The Summer Agricultural Institute is a program of the University of Arizona Cooperative Extension, Maricopa County.

It is funded by the Arizona Foundation for Agricultural Literacy through generous donations from individual members and organizations:

**Sponsors**

Arizona Agricultural Aviation Association  
Arizona Cotton Growers Association  
Arizona Farm Bureau Federation  
Arizona Grain Research and Promotion Council  
Arizona Milk Producers  
Arizona Wool Producers Auxiliary  
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Duncan Family Farms, LLC - Kathleen & Arnott Duncan  
Elgin-Sonoita Cowbelles  
Farm Credit Services Southwest  
Lakin Cattle Company - Chuck and Maxine Lakin  
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Arizona State Cowbelles, Inc.  
Buckeye Union High School  
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Farm Family Hosts  
Gila River Indian Community  
Groseta Ranch  
Hardison Farms  
Hauser & Hauser Farms, Inc.  
Hidden Springs Ranch  
Hines Horticulture  
Maricopa County Farm Bureau  
Martori Farms  
Mingus Union High School  
O X Ranch  
Gerry Parker  
Triple G Dairy  
University of Arizona Cooperative Extension, Maricopa County  
University of Arizona Maricopa Agriculture Center  
University of Arizona - Project WET  
USDA Arid Lands Research Center  
Wojcik Family  
Yavapai County Cowbelles  
Youngker High School
An agriculture commodity is something grown on a farm or a ranch. Milk, oranges, beef and cotton are agriculture commodities. This map shows all the major commodities grown in Arizona’s 15 counties. There are 7,500 farms in our state.

Source: 2001 Arizona Agricultural Statistics Bulletin
www.nass.usda.gov/az/
Monday, June 15  (Anna Aja and Carrie Robbs)

Morning Sites

7:00 am  
A  Registration/continental breakfast  
*Hosted by Dairy Council® of Arizona*  
UA Cooperative Extension, Maricopa County  
4341 E. Broadway, Phoenix, AZ  85040  
http://cals.arizona.edu/maricopa  

7:30  
Welcome / Introductions / Ag Quiz

8:15  
Depart

10:15  
B  Hauser & Hauser Farms, Inc. – (sweet corn, alfalfa, stack retrievers)  
Kevin Hauser  
652 Montezuma Castle Highway, Camp Verde, AZ 86322  
www.hauserandhauserfarms.com  

11:15  
Depart  
Andy Groseta, with Groseta Ranches, will join us on the bus.

11:30  
C  Alcantara Vineyards  
Barb Predmore  
7500 E. Alcantara Way, Cottonwood, AZ 86326  
www.alcantaravineyard.com

12:15  
Depart

12:30 pm  
D  Lunch at Groseta Ranches  
*Hosted by Arizona Beef Council and Groseta Ranches*  
625 S. Mingus View Dr., Cottonwood, AZ 86326
Monday, June 16  (Anna Aja and Carrie Robbs)

Afternoon Sites

1:30 pm  A Mingus Union High School – School Garden  (pg 48)
        Justin Brereton
        1801 E. Fir Street, Cottonwood, Arizona 86326

2:30

4:00  B Hines Nursery  (pg 45)
        Emerson Jones
        1670 E. Perkinsville Rd., Chino Valley, AZ 86323
        www.hineshorticulture.com

5:00

5:15  C Cooper Agriculture Center  (pg 37)
        Jeremy Plumb
        455 E. Center St. Chino Valley, AZ 86322
        www.cooperag.com

6:00  D Dinner at Cooper Ag Center  (pg 36)
        Hosted by Arizona State Cowbelles, Inc.
        and the Yavapai Cowbelles

E Check into hotel – Comfort Inn at Ponderosa Pines
        1290 White Spar Rd., Prescott, AZ 86303-7230
Monday Afternoon
**Tuesday, June 17**  (Marge Martin and Jeannette Fish)

6:30 am  **A**  Breakfast at hotel - Comfort Inn at Ponderosa Pines.  
1290 White Spar Rd., Prescott, AZ 86303-7230

7:00  **Depart**

8:30  **B**  Hidden Springs Ranch – Equine training  
Brett Hone  
18701 Hwy 89, Peeples, AZ  
Mailing address: PO Box 68, Yarnell, AZ 85362-0068

9:30  **Depart**

10:30  **C**  Martori Farms – Melons, garbanzo beans and cotton gin.  
Paul Fleming  
51040 West Valley Rd, Aguila, AZ  
Mailing address:  
7332 E. Butherus Dr, Ste 200, Scottsdale, AZ 85320  

12:00  **Depart. Lunch on the bus**

2:00  **D**  Heiden Land & Cattle Feedlot and Mill  
Les Heiden  
25921 W. Broadway Road, Buckeye, AZ 85326

3:15  **Depart**

3:30  **E**  Farm Family pick-up – Buckeye Union High School  
902 E. Eason Ave, Buckeye, AZ 85326
Tuesday
The 2009 Summer Ag Institute would like to thank all the families who hosted teachers and gave them an opportunity to experience a taste of real life in the agricultural community.

Steven & Sidney Bales, Jr. Bales Cattle Co.
J. L. & Dawn Echeverria O & E Farms
Danny & Sheri Gladden Gladden Farms
Steven and Beth Grandy Wingate Farm
Leon & Carolyn Hardison Leon Hardison Farms
Daniel & Robin Hyde D & R Hyde Farms
Marvin & Marcia John J3 Ranch
Tracy & Kris Johnson Lakin Cattle/Milling Co.
Bill & Sine Kerr William J. Kerr Dairy
Brandon & Katie Leister Rocker 7 Farms
Kelly & Kathy Moss Mountain Shadows Dairy
Cody & Gerry Parker Robert Parker and Son Farm
Robert & Isla Parker Robert Parker and Son Farm
Dean & Emily Rovey Rovey Farm
Jerry Rovey & Dianna Rovey Farm
Rick & Sherry Saylor R & S Farm
Robert & Andrea Van Hofwegen Paloma Dairy
Wednesday, June 18 (Jeannette Fish)

8:30 am  A  Meet at Buckeye Union High School
902 East Eason Ave., Buckeye, AZ 85326

9:00  Depart

9:15  B  Hardison Farms – Alfalfa baling, cotton, wheat
Leon Hardison
10500 S Palo Verde, Palo Verde, AZ 85343  (pg 41)

10:00  Depart

10:15  C  Triple G Dairy
Ben and Conrad Gingg
29115 W Broadway Rd, Buckeye, AZ 85326  (pg 49)

11:15  Depart

11:30 pm  D  Lunch – La Placita
Sponsored by Arizona Machinery
424 E. Monroe Ave., Buckeye 85326

12:30  E  Arizona Machinery – tour and GPS demonstration  (pg 35)
John Donahue
225 N. First St., Buckeye 85326

2:00  Depart

3:30  F  Hotel Check-in – LaQuinta
15241 S. 50th St., Phoenix, AZ 85044

4:00  Addressing Misconceptions About Agriculture
Jeannette Fish, Maricopa County Farm Bureau
LaQuinta Conference Room

6:00  Dinner – walk with group to Cracker Barrel (exercise is good for us!)

