

Yavapai Gardens

September 2002

Master Gardener Newsletter

Events & Activities

MG Association Meeting, Wed, Sept. 18, 6:30pm
Kate King, Master Gardener and Prescott Courier Columnist will be the speaker. She will share some of her current readership concerns and gardening issues. See address page for directions.

Yavapai Rose Society -September 16, 2:00 PM, First Christian Church, 1230 Willow Creek Road, Prescott. LeRoy Brady from Mesa East Valley Rose Society will speak to us about "Let the Rose Show itself For All its Beauty" Guests are welcome and there is no charge. For more information call Bob or Nancy at 771-9300.

Prescott Area Iris Society meets quarterly, Next November 2 then February, May, August at the Prescott Public Library

Prescott Area Gourd Society meets 3rd Thursday each month, at the Prescott Library on Gurley and Marina.

Fall Plant Sales

Desert Botanical Gardens, Phoenix, October 19, 20.

Tucson Botanical Gardens, October 5,6

Fiesta de Los Chiles, October 26, 27

Boyce Thompson Arboretum, Globe, Oct 11-27

Arizona Highlands Garden Conference, October 3 & 4, Flagstaff. See registration form in this issue

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The Desert Legume Program

by Nora Graf



The world is filled with legumes, not just the beans and peas that appear on your plate, but in a myriad of forms throughout the world. Many of our most familiar plants are legumes: the palo verde, mesquite, catclaw, wisteria, acacia, Texas ranger, mimosa's and lots more.

Many are important food crops for humans and animals and landscape plants. One of the other important characteristics of legumes is that many are drought tolerant and are a source of food, medicinals, shade and fuel wood in desert regions. The Desert legume project was started as a cooperative effort between the University of Arizona and Boyce Thompson Arboretum. The project was designed to collect seeds, inventory plants, look at endangered species and understand the characteristics of different species. It was also designed to serve scientists around the world as a germplasm exchange and endangered species project. Over the years the project has expanded. From one part-time employee, they now have four and a large group of volunteers. A newsletter was created to keep interested parties informed on what was happening with the project. A seed bank was developed to house seeds from around the world. The seeds are provided to researchers and botanical gardens. Some seeds have been used in erosion control projects and as cover crops. Other still are being evaluated for pharmaceutical, insecticidal and other industrial properties.



Demonstration and trial gardens were set up in Arizona. DELAP (Desert Legume Project) grows species in several different locations: U of A farm, Tucson, Yuma; Boyce Thompson Arboretum in Globe. Over the



years they have worked with organizations like Game and Fish to provide more food plants for a quail reintroduction project. Another was evaluating a plant for aromatic resins for the fragrance industry.

They also maintain a relationship with the commercial nursery industry, evaluating plants for the nursery trade. There have been projects to evaluate species for pod production for food, commercial wood products and revegetation projects. Many of the plants that the program has worked with are in the living collection at Boyce Thompson Arboretum, including the Australian collection and Taylor Family Desert Legume Garden.

Other outreach programs are written information. *Aridus* is published monthly for free and mailed to around 1500 supporters of the program. "Legumes in Southern Arizona Landscapes" is distributed to landscape professionals. There is an index to holdings in the seedbank and tours and programs are provided to garden groups, nursery professionals and visiting scientists.

Desert Legume Program Mission Statement

1. To acquire and preserve in perpetuity seed of legumes native to the arid and semiarid lands of the world.
2. To learn more about the nature and utility of these unique species.
3. To share this gemplasm with professionals and laypersons having a legitimate interest.
4. To aid in the preservation and conservation of desert legume biodiversity through both in situ and ex situ means.

If you are interested in supporting the program, tax deductible donations can be made or, if you would like more information or would like to volunteer, you can contact them at The University of Arizona, Desert Legume Program, 2120 E. Allen Road, Tucson, AZ 85719.



Mysterious Wisteria

by Margaret Noren, Ph.D

Desert Legume Program

(reprinted with DELEP's permission)

Wisteria vine is a well-known and well-loved legume not typically associated with desert horticulture. Given the right situation, wisteria grow well in Tucson, despite the semiarid conditions. One can see a number of mature specimens around Tucson usually peeking up over a wall or climbing a ranacha in an enclosed backyard. Tucson's own well known author, Barbara Kingsolver, named her book *The Bean Tree* after wisteria growing in downtown Tucson. After viewing a magnificent specimen of *Wisteria sinensis* in the yard of a home once owned by Dr. Lemoyne Hogan, horticulturist and former head of the Department of Plant Sciences at the University of Arizona, I became interested in planting wisteria in a similar exposure in my own yard. My interest was further peaked by an article on growing wisteria in the southwest that was published in *Sunset* 2001.

