

# The University of Arizona Graham County Cooperative Extension



**2008  
Report**

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April 6, 2009

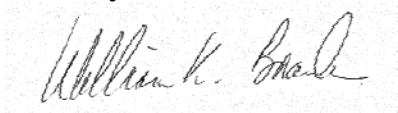
Dear Graham County Board of Supervisors,

This letter is in response to the Graham County Board of Supervisor's letter for the request of Financial Assistance for Graham County Cooperative Extension. There is a planned work session with the Board of Supervisors and the County Extension Director. At this work session we can discuss several issues; Graham County Extension staffing, Extension Advisory Board Nominations, Budget, Extension programs and 4H. See Attached 2008 annual report for details.

Cooperative Extension has had a long relationship with Graham County and its residents by providing education and community support in four primary areas; Agriculture, Natural Resources, Youth development, and Family, Consumer, and Health Sciences. In 2008 Graham County provided \$25,000.00 and the use of the Solomon building as the Extension office.

Currently Extension has two resident agents in Graham County; Bill Brandau, Graham County Extension Director and Area Agent for Agriculture and Natural Resources and Dr. Randy Norton, Regional Cotton Specialist and Director of the Safford Agricultural Farm. We have a staff of three Cindy Pearson, Ty Foster and Lori Knight providing programming and community service. Sarah Hopkins a VISTA volunteer is assisting with 4H program development for one year. Two area agents have responsibilities in Graham County, Kim McReynolds, Regional Specialist Natural Resources and Mark Apel Community Resource Development Agent. The Graham County Cooperative Extension wants to work closely with the Board of Supervisors and its appointed Extension Board to provide valuable programs to the County. In furtherance of this, I would like your frank assessment of current programs, needed programs and issues Extension could focus on for Graham County in 2009. I want Extension to be looked at as an asset to the community and a place where people go for answers.

Sincerely Yours



Bill Brandau  
Graham County Cooperative Extension Director  
Area Agent, Agriculture and Natural Resources  
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## **Graham County**

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### **William Brandau**

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### **Cindy Pearson**

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### **Ty Rising-Foster**

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### **Lori Knight**

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### **Sarah Hopkins**

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### **Randy Norton**

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### **Kim McReynolds**

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## Proposed names for the Graham County Cooperative Extension Advisory Board 2009

<b>Name</b>	<b>Phone</b>	<b>Address</b>	<b>Term</b>	<b>Area</b>
Mr. Keith Alexander	928-651-0455	P.O. Box 965 Safford, AZ 85548	2012	Community at large
Mr. Keith Bryce	928-485-2026	8762 West Trip Canyon Pima, AZ 85543	2011	Community at large
Mr. Steve Clonts	480-540-2950	P.O. Box 162 Ft. Thomas, AZ 85536	2012	Small Acres Farm
Mr. Robert Colvin	928-485-2279	P.O. Box 333 Eden, AZ 85535	2011	Agriculture
Mr. Dave Hoel	928-828-3580	34024 W. Klondyke Rd Willcox, AZ 85642	2012	Ranch Small Acres
Ms. Tammy Milligan	928-965-8272	Freeport McMoRan 625 West Main St. Safford, AZ 85546	2012	Community at large
Mr. Jeff Larson	928-428-0050	P.O. Box 1289 Thatcher, AZ 85552	2012	Agriculture
Mr. Aaron Palmer	928-792-3185	P.O. Box 726 Thatcher, AZ 85552	2012	Youth Development
Mr. Jon Steven	928-428-1953	520 South 11 <sup>th</sup> Ave Safford, AZ 85546	2012	Ranch

**January 1, 2008**

**State Money**

Faculty and Staff

Bill Brandau

Randy Norton (28%)

Lauren Romig

Diana Deiter

Cindy Pearson

Karen Thomson (.49)

Debbie Trent

Marcy Blackwelder (.49)

Total Salaries \$246,969.00

Operations/Travel/Temp Wages \$ 10,073.00

Total State Funds \$257,042.00

December 31, 2008

Bill Brandau

Randy Norton (28%)

Ty Raising-Foster (.50)

Cindy Pearson

Total Salaries \$152,131.00

Operations \$ 8,008.00

Total State Funds \$160,139.00

**Loss of State Funds within 2008** **<\$ 96,903.00>**

**U.S. Bureau of Reclamation (09/01/08)** **\$ 50,000.00**

Indirect charges **<\$ 10,317.00>**

Usable **\$ 39,683.00**

Lori Knight **<\$ 10,231.00>**

**Total** **\$ 29,452.00**

**Graham County Government** **\$ 25,000.00**

**Total Budgeted Funds on December 31, 2008** **\$214,591.00**

**State Funds** **= 74%**

**Grant Funds** **= 13%**

**County Funds** **= 13%**

**100%**

# College of Agriculture and Life Sciences University of Arizona Annual Performance Report, Calendar Year 2008

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Name: William Brandau  
Departmental Unit: Graham  
Position Title: Area Associate Agent  
Position Rank: Associate

Date of UA Appointment: 09/04/2007  
Physical Unit: Graham

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## Extension Programs

### A. Extension Programs

#### *Agriculture and Natural Resources (100%)*

##### Program Identification And Planning

Priorities were identified by a needs assessment initiated in 2007 which included informal discussions with 93 citizens, community leaders and elected officials of Graham County and a focus group on 12/07/2007 with 27 people with diverse interests. They identified five major categories of priorities; Agriculture, Natural Resources, 4H, Youth, Family and Consumer Science, and Community Development. The results were reviewed by the County's Faculty and Staff, Extension Advisory Committee and the Graham County Board of Supervisors. This agent's focus is on watershed education, water conservation and management programs for domestic and agriculture users, small acreage programs, range and livestock management and home horticulture. Natural Resource priorities are further identified by focus group sessions in Graham and Greenlee County done in collaboration with Kim McReynolds. The small acreage and gardening program assessments were completed 05/21 and 08/13 respectively and were facilitated focus groups with clientele representing each group.