7:00  LaQuinta Conference Room immediately following dinner:
Activities Development Session - Monica Pastor
Future Farmers of America (FFA) Presentation – Past and present
AZ-FFA officers
Thursday, June 19 (Victor Jimenez and Erin Taylor)

7:30 am  A  **Breakfast** at hotel

8:30  

9:00  B  **U of A Maricopa Agriculture Center**
Welcome by Victor Jimenez, Bob Roth
37860 Smith-Enke Rd., Maricopa, AZ 85238
www.cals.arizona.edu/aes/mac  (pg 51)

9:15  Insect Management & Collection – Erin Taylor & Al Fournier

10:00  Siphon Tube Experience – Victor Jimenez

10:45  Project WET – Mary Ann Stoll, Elizabeth Beatty

11:30  pm  Lunch
Gila River Community Project – Sonny Nieto

12:40  Insect Science (Group A) – Al Fournier & Virginia Barkley
Pollination Science (Group B) – Kelly Young & Erin Taylor

1:10  Insect Science (Group B) – Al Fournier & Virginia Barkley
Pollination Science (Group A) – Kelly Young & Erin Taylor

2:00  MAC Ag-Ventures & Ag Jeopardy – Victor Jimenez

2:30  Tour  **USDA Arid Lands Research Center** – Bert Clemmens

3:15  Depart

3:45  C  **Return to Hotel** - LaQuinta
15241 S. 50th St., Ahwatukee

5:15  Depart

6:30  D  **Nineteenth Annual Summer Agricultural Institute**
**Sponsor’s Appreciation Banquet**
Youngker High School, Buckeye
3000 S Apache Rd, Buckeye, AZ 85326  (pg 39)

9:00  E  **Return to hotel** – LaQuinta
Thursday
Friday, June 20  (Monica Pastor & Erin Taylor)

7:30 am  A  Breakfast at hotel, and checkout

8:00  Depart

8:30  B  Curriculum Incorporation Session
UA Cooperative Extension, Maricopa County
4341 E. Broadway, Phoenix, AZ 85040
Monica Pastor
U of A AG Literacy Program
www.cals.arizona.edu/agliteracy/index.htm   (pg 50)

11:30  Arizona Department of Agriculture presentation
Jack Peterson, Associate Director
www.azda.gov        (pg 32)

12:00 pm  Lunch and Organizational Displays
Hosted by Arizona Milk Producers   (pg 38)

1:30  Wrap up / Evaluation / Discussion
Friday
## Friday Exhibitors

<table>
<thead>
<tr>
<th>Organization</th>
<th>Contact Person</th>
<th>Contact Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ Dept. of Health Services</td>
<td>Laura Astbury</td>
<td><a href="mailto:astburl@azdhs.gov">astburl@azdhs.gov</a> 602-364-3818</td>
</tr>
<tr>
<td>Arizona Beef Council</td>
<td>Carrie Robbs</td>
<td></td>
</tr>
<tr>
<td>Arizona Farm Bureau Federation</td>
<td>Peggy Jo Goodfellow</td>
<td><a href="http://www.azfb.org">www.azfb.org</a> 480-635-3609</td>
</tr>
<tr>
<td>Arizona Statewide Gleaning Program</td>
<td>Jami Kakinuma</td>
<td>602-528-0740 <a href="mailto:jami@azfoodbanks.org">jami@azfoodbanks.org</a></td>
</tr>
<tr>
<td>Central Arizona Project</td>
<td>Bob Navigato</td>
<td><a href="mailto:bnavigator@cap-az.com">bnavigator@cap-az.com</a> 623-869-2134</td>
</tr>
<tr>
<td>Dairy Council of Arizona</td>
<td>Colleen Bergum</td>
<td><a href="http://www.dairycouncilofaz.org">www.dairycouncilofaz.org</a> 480-966-7211</td>
</tr>
<tr>
<td>Dairy Council of Arizona</td>
<td>Terri Verason</td>
<td></td>
</tr>
<tr>
<td>Dutchview Dairy</td>
<td>Melissa &amp; Jason VanHofwegen</td>
<td><a href="mailto:Melvan82@yahoo.com">Melvan82@yahoo.com</a></td>
</tr>
<tr>
<td>Maricopa County Farm Bureau</td>
<td>Jeannette Fish</td>
<td><a href="mailto:mcfb@questoffice.net">mcfb@questoffice.net</a> 602-437-1330</td>
</tr>
<tr>
<td>The Phoenix Zoo Education Programs</td>
<td>Christina Klein-Ellis</td>
<td><a href="http://www.phoenixzoo.org">www.phoenixzoo.org</a> 602-286-3859</td>
</tr>
<tr>
<td>Superstition Farm</td>
<td>Melrose</td>
<td>480-648-6128 <a href="http://www.superstitionfarm.com">www.superstitionfarm.com</a></td>
</tr>
<tr>
<td>UA Cooperative Extension Water Resources Program</td>
<td>Pam Justice</td>
<td><a href="mailto:pjustice@ag.arizona.edu">pjustice@ag.arizona.edu</a></td>
</tr>
<tr>
<td>USDA/NASS</td>
<td>Nancy Crocker</td>
<td></td>
</tr>
<tr>
<td>USDA/NASS</td>
<td>Sharon Ricart</td>
<td><a href="mailto:Sharon_ricart@nass.usda.gov">Sharon_ricart@nass.usda.gov</a> 602-280-8850</td>
</tr>
<tr>
<td>Vertuccio Farms</td>
<td>Angela Vertuccio</td>
<td>480-650-6611 <a href="mailto:conoandangela@myway.com">conoandangela@myway.com</a></td>
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Arizona

Farms
Number of Farms 15,600
Land in Farms (acres) 26,100,000
Average Farm Size (acres) 1,673

Livestock Inventory
Cattle and Calves – All (Jan 1, 2009) 1,020,000
Hogs and Pigs – All (Dec 1, 2008) 165,000
Sheep (Jan 1, 2009) 150,000

Milk
Milk Cows (Average head) 186,000
Milk Production per Cow (lbs) 23,382
Production (lbs) 4,349,000,000

Total Cash Receipts $3,513,163,000
Value of Crop Production $1,832,877,000
Includes:
Food Grains $40,196,000
Feed crops $221,822,000
Cotton $169,894,000
Fruit & Tree Nuts $100,307,000
Vegetables $1,167,636,000

Value of Livestock Production $1,614,943,000

2008 STATE AGRICULTURE OVERVIEW

Changes Over Time 2002 - 2007

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2002</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Farms</td>
<td>15,637</td>
<td>7,295</td>
<td>+ 114%</td>
</tr>
<tr>
<td>Land in Farms</td>
<td>26,117,899 acres</td>
<td>26,586,5777 acres</td>
<td>-2%</td>
</tr>
<tr>
<td>Average Size of Farm</td>
<td>1670 acres</td>
<td>3645 acres</td>
<td>-54%</td>
</tr>
<tr>
<td>Market Value of Production</td>
<td>$3,234,552,000</td>
<td>$2,395,447,000</td>
<td>+35%</td>
</tr>
<tr>
<td>Crop sales</td>
<td>$1,913,014,000 (59%)</td>
<td>$1,321,538,000 (41%)</td>
<td></td>
</tr>
<tr>
<td>Livestock Sales</td>
<td>$1,321,538,000 (41%)</td>
<td>$1,321,538,000 (41%)</td>
<td></td>
</tr>
<tr>
<td>Average Per Farm</td>
<td>$206,852</td>
<td>$328,413</td>
<td>-37%</td>
</tr>
</tbody>
</table>

Vegetable & Melon Harvested Acres
2006-2007

- Watermelon
- Honeydew
- Cantaloupe
- Head Lettuce
- Romaine
- Red Lettuce
- Spinach
- Leaf Lettuce
- Cabbage
- Broccoli
- Cauliflower
- Onions
- Chile Peppers
- Potatoes

Farms by Size

Land in Farms by Type of Land

- Pasture
- Other uses
Alcantara Vineyards

Welcome to Arizona Wine Country!

