

2011 Annual Report

Delivering Science-Based Education to Yavapai County Citizens

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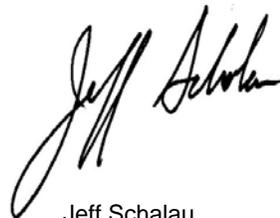
The faculty and staff of the University of Arizona Cooperative Extension respectfully submit this report of program accomplishments to the Board of Supervisors and citizens of Yavapai County. This report highlights the impacts of Cooperative Extension programming in Yavapai County from January 1 to December 31, 2011.

The University of Arizona Cooperative Extension transfers science-based knowledge from the University of Arizona campus to communities statewide and provides leadership in the application of that information to address local issues and needs. In Yavapai County, major program areas are 4-H Youth Development, Agriculture, Community Resource Development, Natural Resources, Animal Science, and Family and Consumer Health Science.

Our success is based on valuable partnerships between individuals, other educational institutions, county departments, citizen's groups, cities and towns, and state and federal agencies. The University of Arizona College of Agriculture and Life Sciences provides education, leadership, and expertise. Each day, Cooperative Extension Agents, Specialists, and staff work together to deliver quality educational programs to Yavapai County residents.

In 2011, Cooperative Extension served 32,571 Yavapai County residents through our programs and services. In addition, 308 citizens served as Cooperative Extension volunteers. These valuable volunteers enhanced Extension programming by helping Cooperative Extension educators deliver relevant educational programs and information to the citizens and communities of Yavapai County. The contribution of these trained volunteers totaled 22,663 hours of service for an estimated value of \$484,082.

Finally, we would like to acknowledge and thank the Yavapai County Cooperative Extension Advisory Board for their support and assistance in identifying and addressing high priority issues in Yavapai County.



Jeff Schalau
County Extension Director

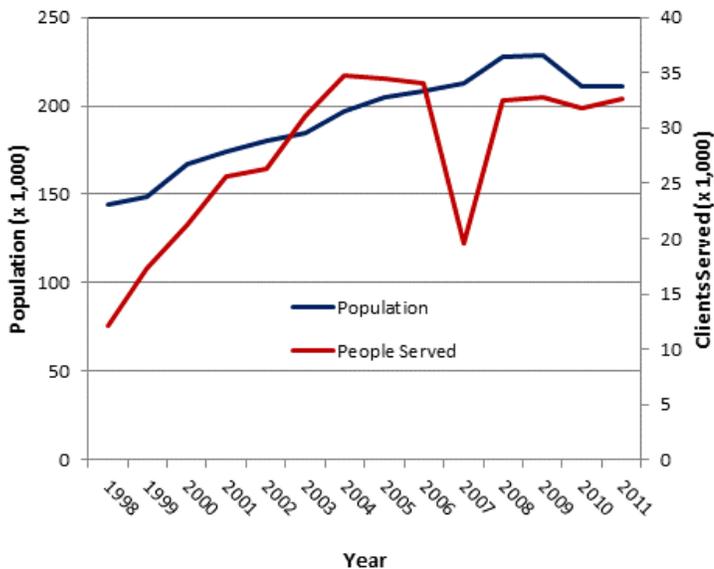


Nora Graf
Chair, Extension Advisory Board

Yavapai County Cooperative Extension 2011 Quick Facts

Our Mission: Yavapai County Cooperative Extension provides science-based education and information that addresses local issues and needs in the fields of agriculture, animal science, family consumer sciences, horticulture, natural resources, and positive youth development to enhance the economic, social, and environmental well-being of individuals, families, and communities.

Yavapai County Population and Numbers of County Residents Served



- Service to the public has roughly kept pace with population growth between 1998 and 2011.
- Numbers of clients served in 2011 exceeded 2010 even though Yavapai County Cooperative Extension lost two key faculty members mid-year.
- Budget reductions for FY 2011-2012 at the state (5%) and county (11%) have impacted staffing and operations. In spite of these reductions we have managed to maintain our level of service. In addition we continue to seek new sources of financial support while also striving for increases in current funding.