## Desired Program Outcomes

### **Water Education and Conservation**

Short Term: A community branded program in collaboration with water providers in Graham County that has youth and adult education and home visits which provides measureable water conservation results.

Medium Term: A community funded self-sustaining program that has a domestic, institutional and business component and measureable results.

Long Term: A changed communities water ethic and reduced per capita water use.

### **Master Watershed Steward**

Short Term: A collaborative program with Gila Watershed Partnership (GWP), Eastern Arizona College (EAC) with focus on Upper Gila Watershed.

Medium Term: First adopter of actions identified by the Upper Gila Fluvial Geomorphology Study, 2003.

Long Term: A shared Community vision of the watershed and trust enough to implement actions.

### **Small Acreage Owner Education Program**

Short Term: A collaborative program with other agencies that provide clients with information to make sound economic and environmental decisions for their properties.

Medium Term: Increased understanding by property owners of their impacts to the Gila River and a network of property owners that can help each other. An extension program that meet their needs.

Long Term: A sustainable management ethic among small acreage owners and a sustainable practices education program.

### **Master Gardener (MG) and Home Horticulture Program**

Short Term: Maintain the program and improve the relationships with the gardening and horticulture/business community.

Medium Term: A self sustaining program with volunteers that will help other and the program and integrate it into the community of gardeners that don't need a formal program but information on gardening. Organize available gardening information into something useful.

Long Term: A funded person to implement the program that has regular workshops, MG classes,

and a cadre of volunteers and a well developed and easily assessable information system on gardening and horticulture for Graham and Greenlee Counties.

### Program Inputs

**Staff:** .80 FTE this agent, .49 FTE water person hired 12/2008 (Laurie Knight), .49 FTE MG Karen Thomson (Laid off June 2008) and .50 FTE Program Coordinator (Cindy Pearson), promoted 07/2008

**Funding:** BOR Grant and AZWP fund grants for water conservation (\$185,000.00), ADEQ Grant for the Upper Gila Master Watershed Steward Program (\$35,000.00), Graham County funding (\$25,000)

**Collaborations:** EAC, water education and home horticulture, Natural Resource Conservation Service(NRCS)Small Acreage Education, GWP, grants, water and watershed education, Campus faculty,(Kristine Uhlman, Candice Rupert and Phil Guertin),watershed education.

**Volunteers:** Small cadre of Master Gardeners

**Curricula:** As part of the Upper Gila Master Watershed Grant curricula is being developed for the Class starting January 14, 2009, at EAC

### Program Outputs

#### **Water Education and Conservation:**

Gila River Issues, Safford, 08/07, 8 participants,  
Healthy Land Initiative, Safford, 09/23,17 participants,  
EAC Discovery Park, 09-12/08 523 participants,  
Pinaleno Mountain Festival, Stockton Pass, 9/26, 124 participants

#### **Master Watershed Steward:**

Partnership with EAC and GWP and a Class scheduled, January 14, 2009 3. **Small Acreage**

#### **Owner Education Program:**

NR and Livestock Workshop, 07/24/08, 11 participants, Pasture Workshops, Safford, 05/21, 09/25, 31 participants, Tillage, Rotation & Irrigation Workshop, Safford,03/28,25 participants, Farm Services Agency Committee Advisor for Graham/Greenlee Counties, Gila Valley Natural Resource Conservation District Advisor, Gila Valley Leadership Class, Safford, 26 participates,

**Home Horticulture Program:** Graham Gardening Conference, 02/23/08, 25 participants ,Graham Gardeners Meetings and Workshops, Safford, 08/13/08,09/24/09,10/29/08 80

participants, Gardening Workshops, Safford, Roses 01/12, Pruning 02/09, Irrigation 03/08, Gophers and Burrowing Pests 04/19

### Outcomes And Impact

**The Water program** results are new partnerships between Extension, GWP, EAC, Safford, Thatcher and Pima, Graham County Utilities and private water companies and it educated 647 youth on water conservation and their understanding can be summed by this comment from a 5th grader in Bonita, AZ "Oh we only have this much water and there is more people using it maybe we should use it better".

**Master Watershed Program**, A new partnership and funding; results won't be known until the program is started in 2009.

**Small Acreage Program**, A partnership and several workshops, evaluation cards rated the programs high and informative and they want more. Results indicated a variety of new knowledge and ideas: importance of plant selection and plant materials, tillage and irrigation improvements and the need for good planning and where to go for grants and finance.

**Home Horticulture**: With the loss of personnel in this program the home owners are being directed to other sources. The evaluation cards rated programs high and information informative and helpful, pruning workshop was the highest rated.

