/8' tall, no freeze damage, vigorous growth, healthy, flowers/fruit  
 2007 (3) 7'8"/8' tall, 10% of stems froze back to 2" from tips, healthy, flowers/fruit

*Senna aphylla* s.n. Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 2' tall, stems frozen back 2-6" from tips, healthy, first flowers/fruit in 1992  
 1994 (2) 3' tall, minor freeze damage to stem tips, healthy, flowers in fall 1993, mass flowering in spring 1994/fruit  
 1995 (2) 5' tall, no freeze damage, healthy, flowers/fruit  
 1997 (2) 7' tall, minor freeze damage to stem tips, healthy, flowers/fruit  
 2001 (2) 6'/7' tall, no freeze damage, fair condition with some dead stems, flowers/fruit  
 2004 (2) 8' tall, no freeze damage, healthy, flowers/fruit  
 2006 (2) 6.5'/8' tall, no freeze damage, healthy, masses of flowers/fruit  
 2007 (2) 7'8.5' tall, no freeze damage, healthy, flowers/fruit

*Senna artemisioides* subsp. *xartemisioides* 88-0007 Tucson (CAC field 6) – planted June 1989 (4 plants)  
 1990 (4) slight freeze damage, healthy, first flowers in spring 1990  
 1991 (4) 3' tall, minor freeze damage, flowers/fruit  
 1992 (4) 5' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 1994 (4) 6' tall, no freeze damage, healthy, flowers/fruit  
 1997 (4) 7' tall, minor stem tip die-back, healthy, flowers/fruit  
 2001 (4) 2=dead by 1998-shade, 2=3'/4' tall, poor with few live stems. This area has become shady which may have lead to the decline of these plants  
 2004 (2) 5.5'/6' tall, no freeze damage, poor condition due to shading-sparse stems and foliage, 1=flowers/fruit  
 2006 (2) 1=died in 2006-most likely too much shade, 1=6' tall, no freeze damage, fair condition-too much shade, flowers/fruit  
 2007 (1) 6.5' tall, froze to base, poor condition with weak regrowth

*Senna artemisioides* subsp. *xartemisioides* 90-0262 Tucson (CAC field 3) – planted summer 1997 (3 plants)  
 2000 (3) 5' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 2004 (3) 7-8' tall, foliage frozen on upper portion of plants and some stem tips killed, healthy, flowers/fruit  
 2006 (3) 7' tall, no freeze damage, healthy, flowers/fruit  
 2007 (3) 7' tall, most foliage and many twigs and some major stems froze, recovering, flowers/fruit

*Senna artemisioides* subsp. *filiifolia* 89-0100 Tucson (CAC field 6) – planted 1990 (4 plants)  
 1991 (4) 1.5' tall, no freeze damage, healthy  
 1992 (4) 4' tall, no freeze damage, healthy, vigorous, flowers/fruit in 1991, 1992  
 1993 (4) 5-6' tall, minor foliar and stem tip damage, healthy, flowers/fruit  
 1994 (4) 7' tall, no freeze damage, healthy, flowers/fruit  
 1997 (4) 1=dead-blew over ca. 1996, 3=9' tall, no freeze damage, healthy, flowers/fruit  
 2001 (3) 6-9' tall, no freeze damage, fair condition-some decline w/ dead stems, flowers/fruit  
 2004 (3) 1=dead-cause undetermined, 2 original plants + 1 volunteer=5' tall, no freeze damage, healthy, flowers/fruit  
 2006 (3) 1 original plant died-cause undetermined, 1 remaining original plant=5' tall, no freeze damage, flowers/fruit  
 2007 (2) 4.5'/5.5' tall, no freeze damage, healthy, flowers/fruit

*Senna artemisioides* subsp. *filiifolia* 89-0100 Tucson (CAC field 3) – planted summer 1997 (3 plants)  
 2000 (3) 5-6' tall, no freeze damage, healthy, vigorous, flowers/fruit

2004 (3) 4-9' tall, no freeze damage, healthy, flowers/fruit  
 2006 (3) 6'8'/8' tall, no freeze damage, healthy, flowers/fruit  
 2007 (3) 6.5'/7.5'/8' tall, minor damage to foliage and a few stems froze back to 2' from tips, healthy, flowers/fruit

*Senna artemisioides* subsp. *hamersleyensis* 91-0404 Tucson (CAC field 6) – planted April 1993 (4 plants)  
 1994 (4) 1' tall, all froze to ground; 1=dead-froze, 3=recovering from base  
 1995 (3) 1.5' tall, froze to ground, vigorous regrowth, 1=flowers/fruit in 1995  
 1997 (3) 1.5' tall, froze to ground, healthy growth  
 2001 (3) 1-1.5' tall, freeze to ground each winter, fair-poor condition  
 2004 (3) 1=dead ca. 2002-drought and freezing, 2=2' tall, froze to ground, fair condition, recovering  
 2006 (2) 2'/2' tall, froze to ground, fair condition, recovering  
 2007 (2) 1=died-cause undetermined, 1=1.5' tall, froze to ground, healthy regrowth

*Senna artemisioides* subsp. *hamersleyensis* 91-0404 Tucson (CAC field 3) – planted summer 1997 (2 plants)  
 2000 (2) 1=dead, froze to ground and did not recover, 1=2.5' tall, froze to ground, slow recovery, flowers/fruit in 1999  
 2004 (1) 2' tall, dead-froze to ground and did not recover

*Senna artemisioides* subsp. *helmsii* 90-0157 Yuma – planted February 1995 (2 plants)  
 1995 (2) 2'/2' tall, healthy, slow growth, flowers in fall of 1995  
 1996 (2) 2'/3' tall, fair to good condition, slow growth  
 1997 (2) 1=died in 1996-cause undetermined, 1=3' tall, healthy, slow growth, flowers/fruit  
 1999 (1) 3' tall, healthy, little size increase, flowers/fruit  
 2000 (1) 3.5' tall, healthy, slow growth, flowers/fruit  
 2001 (1) 4' tall, healthy, slow growth, flowers/fruit  
 2002 (1) 4' tall, healthy, little change in size, flowers/fruit  
 2004 (1) 1' tall, poor condition-mostly dead-cause undetermined  
 2005 (1) 4' tall, recovered to healthy condition, flowers/fruit  
 2006 (1) died during 2006-cause undetermined

*Senna artemisioides* subsp. *oligophylla* 90-0161 Tucson (CAC field 6) – planted April 1991 (4 plants)  
 1992 (4) 2' tall, froze to ground, vigorous regrowth, flowers/fruit in 1991 (fruit killed by freeze)  
 1993 (4) 2' tall, froze to ground (stems killed to 1/3" in diameter), healthy regrowth, flowers/fruit 1992  
 1994 (4) 2.5' tall, froze to ground, healthy regrowth, flowers fall 1993  
 1997 (4) 3=died ca. 1996-repeated freezing, 1=1.5' tall, froze to ground, vigorous regrowth  
 2001 (1) dead by 1999-cause undetermined (gophers?)

*Senna artemisioides* subsp. *petiolaris* 88-0010 Tucson (CAC field 6) – planted June 1989 (8 plants)  
 1990 (8) slight freeze damage, healthy, flowers/fruit in 1990  
 1991 (8) 3' tall, some freeze damage, healthy, flower/fruit  
 1992 (8) 4' tall, no freeze damage, healthy, vigorous, flowers/fruit  
 1993 (8) 4' tall, severe freeze damage (stems killed to 1/4" in diameter), vigorous regrowth, flowers/fruit  
 1994 (8) 3-4.5' tall, some froze considerably (2' back from stem tips), others minor damage (protected by trees), healthy, flowers/fruit  
 1997 (8) 4-6.5' tall, froze to near ground, healthy, vigorous recovery  
 2001 (8) 4=dead by 1999-2000-shade, 4=5-7' tall, healthy-fair-reduced vigor due to limited irrigation, flowers/fruit  
 2004 (4) 1=dead-shading?, 3=freeze damage to foliage and some stem tips, poor condition due to shading from adjacent plants, few flowers/fruit  
 2006 (3) 5'/5'/6' tall, no freeze damage, fair condition-too much shade, flowers/fruit

2007 (3) 5'/5'/5' tall, foliage froze and some twigs froze, fair condition, flowers/fruit

***Senna artemisioides* subsp. *petiolaris*** 88-0010 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000 (2) 5' tall, no freeze damage, healthy, vigorous, flowers/fruit

2004 (2) 7.5' tall, foliage mostly frozen and most stems of 1 plant froze back to 3' from tips, healthy recovery, flowers/fruit

2006 (2) 6.5'/8' tall, stems froze back to 1' from tips, vigorous recovery, healthy, flowers/fruit

2007 (2) 6'/7.5' tall, all foliage killed, 1=froze to near base with stems to 1" thick killed, recovering, fair condition, 1=froze back 1-3' from tips with stems to ½" thick killed, healthy regrowth

***Senna artemisioides* subsp. *xsturtii*** 89-0169 Tucson (CAC field 6) – planted April 1990 (3 plants)

1991 (3) 1.5' tall, froze to ground, healthy, regrowing

1992 (3) 3.5' tall, no freeze damage, healthy, flowers/fruit in 1992

1993 (3) 4' tall, froze to near ground (stems killed to 6mm in diameter), vigorous regrowth, flowers/fruit

1994 (3) 4' tall, some stems killed to ground, other stems slightly damage; flowers/fruit

1997 (3) 6' tall, froze to ground, vigorous recovery, flowers/fruit

2001 (3) dead by 2000-winter freezing/drought, did not recover

***Senna artemisioides* subsp. *xsturtii*** 89-0169 Tucson (CAC field 3) – planted summer 1997 (1 plant)/summer

1998 (1 plant)

2000 (2) 1.5'/6' tall, severe freeze damage with many stems killed back up to 4' from tips, healthy recovery, larger plant=flowers/fruit

2004 (2) 4'/7.5' tall, foliage frozen and most stems froze back 2-3' from tips, healthy recovery, flowers/fruit

2006 (2) 5'/7' tall, froze to base, weak recovery, flowers/fruit in 2005

2007 (2) 4'/7' tall, froze-killed (stems to 3" thick froze)

***Senna artemisioides* subsp. *xsturtii*** 90-0154 Tucson (CAC field 6) – planted April 1991 (3 plants)

1992 (3) 2-2.5' tall, froze to ground, vigorous regrowth, flowers in 1991

1993 (3) 2' tall, froze to ground, vigorous regrowth, flowers in 1992

1994 (3) 2-2.5' tall, froze to ground, vigorous regrowth

1997 (3) dead-cause undetermined but may have been too cold

***Senna artemisioides* subsp. *zygophylla*** 91-0147 Tucson (CAC field 6) – planted 1994 (3 plants)

1995 (3) data missing

1997 (3) 3-4' tall, froze to ground, healthy recovery

2001 (3) 4-6' tall, no subsequent freeze damage, healthy, flowers/fruit

2004 (3) 6-7' tall, no freeze damage, healthy, flowers/fruit

2006 (3) 6.5'/7'/8' tall, no freeze damage, healthy, flowers/fruit

2007 (3) 6.5'/8'/8.5' tall, no freeze damage, healthy, flowers/fruit

***Senna atomaria*** 89-0015 Yuma – planted March 1991 (1 plant)

1991 (1) 1.25' tall, healthy, slow growth

1992 (1) 3' tall, healthy, slow growth

1993 (1) 4.5' tall, healthy, slow growth

1994 (1) 7.5' tall, healthy, moderate growth

1995 (1) 7' tall, healthy, slow growth

1996 (1) 7' tall, healthy but little growth

1997 (1) 8' tall, healthy, slow growth

1999 (1) 9.5' tall, healthy, slow growth, flowers/fruit in 1999

2000 (1) 11' tall, healthy, slow growth, flowers/fruit

2001 (1) 10' tall, healthy, little apparent growth, flowers/fruit

2002	(1)	11' tall, healthy, slow growth, flowers/fruit
2004	(1)	17' tall, healthy, moderate growth, flowers/fruit
2005	(1)	20' tall, healthy, moderate growth, flowers/fruit
2006	(1)	17' tall, healthy, little apparent growth, flowers/fruit
2007	(1)	10' tall, stems froze back to 12' from tips to stems 3" thick, healthy, vigorous regrowth
2008	(1)	20' tall, healthy, mostly recovered from 2007 freeze, no flowering
2009	(1)	25' tall, healthy, vigorous growth, no flowering