With little background information, I headed for the local nursery last spring to purchase wisteria to be planted near a recently constructed ranacha on the west side of my house. My choices were limited to either *Wisteria sinensis* (the most common Chinese species) or *W. floribunda* (the most common Japanese species.) An identifying characteristic for species is direction of twining. Chinese wisteria spiral upward around the axis by turning left, a characteristic termed 'sinistrorse'. Japanese wisteria spiral upward around the axis by turning right, a characteristic termed 'dextrorse'.

Determining direction of twining is not always simple. I needed two plants and only one *W. floribunda* was available, so my choice was easy. Neither species tag contained any information on twining direction and the nursery personnel I talked to were unfamiliar with this identifying characteristic. It is important to note that both plants I purchased were flowering and continued to flower after I brought them home. A plant grown from seed requires years (sometimes 10 or more) before it will bloom. Most nurseries sell vegetatively propagated plants so flowering will occur more quickly. Each was



Left: *Wisteria floribunda* twining clockwise (dextrorse)
Right: *Wisteria sinensis* twining counter-clockwise (sinistrorse)
© M.B. Johnson

planted at the base of a support structure for the ramada. Both grew vigorously throughout the summer despite the harsh conditions of full sun and murderous heat. (Other plants I have selected for this site have refused to cooperate.) Wisteria is noted for its fast growth rate and rapid coverage.

Under suitable growing conditions, wisteria grows vigorously in the summer. As the days shorten in the fall and the temperatures drop, they eventually become dormant. During dormancy, it can usually be determined whether the plant will bloom the following season by examining the buds. In the Asian plants, buds which produce flowers are larger than those which produce shoots. Growth begins in the spring with flower production at the end of leafy shoots. A wisteria raceme may have as many as 170 flowers, however only one or two will usually produce pods. Pods tend to remain on the plant long after the leaves have senesced and dropped off.

As I pursued the topic of wisteria for this issue, I couldn't help but wonder if the first season I had with these plants was beginner's luck. One author wrote that the wisteria should be renamed the mysterious vine, another that wisteria is latin for work, and a third that the quest to grow these vines eludes many gardeners. In fact, growing them is not problematic but getting them to produce flowers can be challenging. A Tucson nursery woman described them as "not really trustworthy" referring to whether or not they will bloom in the Tucson area. She suspects there is a correlation between winter chill and wisteria blooms. Cold winter nights promote blooming. At the other end of the success margin, many write that an untamed wisteria can take over and cause structural damage, root damage and damage to deck or porch railings. Stories are told of wisterias ripping off balcony banisters, smothering entire trees, and destroying roofs and gutters.

Many write that aggressive pruning is essential. "Prune often and prune hard." One writer advises that the gardener never pass by the plant without pinching back a bud or two. Successful growth and flowering of wisteria can be achieved, according to the experts, by planting in full sun,

application of superphosphate, root pruning, and aggressive pruning of shoots. Equally important is to start with good quality plants obtained from vegetative cuttings and avoid seedlings. Despite the difficulties, Peter Valder (1995) sums up the reason to pursue wisteria cultivation with his statement that wisteria must be one of the most appealing plants of all time.

Fossil species of *Wisteria falax* date back to the Miocene period (7-26 million years ago.) In the Orient, where wisteria grows naturally, the genus has been known for thousands of years. Some references claimed there are ten species of *Wisteria*, others eight. Two species are from eastern North America, *Wisteria frutescens* and *Wisteria macrostachya*, both of which share many similarities. *W. frutescens* has considerable variation with regard to color

and several cultivars have been named. This species has a small raceme and flowers after the foliage is well developed. In the United States, it grows from Virginia to Pennsylvania. The second U.S. species *W. macrostachya*, was first described as a variety of *W. frutescens*. It grows from Louisiana to Illinois and can tolerate lower temperatures. There are several cultivars and considerable color variation. The remaining six or eight species are from eastern Asia and are all quite similar.