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***Family, Youth and Community. (100%).***

### Program Identification And Planning

Priorities for programming were identified in the same process as Ag and Natural Resources and were reviewed by the County's Faculty, the Extension Advisory Committee and Graham County Board of Supervisors. Priorities are developing a 4H program and providing Youth and FSC programming. This agent's involvement in the program focuses on providing leadership and maintaining the 4H and Family Consumer Science programs in the absence of Agent Lauren Romig who resigned in August. This agent is making Extension a larger part of the community by being an active and visible part of the community, as ask for the Board of Supervisors and the Extension Advisory Committee.

## Desired Program Outcomes

### **4H Program**

Short Term: Maintain the momentum of 4H in the absence of an agent.

Medium Term: Establish a County Council; develop by-laws, handbook, and recruit volunteers.

Long Term: A self sustaining 4H program that is supported by the community and meets the needs of Graham County Youth. A funded full time 4H coordinator and/or agent

### **Youth and Family Education Program**

Short Term: Meet on demand requests for programming from community. Medium Term: Implement Food Stamp Grant and provide nutrition education within capacity of staff.

Long Term: Fund full time FCS agent/coordinator to implement programs identified in needs assessment.

### **Community Development**

Short Term: Initiate new needs assessment to determine program needs due to changing economic conditions in the County

Medium Term: Collaborate with other Faculty on identified programming

Long Term: Make Extension a vital and valuable part of the community by providing programs.

## Program Inputs

**Staff:** .10 FTE this agent,.50 FTE 4H Coordinator(Ty Foster)hired Oct 2008,and.25FTE Program Coordinator (Cindy Pearson)

**Funding:** \$25,000 Graham County,\$4,500 Gifts,\$4,000 Graham portion USDA/ADHS (Food Stamp) Grant

**Collaborations:** Mark Apel Area Agent and Campus Faculty, EDA Technical Assistance Grant; Safford FFA instructor, Lance Fite, Livestock Judging, Quality Assurance Training

### Program Outputs

Camp: Teen Accepting Challenge and Opportunities (TACO), Safford, 05/29-31. 84 participants, 13 volunteers with 689 hours,

4-H Leader Council meetings, 50 volunteers, 116 hours,

J.O.L.T. Journey: of Leader for Tomorrow, Heber, AZ. 06/19, 120 participants,

Graham County Fair 10/10-12 approximately 200 contacts.

NRCD record books judging 10/22, 6 participants.

4H organizational meeting, Safford 11/11, 22 participants.

County council meeting 11/24, 5 attendees.

Council working sessions 12/08, 17, 22, 18 participants.

4-H Judging Team, 11/08, Kansas City, 7 participants.

4-H Judging Team, 11/08, Louisville, 7 participants,

State Horse show, 12/08, 4 participants,

Community Club meeting, Oct/Dec 65 participants,

Livestock Meetings, 09/17, 11/05, 12/10, 48 participants,

Healthy Kids/Nutrition; local schools, 717 participants and 289 volunteer hours,

Facilitated Deliberation Youth/Adult Partnership training. 32 participants and 253 volunteer hours.

Family and Youth Rodeo, Safford, 03/29/08, 99 participants,

TRI-Cota, Teacher Workshop, Safford, 06/05/08, 67 participants,

Collaborated with Graham County on a grant to Drachman Institute for a Graham County Regional Park Development Plan, accepted but not funded

Collaborated with Mark Apel and others on a grant for "A Land Use Suitability Analysis for Graham and Greenlee Counties, Arizona", not funded

Made Extension visible and useful through community involvement: Chamber of Commerce, Gila Valley Partnership Panel, FSA and NRCD Advisory Boards.

### Outcomes And Impact

- \*Organized a County Council, Community Club, adopted rules and regulations budgeted \$25,000, created a scholarship program for 2009 season
- \*Organized 11 project clubs with leaders for the 2009 season
- \*Organized 7 Sub committees to help support County Council efforts in Scholarship, Fair Auction, Recreation, Clinics, Awards, Competition, and Events. \*Revised County record books into categories; grades K-2;/ 3<sup>rd</sup> --4<sup>th</sup>/9<sup>th</sup> and up.
- \*Created a Record book Competition for completers
- \*Developed an awards program to provide 4Her's incentives to excel.
- \*Camp TACO resulted in youth planning and implementing a service project \*JOLT participants learned skills in planning a service project
- \*Summer youth program taught the importance of hand washing
- \*Extension is more visible in the community and looked to for help as evidences by requests to facilitate meeting for other organizations

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### **B. Program Grants/Gifts/Contracts Awarded**

- *Water Conservation Education Program* 2008 \$50,000.00 (\$50,000.00 Total). Bureau of Reclamation. Grant used to initiate a water conservation program in collaboration with Safford, Thatcher, and Pima, Graham County, Graham County Utilities and two private water providers. 100%. Competitive Grant.
- *Upper Gila Water Conservation Program* 2008 \$45,000.00 (\$135,000.00 Total). Arizona Water Protection Fund. The collaborative effort with GWP to expand the BOR water conservation grant in Greenlee. 50%. Competitive Grant.
- *The Upper Gila Watershed Steward Program* 2008 \$35,550.00 (\$35,550.00 Total). Arizona Department of Environmental Quality. Collaborative effort with the GWP and EAC to provide a Master Watershed d Class specific to the Upper Gila Watershed. The class starts January 14, 2009. This agent is the instructor of record and class coordinator. 50%. Competitive Grant.

### **C. Program Grants/Gifts/Contracts Not Approved**

- *Graham County Regional Park Development Plan*. Drachman Institute. Proposal accepted, not funded due to budget cuts at Drachman Institute With Graham County. Competitive Grant.
- *A Land Use Suitability Analysis for Graham and Greenlee Counties, Arizona*. EDA Technical Assistance Grant. Collaborative effort with Mark Apel, Community Development Agent, Campus specialist, Graham and Greenlee counties. Competitive Grant.