*Senna confinis* 89-0014 Tucson (CAC field 6) – planted April 1990 (5 plants)

1991	(5)	5' tall, minor freeze damage, vigorous, rust fungus on herbage in fall 1990, flowers/fruit
1992	(many)	5' tall, died to ground, original plants dead (senescence), many seedlings, flowers/fruit
1993	(many)	3' tall, froze to ground, healthy regrowth, flowers/fruit
1994	(many)	1-6' tall, numerous seedlings, some healthy, some declining, flowers/fruit
1997	(many)	3-4' tall, froze back to near ground, healthy, flowers/fruit
2001	(many)	all dead-short lived and did not reseed during drought
2004	(few)	a few plants continue to volunteer, freezing back to the ground in winter, healthy, flowers/fruit
2006	(few)	a few plants still coming up in area of original plants, healthy, flowers/fruit
2007	(few)	froze to base-recovering, healthy, flowers/fruit

*Senna confinis* 89-0014D Tucson (CAC field 3) – planted summer 1997 (6 plants)

2000	(6)	all original plants dead–short-lived + waterlogging in July 1999, some seedlings
2004	(many)	froze to base, healthy recovery, flowers/fruit
2006	(several volunteers)	short-lived, froze to base, healthy recovery, flowers/fruit
2007	(several volunteers)	short-lived, froze to base, recovering, healthy, flowers/fruit

*Senna corymbosa* 89-0102 Tucson (CAC field 6) – planted April 1990 (4 plants)

1991	(4)	1=dead-cause undetermined, 3=2' tall, no freeze damage, healthy, flowers/fruit
1992	(3)	3.5' tall, no freeze damage, healthy, flowers/fruit
1993	(3)	3.5' tall, moderate freeze damage (stems killed to 1/4" in diameter), healthy regrowth, flowers/fruit
1994	(2)	1=dead-undetermined causes, 2=4' tall, no freeze damage, healthy, flowers/fruit
1997	(2)	declined and died by 1996-senescent?

*Senna costata* 91-0400 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995	(2)	1=died in 1994-cause undetermined, 1=3.5' tall, froze to base, healthy regrowth
1997	(1)	4.5' tall, froze to ground, vigorous regrowth, flowers/fruit
2001	(1)	freezes to ground each winter, healthy, flowers/fruit
2004	(1)	6' tall, froze to ground, healthy regrowth, flowers/fruit
2006	(1)	6' tall, froze to ground, healthy regrowth, flowers/fruit
2007	(1)	6' tall, froze to ground (to stems 1/2" tall), healthy growth, flowers/fruit

*Senna costata* 91-0402 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994	(2)	2.5' tall, froze to ground, resprouting vigorously from base
1995	(2)	4' tall, froze to ground, 1=dead-froze, 1=vigorous growth, healthy
1997	(1)	5.5' tall, froze to ground, healthy, vigorous growth
2001	(1)	4' tall, freezes to ground each winter, healthy but some drought stress, flowers/fruit
2004	(1)	5' tall, froze to ground, healthy recovery, flowers/fruit
2006	(1)	4' tall, died-cause undetermined

*Senna costata* 91-0400D Tucson (CAC field 3) – planted March 1998 (3 plants)/2002 (1 plant)

2000	(3)	4' tall, froze to ground, 1=dead-froze, 2=vigorous recovery, healthy
2004	(3)	3-5' tall, froze to ground, healthy regrowth, flowers/fruit

2006 (3) 3'/5'/7' tall, froze to ground, vigorous regrowth, healthy, flowers/fruit  
 2007 (3) 4'/5.5'/6.5' tall, froze to ground (to stems 1/4" thick), vigorous regrowth, healthy, flowers/fruit

*Senna covesii* 89-0312 Tucson (CAC field 6) – planted April 1990 (6 plants)

1991 (6) 1.5' tall, healthy, flowers/fruit  
 1992 (many) 1.5' tall, die-back in winter, original plants mostly dead (short-lived) - many seedlings, healthy, flowers/fruit  
 1993 (20+) 1' tall, some die-back in winter, healthy, flowers/fruit  
 1994 (@12) 1' tall, some freeze-back, healthy, flowers/fruit  
 1997 (many) 1-2' tall, no freeze damage, healthy, flowers/fruit  
 2001 (many) all plants in this area have died out-short-lived + shade, reseeded elsewhere in field  
 2004 (many) plants continue to reseed in the field  
 2006 (many) plants continue to reseed in the field, healthy, flowers/fruit  
 2007 (many) volunteer plants continue to thrive and reproduce

*Senna covesii* 90-0433 Tucson (CAC field 3) – planted summer 1997 (10 plants)

2000 (10) all died in summer 1999-waterlogging, healthy and flowers/fruit prior to dying, new seedlings emerging  
 2004 (many) reseeding, healthy, flowers/fruit  
 2006 (many) reseeding, healthy, flowers/fruit  
 2007 (many) reseeding, healthy, flowers/fruit

*Senna durangensis* 96-0104 Tucson (CAC field 3) – planted summer 1997 (10 plants)

2000 (10) original plants all dead-short-lived, flowers/fruit in 1998,1999, several seedlings  
 2004 (several) some reseeding, healthy, flowers/fruit  
 2006 appears to have died out-short-lived

*Senna glutinosa* subsp.*ferraria* 90-0155 Tucson (CAC field 6) – planting data missing (2 plants)

1992 (2) 18" tall as of June 1992, froze to ground, vigorous regrowth, healthy  
 1993 (2) 2.5' tall, froze to ground (stems killed to 1/4" in diameter), vigorous regrowth  
 1994 (2) 2' tall, froze to ground, vigorous regrowth  
 1997 (2) 3' tall, 1=dead-froze; 1=froze to ground, poor regrowth, subsequently died

*Senna hirsuta* var.*glaberrima* 88-0061 Tucson (CAC field 6) – planted May 1989 (10 plants)

1990 (10) froze to ground, vigorous regrowth  
 1991 (10) 5-7' tall, froze to ground, vigorous regrowth, soot evident on stems, flowers/fruit, 2=removed in 1991  
 1992 (6) 6' tall, froze to ground, vigorous regrowth, flowers/fruit, 2 more plants removed in late 1991  
 1993 (6) 6' tall, froze to ground, vigorous regrowth, flowers/fruit  
 1994 (6) 5-7' tall, froze to ground, vigorous regrowth, flowers/fruit  
 1997 (6) 4-6' tall, froze to ground, healthy, vigorous, flowers/fruit  
 2001 (6) all dead-age/shading, vigorous reseeder-volunteer plants removed

*Senna hirsuta* var.*glaberrima* 88-0061 Tucson (CAC field 3) – planted summer 1997 (4 plants)

2000 (4) 2=dead in 1999-cause undetermined, 2=froze to ground, vigorous regrowth, healthy, flowers/fruit in 1999  
 2004 (2) 4' tall, froze to ground, vigorous growth, healthy, flowers/fruit  
 2006 (3) 4-4.5' tall, froze to ground, vigorous regrowth, healthy, flowers/fruit  
 2007 (2) 4' tall, froze to ground, vigorous regrowth, healthy, flowers/fruit

*Senna holwayana* 92-0069 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 3' tall, froze to ground, healthy regrowth  
 1997 (1) 4.5' tall, froze to ground, healthy  
 2001 (1) dead-missing-cause undetermined

*Senna lindheimeriana* 89-0056 Tucson (CAC field 6) – planted September 1989 (6 plants)

1990 (6) minor freeze damage, healthy, vigorous, flowers/fruit in 1990  
 1991 (6) 1=dead-cause undetermined, 5=4.5'tall, froze back, vigorous regrowth, flowers/fruit  
 1992 (5) 6-8' tall, died to ground in winter, vigorous regrowth, healthy, flowers/fruit  
 1993 (5) 6-7' tall, froze to ground, vigorous regrowth, flowers/fruit  
 1994 (5) 5-6' tall, froze to ground, vigorous regrowth, flowers/fruit, (numerous seedlings in field)  
 1997 (many) 6' tall, froze to ground, vigorous, healthy, flowers/fruit, widely reseeding  
 2001 (many) all original plants gone-short-lived? + gophers, widely reseeded but many of these removed

*Senna lindheimeriana* 91-0451 Tucson, (CAC field 3) – planted summer 1997 (3 plants)

2000 (3) 2=died-cause undetermined but apparently short-lived, 1=3' tall, froze to ground, vigorous regrowth, flowers/fruit, several volunteer seedlings  
 2004 (many) to 3' tall, froze to ground, healthy, flowers/fruit  
 2006 (many) 4-6' tall, froze to ground, vigorous regrowth, flowers/fruit  
 2007 (several) 4-5' tall, froze to base, vigorous regrowth, flowers/fruit

*Senna marilandica* 91-0430 Tucson (CAC field 6) – planted July 1992 (4 plants)

1993 (4) 3=dead-froze to ground and did not recover, 1=froze to ground and presumed dead  
 1994 (1) data missing  
 1995 (1) data missing  
 1997 (1) data missing  
 2001 (1) data missing  
 2004 (1) data missing  
 2006 (1) 7.5' tall, froze to ground, healthy, vigorous regrowth, apparently overlooked in previous years  
 2007 (1) 3' tall, froze to ground, recovering

*Senna pallida* 90-0351 Yuma – planted March 1992 (2 plants)/ March 1993 (2 plants)

1992 (2) 4'/5' tall, healthy, moderate growth, flowers in fall 1992  
 1993 (4) 2-4.5' tall, healthy, slow growth, 2 larger plants =flowers/fruit  
 1994 (4) 3.5-6' tall, healthy, moderate growth, flowers/fruit  
 1995 (4) 4-6' tall, healthy, slow growth, flowers/fruit  
 1996 (4) 3-6' tall, healthy, slow growth, flowers/fruit  
 1997 (4) 2=killed in 1996 by gophers, 1=3' tall, fair condition, slow growth, 1=6' tall, slow growth, flowers/fruit  
 1999 (2) 3'/4' tall, fair condition, little apparent growth, flowers/fruit  
 2000 (2) 3'/4' tall, fair to good condition, little size change, flowers/fruit  
 2001 (2) 2'/4' tall, healthy, little size change, flowers/fruit  
 2002 (2) 3'/4' tall, healthy, little change in size, flowers/fruit  
 2004 (2) 4'/5' tall, fair condition, some increase in size, flowers/fruit  
 2005 (2) 2'/4' tall, healthy, smaller this year, flowers/fruit  
 2006 (2) 4'/5' tall, healthy, flowers/fruit  
 2007 (2) 2'/3' tall, stems froze to base, healthy growth, flowers/fruit  
 2008 (2) 1=dead in 2008-cause undetermined, 1=4.5' tall, healthy, flowers/fruit  
 2009 (2) 5' tall, fair condition, little growth, no flowering

*Senna pallida* 90-0351 Tucson (CAC field 6) – planted April 1993 (4 plants)

1994 (4) 4' tall, froze to ground, vigorous recovery, flowers/fruit

1995 (4) 4.5-7' tall, froze to ground, vigorous recovery, flowers/fruit  
 1997 (4) 6-7' tall, froze to ground, healthy, vigorous, flowers/fruit  
 2001 (4) 3-5' tall, freeze to ground each winter, healthy but some drought stress, flowers/fruit  
 2004 (4) 5-6' tall, froze to ground, healthy but drought-stressed, flowers/fruit  
 2006 (4) 4'5'/5'/6' tall, froze to ground, healthy growth, flowers/fruit  
 2007 (4) 4.5-6' tall, froze to ground, 2=dead-froze, 2=weak regrowth

***Senna pallida*** 90-0351 (4) Tucson (CAC field 3) – planted summer 1997 (4 plants)  
 2000 (4) 3.5-6' tall, froze to ground, healthy regrowth, flowers/fruit  
 2004 (4) 5-6.5' tall, froze to ground, healthy regrowth, flowers/fruit  
 2006 (4) 1=4' tall, dead-cause undetermined, 3=4.5'/5.5'6' tall, froze to ground, healthy regrowth, flowers/fruit  
 2007 (3) 4'4'/5' tall, froze to ground (stems to 1/4" thick), vigorous recovery

***Senna pleurocarpa* var. *pleurocarpa*** 90-0243 Tucson (CAC field 6) – planted April 1991 (4 plants)  
 1992 (4) 4-6' tall, no freeze damage, healthy, vigorous, first flowers/fruit in spring 1992  
 1993 (4) 5-7' tall, moderate freeze damage (stems killed to 1/2" in diameter), healthy regrowth, flowers/fruit  
 1994 (4) 6.5-8' tall, minor leaf burn only, healthy, flowers/fruit  
 1997 (2) 2=died 1996-cause undetermined (age?), 2=7-10' tall, dead-froze (short-lived?)  
 2004 (1) 1 volunteer seedling observed in summer 2004 ca. 2' tall, healthy.