Yavapai County has experienced 29% population growth over the last 10 years. To keep pace with population growth, Yavapai County Cooperative Extension continues to deliver priority programs, anticipate future needs, and develop educational programs that serve this ever expanding audience. Program priorities are identified with assistance from the Yavapai County Board of Supervisors, Extension Advisory Board, agricultural producers, local governments, agencies, collaborators, and volunteers. Yearly plans of work are reviewed and approved by the Yavapai County Extension Advisory Board. Yavapai County Cooperative Extension faculty and staff are dedicated to meeting the needs of Yavapai County citizens.

A Brief History of the University of Arizona and Cooperative Extension

In 1862, President Lincoln established the "Land Grant College" system so each state could have its own university to teach agriculture and mechanical arts. These colleges (later universities) were designed for the common people rather than private or church-sponsored colleges that predominated at the time. The Morrill Act, was signed the same week as the Homestead Act and was an incentive to settle lands and establish a transcontinental railroad.

The Hatch Act of 1887 established Agricultural Experiment Stations where research would be conducted and the Smith-Lever Act of 1914 provided federal support for Cooperative Extension. These three important Acts are the basis for the Land Grant mission of teaching, research, and extension.

In 1862, Arizona had no public schools, protestant churches, courthouses, stagecoaches, or telegraph lines. By 1885, state lawmakers passed legislation and appropriated \$25,000 to establish a Land Grant university in Tucson. In 1886, 40 acres of land was donated by Tucson residents: a saloon keeper and two gamblers. The Morrill and Hatch Acts provided federal funds and the University of Arizona was on its way to becoming a reality. Old Main was completed in September 1891 and the first classes were offered that fall.

Five departments were in operation at that time: Science, Literature and the Arts; Theory and Practice, and Elementary Education; Agriculture; Normal; and Mineralogy and the School of Mines. By 1915, the College of Agriculture was named and the Forbes Building finished. The College of Agriculture and Life Sciences is still housed in the Forbes Building.



Yavapai County Cooperative Extension 2011 Summary

Yavapai County Citizens Served in 2011

Program Area	Educational Outreach	Office Contacts*	Totals
4-H Youth Development	1,084	1,762	2,846
Animal Science	476	167	643
Community Resource Development	234	2,230	2,464
Family, Consumer and Health Sciences	228	508	736
Horticulture	8,275	4,994	13,269
Natural Resources	6,038	6,575	12,613
Totals	16,335	16,236	32,571

*Includes email, phone and face to face.

Our educational efforts focus on:

4-H Youth Development	4-H Youth Programs, 4-H Leader training/support, and Youth Leadership
Animal Science	V Bar V Ranch Experiment Station, Identifying Nutritional Deficits, Suggested Mineral Supplementation, Livestock Nutrition, Grazing Behavior, and Quality Assurance
Animal Science: Rangeland Management and Livestock Nutrition	Sustainability of Grazed Rangelands for ranchers and agency personnel and Rangeland Monitoring Education
Community Resource Development	Small Acreage Landowner Education, Ranching and Land Stewardship, Economic Development and Analysis, Community Business Matching, and Sustainability
Family, Consumer and Health Sciences	Early Care Education, Early Brain Development, Nutrition Education, and Leadership
Family, Consumer and Health Sciences: Food Safety	Food Manager Certification, Consumer Education, and Food Preservation
Horticulture	Master Gardener training and volunteer support, Arizona Certified Nursery Professional training, Insect and Disease Management, and general assistance
Natural Resources: Noxious/Invasive Weeds	Weed Management Area Coordination, Agricultural Pesticide Certification, and Public Education
Natural Resources: Water Resources	Master Watershed Steward volunteer support, well water testing, Septic System Education, and Project WET (Water Education for Teachers)
Natural Resources: Wildfire Defensible Space	Wildfire Risk Reduction, Wildfire Defensible Space Education for landscapers and the general public, and Forest Health



4-H Youth Development

Yavapai County 4-H Program Overview

The Yavapai County 4-H Youth Development program uses science-based educational concepts and curriculum to teach life-skills, leadership and citizenship to the youth of the county through project work, community service and competitive opportunities. This program is delivered to the youth through certified adult volunteers, in partnership with 4-H Instructional Specialist Michelle Stevens and Agent Brent Strickland. Brent comes to this county with 11 years' experience in LaPaz County. His start date will be January 2012.