The first wisterias in Europe actually came from the Carolinas about 1724. At that time they were named *Glycine frutescens*. Botanists decided that this plant didn't belong in the genus *Glycine*. Thomas Nuttall (1818) renamed the plant *Wisteria speciosa* in memory of Caspar Wistar, a professor of anatomy at the University of Pennsylvania. To date, confusion exists regarding the spelling

of this genus. Most commonly it is spelled *Wisteria*, although occasionally *Wistaria* is used. The evolution of the botanical name for this U.S. species was *Glycine frutescens* = *Wisteria speciosa*, Nutt. = *Wisteria frutescens* (L.) Poir. The common name for *Wisteria* in French is 'glycine'.

The Chinese wisteria was first brought to Europe in 1816. Originally named *Glycine sirenisis*, it became *Wisteria sirenisis* (Sims) Sweet. Botanists believe that all the violet Chinese wisteria in cultivation outside of China descended from the original introductions (Valder, 1995.) The



Chinese name for wisteria is Zi Teng meaning violet vine. In China it is difficult, if not impossible, to determine where wisteria occurs naturally and where it has become naturalized. Wisteria is widely cultivated in China. Valder viewed a vine in Shanghai that was planted 480 years ago during the Ming dynasty. Around Beijing, wisteria are planted to grow up as trees. Today, there do not seem to be named cultivars of wisteria in China. During the Cultural Revolution, cultivation of ornamental plants was discouraged, which may explain the lack of information on cultivars today. Within China, there is considerable variation in raceme length, ranging from 12 - 35 cm and containing 25-95 floral bracts. Flower color ranges from very pale blue-violet to violet to reddish violet to very deep shades of these colors. White forms are rarely seen. The flowers are scented. Flowers appear with the leaves which are up to 30 cm long with 9-13 leaflets up to 10 cm long. The plant is a vigorous climber that twines counterclockwise. Wisterias collected in China may have been given various names but most are not considered to be synonyms of *W. sinensis*. (Valder 1995)

There is more known about the Japanese wisteria species than all other wisteria species combined. The most widely cultivated Japanese species is *Wisteria floribunda*. Wisteria occurs wild in Japan south of Hokkaido and is widely cultivated. It is difficult to determine whether it is indigenous or naturalized. *W. floribunda* exhibits a fair amount of variation in the wild. It is a vigorous deciduous climber. The leaves may be up to 35 cm long with 11-17 leaflets up to 8 cm long. The flowers are usually violet, 30+ cm in length and scented. Most of the named cultivars are of Japanese origin. A Japanese cultivar with particularly long racemes is '*Macrobotrys*'. The length of the raceme actually results from flower spacing rather than the number of flowers. There can be up to 7mm between flowers in '*Macrobotrys*'. The length of the raceme varies from season to season, according to locality and with the age and vigor of the plant. The racemes of '*Macrobotrys*' are 47-100 cm long and sometimes longer and bear 79-128 moderately scented flowers. '*Macrobotrys*' is one of the world's great garden plants. "To sit or stand beneath a pergola covered by a plant in full bloom, gazing at the mauve curtain of flowers, inhaling the

scent and listening to the bees is one of the most intoxicating of horticultural experiences." (Valder, 1995)

An overlooked Japanese species is *Wisteria brachbotrys* Sieb & Zucc. This is a silky wisteria with short clustered flowers. In Japan it is called 'Yama Fuji' or mountain wisteria. Aside from the white form, it is not well known outside of Japan. Botanists have tended to assume that references to this species in Japanese literature were synonymous with *W. floribunda*. The white form has often been referred to as *Wisteria venusta*, a name more common in the trade, which Valder considers mistakenly used for *W. brachbotrys*. This species is a vigorous climber with leaves having 9-11 leaflets and flowers of 14-20 cm appearing with the leaves. Flowers are white, pink, and mauve. 'Kapitan' is a common cultivar of this species.



Japanese species tend to require more care than the Chinese species but are more decorative. They remain in bloom longer and have a more graceful growth habit. The original name for *W. floribunda* is 'Fuji' and is now commonly called 'Noda Fuji'. In Japan, one of the most popular methods of growing wisteria is over a pergola. This method became established in

Japan in the period 1688-1703.