***Senna polyantha*** 89-0292 Tucson (CAC field 3) – planted summer 1997 (2 plants)  
 2000 (2) 1=died following July 1999 flooding, 1=4' tall, no freeze damage, healthy, flowers/fruit from 1999  
 2004 (1) dead-missing-cause undetermined

***Senna polyantha*** 91-0008 Tucson (CAC field 6) – planted August 1991 (4 plants)  
 1992 (4) data missing  
 1993 (4) 2-4' tall, froze to ground, vigorous regrowth  
 1994 (3) 3-4' tall, some stems froze back 1-2' from tips, healthy, flowers/fruit in 1994  
 1995 (3) 3-6' tall, no freeze damage, healthy, vigorous; flowers/fruit  
 1997 (3) 3-7' tall, froze back to 3' from stem tips, healthy, flowers/fruit  
 2001 (3) 1=dead ca. 2000-cause undetermined, 2=3'/7' tall, some freeze damage in winter, healthy  
 (1=flowers/fruit)  
 2004 (2) 3.5'/7.5' tall, minor freeze damage to stem tips, healthy, flowers/fruit  
 2006 (2) 6'/8' tall, no freeze damage, healthy, flowers/fruit  
 2007 (2) 6'/8' tall, stems froze back 1-3" from tips, healthy, flowers/fruit

***Senna roemeriana*** 90-0422 Tucson (CAC field 6) – planted July 1992 (5 plants)  
 1993 (5) 2=died in 1992-cause undetermined, 3=froze to ground, vigorous regrowth, flowers/fruit in 1992  
 1994 (3) 1.5' tall, healthy, flowers/fruit-seedlings coming up in field  
 1995 (many) 1.5' tall, healthy, vigorous, flowers/fruit, numerous volunteer plants around field  
 1997 (many) healthy, flowers/fruit, plants continue to volunteer in field  
 2001 (many) original plants long dead but volunteer plants persist, flowers/fruit  
 2004 (many) plants continue to volunteer in the field, flowers/fruit

***Senna roemeriana*** 90-0423 Tucson (CAC field 3) – planted summer 1997 (10 plants)  
 2000 (10) original plants all dead-short-lived, numerous mature seedlings, flowers/fruit  
 2004 (many) reseeding, healthy, flowers/fruit  
 2006 (many) reseeding, healthy, flowers/fruit  
 2007 (hundreds) reseeding, some stems froze, healthy, flowers/fruit

***Senna wislizeni*** 91-0259 Tucson (CAC field 3) – planted August 2001 (2 plants - replacements for original plants)

2004	(2)	data missing
2006	(2)	4'/5.5' tall, no freeze damage, healthy, flowers/fruit
2007	(2)	4'/6' tall, no freeze damage, healthy, flowers/fruit

***Sesbania drummondii*** 90-0369 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994	(1)	5' tall, no freeze damage, healthy, vigorous, flowers/fruit in 1993
1995	(1)	8' tall, some winter die-back but not freeze damage, vigorous growth; flowers/fruit
1997	(1)	10' tall, no freeze damage, declining/senescing-a short-lived species, flowers/fruit, died in 1997-1998

***Sesbania punicea*** 89-0057 Tucson (CAC field 6) – planted September 1989 (4 plants)

1990	(4)	no freeze damage, healthy
1991	(4)	4' tall, no freeze damage, healthy, flowers/fruit in 1990, 1991
1992	(4)	1=dead-cause undetermined, 3=no freeze damage, healthy, flowers/fruit
1993	(3)	3-4' tall, no freeze damage but considerable die-back in winter of 1992-1993, not healthy-declining, all dead by fall 1993-apparently short-lived

***Sophora arizonica*** 90-0202 Tucson (CAC field 6) – planted April 1990 (2 plants)

1991	(2)	1.5' tall, no freeze damage, healthy (1=defoliated by caterpillars but recovering), flowers/fruit
1993	(2)	2.5/3' tall, no freeze damage, healthy (partial defoliation by caterpillars), flowers/fruit
1994	(2)	2.5/3' tall, no freeze damage (defoliated by caterpillars in 1993), healthy, flowers/fruit
1997	(2)	2.5/3.5' tall, no freeze damage, moth defoliation, healthy, some flower/fruit
2001	(2)	3'/4' tall, no freeze damage, healthy (caterpillar damage some years), flowers/fruit
2004	(2)	1=dead in 2002-gophers, 1=4' tall, no freeze damage, healthy, flowers/fruit
2006	(1)	4.5' tall, no freeze damage, healthy but no flowering
2007	(1)	4.5' all, died-cause undetermined but possibly drought and rodents burrowing around base of plant

***Sophora nuttalliana*** 90-0308 Tucson (CAC field 6) – planted August 1991 (5 plants)

1992	(5)	2=dead-did not establish, 3=3" tall, died back to ground, healthy regrowth
1994	(3)	6" tall, new stems in spring, die-back in winter; flowers 1993, 1994=?, died out in 1994-1995-cause undetermined

***Sophora secundiflora*** 88-0014 Tucson (CAC field 6) – planted September 1989 (1 plant)

1990	(1)	no freeze damage, healthy
1991	(1)	2.5' tall, no freeze damage, healthy
1992	(1)	5' tall, no freeze damage, healthy, flowers/fruit in 1992
1993	(1)	5' tall, no freeze damage, healthy, flowers/fruit
1994	(1)	6' tall, no freeze damage, healthy, flowers/fruit
1997	(1)	6.5' tall, no freeze damage, healthy, flowers/fruit (defoliated by caterpillars in 1996)
2001	(1)	8' tall, no freeze damage, healthy, flowers/fruit
2004	(1)	8' tall, no freeze damage, poor condition-top died due to drought
2006	(1)	8' tall, no freeze damage, poor condition due to drought, 2 stems to 3' tall are still healthy
2007	(1)	3' tall, no freeze damage, fair condition, no additional die-back evident

***Sophora tomentosa*** 92-0033 Yuma – planted March 1994 (1 plant)

1994	(1)	2' tall, healthy, slow growth, flowers/fruit in 1994
1995	(1)	2' tall, healthy, slow growth-spreading habit, flowers/fruit
1996	(1)	2.5' tall, healthy, slow growth, flowers/fruit
1997	(1)	3.5' tall, healthy, slow growth but spreading growth form, flowers/fruit
1999	(1)	4.5' tall, healthy, slow growth, flowers/fruit
2000	(1)	4.5' tall, healthy, little change in size, flowers/fruit

2001	(1)	4.5' tall, healthy, little size change, flowers/fruit
2002	(1)	4.5' tall, healthy, little apparent change in size, flowers/fruit
2004	(1)	6' tall, healthy, slow growth, flowers/fruit
2005	(1)	5.5' tall, healthy, little change in size, flowers/fruit
2006	(1)	6' tall, healthy, little change in size, flowers/fruit
2007	(1)	4.5' tall, stems froze to base to stems 2" thick, healthy, vigorous regrowth, flowers/fruit
2008	(1)	4.5' tall, healthy, recovered from 2007 freeze, flowers/fruit
2009	(1)	4' tall, poor condition-mostly dead-cause undetermined

***Sutherlandia frutescens*** 89-0104 Tucson (CAC field 6) – planted September 1989 (4 plants)

1990	(4)	1=dead-cuse undetermined, 3=no freeze damage, healthy, flowers/fruit in early 1990
1991	(3)	3.5' tall, no freeze damage, healthy, flowers/fruit
1992	(3)	1=died-senescence, 2=no freeze damage, declining by June 1992 and died later in the year, heavy flowers/fruit, many seedlings germinating
1993	(3)	1=4' tall-died in fall 1992, 2 healthy seedlings.
1994	(2)	2' tall, original plants died (senescence), 2 offspring, no freeze damage, healthy, flowers/fruit
1997	( )	died out-short-lived

***Tephrosia leiocarpa*** 88-0028 Tucson (CAC field 6) – planted May 1989 (3 plants)

1990	(3)	froze to near base, healthy, vigorous regrowth
1991	(2)	1=dead-cause undetermined, 2=froze to ground, vigorous regrowth, flowers/fruit in 1990, 1991
1992	(2)	3'/4' tall, froze to ground, vigorous regrowth, flowers/fruit
1993	(3)	2'/4' tall, froze to ground, vigorous regrowth, flowers/fruit
1994	(3)	2'/4' tall, froze to ground, vigorous regrowth, flowers/fruit
1997	(2)	2.5'/6.5' tall, froze to ground, healthy, vigorous, flowers/fruit
2001	(2)	1=dead ca. 1999-drought?, 1=5' tall, freezes to ground each winter, healthy, flowers/fruit
2004	(1)	4' tall, froze to ground, recovering, healthy but drought stressed, flowers/fruit
2006	(1)	3' tall, died-drought stress or senescence

***Tephrosia leiocarpa*** 88-0028 Tucson (CAC field 3) – planted summer 1997 (4 plants)

2000	(4)	2.5-3' tall, froze to ground, vigorous regrowth, flowers/fruit
2004	(4)	4' tall, froze to ground, vigorous recovery, flowers/fruit
2006	(3)	1=dead-cause undetermined, 3=3-4' tall, froze to ground, vigorous regrowth, healthy, flowers/fruit
2007	(3)	3-4' tall, froze to ground, vigorous regrowth, healthy, flowers/fruit

***Xanthocercis zambesiaca*** 91-0137 Yuma – planted March 1993 (4 plants)

1993	(4)	1.5-4.5' tall, fair condition, little growth
1994	(4)	1-3' tall, poor condition-declining with some die-back, little or no growth
1995	(4)	2=died in 1995-cause undetermined, 2=1.5'/4' tall, poor condition, little growth
1996	(2)	both died in 1996-cause undetermined-did poorly at this site

***Zapoteca formosa* subsp. *schottii*** 89-0405 Tucson (CAC field 3) – planted summer 1997 (6 plants)

2000	(6)	2.5-3' tall, froze to ground, vigorous growth
2004	(6)	1=dead-missing-cause undetermined, 5=2.5-3.5' tall, froze to ground, healthy recovery, flowers/fruit
2006	(5)	3-4' tall, many stems froze back 1-2' from tips, healthy growth, flowers/fruit
2007	(5)	3-5' tall, most stems froze to base but some stems undamaged, vigorous regrowth, flowers/fruit

### **Plants surviving for fewer than three years**

*Abrus precatorius* 90-0491 Yuma – planted March 1992 (6 plants)