Alcantara Vineyards, the first winery on the Verde River, is one of the largest vineyards in Central and Northern Arizona. Alcanta-ra Vineyards is located on 87 acres of sloping limestone at the confluence of the Verde River and Oak Creek; the only two year-round flowing rivers in Arizona. The Verde River flows around the property and Oak Creek empties into the Verde River. It’s the perfect micro-climate for growing grapes and making Arizona wines!

Barbara Predmore, proprietress, states "the rocky limestone soil and sunny climate in the Verde is very similar to the wine making regions of France and Italy and after two years of experimentation the results are everything we hoped for and then some." The Cliffs that border the Verde River basin have caves that were used by the Native Americans and petroglyphs have been found on some of the cave walls. This verdant river valley was also used for farming.

The vines that are planted are Merlot, Syrah, Sauvignon Blanc, Pinot Gris, Zinfandel, Cabernet Sauvignon, Viognier, Petite Syrah, Charbono and Mouvedre. The vineyards are 3 years old, and we will have production on Merlot, Syrah, Sauvignon, Blanc and Pinot Gris this year...Take note of the roses planted at the end of the rows in our header photo? As long as those roses stay healthy, we know the vineyard is getting the right nutrients and are free of insects and diseases.

Our vineyards have over 13,000 vines and offer 12 different varietals. Come and try our red and white wines that will transform your taste buds into the relaxing world of wine tasting. Enjoy our surroundings which include the Verde River running around our property, with bald eagles flying overhead. Feel free to bring a picnic basket to enjoy our outside balcony and grass area.

Our high country vineyards, near Sedona Arizona are flourishing and make the perfect getaway when you are looking to enjoy Arizona wines in a spectacular setting. Just two hours from Phoenix and one of the best wineries near Sedona, Cottonwood and Jerome, Alcantara harvests wine in August and September, an event visitors are invited to watch... and don't forget you can now buy Arizona wines online.
Arizona Beef Council

Who We Are
Congress created the Beef Promotion and Research Act, the “Beef Checkoff Program,” with passage of the 1985 Farm Bill. Producers approved making the Beef Checkoff Program mandatory in 1988, with 79 percent voting in favor of it.

Producers asked that the checkoff program be built on these tenets:
- All producers and importers pay the same $1-per-head.
- One-half of the money collected by state beef councils—50 cents of every dollar—is invested through the beef council in each state.
- All national checkoff-funded programs are budgeted and evaluated by the Cattlemen’s Beef Board, and independent organization of 104 checkoff-paying volunteers.
- Beef Board members are nominated by fellow state producers and appointed by the U.S. Secretary of Agriculture.

The beef checkoff acts as a catalyst for change. The checkoff doesn’t own cattle, packing plants or retail outlets. It can’t control prices or single-handedly turn around a bad market. The Beef Checkoff Program was designed to stimulate consumers to buy more beef. This is accomplished through a combination of initiatives including consumer advertising, research, public relations, education and new product development.

Resources for Teachers
The Arizona Beef Council provides materials for classroom, presentations and ranch tours all for FREE! Visit www.arizonabeef.org for more information.


Other checkoff funded websites that would be helpful are:
www.beefitswhatsfordinner.com - Helpful cooking tips and recipes
www.beeffrompasturetoplate.org - Explains the story, environmental and economics of beef
www.beefnutrition.org - All the nutrition information you need
www.nationalbeefambassador.org - Opportunity for students to become ambassadors for beef
www.zip4tweens.com - Helps kids & their families find a balanced approach to a healthier lifestyle

For more education questions or requests contact Carrie Robbs at 602-273-7163 or crobbs@arizonabeef.org
The Arizona Department of Agriculture is a cabinet-level statewide agency with more than 320 employees and an annual budget of more than $23.9 million. Our goal is to regulate and support Arizona agriculture in a manner that encourages farming, ranching, and agribusiness while protecting consumers and natural resources. The agency consists of three main divisions: Animal Services, Environmental Services, Plant Services.

The Department also includes a State Agricultural Laboratory; a Citrus, Fruit and Vegetable Standardization and Fresh Produce Grade Inspection program; and an Agricultural Consultation and Training program.

**Plant Services Division** - Protecting Arizona’s native plants. Ensure the public and the agriculture industry that dangerous plant infestations prevented or readily controlled. (Such pests include: gypsy moth, Mediterranean fruit fly, and imported fire ant, among others.)

**Animal Services Division**
We protect consumers from contagious and infectious disease in livestock, poultry, commercially raised fish, meat, milk, and eggs. We do this by enforcing laws concerning the movement, sale, importation, transport, slaughter, and theft of livestock. In addition, we conducting food quality and safety inspections of milk and meat products produced and processed in Arizona, and of egg and egg products produced in, or imported to, Arizona.

**Environmental Services Division**
Register and licensing feed, fertilizer, seed and pesticide companies or products in accordance with federal and state laws; Sampling for product quality to help protect the consumer; Enforce pesticide use compliance to ensure established buffer zones are adhered to, environmental concerns are met, and people are protected; Train and certify pesticide applicators and advisors. This includes the Worker Safety program, which is responsible for preventing or limiting farm workers exposure to pesticides.

**Citrus, Fruit and Vegetable Standardization**
The Citrus, Fruit, and Vegetable Standardization program monitors and enforces the quality standards for all fresh fruit and vegetables produced and marketed in Arizona. Citrus, Fruit, and Vegetable Standardization continues to support the state-wide gleaning program -- a collection of wholesome food for distribution to the poor and hungry. This program gathered and distributed over 29 million pounds of produce in FY 2004.

**Agricultural Consultation and Training**
The Agricultural Consultation and Training (ACT) Program is an innovative compliance assistance program unique to an agricultural regulatory agency. This program embraces the ADA’s goal of encouraging farming, ranching and agribusiness, while protecting consumers and natural resources by utilizing a non-enforcement approach. ACT is not affiliated with any of ADA’s enforcement programs, allowing staff members to provide a formal means by which the regulated agricultural community may request compliance assistance without regulatory intervention. ACT serves Arizona’s diverse agricultural community through the following compliance assistance and education programs: Pesticide Safety, Air Quality, and Agricultural Conservation Education.

ACT also houses the Livestock & Crop Conservation Grant Program, Specialty Crop Block Grant Program, AZ Citrus Research Council, AZ Iceberg Lettuce Research Council, AZ Grain Research and Promotion Council, Agricultural Employment Relations Board, and the AZ Agricultural Protection Commission.

**State Agricultural Laboratory**
We provide quality agricultural and environmental laboratory analysis, identification, certification and training services to various regulatory divisions of the Department and others as provided by law. To accomplish this mission, we are divided into Biology and Chemistry.
The National FFA Organization was organized as the "Future Farmers of America" in 1928 in Kansas City, Mo. In 1988, the organization began doing business as The National FFA Organization to reflect the broadening field of agriculture, which today encompasses more than 300 careers in everything from agri-science to biotechnology to turf grass management.

FFA operates on local, state and national levels. Student members belong to chapters organized at the local school level. Agricultural education instructors serve as chapter advisors. Chapters are organized under state associations headed by an advisor and executive secretary, often employees of the state department of education. States conduct programs and host annual conventions.

In 1988, the official organization name was changed to The National FFA Organization to reflect the broadening field of agriculture, which today encompasses more than 300 careers in everything from agri-science to biotechnology to turf grass management.

Through active participation in the FFA, members learn by taking part in and conducting meetings, speaking in public, participating in contest based on occupational skills, earning awards and recognition and becoming involved in cooperative efforts and community improvement. The FFA offers opportunities for becoming productive citizens in our democracy.

FFA members believe in leadership, citizenship, and patriotism. They believe in free enterprise-freedom under the law-in making their homes, schools, and communities' better places in which to live and work.