This program is delivered through 4-H Community Clubs located in Camp Verde, Cottonwood, Chino Valley, Bagdad, Prescott, Prescott Valley, Wickenburg and Dewey by 75 caring, dedicated and enthusiastic adult volunteers.

The 4-H Youth Development Program increased in several areas in 2011. The number of community and project clubs increased from 5 to 8, including the reactivation of the 4-H club at Orme School and the Camp Verde Cowboys 4-H Club. Youth enrollment was down slightly from 285 to 259, with certified volunteer participation increased from 51 adult leaders to 75 in the past year. The Large and Small Livestock projects continue to be the most popular, but the Leadership Project increased 33%, from 54 to 72 youth enrolled. The upcoming year will see the program expanding into the areas of Science, Engineering and Technology (SET) and filmmaking.

Prior to her resignation in July 2011, Yavapai County 4-H Agent, Stephanie Shank worked in partnership with Northpoint Expeditionary Learning Academy and the V Bar V Ranch on various entomology activities. Stephanie also utilized two volunteers from the AmeriCorps, to begin 4-H Afterschool programs at the Miller Valley and Washington Traditional Schools in Prescott, as well as Yarnell, Kirkland, Black Canyon City, and Peoples Valley.

Yavapai County 4-H worked with the Mohave County and LaPaz County 4-H programs on the Colorado River Small Stock Show and the Mo-Paz 4-H Camp.



Special 4-H Events and Fairs



Yavapai County 4-H/FFA EXPO

The Yavapai County 4-H/FFA EXPO was held April 25-30 at the Prescott Frontier Days Rodeo Grounds. There were 180 4-H and FFA members participating with 522 project entries. 4-H members and volunteers were also vital to the Yavapai County 'Unfair Fair' that took the place of

the Yavapai County Fair this year. 4-H members from the Verde Valley exhibited their projects at the Verde Valley Fair. Yavapai County was well represented at the Arizona State Fair, the Arizona National Livestock Show, and in SAILA (Southern Arizona Livestock Association).

Arizona 4-H International Exchange Program

Four Yavapai County 4-H families hosted Japanese 4-H members through the Arizona 4-H International Exchange Program. This exchange program is a way to challenge local youth to become global citizens by expanding cultural

awareness and unique life experiences through exposure to young people from other countries.

Camps

Yavapai County again saw increased participation in the camping programs this year. J.O.L.T (Journey of Leadership for Tomorrow) attendees totaled 19 including two adult chaperones and 13 youth members attended the Mo-Paz 4-H Camp, which was held at the newly purchased Mingus Springs Camp in Yavapai County. Yavapai County 4-H Leaders also hosted/sponsored the Massy Sheep Camp here in Yavapai County, bringing in youth from all over the western United States.

National Livestock Judging Contest

Yavapai County was represented by one youth on the State 4-H Livestock Judging Team. This team competed at the 2011 National 4-H Livestock Judging, held at the National Western Stock Show in Denver, Colorado.



Animal Science

Rangeland Monitoring

Several ranches in Yavapai County have ongoing rangeland monitoring programs. Here, annual data collection is combined with site-specific discussions among agency resource management professionals and ranchers. Animal Science Area Agent, Jim Sprinkle; Agriculture and Agriculture/Natural Resources Agent, Jeff Schalaus; and University of Arizona Range Specialist, Doug Tolleson, collaborated on rangeland monitoring programs and subsequent data collection. Monitoring programs at the Yavapai Ranch (Seligman) and Bar Heart Ranch (Upper Verde River) have been ongoing. We have also formed the Rim Grass Range Group which is conducting educational sessions and includes several ranches adjacent to the V Bar V Ranch Experiment Station. These monitoring efforts brought ranchers and land management agency professionals together and allowed them to make effective management decisions that ensure livestock grazing is sustainable. Diverse groups working together ultimately helped build trust between ranchers, agency professionals, and concerned citizens groups.



Sunset at the Upper Headquarters of the V Bar V Ranch, photo by John Kava, Range Specialist, V Bar V Ranch Experiment Station.



Agency personnel and volunteers monitor over 20 Key Areas at the Yavapai Ranch. This photo shows an enclosure where livestock grazing has been prevented for over 60 years. These sites often tell us that livestock grazing can provide benefits and may be better than non-use.