1992 (6) 1=died in 1992-cause undetermined, 5=vines to 2' long, fair condition-browsed somewhat-these had flowered and fruited in containers in the greenhouse but do not appear to have done so in the field  
 1993 (5) all died during 1993-cause undetermined

*Abrus schimperi* subsp. *africanus* 95-0011 Yuma – planted February 1996 (4 plants)

1997 (4) all died during 1996-cause undetermined

*Acacia acradenia* 90-0043 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994 (2) 2.5' tall, dead-froze to ground and did not recover

*Acacia adenophora* 91-0301 Tucson – planted July 1992 (1 plant)/April 1993 (2 plants)

1993 (1) 1.5' tall, foliar and stem tip damage, poor health  
 1994 (3) all dead by summer 1993-cause undetermined

*Acacia adunca* 91-0303 Tucson (CAC field 6) – planted July 1992 (1 plant)

1993 (1) 1' tall, minor tip damage, healthy then died by October 1993-cause undetermined

*Acacia amethyphothylla* 90-0500 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995 (2) 2' tall, dead-froze to ground and did not recover

*Acacia ancistrocarpa* 90-0046 Tucson (CAC field 6) – planted April 1994 (3 plants)

1995 (3) 2-2.5' tall, dead-froze to ground and did not recover

*Acacia andrewsii* 91-0305 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994 (1) 6" tall, dead-browsed by rabbits, subsequently froze to ground and did not recover

*Acacia angusta* 91-0306 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) dead-froze to ground and did not recover

*Acacia arida* 90-0047 Tucson (CAC field 6) – planted August 1992 (2 plants)

1993 (2) 1' tall, froze to ground, regrowing  
 1994 (2) 6" tall, froze to ground, 1=dead, 1=possibly alive  
 1995 (1) 1' tall, dead-froze to ground and did not recover

*Acacia auriculiformis* 92-0241 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) dead-missing in 1994-cause undetermined

*Acacia baileyana* 91-0310 Tucson (CAC field 6) – planted July 1992 (2 plants)/April 1994 (1 plant)

1993 (2) 1' tall, minor tip die-back from freeze, 1=healthy, 1=chlorotic  
 1994 (2) 1=dead summer/fall 1993-cause undetermined, 1=1' tall, no freeze damage, chlorotic, low vigor  
 1995 (1) dead-declined and died, cold hardy but chlorotic with die-back. Not adapted to soil at this site and perhaps sensitive to summer heat and humidity

*Acacia baileyana* var. *purpurea* 91-0311 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1.5' tall, no freeze damage, healthy  
 1994 (2) 1.5' tall, minor die-back, chlorotic, low vigor  
 1995 (2) 1.5'-2' tall, dead in 1994, chlorotic, gradual decline-not adapted here

- Acacia bilimeckii* 92-0066 Tucson (CAC field 3) – planted July 1998 (1 plant)  
 2000 (1) 3' tall, some freeze damage to stems, healthy growth, subsequently died-cause undetermined
- Acacia binata* 90-0050 Tucson (CAC field 6) – planted April 1994 (3 plants)  
 1995 (3) 1-2.5' tall, dead-froze to ground and did not recover
- Acacia blakei* 91-0313 Tucson (CAC field 6) – planted April 1994 (2 plants)  
 1995 (2) 6" tall, dead-froze to ground and did not recover
- Acacia blakelyi* 90-0314 Tucson (CAC field 6) – planted August 1992 (2 plants)  
 1993 (2) 1.5' tall, froze to ground, 1=dead-froze, 1=6" tall, regrowing but browsed  
 1995 (1) dead-missing-cause undetermined
- Acacia bonariensis* 94-0143 Yuma – planted February 1996 (2 plants)  
 1997 (2) 4'/4.5' tall, poor condition, little or no growth  
 1999 (2) both plants died in 1998-cause undetermined
- Acacia boormanii* 93-0001 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) dead-missing-cause undetermined
- Acacia caesia* 92-0242 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1994 (1) dead-missing-cause undetermined
- Acacia caesiella* 91-0316 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 1' tall, dead-froze to ground and did not recover
- Acacia calamifolia* 91-0317 Tucson (CAC field 6) – planted August 1992 (2 plants)  
 1993 (2) 1' tall, froze to ground  
 1994 (2) 2' tall, minor leaf-burn from freeze, chlorotic  
 1995 (1) 2' tall, dead-froze to ground and did not recover
- Acacia cardiophylla* 90-0054 Tucson (CAC field 6) – planted July 1991 (2 plants)  
 1992 (2) both died shortly after planting in summer 1991-cause undetermined
- Acacia celastrifolia* 90-0056 Tucson (CAC field 6) – planted April 1991 (1 plant)  
 1993 (1) 1.5' tall, dead-froze to ground and did not recover
- Acacia cheelii* 90-0057 Tucson (CAC field 6) – planted April 1992 (1 plant)  
 1993 (1) 3' tall, dead-froze to ground and did not recover
- Acacia cincinnata* 90-0059 Tucson (CAC field 6) – planted April 1991 (4 plants)  
 1993 (4) all died in 1992-cause undetermined
- Acacia colletioides* 91-0240 Tucson (CAC field 6) – planted April 1994 (2 plants)  
 1995 (2) 1=dead and gone-cause undetermined, 1=1' tall, no freeze damage, low vigor  
 1997 (1) dead-missing-cause undetermined
- Acacia conferta* 90-0062 Tucson (CAC field 6) – planted April 1991 (1 plant)  
 1993 (1) dead-froze to ground and did not recover

*Acacia cowleiana* 90-0064 Tucson (CAC field 6) – planted April 1991 (2 plants)  
 1993 (2) 6'/9' tall (2" diameter trunk), dead-froze to ground and did not recover

*Acacia crassuloides* 90-0066 Tucson (CAC field 6) – planted April 1994 (2 plants)  
 1995 (2) 3" tall, dead-cause undetermined

*Acacia cultriformis* 90-0067 Tucson (CAC field 6) – planted April 1991 (1 plant)/April 1992 (1 plant)  
 1993 (2) 1 (1992)=1' tall, dead-froze to ground and did not recover, 1 (1991)=2.5' tall, severe freeze  
           damage, chlorotic, poor condition  
 1994 (1) dead-missing-cause undetermined

*Acacia cunninghamii* 90-0094 Tucson (CAC field 6) – planted April 1991 (2 plants)  
 1993 (2) both plants died in 1992-cause undetermined

*Acacia cuthbertsonii* 90-0095 Tucson (CAC field 6) – planted April 1991 (2 plants)/April 1992 (1 plant)  
 1993 (3) 2.5'-6' tall (4" diameter trunk), all dead-froze to ground and did not recover

*Acacia cyclops* 91-0323 Tucson (CAC field 3) – planted summer 1997 (2 plants)  
 2000 (2) 4'/6' tall, both died following July 1999 flooding, had been vigorous prior to this

*Acacia declinata* 91-0324 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) 6" tall, dead-froze to ground and did not recover

*Acacia decurrens* var. *mollis* 89-0389 Tucson (CAC field 6) – planted April 1990 (4 plants)  
 1991 (4) to 3.5' tall, no freeze damage, healthy  
 1992 (4) 1=dead-cause undetermined, 3=5-9' tall, no freeze damage, healthy but some chlorosis and  
           tip die-back in summer 1991, vigorous  
 1993 (3) 6-9' tall, froze to ground, dead-did not recover (senescent?)

*Acacia dictyophleba* 91-0325 Tucson (CAC field 6) – planted April 1994 (3 plants)  
 1995 (3) 2=dead in 1994-cause undetermined, 1=2.5' tall, froze back 2' from stem tips, poor vigor  
 1997 (1) dead-missing-cause undetermined

*Acacia doratoxylon* 93-0003 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) Data missing  
 1997 (1) 2.5' tall, dead-froze to ground and did not recover

*Acacia drepanocarpa* 90-0100 Tucson (CAC field 6) – planted April 1992 (1 plant)  
 1993 (1) 2' tall, dead-froze to ground and did not recover

*Acacia elongata* 90-0102 Tucson (CAC field 6) – planted April 1992 (1 plant)  
 1993 (1) 2' tall, dead-froze to ground and did not recover

*Acacia eriopoda* 90-0105 Tucson (CAC field 6) – planted July 1991 (2 plants)  
 1993 (2) 3'/4.5' tall (1" diameter trunk), dead-froze to ground and did not recover

*Acacia euthycarpa* 91-0329 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) 1.5' tall, dead-froze to ground and did not recover

*Acacia everestii* 91-0330 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) 1=died in summer 1993-cause undetermined, 1=dead-missing in spring 1994

*Acacia extensis* 91-0331 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 2' tall, dead-froze to ground and did not recover

*Acacia falcata* 90-0107 Tucson (CAC field 6) – planted April 1992 (1 plant)  
 1993 (1) 2.5' tall, dead-froze to ground and did not recover

*Acacia farinosa* 94-0078 Tucson (CAC field 3) – planted July 1998 (1 plant)  
 2000 (1) dead-frozen to ground in winter of 1998-1999 and did not recover

*Acacia fauntleroyi* 91-0344 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) 1-2' tall, minor leaf burn - chlorotic, low vigor  
 1995 (2) 1-3' tall, 1=dead-gnawed by rabbits, 1=die-back to 6" from base, low vigor  
 1997 (1) dead-missing-cause undetermined

*Acacia genistifolia* 91-0366 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) died in summer 1993-cause undetermined

*Acacia gittingsii* 91-0337 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) 4' tall, dead-froze to ground and did not recover

*Acacia gladiiformis* 91-0338 Tucson (CAC field 6) – planted July 1992 (1 plant)/April 1994 (1 plant)  
 1993 (1) dead-froze to ground and did not recover  
 1995 (1) 1' tall, dead-froze to ground and did not recover

*Acacia glaucoptera* 90-0068 Tucson (CAC field 6) – planted August 1991 (2 plants)  
 1992 (2) 1.5' tall, no freeze damage, healthy, vigorous, first flowers in 1992  
 1993 (2) 1.5' tall x 3' across, minor tip damage, healthy, flowers/few fruit in 1993  
 1994 (2) 1.5' tall, no freeze damage but both plants died spring 1994-browsed in 1993

*Acacia gonophylla* 91-0342 Tucson (CAC field 6) – planted July 1992 (1 plant)/April 1993 (1 plant)  
 1993 (1) 1' tall, dead-froze to ground and did not recover  
 1994 (1) 1' tall, dead-froze to ground and did not recover

*Acacia granitica* 90-0069 Tucson (CAC field 6) – planted April 1992 (2 plants)  
 1993 (2) 6" tall, dead-froze to ground and did not recover

*Acacia gregorii* 90-0070 Tucson (CAC field 6) – planted July 1991 (2 plants)  
 1992 (2) data missing  
 1993 (2) 1=dead-missing in 1992-cause undetermined, 1=dead-froze to ground and did not recover

*Acacia guinetii* 91-0343 Tucson (CAC field 6) – planted April 1993  
 1994 (1) died in summer 1993-cause undetermined

*Acacia hamersleyensis* 91-0344 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 6"/1' tall, dead-froze to ground and did not recover

*Acacia hamersleyensis* 91-0344 Tucson (CAC field 3) – planted July 1998 (1 plant)  
 2000 (1) 1' tall, froze to ground, recovering slowly. Subsequently died ca. 2001-cause undetermined

*Acacia hammondii* 91-0345 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 1' tall, dead-froze to ground and did not recover

*Acacia harpophylla* 91-0346 Tucson (CAC field 6) – planted April 1994 (2 plants)  
 1995 (2) 6" tall, no freeze damage, healthy  
 1997 (2) dead–killed by December 1996 freeze

*Acacia harveyi* 91-0347 Tucson (CAC field 6) – planted 1993 (1 plant)  
 1994 (1) 2' tall, dead-cause undetermined-two other plants of this accession in another part of the same field remain healthy

*Acacia hemsleyi* 90-0072 Tucson (CAC field 6) – planted April 1991 (2 plants)  
 1992 (2) data missing, extremely fast growth  
 1993 (2) 14' tall (6" diameter trunk), dead-froze to ground and did not recover

*Acacia hemignosta* 91-0349 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) died in 1994-cause undetermined

*Acacia heteroclita* 91-0350 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 2' tall, dead-froze to ground and did not recover

*Acacia heteroclita* 91-0350 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) 2.5' tall, dead-froze to ground and did not recover

*Acacia holosericea* 90-0073 Tucson (CAC field 6) – planted April 1991 (2 plants)  
 1992 (2) data missing, rapid growth, flowers prior to planting while in container  
 1993 (2) 10' tall (4" diameter trunk), dead-froze to ground and did not recover. This species is reported to be short-lived.