Members participate in regular chapter meetings, present motions, debate issues, and take part in decision making. They work hard, but they also play hard, as recreation is also a part of each year's program of activities.
Arizona Farm Bureau is a grassroots organization dedicated to preserving and improving the Agriculture industry through member involvement in education, political activities, programs and services. The Arizona Farm Bureau is Arizona’s largest farm and ranch organization with membership that represents production agriculture throughout the state of Arizona.

Farm Bureau’s purpose is to be an, independent, non-governmental grassroots organization that analyzes problems and formulates action to achieve educational improvement, economic opportunity, and social advancement in order to promote the financial and overall well being of agriculture and our members. We are the "Voice of Agriculture in Arizona.”

As the agriculture industry faces new challenges in the future, Farm Bureau will be there to assist our members in meeting those challenges. We will be involved in lobbying on county, state and national issues. We will be there to discuss issues of profitability, property rights, labor, water, trade, farm policy, tax issues, environmental issues and much more. We will also continue to offer value to our members by providing products and services to our members.

We reach out to the public in many ways, to teach them that their food, fiber and ornamentals come from farms and ranches, not from the store. Activities to promote agriculture to the public and the schools are also a focal point of the Farm Bureau.

Ag in the Classroom
The Arizona Farm Bureau Ag in the Classroom program strives to develop and implement curriculum and programs that are aligned to the state learning standards (AIMS) to help students and teachers be successful, while increasing agricultural awareness in K-6 classrooms and beyond.

Free Resources for Teachers - You take the kits or we come to your classroom
- Curriculum Kits
- Farmer/Rancher Pen Pals
- Classroom presentations
- School Field Trips
- Ag Lending Library
- Informational websites

Online Product Directory
Arizona Farm Bureau’s Fill Your Plate is an on-line direct market product directory. From apples to zucchini, and everything in between, Arizona’s farmers and ranchers will fill you up with the best knowledge of where your Arizona food comes from. Find locally grown products at www.fillyourplate.org.

Farm Bureau is local, county, state, national, and international in its scope and influence, and is non-partisan, non-sectarian, and non-secret in character. We are supported by dues-paying members, and we offer a myriad of services, discounts and benefits to our members.

Arizona has 13 active county Farm Bureaus covering all 15 counties. These are the basis of our grassroots organization. Each county Farm Bureau is an independent entity governed by local farmer and rancher volunteer leaders. All ideas, solutions, and leadership come from the members of the county Farm Bureau.
Arizona Machinery Co.

Arizona Machinery Co. is a family-owned business that has been serving customers in Arizona for over 60 years. Our success flows from our dedication to providing the ultimate in service after the sale.

We are proud to carry the following lines of John Deere equipment: agricultural, golf and sports turf, commercial mowing, utility vehicles and residential lawn & garden. In addition, we offer unmatched parts availability plus a staff of factory-trained technicians that are ready to work on virtually any machine you need fixed.

If you own equipment and don’t have the time or expertise to properly maintain it, let us structure a maintenance program to suit your needs. Our field service technician will travel to your location to service your equipment as often, or as sparingly, as you select.

With three locations to serve you in Maricopa County, we encourage you to stop by and see what we have to offer.

We offer a full line of agricultural equipment including:

- Tractors
- Combines
- Cotton Harvesting
- Hay and Forage
- Sprayers
- Planting and Seeding
- Tillage
- Material Handling
- Cutters and Shredders
- Scrapers
- Gator Utility Vehicles
- Engines
- Ag Management Solutions
- Home and Workshop Products

Arizona Machinery Co. 225 N. 1st St, Buckeye, AZ 85326
Arizona State Cowbelles, Inc.

The Arizona State Cowbelles is a unified, professional organization made up of generations of Arizona women playing a vital role in the state’s cattle industry. The organization got its start in 1939 when a group of ranchers’ wives in the Douglas area formed a social club to cement good will and friendship among the wives and mothers of cattlemen in southeast Cochise County. The women named their organization “The Cowbelles.” The club immediately began doing charitable work.

Word of the unique organization spread quickly. The Wyoming State Cowbelles was formed in 1940. Texas women also asked permission to organize their own state Cowbelles. The Arizona State Cowbelles was formally organized in January, 1947, during the annual convention of the American National Cattlemen’s Association in Phoenix. Mattie Cowan, president of the original Cowbelles in Douglas, was elected the first state president. A total of 16 local Cowbelles groups have been organized around the state.

Over the years, the Cowbelles have turned their primary focus to beef promotion and public education about the nutritional value of beef and the lifestyle of ranch families. Arizona Cowbelles work hand in hand with the Arizona Beef Council to bring the message or ranching and the beef industry to their local schools, communities, and businesses.

Find out more about the Cowbelles’ Scholarship Program.

Find out how to contact the Cowbelles’ Officers and Local Presidents.
The Cooper Agriculture Center began with the donation of the 52 acres of historic farm land owned by Kenneth & Lavonne Cooper to the Chino Valley FFA program in 1997. The Cooper Property was one of the original home sites settled in the Chino Valley area in the late 1800’s.

The Cooper Agriculture Center is being constructed in conjunction with the University of Arizona Department of Agriculture Education, Arizona Farm Bureau, Arizona Cattle Growers, and the Charlotte Hall Museum to provide a comprehensive K-12 Agriculture Learning Institution for students of Yavapai County and Arizona. The Cooper Agriculture Center will give students in Yavapai County access to state of the art Aquaculture Facilities, 32 acres of production farm land, 12 Acre Forestry Arboretum - to include all 80 native forestry plants found in Arizona, state of the art greenhouse, livestock production education and will be completed with the incorporation of the Cooper Agriculture Center - Museum of Living Agricultural History. All projects and facilities are currently being constructed by students in the Chino Valley High School - FFA program with assistance from students in surrounding schools.
Dairy Council® of Arizona
Arizona Milk Producers

Dairy Council® of Arizona is a nonprofit nutrition education organization supported by Arizona’s milk producers and is an affiliated unit of National Dairy Council®. We strive to provide you with the latest in nutrition research and educational materials to help make your job easier. We offer a wide range of scientifically based education materials for all age groups, from pre-school through adult audiences. As a leader in nutrition education services in Arizona, we provide information on current nutrition issues such as calcium needs, osteoporosis, hypertension, weight management, lactose intolerance, dental health, and general nutrition. All Dairy Council of Arizona nutrition education materials are based on the MyPyramid Food Guidance System. Some of our materials are also available in Spanish.

No school wellness policy can be complete without incorporating nutrition education into the plan. Dairy Council of Arizona provides nutrition curriculum packages for several grade levels, as well as other nutrition education materials you can use to help you implement the best wellness policy you can. Dairy Council of Arizona is proud to provide these award winning, age-specific nutrition education materials throughout the state at no charge.

Arizona Milk Producers is the advertising and promotion arm of the organization, dedicated to promoting the benefits of milk and dairy foods to consumers. One aspect of this promotion is to highlight the importance of agriculture in the state and how dairy farmers care for their land and animals.

Arizona’s dairy farmers are committed to providing you and your family with wholesome milk and dairy products. This commitment starts on the farm with top-notch animal care and extends across the supply chain -- from the milk tanker trucks to the processing plant to the grocery store -- to ensure that the dairy foods you enjoy each day are as wholesome and pure as nature intended.