### **D. Other Extension Program or Team Efforts**

*Graham County Extension Vision, Mission and Assessment (100%)*

#### Description:

- \* Develop vision statement for Graham County Extension that is supported by the majority of leadership in the Graham County.
- \* Program assessment for Graham County that will provide a direction for Extension programming.

#### Outcomes And Impact:

- \* Met with 93 individuals, community organizations, Board of Supervisors, City governments, Utilities, Federal agencies, Schools, Community College, Extension Advisory Committee and producer organizations through public and private meetings,
- \* Conducted a facilitated vision and mission statement and needs assessment workshop with community leader on December 7, 2007.
- \* County Faculty, Extension Advisory Committee and Graham County Board of Supervisors reviewed results in 2008.
- \* Completed the Assessment and Vision and Mission Statement 2008
- \* Began to implement results through 2008 programming.

*Salt Tolerant Alfalfa Trials in Graham County (100%)*

Description:

Project with Alfalfa producer Joe Tatum and Dr. Don Miller, Producers Choice to field test four new lines of alfalfa. The lines were planted with a control and monitored by repeat photography. Soil and water samples were taken to document salinity.

Outcomes And Impact:

Three of four lines have shown to be more productive than the control and warrant further investigation. If new lines prove to out produce the control and brought into production, it may help local production.

*Stone Fruit Variety Trials Review (100%)*

Description:

A previous agent started a variety trial on stone fruit in 1999. This agent discovered the plot lay out for the trees and worked with the land owner to produce a list of the best and longest lived varieties.

Outcomes And Impact:

Valuable results to Client on the best stone fruit varieties for the Safford Valley.

*Healthy Land Initiative Coordination (100%)*

Description:

Ask by the Bureau of Land Management to organize a meeting of cooperators for the Healthy Land Initiative (HLI) a major funding source. Coordination included talking with client in both Graham and Greenlee Counties and explaining the program and soliciting their support and attendance at the initial organizational meeting.

Outcomes And Impact:

HLI has the potential for major funding opportunities for Extension in Graham County and Campus. The program can fund action with major impacts to natural resources and provide direct benefit to producers in the Upper Gila Watershed by funding on the ground projects.

*Project Wet (25%)*

Description:

A program to educate youth on water conservation being organized by City of Safford and other community entities with the support of Graham County Extension and the Water Resources Center

Outcomes And Impact:

Effort to reconstitute the program. When implemented it will be a foundation event for water education program. The Extension program training and event are scheduled in early 2009.

*Gila River Cross Section Study (25%)*

Description:

This is a collaborative effort with Kim McReynolds, Jon Martin, Graduate Student, David Arthun, BLM, and myself to find, read, and analyze the data and compare it to initial transect data. The BLM installed 18 transects within the Gila Box Riparian National Conservation Area (NCA), as a base line for management.

Outcomes And Impact:

If successful the project will provide valuable site specific information on the impacts of changed management in the NCA and change help make better decisions on management actions within the riparian areas.

## Service

### A. Intramural

- *Small Acreage Conservation Working Group*, Member (80 hr, meetings, writing and review). Attended organization meetings for the group. Wrote a peer review article and reviewed one article for "Back Yards and Beyond". This group is critical to programming identified in the Graham County needs assessment.
- *Water Conservation Working Group*, Member (8 hours, meetings). Attended Water Summit 5/1/2008 to plan future organization for working group and group is critical to programming in Graham County
- *Range Livestock Nutrition Working Group*, Member (80hr meeting, writing and workshops). Attended planning meeting for group, prepared a paper, presented it at three states wide Range Livestock Nutrition Workshops and the working group is critical to the identified programs.
- *Renewable Resource Extension Act (RREA) Planning Committee*, Member (16 hrs, Quarterly meetings). Planning Committee for RREA expenditures and program evaluations
- *Local Drought Impact Group (LDIG)*, Member (16 hr, meetings). Participated in planning for the future of the LDIG program funded by AZDWR and server as Graham County coordinator for the program and enlisted 11 new people into Rainlog.org system.

### B. Extramural

- *Gila Watershed Partnership (GWP)*, Advisor (80 hrs Monthly, meeting, grant writing). GWP is a grassroots citizen group working at solving issues in the Upper Gila Watershed. This agent has served in a variety of capacities since 1993 and worked closely in the organization of the group. Currently collaborated with the group on two grants for water conservation and Master Watershed Steward to fund programming identified in the Graham County Need Assessment.
- *Rangeland Resource Team (RRT)*, *Safford Field Office BLM*, Advisor (Quarterly meeting and review time for evaluations). Appointed to the Safford Field Office RRT by the Arizona Resource Advisory Committee to represent Rangeland Academia on the committee. The RRT reviews Standard and Guidelines Evaluations on BLM Grazing Allotments.
- *Graham County Chamber of Commerce*, Member (24 hours, monthly meetings). Economic Development Organization participated in monthly community networking forum with Community leaders. This group is critical to making Extension a part of the community.
- *Gila Valley Community Partnership Panel*, Member (8 hr, meetings). Invited by Freeport-McMoRan to participate as part of a new panel for information exchange, identifying community needs and areas for collaboration and grants.
- *Horticulture Advisory Committee, Eastern Arizona College (EAC)*, Advisor (8 hrs Quarterly meetings). Served as an advisor to Horticulture Instructors at EAC.
- *Graham County Farm Service Agency (FSA)*, Advisor (Monthly meetings, 12 hrs). Advisor to FSA committee
- *Gila Valley (NRCD)*, Advisor (monthly meeting, 12 hrs). Advisor to committee
- *Listening Session for Agri-Business Council of Arizona*, Member (3 hrs). Invited to participate in a listening session on agriculture
- *Project Centrl meeting Graham County*, Other Service (8 hrs). Organized a portion of the workshop and the welcome dinner
- *Safford Lions Club*, Board Member (Meeting and events). Community Service through youth vision testing and flag program.