*Acacia howittii* 91-0351 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) 1.5' tall, died in summer 1993-cause undetermined

*Acacia inaequilatera* 91-0352 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 2' tall, 1=dead-froze to ground and did not recover, 1=froze to ground, vigorous regrowth  
 1994 (1) dead-missing-cause undetermined

*Acacia julifera* subsp. *gilbertensis* 91-0435 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) 1=died in summer 1993-cause undetermined, 1=2' tall, dead-froze in winter 1993-1994

*Acacia juncifolia* 91-0355 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) 10" tall, died in summer 1993-cause undetermined

*Acacia kybeanensis* 91-0357 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) died in summer 1993-cause undetermined

*Acacia lasiocarpa* 91-0358 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 1' tall, dead-froze to ground and did not recover

*Acacia latescens* 91-0359 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) dead-froze to ground and did not recover

- Acacia lineata*** 91-0360 Tucson (CAC field 6) – planted April 1993 (2 plants)
- 1994 (2) 1=died in summer 1993-cause undetermined, 1=6" tall, heavily browsed, regrowing but chlorotic
- 1995 (1) 1' tall, no freeze damage, low vigor
- 1997 (1) dead-missing-cause undetermined
- Acacia littorea*** 91-0406 Tucson (CAC field 6) – planted July 1992 (2 plants)
- 1993 (2) 1.5' tall, dead-froze to ground and did not recover
- Acacia longissima*** 91-0361 Tucson (CAC field 6) – planted July 1992 (2 plants)
- 1993 (2) 1.5' tall, both plants froze to ground, 1=dead-froze, 1=healthy regrowth, flowers in 1993
- 1994 (1) 2.5' tall, dead-froze to ground and did not recover
- Acacia luederitzii* var. *luederitzii*** 91-0142 Tucson (CAC field 6) – planted April 1992 (2 plants)
- 1993 (2) 2.5' tall, 1=dead-froze to ground and did not recover, 1=froze to ground, slow regrowth but subsequently died-cause undetermined
- Acacia lysiphloia*** 91-0362 Tucson (CAC field 6) – planted April 1993 (2 plants)
- 1994 (2) 2'3" tall, dead-froze to ground and did not recover
- Acacia mabellae*** 91-0363 Tucson (CAC field 6) – planted July 1992 (2 plants)
- 1993 (2) 3'4" tall, dead-froze to ground and did not recover
- Acacia maitlandii*** 91-0364 Tucson (CAC field 3) – planted March 1998 (2 plants)
- 2000 (2) 1=dead-missing-cause undetermined, 1=4' tall, died in summer 1999-waterlogging.
- Acacia meisnerii*** 91-0365 Tucson (CAC field 6) – planted July 1992 (2 plants)
- 1993 (2) dead-froze to ground and did not recover
- Acacia menzelli* ii** 94-0086 Tucson (CAC field 3) – planted July 1998 (1 plant)
- 2000 (1) dead-froze to ground in winter of 1998-1999 and did not recover
- Acacia merinthophora*** 91-0366 Tucson (CAC field 6) – planted April 1993 (2 plants)
- 1994 (2) 1=died in summer 1993-cause undetermined, 1=1' tall, slight freeze damage, healthy
- 1995 (1) dead-missing in 1994-cause undetermined
- Acacia microbotrya*** 89-0098 Tucson (CAC field 6) – planted April 1994 (1 plant)
- 1994 (1) 2' tall, no freeze damage, healthy
- 1995 (1) 3' tall, froze to base-no regrowth, base is green but the plant never resprouted
- Acacia mollifolia*** 91-0368 Tucson (CAC field 6) – planted April 1994 (1 plant)
- 1995 (1) dead-missing-cause undetermined
- Acacia mucronata*** 90-0089 Tucson (CAC field 6) – planted April 1993 (2 plants)
- 1994 (2) 2' tall, both plants died in summer 1993-cause undetermined
- Acacia mucronata*** 90-0089 Tucson (CAC field 6) – planted April 1994 (1 plant)
- 1995 (1) 4.5' tall, dead-froze to ground and did not recover
- Acacia myrtifolia*** 91-0369 Tucson (CAC field 6) – planted July 1992 (2 plants)
- 1993 (2) dead-froze to ground and did not recover

*Acacia nerifolia* 91-0370 Tucson (CAC field 6) – planted July 1992 (1 plant)/April 1994 (1 plant)

1993 (1) 18" tall, some freeze damage, chlorotic  
 1994 (1) 18" tall, no freeze damage, chlorotic and unhealthy  
 1995 (2) 1'2.5' tall, dead-froze to ground and did not recover

*Acacia nigrescens* 91-0144 Yuma – planted March 1992 (3 plants)

1992 (3) 6"-1.5' tall, poor condition, severe browsing  
 1993 (3) all died during 1993-cause undetermined but severe browsing may have been a contributing factor

*Acacia nigricans* 90-0091 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) dead-froze to ground and did not recover

*Acacia nodiflora* var.*ferox* 91-0371 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 4" tall, dead-cause undetermined

*Acacia obtusata* 91-0373 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1' tall, dead-froze to ground and did not recover

*Acacia orthocarpa* 90-0092 Tucson (CAC field 6) – planted April 1992 (1 plant)

1993 (1) 2' tall, dead-froze to ground and did not recover (severe foliage damage at 26° F)

*Acacia oswaldii* 92-0208 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 6" tall, dead-froze to ground and did not recover

*Acacia parramattensis* 91-0374 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1' tall, dead-froze to ground and did not recover

*Acacia penninervis* 90-0124 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994 (2) 10" tall, both plants died in summer 1993-cause undetermined

*Acacia phlobopetala* 91-0375 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994 (2) 1=died in summer 1993-cause undetermined, 1=1' tall, browsed by rabbits, froze to ground in winter 1993-1994 and did not recover

*Acacia phlebopetala* 91-0375 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 4' tall, dead-froze to ground and did not recover

*Acacia polyacantha* 90-0253 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 7' tall, dead-froze to ground and did not recover, vigorous growth in summer 1994

*Acacia prominens* 90-0125 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994 (2) 1' tall, both plants died in summer 1993-cause undetermined

*Acacia prominens* 90-0125 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) died later in 1994-probably not adapted to local soil

*Acacia pustula* 91-0378 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) 1=died in summer 1992-cause undetermined, 1=1.5' tall, minor freeze damage to foliage and stem tips, chlorotic

1995 (1) dead-missing in 1994-cause undetermined

*Acacia pyrifolia* 91-0379 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 1.5'/2' tall, both plants froze to ground, 1=dead-froze, 1=regrowing  
 1994 (1) 3' across, dead-froze to ground and did not recover

*Acacia retinoides* 90-0130 Tucson (CAC field 6) – planted April 1992 (1 plant)  
 1993 (1) 3' tall, dead-froze to ground and did not recover

*Acacia retivenia* 91-0380 Tucson (CAC field 6) – planted April 1992 (2 plants)  
 1994 (2) 1.5' tall, dead-froze to ground and did not recover

*Acacia rhigiophylla* 91-0381 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) both plants died in summer 1993-cause undetermined

*Acacia rhodophloia* 91-0382 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 1=died in summer 1993-cause undetermined, 1.5' tall, froze to ground, recovering but browsed by rabbits  
 1994 (1) 2' tall, dead-froze to ground and did not recover

*Acacia rubida* 91-0384 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 6" tall, dead-froze to ground and did not recover

*Acacia rupicola* 90-0132 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) 3.5' tall; dead-froze to ground and did not recover

*Acacia saliciformis* 91-0385 Tucson (CAC field 6) – planted July 1992 (1 plant)  
 1993 (1) dead-froze to ground and did not recover

*Acacia schweinfurthii* var. *schweinfurthii* 95-0115 Yuma – planted December 1995 (3 plants)  
 1996 (3) all=1' tall, fair condition, little or no growth  
 1997 (3) all=died in 1996-cause undetermined

*Acacia sclerophylla* 91-0387 Tucson (CAC field 6) – planted July 1992 (1 plant)  
 1993 (1) 2.5' tall, dead-froze to ground and did not recover

*Acacia sessilis* 91-0389 Tucson (CAC field 3) (CAC field 6) – planted summer 1997 (1 plant)  
 2000 (1) died summer 1999-rotted following waterlogging in July 1999, low vigor prior to dying

*Acacia sessilispica* 91-0390 Tucson (CAC field 6) – planted July 1992 (1 plant)  
 1993 (1) 1' tall, minor freeze damage to foliage, healthy  
 1994 (1) 3" tall, dead-froze to ground and did not recover, severe rabbit browsing in 1993

*Acacia sophorae* 91-0391 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) 1' tall, died in summer 1993-cause undetermined

*Acacia sowdenii* 91-0243 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) 1' tall, no freeze damage, low vigor  
 1997 (1) dead-missing-cause undetermined

*Acacia spathulifolia* 94-0095 Tucson (CAC field 3) – planted July 1998 (1 plant)  
 2000 (1) 4' tall, died in summer 1999-waterlogging

*Acacia spondylophylla* 91-0392 Tucson (CAC field 6) – planted July 1992 (1 plant)/April 1994 (1 plant)

1993 (1) dead-froze to ground and did not recover  
1995 (1) dead-missing-cause undetermined

*Acacia spondylophylla* 91-0392 Tucson (CAC field 3) – planted March 1998 (2 plants)

2000 (2) both died in summer 1999-waterlogging

*Acacia subulata* 91-0395 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) dead-froze to ground and did not recover

*Acacia sulcata* 90-0137 Tucson – planted April 1994 (1 plant)

1995 (1) died after planting in 1994-cause undetermined

*Acacia sulcata* var. *platyphylla* 90-0111 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 2.5' tall, no freeze damage, healthy, flowers/fruit in 1995  
1997 (1) 2.5' tall, dead-may have frozen

*Acacia* sp. 90-0319 Yuma – planted March 1992 (2 plants)

1992 (2) both=1" tall, severely browsed and in poor conditon  
1993 (2) both died in 1993-cause undetermined-these plants never did well here.