Seven wisteria plants are designated as National Treasures in Japan. The Ushijima wister is 1200+ years old and covers 700m² (squared) of trellis. Recent examinations of this specimen indicate that it may actually be two vines. Unlike *W. sinensis*, *W. floribunda* sets seed abundantly in cultivation, with the result that large numbers of seedlings have been raised in other parts of the world" (Valder 1995.) It is believed that *W. floribunda* was originally introduced to Holland in 1856 but was little noticed because it was slow to flower.

One of the most beautiful of all wisteria is 'Shiro Noda', or white *Wisteria floribunda*. Raceme length ranges from 36 to 48 cm with flower numbers from 129 to 150. The flowers are faintly scented. The cultivar is easily recognized by densely packed racemes of white flowers. The best known example of this plant grows in the Japanese garden in Monet's garden in Giverny, France.

Much has been written comparing *Wisteria sinensis* and *W. floribunda*. *W. sinensis* generally has four more leaflets per leaf than *W. floribunda* but there is considerable overlap. The common misconception is that all *W. sinensis* flowers on one raceme open simultaneously while *W. floribunda* flowers open in succession from the base. In fact, flowers in all wisteria open successively. Wisterias with fewer flowers per raceme, such as *W. sinensis*, have a greater proportion of flowers open at once, thus the impression of simultaneous flowering. Another misconception is that *W. sinensis* flowering commences prior to leaf expansion and *W. floribunda* flowering and leaf expansion occur together. Actually, flowering and leaf expansion begin simultaneously in both species. Since flowering lasts longer in *W. floribunda*, the leaves have time to expand before all the flowers have opened. (Valder 1995)

Growing wisteria in the southwest can present problems. As mentioned previously, the chill factor is important for promoting flowering. At the other end of the temperature scale, heat tolerance is equally important. Monrovia representative Janet Radmacher recommended *Wisteria floribunda* 'Texas purple' for Tucson and similar climates. The heat zone rating for this cultivar is 3-9 while for other wisteria cultivars it is 3-8. Local nurseries sell several *W. floribunda*, *W. frutescens* and *W. sinensis* but caution that flowering is unpredictable.

Despite examining buds on my wisteria, I can't determine whether I will have good flowering this spring. If cold nights promote flowering, our January temperatures should result in glorious plants. After reading Peter Valder's book on wisteria from cover to cover and lingering longingly over his photographs, I am considering planting a few more this spring...

References

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Newsletter Submissions

Lately I've had people interested in putting items in the newsletter and asking about deadlines and such. So here goes:



I print the newsletter on the last Friday of the month, unless the 1st falls on a Friday. Articles, longer than a quarter page, need to arrive before the 10th of the month if they are to go into the next issue. Any that arrive after the 10th, will go in the following month's issue. Announcements of a quarter page or less I will accept up to the last week before the newsletter goes out. Very short announcements, one or two sentences, I can accept up to the day before, usually. Keep in mind the sooner the better if you want it in. Announcements will run two months unless otherwise requested.

I prefer items be emailed, if possible. I will accept paper copies but then I have to retype them and that's very time consuming. **For now, put the information in the body of the email and not as an attachment.** *At the moment, I cannot open most attachments.* PDFs are ok. I will be getting software to solve that problem in the future but, for several more months, no attachments (unless they are a pdf file.) Lastly, I will accept any items about plant sales, gardening events, gardening club announcements, any Master Gardening news, gardening articles (I have a loose interpretation of what that means) and any articles on your gardening experiences. If you have any questions about the items that go into the newsletter, please feel free to get in touch with me. I generally just check the articles for spelling and grammar but I may edit depending on the space available.

One last item, I will be on vacation in September, so announcements only (no articles) for October (will be printed the last Friday of September,) need to go to the Prescott Office. Email to Jgonza@ag.arizona.edu Or mail them to the attention of Judy and make sure you note they are to go into the October Master Gardener newsletter.

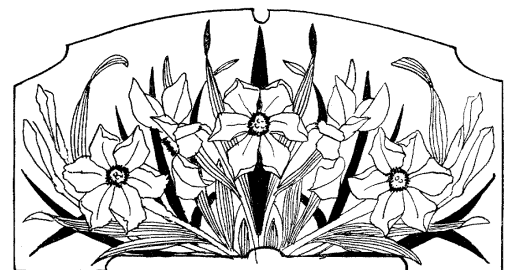
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(928)567-6703-leave a message on my machine; I will get back to you, unless the cats have jumped on my machine and erased it.