### **C. Other**

- *Arizona Agriculture Extension Agents*, Board Member (20hrs Annual Meetings and Director duties). Elected as Southern Director of AAEA and serves on the two committees.
- *Arizona Section, Society of Range Management*, Member (40 hrs Annual Meetings). Member, Have served as President, Vice President and Director for the Section. Professional development through papers and networking.
- *International Society for Range Management*, Member (40 hr, Meeting Attendance). Have served on committees, presented paper and attend meetings for professional development. The society provides opportunity to maintain currency for my Certification as a Professional in Rangeland Management.
- *National Association of County Extension Agents*, Member (Annual Meetings). Professional Development

### **Creative and Scholarly Activities**

#### **Publications (excluding Research subpart D)**

- *Pastures, Before You Begin*. Peer-reviewed. Fact sheet written by this agent and reviewed and formatted by Cori Dolan as part of a series of small acreage fact sheets. In Review. (50%).
- *Planning Tips for Irrigated Pasture*. Peer-reviewed. Article for "Back Yards and Beyond" In Press. (100%).
- *What is Graham County Cooperative Extension?* Article published in Eastern Arizona Courier on Cooperative Extension Published. (100%).

#### **Other**

- *Supplemental Feeding VS. Maintenance Feeding*. Presentation as part of the Range Livestock Nutrition Workshops, Nov 12-14, organized by Range Livestock Working Group, Approximately 60 participants. Presented at Benson, Tuba City, and Camp Verde, AZ. on 11/12/2008. (100%).
- *Gila Watershed Partnership (GWP), A Little Look Back*. Paper on the history and success of the GWP 1992-2008, presented a GWP meeting and published in the GWP newsletter. Presented at Safford, Arizona on 12/10/2008. (100%).
- *Graham County 4H, Where are we going?* Half hour radio show "Voice of the Valley", community information. Presented at Safford, Arizona on 3/8/2008. (100%).
- *Master Gardeners, Gardening Graham County*. Half hour radio show "Voice of the Valley", community information. Presented at Safford, Arizona on 2/23/2008. (100%).
- *Graham County Gardening Newsletter*. Edited two gardening newsletters Presented at Graham County on 10/1/2008. (100%).
- *Web site lists for Programs within Graham County*.  
Compiled 6 website lists for county clients Pasture Management 3/11/08,  
Horses and Tall Fescue, 5/09/08,  
Rodent Control, 05/28/08,  
Rabbit Control, 07/16/08,  
General Gardening Information, 09/08/08,  
How to Care for Christmas Trees, 10/29/08 Other Status. (100%).

### **Professional Improvement Activities**

- *Certified Professional in Rangeland Management* Certification in NA, 1/26/2008 to 12/31/2008. Certification approved by International Society for Range Management
- *Living on the Land Western Regional SARE Workshop* in Albuquerque, New Mexico, 9/30/2008 to 10/1/2008. Living on the Land, Stewardship of Small Acreage Curriculum Training
- *International Society for Range Management, Annual Conference* in Louisville, Ky, 1/27/2008 to 1/31/2008. Professional Society annual meeting, attended seminars to maintain professional certification and networked with pasture and range management professionals.
- *Direct Farm Marketing and Sustainable Ag Conference* in Gilbert, Arizona, 3/3/2008. Conference on programs identified in needs assessment for Graham County
- *Annual Grazing Permittee Meeting, USDA, Safford Ranger District, USDI, BLM Safford Field Office Workshop* in Solomon, AZ, 10/15/2008. Workshop for Federal Permittees, presented by Cooperative Extension.
- *30th Annual AZ/UT Range Livestock Workshop* in Fredonia, St George, Kanab UT, 3/31/2008 to 4/11/2008. Participated in workshop as part of my mentor process with Rob Grumbles.

### **Awards and Recognition**

- *Letter of thanks for success on Bonita Creek Partnership.* Given by Steve Spangle, Director of Arizona USFWS, 11/5/2008. (100%).
- *Letter of thanks for initiating Partnership with EAC.* Given by Harry Swanson, Ph.D, Dean of Discovery Park Campus, 5/28/2008. (100%).
- *Letter of thanks for Participation in Pinaleno Mountain Festival.* Given by Steve Marlatt, Pinaleno Partnership Coordinator, 10/27/2008. (50%). With Cindy Pearson.
- *Thank you letter for editorial review of article, "The Spice of Life, Arizona Diary", Dec/Jan 2009 issue..* Given by Maxine Burank, Editor Farm and Ranch Living Magazine, 11/19/2008. (100%).

## **Introduction**

The Safford Agricultural Center (SAC), situated in the heart of the Upper Gila River Valley, has continued to undergo significant improvements during 2008. We are seeing the benefit in increased research and extension programming along with resources in support of these activities as we continue to expand our influence and partnerships with others throughout the region.