*Acacia* sp. s.n. (Peru) Tucson (CAC field 6) – planted April 1992 (1 plant)

1993 (1) 9' tall, dead-froze to ground and did not recover (2" diameter trunk), vigorous growth in 1992

*Acacia tarculensis* 92-0214 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 4' tall, dead-froze to ground and did not recover

*Acacia tortilis* 90-0255 Yuma – planted March 1991 (2 plants)

1991 (2) both 3' x 6' spread, had done very well until December 1991 then mostly died back-cause undetermined  
1992 (2) 1=dead-never recovered, 1=8' tall x 10' tall, recovered/apparently healthy, vigorous growth  
1993 (1) died in 1993-cause undetermined-these grew vigorously but declined and died rapidly

*Acacia tortilis* subsp. *heteracantha* 91-0056 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993 (2) 3'5' tall (2" diameter trunks), dead-froze to ground and did not recover

*Acacia torulosa* 90-0256 Tucson – planted April 1994 (1 plant)

1995 (1) 6" tall, dead-cause undetermined

*Acacia translucens* 90-0115 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995 (2) 1.5' tall, dead-froze to ground and did not recover

*Acacia triptera* 90-0117 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993 (2) 1' tall, dead-froze to ground and did not recover

*Acacia tumida* 90-0257 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993 (2) 3' tall, dead-froze to ground and did not recover

*Acacia ulicifolia* 91-0398 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994 (2) both plants died in summer 1993-cause undetermined

*Acacia uncinata* var. *humilis* 90-0119 Tucson (CAC field 6) – planted April 1992 (1 plant)

1993	(1)	2' tall, some (to 1' from tips) die-back on some stems, healthy
1994	(1)	2.5' tall, slight freeze damage, chlorotic, low vigor
1995	(1)	1.5' tall, dead-cause undetermined

*Acacia uncinata* var. *humilis* 90-0119 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000	(2)	both dead-missing by 1999-cause undetermined but likely not adapted to heavy wet soils
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*Acacia unifolia* 90-0250 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994	(2)	both plants died in summer 1993-cause undetermined
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*Acacia verticillata* 90-0145 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994	(2)	1'/2' tall, 1=dead-froze to ground and did not recover, 1=froze to ground, recovering, healthy
1995	(1)	dead-missing-cause undetermined but probably froze

*Acacia vestita* 91-0440 Tucson (CAC field 6) – planted April 1993 (2 plants)

1994	(2)	both plants died in summer 1993-cause undetermined
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*Acacia wilhelminiana* 94-0096 Tucson (CAC field 3) – planted July 1998 (1 plant)

2000	(1)	dead-froze to ground in winter of 1998-1999 and did not recover
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*Adenanthera pavonina* 91-0233 Yuma – planted March 1993 (2 plants)

1993	(2)	both died in 1993-cause undetermined
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*Adenocarpus decorticans* 92-0103 Tucson (CAC field 6) – planted July 1992 (1 plant)

1993	(1)	1' tall, no freeze damage, healthy, then died in summer 1993-cause undetermined
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*Aeschynomene sensitiva* 91-0157 Tucson (CAC field 6) – planted April 1992 (6 plants)

1993	(6)	1' tall, dead-froze to ground and did not recover
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*Albizia brevifolia* 91-0046 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995	(2)	5'/6' tall, dead-froze to ground and did not recover
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*Albizia harveyi* 90-0492 Tucson (CAC field 6) – planted April 1992 (1 plant)

1993	(1)	4.5' tall, dead-froze to ground and did not recover
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*Amphithalea schleiteri* 89-0421 Tucson (CAC field 6) – planted April 1993 (3 plants)

1993	(3)	these all died in summer 1993-cause undetermined
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*Astragalus garboncillo* 91-0158 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993	(2)	died in 1992-cause undetermined
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*Baphia massaiensis* subsp. *obovata* Yuma – planted March 1994 (6 plants)

1994	(6)	1-1.5' tall, fair condition, slow growth
1995	(6)	2-6" tall, poor condition-declining, no growth
1996	(6)	all 6 plants died in 1996-cause undetermined

*Bauhinia petersiana* subsp *serpae* 91-0068 Yuma – planted March 1992 (5 plants)/February 1995 (2 plants)

1992	(5)	2=died in 1992-cause undetermined, 3=6"-1' tall, poor condition, little growth
1993	(3)	2=died in 1993-cause undetermined, 1=1' tall, poor condition, no growth
1994	(1)	died in 1994-cause undetermined-these plants do not appear to be adapted to this site

1995 (2) 1'1" tall, healthy, slow growth  
 1996 (2) 6"/9" tall, fair condition but declining, low vigor  
 1997 (2) both died in 1997-cause undetermined-these plants do not appear to be adapted to this site

***Bauhinina thonningii*** 91-0071 Tucson (CAC field 6) – planted August 1992 (2 plants)  
 1993 (2) 2' tall, dead-froze to ground and did not recover

***Caesalpinia coriaria*** 90-0268 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) 5.5' tall, dead-froze to ground and did not recover

***Caesalpinia spinosa*** 89-0117 Yuma – planted March 1992 (5 plants)  
 1992 (5) 3=died in 1992-cause undetermined, 2=1" tall, poor condition  
 1993 (2) both died in 1993-cause undetermined-these did poorly here

***Caesalpinia virgata*** 91-0266 Tucson (CAC field 3) – planted summer 1997 (1 plant)  
 2000 (1) died in summer 1999-waterlogging, low vigor prior to dying

***Caesalpinia* sp.** 90-0210 Tucson (CAC field 6) – planted April 1992 (2 plants)  
 1993 (2) 3'/5' tall, dead-froze to ground and did not recover, flowers in 1992

***Caesalpinia* sp.** 92-0285 Tucson (CAC field 3) – planted July 1998 (1 plant)  
 2000 (1) 1.5' tall, froze to ground in winter of 1998-1999 and did not recover, flowers/fruit in fall 1998

***Calliandra humilis* var. *humilis*** 88-0040 Tucson (CAC field 6) – planted September 1989 (6 plants)  
 1990 (6) slight freeze damage, healthy  
 1991 (6) 1=dead-cause undetermined, 5=6" tall, no freeze damage, low vigor, plants died out later in the year-cause undetermined

***Calliandra humilis* var. *reticulata*** 89-0370 Tucson (CAC field 6) – planted August 1991 (2 plants)  
 1992 (2) 3" tall, died to ground, regrowth in spring  
 1993 (2) froze to ground, slow regrowth, severe browsing, plants died out later in year

***Cassia seiberiana*** 91-0457 Tucson (CAC field 6) – planted April 1994 (4 plants)  
 1995 (4) 1' tall, all dead-froze to ground and did not recover

***Ceratonia siliqua*** 88-0012 Tucson (CAC field 6) – planted September 1989 (5 plants)  
 1990 (5) froze to ground, no recovery evident  
 1991 (5) all dead-froze in winter of 1989-90 as small transplants

***Chamaecrista fasciculata*** 90-0510 Tucson (CAC field 6) – planted April 1992 (2 plants)  
 1993 (2) 1.5' tall, dead-froze and did not recover, flowers/fruit in 1992, reseeding in 1993  
 1994 (2) 2' tall, dead-froze to ground and did not recover, flowers/fruit in 1993

***Chamaecrista desvauxii* var. *glauca*** 89-0194 Tucson (CAC field 6) – planted April 1990 (1 plant)  
 1991 (1) died in 1990 soon after planting-did not establish

***Chamaecrista serpens* var. *wrightii*** 89-0304 Tucson (CAC field 6) – planted April 1990 (5 plants)  
 1991 (5) 4=accidentally killed by rototiller, 1=died by June 1991-cause undetermined

***Chloroleucon mangse* var. *leucospermum*** 89-0064 Yuma – planted March 1991 (4 plants)  
 1991 (4) 6-10" tall, poor condition, no apparent growth but new leaves emerging

1992 (4) 1=died in 1992-cause undetermined, 3=6" tall, poor condition, no growth  
 1993 (3) all died in 1993-cause undetermined but apparently not adapted to this site

***Colutea arborescens* subsp. *arborescens*** 92-0255 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 1' tall, no freeze damage, healthy  
 1997 (1) dead-missing-cause undetermined (gophers?)

***Colutea persica*** 92-0025 Tucson (CAC field 3) – planted summer 1997 (3 plants)  
 2000 (3) all died-rotted following July 1999 flooding

***Cordeauxia edulis*** 90-0040 Yuma – planted March 1991 (38 plants)

1991 (38) on 01 June 1991: “mostly very stressed and yellow or even worse, but 1 looks very green and about 2 are trying to put out new growth” - all died later in 1991-cause undetermined

***Coursetia axilaris*** 92-0150 Tucson (CAC field 3) – planted July 1998 (1 plant)

2000 (1) 6" tall, dead-cause undetermined, this plant never grew following planting

***Coursetia caribaea* var. *sericea*** 88-0072 Tucson (CAC field 6) – planting date missing (4 plants)

1990 (4) minor freeze damage, healthy  
 1992 (4) all dead-cause undetermined

***Crotalaria capensis*** s.n. (BTSA) Yuma – planted March 1993 (4 plants)

1993 (4) 1=died in 1993-cause undetermined, 3=1.5' tall, healthy, slow growth  
 1994 (3) all died in 1994-cause undetermined

***Crotalaria grantiana*** 89-0208 Tucson (CAC field 6) – planted April 1990 (1 plant)

1991 (1) dead-froze to ground and did not recover

***Crotalaria* sp.** 89-0202 Tucson (CAC field 6) – planted April 1992 (4 plants)

1993 (4) died in 1992-cause undetermined

***Cytisus candicans*** 90-0293 Tucson (CAC field 3) – planted July 1998 (2 plants)

2000 (2) 4' tall, both died in summer 1999-waterlogging, low vigor since planting and probably not adapted to heavy soils but no freeze damage in winter of 1998-1999.

***Dalbergia martinii*** 91-0066 Yuma – planted March 1992 (2 plants)

1992 (2) 1=died in 1992-cause undetermined, 1=6" tall, poor condition  
 1993 (1) died in 1993-cause undetermined-never did well here

***Dalbergia purpurascens*** 99-0032 Yuma – planted December 2002 (2 plants)

2004 (2) both plants died in 2003-cause undetermined

***Dalea tomentosa* var. *mota*** 89-0022 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995 (2) 4' tall, dead-froze to ground and did not recover, flower/fruit 1994

***Dalea tomentosa* var. *mota*** 89-0022 Yuma – planted February 1995 (2 plants)

1995 (2) both died in 1995-cause undetermined but likely not adapted to this site

***Daviesia incrassata*** 91-00211 Tucson (CAC field 6) – planted July 1992 (3 plants)

1993 (3) all died in summer 1992-cause undetermined but likely not adapted to local soil

**Daviesia leptophylla** 91-0212 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) died in summer 1993-cause undetermined but likely not adapted to local soil

**Delonix regia** 88-0018 Tucson (CAC field 6) – planted May 1989 (1 plant)  
 1990 (1) dead-froze, a frost-sensitive tropical species

**Desmanthus bicornutus** 89-0024 Tucson (CAC field 6) – planted June 1989 (4 plants)  
 1990 (4) froze to ground, regrowing  
 1991 (4) 6' tall, froze to ground, vigorous regrowth, flowers/fruit in 1990  
 1992 (4) all dead-cause undetermined

**Desmanthus cooleyi** 89-0363 Tucson (CAC field 6) – planted April 1990 (2 plants)  
 1991 (2) 2' tall, no damage, healthy, flowers/fruit in 1990  
 1992 (2) 1=dead-cause undetermined, 1=3" tall, died back to ground, resprouting, healthy  
 1993 (1) dead in 1992-cause undetermined

**Desmanthus fruticosus** 89-0025 Tucson (CAC field 6) – planting date missing  
 1990 () minor tip die back, healthy  
 1991 () dead-missing, cause undetermined

**Desmanthus velutinus** 91-0525 Tucson (CAC field 6) – planted April 1994 (2 plants)  
 1995 (2) dead-missing-cause undetermined

**Desmodium ascendens** 91-0156 Tucson (CAC field 6) – planted April 1992 (2 plants)  
 1993 (2) dead-froze to ground and did not recover (annual?), flowers/fruit in 1992, 1 seedling volunteered and subsequently died

**Desmodium batocaulon** 88-0034 Tucson (CAC field 6) – planted June 1989 (3 plants)  
 1990 (3) 1=died in 1989-cause undetermined, 2=slight die back, healthy  
 1991 (2) grew vigorously until July 1990, then both plants suddenly died-cause undetermined

**Desmodium grahamii** 89-0364 Tucson (CAC field 6) – planted August 1991 (2 plants)  
 1992 (2) died-cause undetermined. This is a high elevation species likely not adapted here.