Most dairies are family-owned, and as active members of their communities, farm families take pride in maintaining natural resources. That means preserving the land where they live and work, protecting the air and water they share with neighbors, and providing the best care for their cows—the lifeblood of their business.
Tonight’s dinner has been prepared for you by 3 local chefs using Arizona grown products:

Bobbi Gibbs
www.mychefsite.com/relishthethyme
relishthethyme@yahoo.com

Kim Onstott
http://YourPlaceGourmet.com
ChefKim@YourPlaceGourmet.com

Cindy Erickson
sirladycae@yahoo.com
Groseta Ranches

Groseta Ranches was started in 1922 by Peter Groseta, Sr. in Middle Verde, Arizona. Over the past 87 years, the original 25-cow ranch has grown into a 400 cow-calf operation that is run by Andy Groseta and his son, Paul. Currently, the third, fourth & fifth generations live at the ranch headquarters, located on the banks of the Verde River in Cottonwood, Arizona. Cottonwood is 20 miles southwest of Sedona and 100 miles north of Phoenix.

Cattle on the ranch are branded with the W Dart brand which was acquired when Pete Groseta, Jr. purchased the W Dart cow outfit from the Fain family in 1948.

The ranch consists of approximately 40 sections of deeded, private leases, state trust and Forest Service lands. A set of commercial crossbred cows consisting primarily of Angus, Hereford and Charolais cows runs on these 40 sections. In addition to these cattle, a small herd of Maine, Chianina, Angus crossbred cows are kept on irrigated pasture at the ranch headquarters and are used to produce a select number of club calves for local 4-H and FFA members.

**Land Management Practices**

The ranch uses a deferred rotation grazing management system. Cattle are rotated through pastures allowing a minimum of one growing season (12 months) of rest. This practice promotes healthy rangelands for the cattle and wildlife. The ranch has approximately 20 miles of pipeline to provide water to both cattle and wildlife. Water is provided by wells, springs, dirt tanks and the Verde River. At the ranch headquarters we have irrigated permanent pastures where the ranch horses are kept. Irrigation water is provided to the headquarters from the Cottonwood Ditch Association (CDA). The CDA has senior water rights on the Verde River with the first water rights being recorded on December 10, 1877.

**Ranch Management Practices**

Cows calve in the spring, and are weaned and sold in the fall or held over and sold the following spring; this depends on forage conditions. The top heifers are kept as replacement heifers, bred by natural service and calve as first-calf heifers at the headquarters before being mixed in with the rest of the herd on the ranch. Despite the many challenges facing the cattle industry, Groseta Ranches continually strives to improve the quality of cattle produced, while remaining a good steward of the lands the cattle are produced on. With our large land base, our program revolves around functional, easy going, low maintenance cattle. A keen eye is kept on market demand in order to stay in tune with the trends of today’s consumers. This diligence in selection and continual improvement helps us meet the needs of commercial producing beef for today’s consumer.
Hardison Farms

The Hardison family has been farming in the Palo Verde area since 1959, when Leon’s father moved their small (100-cow) dairy from Scottsdale to the farm west of Buckeye.

The dairy was closed years ago and the family has concentrated on growing cotton, small grains (wheat and barley) and alfalfa hay. For the past eight to 10 years, they have grown mostly forage crops for the dairies in the area. They also grow some specialized Bermuda grass/alfalfa hay for the horse hay market. They farm about 2,300 acres and get their water from the Buckeye Water Conservation and Drainage District.

With the addition of their son, Jason, to the farming operation, they are now in the third generation to farm this land.
The Hauser family has been farming for six generations. Dick and Kevin Hauser farm in the Camp Verde and Paulden areas. Dick's brothers have farmed in Tolleson and St. Johns for 40 years. Their father raised and hauled citrus in North Phoenix from 1948 until retirement. Prior to that, the family farmed in Iowa.

Arizona farms are important. They provide open space, green belts, wildlife habitat, buffer zones and contribute to Arizona’s history and character. Farmland is a tourist attraction that provides economic and educational benefits. People travel for hundreds of miles for fresh sweet corn, other fruits and vegetables, and farm activities. Arizona agriculture provides for quality of life and economy.
Heiden Land & Cattle
Feedlot & Mill

Heiden Land and Cattle was started in 1947 by Walter and Louise Heiden and the Heiden family has farmed and fed cattle on this land since then. With the Les Heiden running the operation, he’s the third generation to work the land with the fourth generation currently becoming involved in the family business as well. Heiden Land and Cattle feed 4000 head to prepare them for market. Through the Feedlot and Mill, and the family’s HFourFarms division, they also produce and process grains for use in the dairy and ranching industries.
Owned and operated by Mary Ellen and Robert McKee since 1999, Hidden Springs Ranch is an equine training facility that provides customers with the best quality personal service. It's located in the high country of Arizona about 4500 feet in elevation and provides a great climate for thoroughbreds of all ages year round. Hidden Springs Ranch includes 5/8 mile training track, equiciser, a swimming facility and a four stall starting gate to meet your needs.
Hines Nursery

Our commercial nursery facilities span over 4000+ acres, and are strategically located throughout the United States including Arizona, California, Texas and Oregon.

Our Arizona facility, located north of sunny Phoenix, Hines Chino Valley specializes in year round color production. Totaling close to 70 acres, Hines Chino Valley has one of the most advanced automated plug production systems available, enabling the site to produce color crops quickly and efficiently.

Every year our team of experts test and evaluate hundreds of potential new plants to find the right products that will thrive in the landscape. We offer perennials, ornamental trees, groundcover, tropicaals, shrubs, vines and ferns to meet all your residential and commercial landscape needs.

For close to 90 years, Hines has introduced some of the most innovative and popular plants on the market. Having access to expertise worldwide, we are able to leverage that knowledge to produce the best plants and results for any climate condition in the United States.

At Hines Nurseries, we present over 4,000 plants to add to your home garden. Our goal is to search the world to find the best plant varieties available. No other nursery introduces more new varieties each year than Hines.

Look for Hines Horticultural plants at your local garden center -- where we bring the best of the world's gardens to you.
Maricopa County Farm Bureau

Maricopa County Farm Bureau (MCFB) is a grassroots membership organization dedicated to promoting and defending agriculture in a county with 4 million residents. A non-profit organization governed by an elected board of directors who are local agriculture producers, MCFB concentrates its efforts on three areas: representing agriculture in local and county legislative and regulatory actions; education and communication; and member benefits.

MCFB is one of the county Farm Bureaus that make up the Arizona Farm Bureau Federation.

As part of our educational outreach, MCFB helps organize such public events as Arizona Agriculture Day and Farm Animal Appreciation Day. Our farmers are also seen on media features that show the real source of food, fiber and ornamental plants.

Our Ag in the Classroom program includes a partnership with the University of Arizona Extension, Maricopa County, to bring presentations to your school to help your students learn about the plants and animals that provide all the food they eat, most of the clothes they wear, the materials to build their homes and the ornamental plants and trees that make their homes and properties beautiful.

MCFB originated the popular “How to Grow a Pizza” traceback exercise that shows how many farms it takes to provide the ingredients for pizza. Schedule “How to Grow a Pizza” presentations for your school by calling MCFB at 602-437-1330 or Gerry Parker at the Extension office, 602-470-8086, ext. 389.

Farm Bureau is an “umbrella” organization that covers all aspects of agriculture – large and small production facilities growing everything from cilantro to horses and shrimp, from dairy cattle to zucchini. That’s why we call ourselves “The Voice of Agriculture.”
Welcome to Martori Farms, an American grower and shipper rooted in a century’s experience in fresh fruit and vegetables.

Our origins trace back to the turn of the century, to a horse drawn wagon owned by one of the first members of the Martori family to set foot in the United States. He founded a solid tradition, as a fruit vendor on the streets of New York City. He distinguished himself by consistently offering only the freshest products of the finest quality. A firm handshake and his honest reputation guaranteed every transaction.

That grassroots approach stayed in the Martori family. Today you'll see at Martori Farms a fourth generation striving to honor that century old tradition.