Arizona's Five Seasons

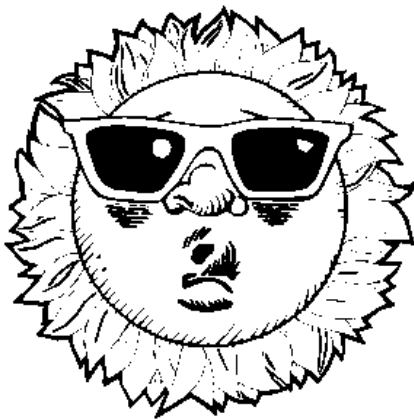
by Nora Graf



They say Arizona doesn't have seasons. That is such a gross lie, from people who simply haven't paid attention. We've been so

hammered (even by those who grew up here) with the mythology of seasons—spring is flowers, summer is green grass, fall is leaves turning colors and winter is snow—Well, Bah! Humbug! Being a native of Arizona, I can do well without those traditional seasons. I have my own vision. First of all, spring starts much earlier and it is very quiet—the first fine blades of grass coming to the surface—a warming in the night. Tiny leaves begin to break forth. In special years the wildflowers bloom in a display unequaled anywhere.

It is summer that seems to come without warning. These days we go from balmy to hot overnight. Summer's abrupt arrival speeds everything up. Desert trees begin blooming, cactus are budding and getting ready to burst forth in spectacular bloom starting in May. Once the mesquite begin to leaf out, you are pretty much assured summer has arrived. Mesquite is ever cautious about sending green out. Those spring flowers are rapidly fading, turning brown and disappearing, being replaced by the white desert poppy blooms and the spreading leaves of datura.



The monsoons show up in July, (really our fifth season.) Dark storm clouds build like giant mountains on the horizon. The wind rises suddenly, lashing at branches. Lightning crashes about and thunder rumbles through the sky. Then,

if the gods are willing rain, pounds down in torrential buckets. Poof!, It's over in a few moments and the storm sweeps out, the sun comes out, drying out the puddles. By September the monsoons have left and hot dry weather returns.

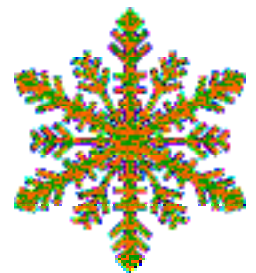


The days shorten and the nights cool. Soon the daytime temperatures drop—100, 95, 90 and finally in the 80's,

then the 70's. Fall has arrived. There's no great splash of colors, not even much frost on windshields, but the nighttime air is crisp and delightful and days are perfect for doing gardening chores.

Winter arrives with bright sunny cool days. The traditional Christmas day of snow is not welcome here. I like the carol "White Christmas," but prefer it on the radio rather than outside my window. Christmas comes in two styles here. Sunny or rainy. Sunny seems the usual fare, making it a great thing to rub in when the relatives call from back east. Winter rain, while not always the most welcome, shouldn't be complained about in the desert. The winter rain brings the spring flowers.

January and February the nights remain cold, the days cool. The clouds roll, in covering the sky. Unlike the flash and dash of monsoons, these clouds are dense and thick like a soft gray blanket overhead. They drizzle for hours. It gently soaks in, leaving a smell of desert earth and creosote in the air. Then—there!— a few green sprigs poke through and spring starts again.



MG Association News



From the President

I missed the August newsletter so I am writing a thank you now. The picnic committee did a great job, thanks to the Gilberts for having us to their lovely home and property. It was awesome. Thanks to Bev Emerson and Nora Graf for the programs and the work they did.

I have been gone, as my mom was ill in Wisconsin, so it meant a trip home to see what was up and take care of things there.

Hopefully, this year will be a great one as we start our new organization and get on with the many projects we have lined up. With all the great help on the committees and the committee heads, I'm sure we will do well and accomplish a lot.

Thanks to all of you and I will do my best to help.

I got home in time to plant a late tomato and some peppers, which are doing great and seem to like the fact they went in late. I hope the production is good, too.

See you all in September.

Anna Wilson



MASTER GARDENERS' HELP NEEDED IN WEST SEDONA

Recovery Alternatives, a nonprofit treatment center that will house addicted women and their children, is seeking our help in developing vegetable gardens, planting fruit trees, and adding flowers to various areas of their nearly one acre property, which is located on Hohokam Drive, above and behind the Sedona Library.