## **Current Profile**

Our mission at the Safford Agricultural Center is to develop a research-based, problem solving, educational program which will have a positive impact on irrigated agricultural production in the desert region in Southeastern Arizona. Integrated pest management, best management practices, conservation of natural resources and improved economic efficiency are concepts which are used to help the agricultural community cope with changes in agriculture. A secondary mission is to provide learning experiences to the urban community, both youth and adults, on landscape, gardening and water use needs and to help them appreciate the important role that agriculture plays in our region.

Our goal is:

- to respond quickly and with anticipation to advise local producers of the changes that they must make to remain economically competitive.
- to help young people in southeastern Arizona understand the importance of agriculture and efficient water use.
- to help the urban community to live more providently.

### *Current Personnel Situation*

We currently have one Faculty member (Randall Norton, Director), one full-time Farm Manager (Keller Ellsworth), one Administrative Assistant (Jonie Burge), two Farm Attendants (LaVearl Pearce and Jose Gasca), two student workers (Cody Innes and Tim Hatch). LaVearl Pearce is planning to retire in November 2009. This position will not likely be filled in its same form. Some of the funds from that position will be used to replenish operating funds that have been reduced through budget cuts over the past few years. We have also developed a good working relationship with the Department of Corrections from 1 to 3 inmates working at SAC each day. This program has allowed us to do a better job of keeping up with field work in a much more efficient fashion. Over the course of the season we have from 2-4 temporary labor individuals to assist in collecting and processing data from research projects conducted both on and off SAC.

### *Current Research and Land Use*

Nearly 90% of the 68 acres were planted during the 2008 crop year. The majority of this acreage was devoted to cotton related research projects. There were a total of 11 research projects conducted at SAC in CY 2008 the same number of projects as in 2007. We continue to refine our focus on areas that are germane to the needs of the clientele.

During CY2008 faculty members from three different departments on campus conducted research projects at SAC. These departments included Plant Sciences; Soil, Water and Environmental Sciences, and the Division of Plant Pathology.

#### *Advisory Group*

One of the major improvements that began in 2005 was the establishment of a functioning advisory group to the Agricultural Center. This is a group composed of growers from around the region with a high level of interest in information that is developed through research and extension programs at SAC.

#### **Accomplishments**

We have attempted to develop and disseminate accurate and useful information to the clientele we serve. Throughout this process of information development and dissemination we have attempted to improve the overall performance of the Center in accordance with Strategic Priorities and Initiatives as outlined by the University of Arizona Strategic Plan and the College of Agriculture and Life Sciences Strategic Plan. The overall goal of implementing these strategic priorities is to improve our department and position it as a viable research and educational facility with a strong financial foundation serving a diverse clientele that recognizes the Safford Agricultural Center as an important part of the community serving the needs of the southeastern region of the state of Arizona. Research conducted at SAC along with cooperative research with growers throughout the region has created significant positive economic and agronomic impacts for our clientele.

- 1) We conduct extensive variety evaluations for many crops in the southeast region of the state. These crops include wheat, barley, dry beans, corn, and cotton. The area where the greatest impact has been realized is in the area of cotton variety selection. Results from our research have identified new varieties that perform extremely well in our region and that have the potential of qualifying for a premium in price due the high quality of the fiber. These particular varieties are being planted on a large percentage of the acreage in southeastern region of the state. The higher fiber quality may result in as much as \$0.05 to \$0.08/lb. premium which equates to approximately \$60/acre. Growers are also receiving contracts for seed production on many of the high fiber quality varieties. These varieties have been adopted largely based upon results of the Upland Cotton Variety Testing Program and the Upland Cotton Advanced Strain Testing Program.
- 2) Corn hybrid testing has also provided information to local producers about the performance of new transgenic hybrids in our region (principally Cochise County). Incorporation of transgenic traits conferring corn borer, corn rootworm, and herbicide tolerance have resulted in an increase in the number of available hybrids making the decision of selecting a suitable hybrid very difficult. Our information is a significant aid to the local producers. Our research of control methods for corn rootworm has also influenced decisions on the part of growers in this aspect of corn production. Research has indicated simple insecticide applications at planting provide sufficient control of corn rootworm allowing growers to plant non-transgenic hybrids that are well adapted to our growing region. This also reduces production costs for the grower by as much as \$20/acre not having to pay for technology fees associated

with transgenic hybrids.

- 3) Our investigation into the application of precision agriculture technologies has provided significant information to local growers. Our most recent project has been a collaboration of University and industry personnel to develop an effective technique utilizing GPS/GIS technology to manage nematode populations in the field. This new technology allows for application of Telone, a nematicide, only in areas where the pest is present, reducing application rates by as much as 50%. We have developed an excellent working partnership with Dow AgroSciences who has donated the nematicide to accomplish this work. In 2008 we conducted two projects in Safford and Coolidge. In 2009 this work will be conducted in both the Safford Valley in cotton and also in the Sulphur Springs Valley in corn.

Our goals have been accomplished in several ways including:

(1) Attraction of new and innovative research programs

*Extension Cotton Specialist Working Group*

Involvement with the state Extension Cotton Specialists group has increased over the recent years to the point where the group has formally initiated research projects that are conducted in a uniform fashion across the cotton belt. Two of the projects for the 2007 and 2008 year were conducted at SAC. This group was formally recognized by Cotton Incorporated and will be receiving funds at the level of \$80,000 for research projects to be conducted during the 2009 cotton season. A portion of these funds will come to SAC in support of this research conducted by Randy Norton as a member of the Extension Cotton Specialists Working Group. This will significantly increase exposure of the research conducted at SAC to the cotton industry across the cotton belt.