**Dialium guinense** 91-0468 Yuma – planted March 1994 (2 plants)  
 1994 (2) both died in 1994-cause undetermined

**Dorycnium hirsutum** 90-0011 Tucson (CAC field 6) – planted July 1992 (1 plant)  
 1993 (1) died in 1992-cause undetermined but likely not adapted to local soil

**Entada africana** 90-0349 Yuma – planted March 1992 (2 plants)/March 1993 (3 plants)  
 1992 (2) both died in 1992-cause undetermined  
 1993 (3) 1=died in 1993-cause undetermined, 2=1' tall, poor condition, no growth  
 1994 (2) 1=died in 1994-cause undetermined, 1=1' tall, poor condition, no growth  
 1995 (1) died in 1995-cause undetermined-does not appear to be adapted to this site

**Errazurizia megacarpa** 89-0027 Tucson (CAC field 6) – planted July 1992 (3 plants)  
 1993 (3) all died in summer 1992 shortly after planting-likely not adapted to heavy, wet soil

**Erythrina caffra** 91-0215 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) froze to ground-may be dead

1995 (1) dead-killed by freezing

*Erythrina crista-galli* 89-0317 Tucson (CAC field 6) – planted April 1990 (1 plant)

1991 (1) dead-accidentally killed by rototiller in 1990

*Erythrina crista-galli* 89-0317 Yuma – planted March 1992 (1 plant)

1992 (1) 1' tall, fair condition but little growth

1993 (1) died in 1993-cause undetermined

*Erythrina crista-galli* 90-0636 Yuma – planted March 1992 (1 plant)

1992 (1) 1' tall, fair condition, no growth

1993 (1) died in 1993-cause undetermined but apparently not adapted to this site

*Erythrina flabelliformis* 88-0077 Tucson (CAC field 3) – planted summer 1997 (4 plants)

2000 (4) All accidentally killed (weeded) in 1998 as they were covered with weeds. Replanted in summer 2000 but these were dead by summer 2001, probably due to excessively wet soil.

*Erythrina herbacea* 91-0424 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995 (2) 6" tall, dead-cause undetermined

*Erythrina latissima* 91-0174 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) 6" tall, dead-froze to ground and did not recover

*Erythrina lysistemon* 89-0318 Yuma – planted March 1992 (2 plants)

1992 (2) both dead-cause undetermined

*Erythrina variegata* 91-0443 Tucson (CAC field 6) – planted April 1994 (1 plant)

1995 (1) dead-froze to ground and did not recover

*Erythrina vespertilio* 89-0316 Yuma – planted March 1992 (2 plants)

1992 (2) 1'/1' tall, fair condition, little growth

1993 (2) both plants died during 1993-cause undetermined but all plants of this genus have done poorly here-perhaps not adapted to sandy soil

*Erythrina* sp. 88-0064 Yuma – planted March 1992 (1 plant)

1992 (1) 1' tall, poor condition, no growth

1993 (1) died in 1993-cause undetermined but all plants of this genus have done poorly here-perhaps not adapted to sandy soil

*Erythrophleum africanum* 91-0062 Yuma – planted March 1994 (3 plants)

1994 (3) 2=died in 1994-cause undetermined, 1=6" tall, poor condition, no growth

1995 (1) died in 1995-cuase undetermined-does not appear to be adapted here

*Galactia wrightii* 88-0079 Tucson (CAC field 6) – planted June 1989 (1 plant)

1990 (1) moderate freeze damage, regrowing

1991 (1) froze back, vigorous regrowth, flowers/fruit

1992 (1) dead-missing-cause undetermined

*Galactia striata* 90-0224 Tucson (CAC field 6) – planted August 1991 (1 plant)

1992 (1) data missing

1993 (1) dead-missing-cause undetermined as plant disappeared

***Galactia wrightii*** 89-0026 Tucson (CAC field 6) – planted June 1989 (2 plants)

1990 (2) froze back, regrowing  
1991 (2) froze back, vigorous regrowth, flowers/fruit  
1992 (2) dead-cause undetermined

***Goodia lotifolia*** 91-0216 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) died in 1992-cause undetermined but likely not adapted to local soil

***Glycyrrhiza glabra*** 88-0042 Tucson (CAC field 6) – planted June 1989 (4 plants)

1990 (4) some leaf burn, fair condition  
1991 (4) all dead by August 1990-cause undetermined, flowers in spring 1990

***Guibourtia coleosperma*** 91-0017 Yuma – planted March 1994 (4 plants)

1994 (4) 2=died in 1994-cause undetermined, 2=2"/6" tall, poor condition, little growth  
1995 (2) died in 1995-cause undetermined-does not appear to be adapted to this site

***Haematoxylum brasiletto*** 89-0029 Tucson (CAC field 6) – planted June 1989 (2 plants)

1990 (2) dead - froze, planted in location where sulfuric acid had been dumped and did poorly

***Harpalacye arborescens*** 93-0130 Yuma – planted February 1996 (2 plants)

1997 (2) both died in 1996-cause undetermined

***Hedysarum boreale*** 90-0004 Tucson (CAC field 6) – planted April 1990 (1 plant)

1991 (1) died shortly after planting-did not establish

***Hoffmannseggia* sp.** 91-0250 Tucson (CAC field 6) – planted July 1992 (4 plants)

1993 (4) 6" tall, fair condition, herbaceous stems freeze back in winter  
1994 (2) 2=dead in 1993-cause undetermined  
1997 (2) both remaining plants dead ca. 1995-cause undetermined

***Indigofera hirsuta*** 89-0233 Tucson (CAC field 6) – planted July 1992 (3 plants)

1993 (3) all dead-froze to ground and did not recover

***Indigofera suffruticosa*** 89-0030 Tucson (CAC field 6) – planted May 1989 (5 plants)

1990 (5) dead-froze to ground and did not recover, flowers/fruit in 1989, volunteering from seeds

***Indigofera suffruticosa*** 89-0108 Tucson (CAC field 6) – planted April 1990 (3 plants)

1991 (3) 5.5' tall, froze to near ground, vigorous regrowth, flowers/fruit. Subsequently died later in 1991-senescent.

***Inga fuelleri*** s.n. Yuma – planted March 1994 (2 plants)

1994 (2) 1=died in 1994-cause undetermined, 1=1.5' tall, poor condition, no growth  
1995 (1) died in 1995-cause undetermined but does not appear to be adapted to this site

***Kennedia rubicunda*** 91-0218 Tucson (CAC field 6) – planted July 1992 (4 plants)

1993 (4) all dead-froze to ground and did not recover

***Labichea lanceolata*** 90-0158 Tucson (CAC field 6) – planted April 1993 (1 plant)

1994 (1) data missing  
1995 (1) dead-missing-cause undetermined, may have died in 1994 or late 1993

***Laburnum anagyroides*** 92-0047 Tucson (CAC field 6) – planted April 1994 (1 plant)  
 1995 (1) dead-missing-cause undetermined

***Lonchocarpus eriocalyx subsp. wankiensis*** 91-0057 Yuma – planted March 1994 (2 plants)/February 1995 (1 plant)  
 1994 (2) both died in 1994-cause undetermined  
 1995 (1) 1.5' tall, healthy, slow growth  
 1996 (1) 1.5' tall, appears healthy but no growth  
 1997 (1) 2' tall, fair condition, some growth but died later in 1997

***Lonchocarpus laxiflorus*** 91-0456 Yuma – planted March 1993 (3 plants)  
 1993 (3) all died in 1993-cause undetermined

***Lotus oroboides*** 89-0301 Tucson (CAC field 6) – planted April 1990 (7 plants)/August 1991 (2 plants)  
 1991 (7) all dead-4 accidentally killed by rototiller, others died of undetermined cause in fall 1991  
 1992 (2) all dead shortly after planting-did not establish and died in fall 1991

***Lotus rigidus*** 91-0117 Tucson (CAC field 6) – planted April 1992 (5 plants)  
 1993 (5) died in 1992-cause undetermined

***Macroptilium gibbosifolium*** 88-0055 Tucson (CAC field 6) – planted June 1989 (5 plants)  
 1990 (5) dead-cause undetermined

***Macroptilium supinum*** 88-0024 Tucson (CAC field 6) – planted June 1989 (3 plants)  
 1990 (3) dead-missing-cause undetermined

***Marina parryi*** 91-0193 Tucson (CAC field 6) – planted July 1992 (6 plants)  
 1993 (6) all died later in 1992-cause undetermined but may not be adapted to heavy, wet soil.

***Mimosa distachya var. laxiflora*** 89-0037 Tucson (CAC field 6) – planted June 1989 (1 plant)  
 1990 (1) dead-froze to ground and did not recover

***Mimosa pudica*** 89-0230 Tucson (CAC field 6) – planted April 1990 (5 plants)  
 1991 (5) all alive in spring 1991, flowered, died later during 1991-cause undetermined

***Mimosa xanti*** 89-0038 Tucson (CAC field 6) – planted June 1989 (1 plant)  
 1990 (1) dead-froze to ground and did not recover

***Mirbelia pungens*** 90-0173 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) died in summer 1993-cause undetermined but likely not adapted to local soil

***Mundulea sericea*** 91-0072 Tucson (CAC field 6) – planted August 1992 (2 plants)  
 1993 (2) 1.5' tall, dead-froze to ground and did not recover

***Otholobium hirtum*** 89-0419 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) 2.5' tall; died-cause undetermined

***Otholobium virgatum*** 89-0418 Tucson (CAC field 6) – planted July 1992 (5 plants)  
 1993 (5) all died in 1992 after planting-cause undetermined but likely not adapted to local soil

***Oxytropis riparia*** 89-0054 Tucson (CAC field 6) – planted April 1990 (1 plant)

1991 (1) dead-cause undetermined

***Parkinsonia texana* subsp. *texana*** 90-0377 Tucson (CAC field 6) – planted April 1991 (1 plant)

1992 (1) 4" tall, no freeze damage, severe gnawing, poor condition, plant died in 1992 from effects of

***Petalostylis labichoides*** 90-0174 Tucson (CAC field 6) – planted July 1992 (2 plants)

1993 (2) died in summer and fall 1992-cause undetermined but likely not adapted to local soil, browsing by rabbits was a problem

***Piscidia mollis*** 89-0063 Yuma – planted March 1991 (1 plant)/March 1992 (3 plants)

1991 (1) 10" tall, poor condition, no growth

1992 (4) 3=died in 1992-cause undetermined, 1=6" tall, poor condition, no growth

1993 (1) died in 1993-cause undetermined-apparently not adapted to this site

***Prosopidastrum globosum*** 92-0114 Tucson (CAC field 3) – planted summer 1997 (3 plants)

2000 (3) all dead-these did well until the July 1999 flooding, after which they rotted

***Prosopis alba*** 89-0136 Tucson (CAC field 6) – planted 1989 (1 plant)

1990 (1) no freeze damage, healthy

1991 (1) data missing

1992 (1) 4' tall, no freeze damage, healthy in spring then some tip die-back in May-June, subsequently died-cause undetermined

***Prosopis chilensis*** 89-0183 Tucson (CAC field 6) – planted September 1989 (1 plant)

1990 (1) data missing

1991 (1) 1.5' tall, no freeze damage, heavily browsed by rabbits, subsequently died due to browsing

***Prosopis cineraria*** 92-0086 Tucson (CAC field 6) – planted April 1994 (2 plants)

1995 (2) 1.5' tall, no freeze damage, low vigor, subsequently died-froze winter of 1995-1996

***Psorothamnus schottii*** 89-0336 Yuma – planted March 1991 (4 plants)

1991 (4) 1=died in 1991-cause undetermined, 3=3-4' tall, healthy, flowers/fruit in spring 1991

1992 (3) 2=died in 1992-cause undetermined, 1=4' tall, apparently healthy but little growth

1993 (1) last one died in 1993-cause undetermined

***Psorothamnus schottii*** 91-0162 Tucson (CAC field 6) – planted April 1992 (2 plants)

1993 (2) 2' tall, 1=died in 1992-cause undetermined, 1=died in winter 1992-1993-may have froze

***Psorothamnus schottii*** 91-0162 Yuma – planted March 1994 (1 plant)

1994 (1) 4' tall, healthy, moderate growth, flowers/fruit in 1994

1995 (1) died in 1995-cause undetermined

***Retama raetam*** 92-0084 Tucson (CAC field 3) – planted summer 1997 (2 plants)

2000 (2) both died-rotted following July 1999 flooding, these had grown vigorously prior to this

***Rhynchosia precatoria*** 88-0073 Tucson (CAC field 6) – planted September 1989 (5 plants)

1990 (5) all dead shortly after planting-cause undetermined but possibly insufficient irrigation

***Schranksia latidens*** 90-0523 Tucson (CAC field 6) – planted April 1994

1995 ( ) dead-missing-cause undetermined

*Senna artemisioides* subsp. *petiolaris* 89-0279 Tucson (CAC field 6) – planted September 1989  
 1990 ( ) severe freeze damage - planted late in the year, died-insufficiently established to withstand severe freeze damage.