Over the years, Martori Farms has grown into a vertically integrated operation, shipping fresh fruits and vegetables year round throughout North America. We maintain direct control over all aspects of production, and we adhere to those same simple principles that sparked our grandfather’s success all those decades ago.
Mingus Union High School
School Garden

Through the Agri-science program, students develop the technical knowledge and skills associated with agricultural science, production and health, marketing, and sales positions. Ag students get to work with animals, including fish and chickens, that are kept next to the agriculture class facility. They also work in a state-of-the-art greenhouse.

If you would like to get a garden growing in your school there are many grants available to get you started.

National Gardening Association Announces
2009 Healthy Sprouts Awards Program

The National Gardening Association encourages the growth of health-focused youth garden programs through the Healthy Sprouts Awards sponsored by Gardener’s Supply Company. The awards support school and youth garden programs that teach about nutrition and the issue of hunger in the United States. For more information please visit http://assoc.garden.org/grants/.
Triple G Dairy

Dairy cows are treated like queens on Arizona dairy farms and Triple G Dairy is no exception - it’s a high tech cow spa.

Owned and operated by the Gingg family, Triple G embodies four generations of dairy farming. Conrad Gingg grew up in the dairy business on his family’s dairy farm in California. His sons, Ben and K.C., run Triple G along with Ben’s children, Connie and Max who are part of the day to day operation of the dairy.

Cow comfort is an obvious priority at the facility as sophisticated computer controlled fans and misters adjust the atmosphere to keep the cows cool, while side curtains help keep the cool air inside. The milking parlor contains two state of the art milking carousels that each have 48 stalls and the cows even have a shaded walkway to get to the milking parlor. Triple G milks 3700 cows 3 times each day and combined with the young stock, the facility houses about 8000 animals.

Sustainability is also important for Triple G. Much of the feed is grown on the family’s 4000 acre farming operation and feed storage and mixing takes place right there on the grounds. Environmental issues are a key element as the family works to protect the soil and water to provide a good home for their cows, their families and their communities.
U of A Cooperative Extension, Maricopa County

Cooperative Extension plays a unique role in both urban and rural areas of the state. Extension provides practical information and education to help people make their lives better. Outreach efforts translate relevant University of Arizona research into effective practices people can put to immediate use in their homes and businesses.

Programs are conducted by the University of Arizona College of Agriculture and Life Sciences Cooperative Extension faculty in each county office and by campus-based Extension Specialists. Faculty members – Extension Agents – form partnerships with community groups and with trained volunteers to bring the university to the people.

Cooperative Extension programs address key quality of life issues pertaining to Animals; Environment & Natural Resources; Family, Youth & Community; Marketing, Trade & Economics; Nutrition, Food Safety & Health; and Plants.

Creating a Better Environment for Families and Consumers: Healthy people are better able to contribute to a robust economy. Cooperative Extension programs are designed to strengthen families, promote healthy lifestyles and wise financial decisions and develop community leaders. Programs are offered at community centers, churches, and other venues to reach diverse audiences.

4-H Youth Development: Youth ages 5-19 can be involved in more than 100 educational projects that are offered through 4-H. 4-H uses experiential learn-by-doing projects, meetings, community service and a variety of educational experiences to teach life skills while having fun. 4-H is young people and adults growing together to become informed, educated citizens.

Agriculture and Natural Resources: Extension promotes environmental stewardship through Horticulture, Field Crops, Turfgrass and Invasive Species programs. The Water Sustainability programs create quality interactive learning experiences to promote responsible water stewardship, including conservation.

Cooperative Extension has offices across the state, in counties and on Indian Reservations, that can be accessed through the web site cals.arizona.edu/extension. These offices are located in:

- Apache (St. Johns)
- Cochise (Willcox & Sierra Vista)
- Coconino (Flagstaff)
- Gila (Payson & Globe)
- Graham (Solomon)
- Greenlee (Duncan)
- La Paz (Parker)
- Maricopa (Phoenix)
- Mohave (Kingman)
- Navajo (Holbrook)
- Pima (Tucson & Sahuarita)
- Pinal (Casa Grande)
- Santa Cruz (Nogales)
- Yavapai (Prescott & Cottonwood)
- Yuma (Yuma)
- Colorado River Indian Tribes (Parker)
- Hopi Tribe (Keams Canyon)
- Navajo Nation (Window Rock & Shiprock)
- Hualapai Nation (Peach Springs)
- San Carlos Apache (San Carlos)
As one of the major centers of the Arizona Agricultural Experiment Station, the Maricopa Agricultural Center strives to be at the forefront of disciplinary field investigations, to develop, deliver and service the best appropriate integrated agricultural technologies for all problems faced by Arizona consumers and producers, and to provide assistance to all scientists conducting their research and educational outreach programs. The Center not only provides facilities and support for extension outreach programs, but also provides support and facilities for teaching University classes and Ag-Literacy to all age groups.

The **MAC Farm Ag-Ventures** educational programming includes a combination of videos, educational presenters, hands on learning experiences and trailer rides around certain parts of the 2100 acre farm for a first hand view of what makes a working plant farm work. Our philosophy is for students to learn and to have a fun time learning about the source of our food and fiber.

**Nutrition Ag-Ventures - (September-October, March-May)**
In this “food comes from the farm series”, students learn how many farms it takes to make a pizza. As pizza is the most popular item of choice among today’s youth, students learn about how plants grow and all the work it takes to bring healthy, nutritious food to the table. Classroom activities are provided to help further the Ag-Literacy experience.

**Amazing Corn Festival - (October, November)**
For thousands of years, corn has been a major staple in our diets. We have grown, ground, and gobbled it down! Students participate in a variety of educational activities ranging from harvesting, grinding and tasting corn products to corn art.

**Desert Ag-Ventures - (January, February)**
During the months of January and February, a special series titled ‘Desert Ag-Ventures’ opens up to let seniors and winter visitors learn about and land agriculture. Most of the world's agriculture takes place in arid environments, so this is a great opportunity for adults from around our nation and Canada to learn about and experience Arizona's agriculture in a fun way.

**Water & Science Ag-Ventures - (February)**
Junior high school and high students participate in a cooperative effort with U.S. Water Lab research scientists, community supporters and MAC to learn about the science and technologies being applied in agriculture today. In addition to experiencing various rotating workshop presenters, students also get an opportunity to learn about aquaculture in addition to trying their hand as using siphon tubes in the fields.

**Garden Ag-Ventures - (March, April, May)**
Vegetables are an important part of our diet. Elementary students learn about nutrition, growing techniques, effects of weather, insects, & have the chance to harvest vegetables (depending on harvest conditions.)