*Weed Control Research*

Through biotechnology new and innovative options for weed control in Arizona cotton production systems continue to be developed. Evaluations of Roundup Ready technologies and LibertyLink technologies continue to be conducted at SAC by Dr. Bill McCloskey. This research provides valuable results and information for local clientele.

*Drought Tolerance in Cotton*

In late 2008 we were contacted by Monsanto to conduct research evaluations on several of their transgenic high water use efficiency cotton lines in the higher elevation deserts of southeastern Arizona. This will be a three year commitment beginning in the 2009 cotton season. This is cutting-edge research in the area of transgenic cotton designed to be more water use efficient and will result in significant funding for the next three years.

*Method Development Study*

In late 2009 another project from Monsanto was presented to us for completion during the 2009 cotton season. This project will be designed to determine minimum research plot distance required to avoid genetic contamination from pollen out-crossing in cotton. This project will also result in significant funding for the Safford Ag Center

### *Production of Transgenic Pima Cotton*

During the 2008 season we were involved in the production of six lines of transgenic Pima cotton under strict isolation requirements. This added significant income to the Safford Ag Center during 2008. We are also planning to conduct a similar project during the 2009 season.

### *Evaluation of Cassava as Potential Biomass/Ethanol Crop*

Discussions began in late 2008 with a commercial company (Genfields) regarding the evaluation of Cassava as a potential biomass/ethanol crop with production in the southwest. Evaluation of several varieties during the 2009 season will occur at both the Safford and Maricopa Agricultural Centers.

## (2) Procurement of Gifts and Grants to Facilitate Program Development

### *Evaluation of Advanced Strains*

These Cotton Incorporated funded projects are designed to evaluate advanced cotton strains prior to their release as commercial varieties. These are conducted in cooperation with commercial seed companies. They are conducted across the state (SAC, MAC, and Yuma) and provide a unique data set of evaluating varieties prior to their commercial release. The other component to the CI funded research involves evaluation of preliminary and advanced cotton strains for the Arizona Cotton Growers Association breeding program. Again this allows us to evaluate cotton varieties prior to their commercial release and also provides a valuable service to one of our state's commodity groups, the Cotton Growers Association.

### *Evaluation of Pima Varieties*

We evaluate each year new Pima or Extra Long Staple (ELS) varieties for adaptation to our region. With successful implementation of the PBW eradication program there has been an increased interest in evaluation of Pima varieties. We continue to conduct evaluation of commercial and experimental varieties of Pima cotton in an effort to provide the needed information.

### *Precision Agriculture - Prescription Application Projects*

Our research into the application of precision agriculture technologies has provided significant information to local growers. Successful research projects in the area of variable rate application of fertilizers and pesticides have resulted in additional growers purchasing new equipment and utilizing it in their production systems to help improve efficiencies. We have also partnered with Raven Industries to acquire new technology to improve our prescription application of Telone (nematicide) for nematode control in cotton.

### *Evaluation of Commercial Defoliation Materials*

We continue to conduct research in an effort to determine the most agronomically and economically effective methods of defoliation. New products are evaluated each year in an attempt to provide research-based results to local growers to improve defoliation efficiencies.

### *Evaluation of Various Plant Growth Regulators*

Plant growth regulators (PGRs) are commonly used in Arizona cotton production to control vegetative growth. Its value in terms of increasing yield is uncertain. These investigations

examine different PGR formulations and also methods of scheduling PGR applications in an effort to maximize the efficiency with which this input is used.

#### *Production of Transgenic Pima Cotton*

Production of transgenic Pima cotton seed was conducted for Monsanto involving strict production practices and isolation distances in order to produce genetically pure seed. This was done in cooperation with a local grower. An additional project is scheduled for completion during the 2009 season.

#### *Evaluation of Fungicide Applications in Corn*

Significant interest in the application of new fungicide formulations on both cotton and corn has developed over the past couple of years due to some promising research results of yield increases despite the absence of any visible disease symptoms in many parts of the country. This response has been referred to as a plant health response. Evaluations of these fungicides were conducted on both cotton and corn at the Safford Ag center and on grower cooperator fields. Significant yield response was observed in the corn trial and will be conducted again in 2009.

#### (3) Off-Center Research Activities

Many research activities require conditions found off-site for effective completion. These types of projects are typically conducted on grower-cooperator fields and are a clear extension of our mission at SAC. Some of these projects include:

#### *Cotton/Corn/Bean Variety Evaluations*

We conduct extensive variety evaluations for many crops in the southeast region of the state. These crops include wheat, barley, dry beans, corn, and cotton. The area where the greatest impact has been realized is in the area of cotton variety selection. Results from our research have identified a few new varieties that perform extremely well in our region and that have the potential of qualifying for a premium in price due the high quality of the fiber. These particular varieties are being planted on a large percentage of the acreage in the valley.

#### *Evaluation of Corn Rootworm Control Measures*

Corn hybrid testing has also provided information to local producers about the performance of new transgenic hybrids in our region (principally Cochise County). Hybrids containing corn earworm and herbicide tolerance, and soon to come corn rootworm control, make the decision of selecting a hybrid very difficult. Our information is a significant aid to the local producers. Our research into control methods for corn rootworm has also influenced decisions on the part of growers in this aspect of corn production.