*Senna artemisioides* subsp. *petiolaris* 91-0206 Tucson (CAC field 6) – planted April 1994 (3 plants)  
 1995 (3) 1.5-2.5' tall, no freeze damage, healthy, flowers  
 1997 (3) dead-missing-cause undetermined

*Senna barclayana* 90-0151 Tucson (CAC field 6) – planted April 1991 (4 plants)  
 1992 (4) all died in summer 1991-cause undetermined

*Senna birostris* var. *arequipensis* 89-0118 Tucson (CAC field 6) – planted April 1990 (3 plants)  
 1991 (3) 1.5' tall, froze to ground and did not recover-not adapted

*Senna birostris* var. *arequipensis* 89-0118 Yuma – planted February 1995 (2 plants)  
 1995 (2) both died in 1995-cause undetermined

*Senna corymbosa* 89-0102 Tucson (CAC field 3) – planted summer 1997 (3 plants)  
 2000 (3) all dead-waterlogging in summer 1999, flowers/fruit in spring 1999

*Senna costata* 91-0402 Tucson (CAC field 3) – planted summer 1997 (2 plants)  
 2000 (2) both died following July 1999 flooding

*Senna didymobotrya* 91-0236 Tucson (CAC field 6) – planted April 1993 (4 plants)  
 1994 (4) 3' tall, all dead-froze to ground and did not recover, vigorous growth and flowers in 1993

*Senna durangensis* 90-0507 Tucson (CAC field 6) – planted July 1992 (6 plants)  
 1993 (6) these plants gradually died in late summer and fall 1992-cause undetermined

*Senna glutinosa* subsp. *glutinosa* 90-0156 Tucson (CAC field 6) – planted August 1992 (3 plants)  
 1993 (3) all died in summer/fall 1992-cause undetermined but may not be adapted to local soil

*Senna glutinosa* subsp. *xleurrsinii* 90-0158 Tucson (CAC field 6) – planted April 1991 (3 plants)  
 1992 (3) 2=dead-froze, 1=2.5' tall, froze to ground, recovering  
 1993 (1) 3' tall, dead-froze to ground and did not recover

*Senna martiana* 91-0153 Tucson (CAC field 6) – planted July 1992 (4 plants)  
 1993 (4) 1-1.5' tall, dead-froze to ground and did not recover

*Senna notabilis* 90-0159 Tucson (CAC field 6) – planted July 1991 (3 plants)  
 1992 (3) data missing  
 1993 (3) 3' tall, dead-froze to ground and did not recover, flowers/fruit in 1992

*Senna occidentalis* 89-0106 Tucson (CAC field 6) – planted April 1990 (2 plants)  
 1991 (2) 1=dead-froze, 1=3'tall, froze but recovering, both flowers/fruits in 1990  
 1992 (1) dead-froze to ground-short-lived species that freezes here.

*Senna occidentalis* s.n. Tucson (CAC field 3) – planted summer 1997 (6 plants)  
 2000 (6) all original plants dead-froze to ground and did not recover in winter 1997-1998, flowers/fruit in fall 1997

*Senna odorata* 90-0605 Tucson (CAC field 6) – planted April 1994 (2 plants)  
 1995 (2) dead-missing-this species is not adapted to heavy, wet soils

*Senna planiticola* 90-0162 Tucson (CAC field 6) – planting data missing (4 plants)  
 1992 (4) all dead by summer 1991-cause undetermined

*Senna pleurocarpa* var. *angustifolia* 90-0163 Tucson (CAC field 3) – planted summer 1997 (3 plants)  
 2000 (3) all died following July 1999 flooding, healthy and vigorous prior to this with flowers/fruit

*Senna pleurocarpa* var. *pleurocarpa* 90-0243 Tucson (CAC field 3) – planted summer 1997 (3 plants)  
 2000 (3) 6-7' tall, all died following July 1999 flooding, healthy and vigorous prior to this with  
 flowers/fruit. Several volunteer seedlings noted in 2000 but these were removed.

*Senna purpusii* 89-0331 Tucson (CAC field 6) – planted April 1990 (4 plants)  
 1991 (4) all dead-froze to ground and did not recover, 1' tall, 1=flowers in 1990

*Senna purpusii* 89-0331D Yuma – planted February 1995 (2 plants)  
 1995 (2) 1=died in 1995-cause undetermined, 1=2.5' tall, healthy, slow growth, flowers/fruit  
 1996 (1) 3' tall, fair condition, slow growth, flowers  
 1997 (1) died in 1997-cause undetermined

*Senna reticulata* 90-0254 Tucson (CAC field 6) – planted April 1993 (4 plants)  
 1994 (4) 3-5.5' tall, dead-froze to ground and did not recover, flowers in 1993

*Senna sophera* 90-0003 Tucson (CAC field 6) – planted April 1990 (5 plants)  
 1991 (5) low vigor, 1=flowers in 1990, all=dead by June 1991-cause undetermined but not well-adapted here

*Senna spectabilis* 90-0607 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 1'2' tall, dead-froze to ground and did not recover

*Senna tora* 91-0152 Tucson (CAC field 6) – planted April 1992 (6 plants)  
 1993 (6) 3' tall, dead –froze to ground and did not recover, flowers/fruit in 1992, seedlings coming up in  
 1992-these were also killed by freezing  
 1994 (4) 5' tall (seedlings from original plants-germinated in 1993), dead-froze to ground and did not  
 recover. No new seedlings have appeared.

*Senna venusta* 90-0165 Tucson (CAC field 6) – planted August 1991 (2 plants)  
 1992 (2) died in 1992-cause undetermined

*Senna versicolor* 91-0151 Tucson (CAC field 6) – planted April 1992 (3 plants)  
 1993 (3) 1' tall, 2=dead-froze to ground and did not recover, 1=froze to ground, vigorous regrowth  
 1994 (1) dead-missing-cause undetermined

*Senna wislizenii* 91-0259 Tucson (CAC field 3) – planted summer 1997 (2 plants)  
 2000 (2) both died in summer 1999 following flooding

*Sesbania drummondii* 90-0369 Tucson (CAC field 3) – planted summer 1997 (2 plants)  
 2000 (2) 8' tall, no freeze damage, healthy and vigorous through summer 1999, flowers/fruit,  
 1=declined died in fall 1999-cause undetermined but this species is short-lived, 1=severe die-  
 back with slow regrowth in spring 2000 then died later in 2000-cause undetermined

*Sesbania sesban* 90-0201 Tucson (CAC field 6) – planted April 1993 (2 plants)  
 1994 (2) 1=5.5' tall, 1=7' tall, flowers in 1993, dead-froze to ground and did not recover

*Sophora arizonica* 90-0249 Tucson (CAC field 3) – planted July 1998 (3 plants)  
 2000 (3) 8" tall, all died in summer 1999-waterlogging, no freeze damage in winter of 1998-1999

*Sophora tomentosa* 92-0033 Tucson (CAC field 6) – planted April 1993 (1 plant)  
 1994 (1) 2' tall, dead-froze to ground and did not recover

*Sutherlandia frutescens* 91-0239 Tucson (CAC field 3) – planted summer 1997 (4 plants)  
 2000 (4) all original plants dead – short-lived + waterlogging in July 1999, flowers/fruit in 1998, 1999,  
 2 healthy seedlings-these subsequently died later in 2001

*Swainsona canescens* 90-0179 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) died in 1992-cause undetermined but likely not adapted to local soil

*Swainsona formosa* 91-0401 Tucson (CAC field 6) – planted August 1992 (8 plants)  
 1993 (8) all these plants died within 2 weeks of planting-not adapted to heavy soil

*Swainsona galaegifolia* 90-0181 Tucson (CAC field 6) – planted July 1992 (3 plants)  
 1993 (3) died in 1992-cause undetermined but likely not adapted to local soil

*Swainsona procumbens* 90-0184 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) alive through winter, then died in summer 1993-cause undetermined

*Swainsona pterostylis* 90-0185 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) died in 1992-cause undetermined but likely not adapted to local soil

*Tamarindus indica* 90-0361 Yuma – planted March 1992 (2 plants)  
 1992 (2) both=14" tall, healthy but little growth, 1=minor browsing  
 1993 (2) both died in 1993-cause undetermined

*Teline stenopetala* 90-0012 Tucson (CAC field 6) – planted April 1993 (3 plants)  
 1994 (3) 6-10" tall, died summer 1993-cause undetermined but likely not adapted to local soil

*Tephrosia grandiflora* 91-0177 Tucson (CAC field 6) – planted July 1992 (2 plants)  
 1993 (2) 2' tall, dead-froze to ground and did not recover, flowers/fruit in 1992

*Tephrosia purpurea* 91-0160 Tucson (CAC field 6) – planted April 1992 (3 plants)  
 1993 (3) dead-froze to ground and did not recover, numerous seedlings, flowers/fruit in 1992  
 1994 (many) original plants dead, numerous seedlings-short-lived and frost sensitive  
 1995 () volunteer seedlings from the previous year froze out. No new seedlings have appeared, perhaps  
 because of reduced irrigation. May be an annual.

*Tephrosia purpurea* 91-0160D Tucson (CAC field 3) – planted summer 1997 (10 plants)  
 2000 (10) original plants dead-froze in winter 1997-1998, several seedlings came up in 1998 and were  
 killed by freezing in winter 1998-1999, flowers/fruit, no new seedlings have appeared.

*Tephrosia sessiliflora* 89-0260 Tucson (CAC field 6) – planted April 1990 (1 plant)  
 1991 (1) 2' tall, some die-back, healthy, flowers/fruit. Apparently died out later in 1991.

***Tephrosia univiolata*** 91-0405 Tucson (CAC field 6) – planted April 1993 (1 plant)  
1994 (1) 10" across, dead-cause undetermined by may have frozen

***Tephrosia vicioides*** 88-0071 Tucson (CAC field 6) – planted June 1989 (3 plants)  
1990 (3) froze to ground, apparently killed

***Tetragonolobus maritima*** 91-0149 Tucson (CAC field 6) – planted April 1992 (3 plants)  
1993 (3) low herbaceous plant 1' across, no freeze damage, healthy  
1994 (3) dead-missing-cause undetermined

***Tylosema fassoglensis*** 90-0472 Yuma – planted March 1992 (2 plants)  
1994 (2) both plants died in 1994-cause undetermined

***Xanthocercis zambesiaca*** 91-0137 Tucson (CAC field 6) – planted April 1994 (2 plants)  
1995 (2) 1' tall, dead-froze to ground and did not recover

***Xeroderris stuhlmannii*** 90-0495 Yuma – planted March 1992 (4 plants)  
1992 (4) all died in 1992-cause undetermined

***Zapoteca formosa subsp. *schottii**** 89-0405 Tucson (CAC field 6) – planted August 1991 (5 plants)  
1992 (5) all apparently dead-heavily browsed by rabbits and did not recover

***Zuccagnia punctata*** 97-0033 Tucson (CAC field 3) – planted July 1998 (1 plant)  
2000 (1) 8" tall, no freeze damage, low vigor and no additional growth. Subsequently died ca. 2001-  
cause undetermined but likely not adapted to heavy soil