For program reservations contact Victor Jimenez at (520) 568-2273 or vjimenez@ag.arizona.edu.
# SAI Suggested Reading List

## BOOK LIST

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<th>Title</th>
<th>Author(s)</th>
<th>ISBN Number</th>
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<tr>
<td>A Painted House</td>
<td>John Grisham</td>
<td>0-385-50120-X</td>
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<tr>
<td>A Place to Grow Voices</td>
<td>David Hassler/Lynn Gregor</td>
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<td>Adventures of Happy Shirt, The</td>
<td>Pennie Murphree</td>
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<td>All Kinds of Farms</td>
<td>Daniel Shepard</td>
<td>0-7368-2871-0</td>
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<td>Amazing Grazing</td>
<td>Cris Peterson</td>
<td>1-56397-942-X</td>
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<td>American Family Farm, The</td>
<td>Joan Anderson</td>
<td>0-15-203025-5</td>
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<tr>
<td>American Farmer</td>
<td>Photographs by Paul Mobley</td>
<td>978-59962-047-3</td>
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<tr>
<td>Animal, Vegetable, Miracle</td>
<td>Barbara Kingsolver</td>
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<tr>
<td>Animals on The Farm</td>
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<tr>
<td>Arizona Rangers</td>
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<tr>
<td>Barn Burner, The</td>
<td>Patricia Willis</td>
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<tr>
<td>Benny Broccoli &amp; His Buddies</td>
<td>American Crop Protection Assn.</td>
<td><a href="http://www.croplifeamerica.org">www.croplifeamerica.org</a></td>
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<td>Biggest Pumpkin Ever, The</td>
<td>Steven Kroll</td>
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<td>Can A Rooster Drive a Tractor</td>
<td>Bonnie R. Murphy/Shelley P. Richardon</td>
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<td>Century Farm</td>
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<td>Children Just Like Me</td>
<td>Barnabas &amp; Anabel Kindersley</td>
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<td>Corn Belt Harvest</td>
<td>Raymond Bial</td>
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<td>Cotton, Now and Then</td>
<td>K. Willing &amp; J. Dock</td>
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<td>Cowful of Cowboy Poetry, A</td>
<td>Baxter Black</td>
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<td>Coyote School News</td>
<td>Joan Sandin</td>
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<td>Kim Lewis</td>
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<td>Digging Deeper, Integrating Youth Gardens</td>
<td>J. Kiefer &amp; M. Kemple</td>
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<td>Everybody Bakes Bread</td>
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<td>Farm Life</td>
<td>Elizabeth Spurr</td>
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<td>Farming</td>
<td>Gail Gibbons</td>
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<td>Food</td>
<td>Fiona McDonald</td>
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<td>Food and Farming</td>
<td>Dorling Kindersley</td>
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<td>Fun With GPS</td>
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<td>Future of Food, The</td>
<td>ED: Philip G. Pardey</td>
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<td>Goat in The Rug, The</td>
<td>Charles Blood &amp; Martin Link</td>
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<td>Grow Lab, Activities for Growing Minds</td>
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Arizona teachers become the students at Summer Agricultural Institute

BY JOYCE LOBECK, SUN STAFF WRITER
July 8, 2007 - 12:02AM

Twenty teachers from around the state recently got a crash course in agriculture in Yuma County. They were participants in this year's Summer Agricultural Institute, held annually to educate the state's educators about the scope and value of agriculture in hopes they will take that awareness back to the classroom, said Monica Pastor, a University of Arizona Cooperative Extension agent in Maricopa County and coordinator for the program.

The goal is expose K-12 teachers to the diversity of agriculture in the state, provide motivation and resources for them to incorporate it into their lesson plans and demonstrate the career possibilities for their students, Pastor said.

"Many start with no background in agriculture," she said. "But we all eat, wear clothes, have a roof over our heads. We need to keep agriculture in this country."

Hundreds of teachers have participated since the program began 17 years ago. In past years, the five-day institute has visited various areas of the state. This year was Yuma County's turn.

"We've been avoiding Yuma because of the heat," Pastor said, "but there is so much agriculture here. It is the top agriculture area for the state."

The trip proved to be eye-opening.

"We had never done seed distribution," she said. "We had never seen black-eyed peas, never seen dates processed." Pastor said the group also heard about the need for more students to go into science, whether in farming or agriculture-related careers such as research and technology development.

Among the participants were two teachers from eastern Yuma County. Even they were amazed at the scope of agriculture here, and the experience has them considering the many ways they can use what they learned and the resources they were given in their classrooms.

"Even with my background, I found out new things," said Judy Newman, a longtime Roll-area resident. "System), but I didn't realize how much it is used in farming."

Newman also said she was familiar with produce being grown in the fields, but a tour of the Dole salad...
processing plant gave her a new awareness and appreciation for Yuma County's fresh vegetable production. That's definitely an experience she wants to share with her students, many of whose parents labor in the fields, planting and harvesting the crops.

A visit to the new ethanol plant in Pinal County and presentation on the planned plant near Tacna brought the emerging industry home to Newman. "I definitely will bring some of what I learned into my classroom," said Newman, an English teacher at Antelope High School. "We were given a lot of resources. Now I have to figure out how to put them to use. I'm on the lookout for lesson and project ideas."

She's already planning a couple of field trips "to help my students become more aware of agriculture beyond the fields." She also wants to bring in people to talk about high tech in agriculture. "And it doesn't hurt to do some reading," she said. "Maybe it would be topics for research papers."

The trip also gave Newman a chance to catch up on a couple of people she had previously known. One presenter, Marcos Moore, who works for the University of Arizona, was one of her fifth-grade students. "It was nice to see him go on in the farming world," Newman said.

Each teacher spent a night with a host farming family. As it turned out, Newman's host, Mark Spencer, had been in the same 4-H club with her while they grew up in Mohawk Valley. "So we did a lot of reminiscing."

A highlight of the trip for Newman was listening to her fellow participants talk about how much the experience had changed their perception of agriculture and the people who labor to provide this nation's food. "One said she had never met so many intelligent people," Newman said. "They gained an awareness of what agriculture is about. It's not just the guy in overalls."

Sarah Rodriguez, who teaches seventh- and eighth-grade science at Wellton Elementary School, said the trip "re-energized me" and will be a big help in teaching science. "It was an eye-opening experience in how we can use our surrounding area in our teaching," she said. "Everything we observed was tied in with our curriculum and (teaching) standards. There are a lot of good ideas out there, but it's not always clear how we can tie it in. They gave us a lot of resources and even lesson plans. She also appreciates gaining a network with other teachers to share ideas.

Even though she was born and raised in Wellton, Rodriguez said she "learned so much about agriculture" and the importance of farming there to the region and nation. As a result, she not only will be able to share with her students the many opportunities in the industry, but also to help them gain "new pride in what their fathers do. Without them, we wouldn't have what we have today."

Both teachers would recommend the trip to others. "It was an inspiring week and educational," Newman said. Rodriguez expressed appreciation to her administrator for recommending her for the trip and to Wellton-Mohawk Irrigation and Drainage District for sponsoring her. For more information, contact Monica Pastor, coordinator, at 1-602-470-8086 or mpastor@ag.arizona.edu.

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More than 20 schoolteachers and administrators from throughout Arizona recently visited Maricopa to expand their knowledge of agriculture. All were participants in the annual Summer Ag Institute, a program presented by the University of Arizona Cooperative Extension.

Monica Pastor, associate agent for the extension in Maricopa County, said the program arose 17 years ago from a desire to bring the subject of agriculture into the classroom and to be able to do so without time restrictions and staff limitations.

"I may have gotten into a classroom one time in a school year for maybe half an hour," Pastor said. "We decided if we could train the teachers that we could have them in the classroom 180 days a year, all day long, if they wanted to incorporate agriculture into their lessons."

This year's five-day institute was held June 18-22, and encompassed hands-on activities and classes not only in Maricopa, but also in Phoenix, Yuma, Wellton and Stanfield.

On Thursday, June 21, the group visited the Maricopa Agricultural Center (MAC), a 2,100-acre educational research facility on Smith-Enke Road.

Outdoor activities included using a net to "sweep" an alfalfa field for insects, placing the insects in bags and then freezing them. Later, the group identified what kind of insects they had gathered and cataloged them as either "good" or "bad" bugs.

"Sweeping) gives them an appreciation for how many insects they found because they go out in the field and ... they don't really see much. For every insect they see, there are probably 500 to 1,000 more they don't see," said Ed Minch, task leader and an Arizona Department of Agriculture retiree.
Participants also learned how to operate irrigation siphoning tubes and listened to presentations about cotton, plant science, the Gila River Community Project and Project WET (Water Education for Teachers).