#### (4) Procurement of Donations and Services to SAC

With the development of our new advisory group many of the local growers on this board have been extremely accommodating in the use of their equipment at SAC to help with tillage and other off-season operations that have needed to be properly done for many years. Their motivation in providing this assistance is to help ensure that results obtained through research at SAC are going to be based upon a system that closely resembles their production practices. Our current cotton harvester has been in need of upgrades and repairs. The local CaseIH dealer

donated to SAC a used harvester similar to the one we have which has been used for replacement parts. We have saved well over \$10,000 by utilizing parts taken from this donated harvester.

#### (5) Educational Outreach Programs

Educational outreach and dissemination of research results are vital components for SAC.

##### *Extension Programming in Field Crops*

We conduct each year three grower meetings to provide educational opportunities for our local clientele. We also publish numerous reports in commodity publications such as the Cotton Report. In 2008 a total of 4 articles were included in the Cotton Report. Two additional peer-reviewed articles were also published during the 2008 calendar year.

##### *Youth Agricultural Literacy Programming*

This program involves the efforts of many people, from staff at SAC, to teachers located in the classrooms of third through sixth grades throughout southeastern Arizona. There are also many volunteers from the community that help in presenting topics to the youth at the various field days. Several field days and other activities were conducted throughout the year that reached nearly 100% of our targeted audience of third and sixth grades throughout the region. In the fall (October-November) of 2008, several field days were conducted designed to provide information to local area youth on topics such as crop production, biotechnology, and farm safety, among other topics. During this eight-week period over 10 days are dedicated to these field day activities and over 1000 youth from age 7 to 18 participate. Youth come from all over southeastern Arizona including the San Carlos Apache Indian Reservation.

#### **Conclusion**

I am very excited about the future of agriculture in southeastern Arizona. The state of Arizona is experiencing major changes in agriculture, particularly in central Arizona. Southeastern Arizona continues to be a stable agricultural production area with growers willing to adopt new technologies in a positive progressive manner. Our clientele are very supportive of the work we do at SAC and throughout the region as evidenced by their adoption of recommendations generated from our research and also generous donations to our facility. We have had a very successful year with some of the highest cotton yields ever harvested at SAC. This will also help by providing means to continue to improve our facility. We have been able to make some long needed improvements in equipment and overall appearance of the Center. We continue to make improvements and needed repairs to maintain in safe working condition, the equipment that is used most regularly. We appreciate the support from CALS administration and we will continue to do our best to fulfill our mission and serve the needs of our clientele.

## **Rangeland Management**

This program is done on a regional basis, targeting Graham, Greenlee, and Cochise counties. Two educational workshops were conducted covering rangeland management and/or livestock production topics. The workshop topics and presentations were developed as team efforts.

- Forest Service and Bureau of Land Management Annual Permittee Meeting, 10/15/08, Safford, 41 participants.
- Range Livestock Nutrition Workshop, 11/12/2008, Benson, 29 participants.

As part of the Rangeland Monitoring & Inventory Program, in Graham County 34 sites on 7 BLM allotments and 56 sites on 16 Forest Service allotments were monitored. Monitoring reports were prepared for each allotment and given to agencies and ranchers.

Post-workshop evaluations were given to ranchers and agency personnel at the end of each workshop. The rating scale is: 1 being not very valuable to 5 being very valuable. *Permittee Meeting* - participants rated 3.9. All participants who turned in evaluations said they would use at least one idea from the meeting. The majority said they would implement photo monitoring and put out more rain gauges. *Livestock Nutrition Workshop* - participants rated 4.5. One participant stated: "This has been the most informative class I've been to yet!"

## **Enhance Natural Resource Conservation and Management**

Noxious Weeds - I co-chair the local Weed Management Area (WMA). In 2005, the group re-organized and went from working on only two species of concern to include more species, and the geographic area now follow the boundaries of the Gila Valley and Willcox-San Simon Natural Resource Conservation Districts. The WMA consists of representatives from federal, state, county, and municipal entities, as well as producers and interested citizens.

Work in Graham County focuses on sweet resinbush. McReynolds continues to be the lead in field monitoring for resinbush, with yearly reading of transects and preparation of reports. Eastern Arizona College students spent the summer mapping satellite populations of resinbush with geospatial equipment (interconnected GPS, handheld computer, and specialized software for mapping weeds) supplied by McReynolds. They produced a map that the resinbush subgroup of the WMA used to prioritize treatments for 2009. I met with the Southwestern New Mexico WMA in October to talk about possible joint efforts across state lines. This led to the joint noxious weed stakeholder meeting held in Safford in which we prioritized species and issues across the state line in preparation for developing a strategic plan in 2009. Eighty-five percent of participants said that the meeting was valuable and 96% were committed to work on noxious weed management. The EAC students' project advisor said at the beginning of the summer (before the equipment got to them) "I have teams out at the moment with paper, clipboards and GPS units. The students suggest it's taking them three times as long with this method as last year (using specialized geospatial equipment.)"

Backyards & Beyond – Continued publication of the magazine Backyards & Beyond: Rural Living in Arizona. McReynolds is a co-editor of the magazine.

**Area Associate Agent Mark Apel:**

Mark presented an exercise on Citizenry Community Planning to Class XIX of Project CENTRL in Safford, AZ as part of the Community and Economic Development Seminar on 9/12/2008 - 30 participants.



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