This home will treat low-income single women and women with children who have substance abuses. They will be able to live in the home for 28 days, while they undergo intensive treatment, and they will have another month of transition time to make connections with health care services, job training, life skills, and financial assistance.

Since Recovery Alternatives is a nonprofit center with very limited financial resources, they would very much appreciate any help we can give them. Several raised vegetable beds need to be built, and a play area for the children needs to be created, as well as the items mentioned in the first paragraph of this article. If anyone is skilled at drawing up a basic landscape plan, that would be wonderful.

Please call Carolyn Hernandez at 284-4341 if you can help in any way. The home is being renovated now and the first group of women should move in sometime in September.

These women and their children will work in the gardens as part of their therapy, and we can develop an ongoing educational relationship with them.

Youth Gardening—July/August 2002 by Cindi Shaffer

Thank goodness for monsoon rains. Here we are just a few weeks from the beginning of school. Watering this summer was pretty tough but the gladiolas are blooming, the cosmos and geraniums are perking up from the rain and the petunias are adding their color still.



Many thanks go to the Yavapai County Juvenile Probation community service team, numbering 20, who worked in the Abia Judd Secret Garden all day Saturday the 27th of July. The transformation was impressive. Ten workers were dedicated to the garden and the rest to general weeding at the school. The supervisors even pitched in to help when they were able to.

The group of youth who were working in the garden were able to see the fruits of their labor at the end of the day. A few of them made a point to stand and just look at the transformation they had accomplished. The group of youth who were weeding around the school were amused and pleased when I told them they were really making points for the garden with the school maintenance staff. Although they weren't volunteers, they really pitched in to make a difference and we told them so. The garden was about half finished when we started. Now all the beds are prepared for planting vegetables, more flowers and a host of educational uses.



We build two stacked rock walls, repaired and installed drainage pathways using river rock, cleaned out planting beds and added new soil, weeded, used a core-along to put the rear fence back in place and generally worked really hard all day long. One young woman told me she counted moving 32 wheelbarrows full of soil into the garden. Whew!

Thanks to the volunteers who attended! Connie Loving, a new master gardener this year from Prescott Valley, worked with small groups of youth on several projects and was a great help. Bob Rogalcheck, who has children at Abia Judd and owns his own landscaping company, brought in two loads of soil and helped supervise the workers. Bob also taught us how to make the stacked rock walls, headed up the fence project, and supervised our drainage installation. Joe Shaffer brought in a truckload of manure from Young's Farm and worked right alongside the Juvenile Probation workers. The Abia Judd Secret Garden would not look the way it does today and have the potential it does without these stellar volunteers!



Prickly Poppy
Argemone platyceras
 by Nora Graf

I'm sure you've seen the big white flowers along roadsides but have you ever stopped to look at them? They are a beautiful member of the poppy family. Maybe they don't have the flash of the red ones but they can be a nice addition to a native garden, if you don't mind a few prickles.

They are named for good reason. The plant is covered with sharp prickles but come mid to late summer they are also covered with large white flowers. The flowers are quite large (two to five inches) and white with golden yellow stamens in the center. Prickly Poppy can grow quite tall—from 1 1/2 to 3 feet.

They are found throughout the West, all the way from Wyoming into Mexico and even into the plains states at elevations from 1400 to 8000 feet. They like hot desert sands, arroyos, foothills and mountains and other open areas. Often they show up in an area that has been disturbed or overgrazed.



In the landscape they give a showy display and, along with their gray-green, dramatic foliage, can make a nice accent plant. In colder areas, treat them as an annual but once you get them started, they should reseed easily. Plant in full sun. They are very drought-tolerant but can survive and bloom a bit better on a little water once or twice a season, depending on the rain. As they are late bloomers, (from late spring well into summer) they can help perk up a garden after the main flush of spring bloomers. Because of their "prickly" nature, plant them in areas away from people.

Seeds are readily available at Native Plant nurseries.



The "Arizona Master Gardener Manual" is now on-line. Check out <http://ag.arizona.edu/pubs/garden/mg/>

NOTE FROM THE EDIT OR:

Let me know about your garden, the types of seeds you planted, interesting articles you found—anything of gardening interest. Send to:
Nora Graf

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