The week's curriculum had a positive impact on the teachers. "The broad spectrum of farming and agriculture has really opened my eyes to a lot of things," said Lee Scott, a seventh- and eighth-grade teacher at Gilbert Junior High School. "We stayed with a farm family a couple of nights ago, and that was really neat because I would never have the time to just chat and get to know them. I was surprised at how much they are like me. It's been a really fun experience."

Anne Howe teaches fourth grade at Sacaton Elementary School in the Gila River Indian Community, which is home to the 16,000-acre Gila River Farms. It produces cotton, alfalfa and various food crops. "We've been asked by the tribe to work with the elementary school to get the students more interested in agriculture," she said. "I'm hoping to plant gardens and to do some kind of in-classroom agricultural activities, so that when the students get to middle school, where they have more agricultural options, they will participate in it."

Pam Petterborg, a seventh- and eighth-grade teacher at Gilbert Junior High School, said, "I'm all about food in the classroom, so I like to enhance the perspective of how food goes from the seed to the plate and all that's involved in the agricultural industry to produce it.

Mike Cox, principal of Alpine Elementary School, said he looks forward to sharing what he's learned with his staff. "It's going to help, especially with the AIMS science test coming up," he said.

Darryn Elliott, a second-grade teacher at Buckeye Elementary School, said the institute was "very beneficial."

Admission to the program is by application. The process requires a detailed account of the reasons for applying and an explanation as to what the applicant plans to do with what is learned. "We want to make sure we get good-quality teachers," Pastor said. "We accepted 22 teachers this year, and we have funding for up to 30. They pay an $85 registration fee, but it actually costs us $450 per person to present this program."

Funding is provided by the Arizona Foundation for Agricultural Literacy. Victor Jimenez, project leader for the Ag-Literacy program at MAC, said the Summer Ag Institute is one of several programs available.

"We reach all ages," he said, "from elementary school to high school through to the winter visitors and senior citizens who come from around the country."

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History of the Arizona Cattle Industry

The cattle industry has been a vital part of Arizona for over 300 years. In the mid-1700s Father Kino introduced cattle into our state. For almost a century cattle flourished in the arid climate, providing early American immigrants, Indians and Spaniards with beef. The marauding Apache Indians were pacified with gifts and rations. However, after the commencement of hostilities between the U.S. and Mexico in 1846, Spanish support ceased and the ensuing Indian uprising drove miners and ranchers southward, away from Apache land.

As haciendas were abandoned, great numbers of beef animals spread throughout the hills and canyons to roam in a truly wild state. Military brigades that passed through the area commented on the huge herds of cattle and horses that grazed the Arizona ranges. They were surprised that although the gramma grass on the hills was straw colored and dead looking, the thousands of wild cattle and horses were fat.

The discovery of gold in California in 1849 created a great beef market. Still, the local industry did not revive until miners came to reopen old Spanish workings and prospect new fields. The first actual rancher is said to be William S. Oury. He began with 100 Illinois heifers and four bulls in 1858.

After the Civil War there was a tremendous stimulus to the livestock business. Unattended herds in Texas had increased while the range had declined, creating a desperate rush to relieve the overburdened grazing lands. Hundreds of discharged Texas veterans poured into Arizona. They entered Arizona four different ways: the San Pedro River, Ft. Bowie, the San Francisco River and Beale’s Road (Highway 66 and the Santa Fe Railroad route.)

As the number of cattle in Arizona grew, so did competition. The ranching industry adopted more business like methods including better blood in the herds and planned use of forage. Colonel H.C. Hooker is credited with bringing a large number of Hereford cattle to Arizona in 1884. However, Colin Cameron, established near Patagonia, ran a small group of the English breed in 1883. That winter Arizona experienced severe weather hardships, but the cattle not only survived, they were in good condition in the spring. Unrivaled rustling ability, early maturing qualities and prolific reproduction soon placed the Hereford breed in a favored position on the Arizona range.

The last years of the decade ending in 1890 were truly the heyday of Arizona’s range cattle industry. Many an indolent man with money to invest must have been attracted by the imagery that claimed: “Here the climate is almost perpetual spring and even in the driest season the feed never fails and the owner can sit under the shade of his comfortable hacienda and see his herds thrive and increase in winter and summer.”

In 1890 practically every acre of range was being occupied. Unofficial estimates by experienced ranchers showed 1,500,000 cattle located on the Arizona range. However, overstocked lands and three years of drought beginning in 1891 produced catastrophic conditions for the cattle industry.

These difficulties, harsh as they were, conferred certain benefits upon Arizona ranchers. First, the realization was brought home with emphasis that stock raising had become an involved procedure an adventure had become a business. Second, planned use of range and water was necessary. Having learned these lessons, the industry turned to more scientific husbandry and subsequently recouped its losses.

Today, Arizona ranchers continue to practice sound range ecology practices. Through improvements to the land such as adding watering sites and rotating pastures, the Western rangelands are in the best condition they’ve been in for more than a century. Almost three hundred and fifty years after their introduction into our state, cattle is Arizona’s highest valued cash commodity crop.
Arizona Cattle Industry
Source: 2007 Arizona Agricultural Statistics

Arizona’s inventory of cattle and calves on January 1, 2008 was estimated at 970,000 head, up 30,000 from the previous year. The 2007 calf crop of 275,000 down 5,000 head from 2006. The value of cattle and calves on January 1 was $1,086 million, up 14 percent.

Monthly all beef cattle prices varied by $11.10 per hundredweight during 2007, from a low of $75.30 in November to a high of $84.60 in May. The marketing year average price for beef cattle decreased $8.40 per hundredweight from a year ago to $79.90. The annual average steer and heifer price decreased $7.90 to $96.10 per hundredweight and the annual average calf price decreased $9.00 to $116.00 per hundredweight. The annual average price for cows increased $3.10 per hundredweight to $48.50.

Cattle and calf marketings were up 1 percent to 823 million pounds but the gross income from these marketings decreased 8 percent to $680 million.

Arizona’s feedlot operators marketed 353,000 head during 2007. Feedlot inventories ranged from 329,000 head on January 1 to 367,000 on March 1 and April 1.

Arizona’s 13 livestock harvesting facilities produced 406 million pounds of red meat during 2007, up 5 percent from the 2006 harvest.

As of 2007, approximately 48 percent of Arizona’s total area of 72,725,000 acres is Federal and State public trust land administered by the United States Department of Interior (USDI) Bureau of Land Management, the United States Department of Agriculture (USDA) Forest Service, and the Arizona State Land Department. A majority of these public lands are leased for livestock grazing.

The average number of milk cows maintained by Arizona’s dairy operations in 2007 increased 8,000 head from a year ago to 181,000. Milk production per cow during 2007 was 23,260 pounds, up 2 percent from last year.

Milk production totaled 4.21 billion pounds in 2007, an increase of 6 percent from 2006. Value of milk produced, at $804 million dollars, was 59 percent higher than the 2006 value. The average return per 100 pounds of milk in 2007 was $19.10, up $6.30 from 2006.
It takes a group of dedicated individuals to pull together all the pieces and put on a program such as this. The Summer Agricultural Institute would like to thank the 2009 SAI Planning Committee for all their efforts to organize and coordinate the entire week of activities.

Erin Taylor and Monica Pastor - Committee Chairs
University of Arizona Cooperative Extension, Maricopa County

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Colleen Bergum   Dairy Council of Arizona
Brett Cameron   Arizona Department of Agriculture
Farm Family Hosts   Local Farmers and Ranchers
Dennis Fiscus   Arizona Department of Education
Jeannette Fish   Maricopa County Farm Bureau
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HAVE A GREAT SUMMER!