Livestock Nutrition

Drs. Jim Sprinkle, Doug Tolleson and the U of A Range Livestock Nutrition Committee held workshops titled *Being a Range Cow is a Hard Way to Make a Living* in Payson. Fifty attendees learned about managing production stressors, genetics to match the environment, range management, current livestock nutrition research in Arizona, and financial management.

Jim Sprinkle shared University of Arizona 20 year livestock nutrition datasets with Cargill Animal Nutrition to develop Arizona specific beef cattle nutritional strategies (in particular, mineral supplements). The mineral supplement designed with our advice and input has been tested at the V-V Ranch near Camp Verde and at the Santa Fe Ranch near Nogales, and is currently being used by producers statewide.



Hopi youth attending the Hopi Range Camp learned about animal health and some even administered injections, July 2011, photo by Doug Tolleson, Range Specialist, V Bar V Ranch Experiment Station.

Hopi Range Camp

At the invitation of the Hopi Department of Natural Resources (DNR), Jeff Schalaus, Doug Tolleson, John Kava (V Bar V Ranch Research Specialist), and Matt Livingston (Hopi Tribal Extension Agent) joined Hopi DNR personnel to present a two-day “range camp” to tribal youth. Topics covered were: rangeland monitoring, plant identification, traditional native plant uses, GPS, soils, animal health and nutrition.

Twelve tribal youth and ten Hopi DNR employees participated in the camp. Evaluations indicated a high degree of knowledge gained and several attendees said they would consider natural resource management as a career.



Community Resource Development

The Community Resource Development (CRD) position exists to better address and understand the environmental, land use, economic and social changes that rural Arizona is currently experiencing due to a rapid influx of new residents and an increase in development. During the course of this year, Area Agent Erik Glenn served 3,356 people in a variety of CRD programs.

Regional Center for Sustainable Economic Development

The Regional Center for Sustainable Economic Development provides economic development technical assistance and research services to Arizona. Projects include a variety of undertakings, including an economic contribution analysis of winemakers in the Verde Valley; the creation and dissemination of a youth gardening/entrepreneurship curriculum in Yavapai County and beyond; grant-writing seminars; direct marketing efforts for small farmers; and community land use suitability assessments focusing on alternative energy. Of particular note, Erik completed the wine industry analysis in 2011, and published a report titled *The Economic Contributions of Verde Valley Winemaking*. The results of that report helped the Verde Valley Wine Consortium improve its marketing efforts, create a workforce training program and successfully obtain outside funding.

Arizona Economic Development Course

Thirty-three students—three of them from Yavapai County and the others representing 9 of Arizona's other 14 counties and several additional states—attended the week-long 2011 Arizona Economic Development Course. Participants heard from expert speakers on economic development topics such as retention & expansion of existing businesses, entrepreneurship and workforce development. In addition, the attendees spent time working in groups on a real-world community problem requiring creative solutions.

Small Acreage Landowner Education

Erik conducted three small acreage landowner workshops in Yavapai County and elsewhere in 2011. One of these targeted owners of irrigated pasture in the Verde Valley and took place in September. Twenty people attended this successful offering to learn more about property inventorying, irrigation and management techniques, grazing animal utilization and available assistance programs. Erik also collaborated with other members of the National Network of Sustainable Living Educators to create an online course and revise a handbook covering sustainable living concepts.



Small-acreage landowners—like this group attending an Irrigated Pasture Management workshop in Camp Verde—learn strategies for improving, utilizing and sustaining their properties.

Additional Economic Development Education

Erik made a presentation on the basics of economic development to 82 attendees at the Governor's Rural and Regional Development Conference. He also again participated in the Stronger Economies Together program and made a total of five presentations—on topics such as creating a strong regional team, utilizing demographic & economic data, and maximizing regional economic strengths—to 72 people representing three regional economic development groups stretching across four Arizona counties and one Nevada county.

Arizona's Changing Rural Landscapes Website

The *Arizona's Changing Rural Landscapes* website (ag.arizona.edu/rurallandscape) is designed to educate public and private stakeholders about exurban growth in Arizona and the effect that growth is having on landscapes, economies and people. The site saw approximately 4,800 unique visitors & 11,600 page views during the course of the year. Preliminary work was also done on a Citizen Planner curriculum that will be hosted on the site in 2012.



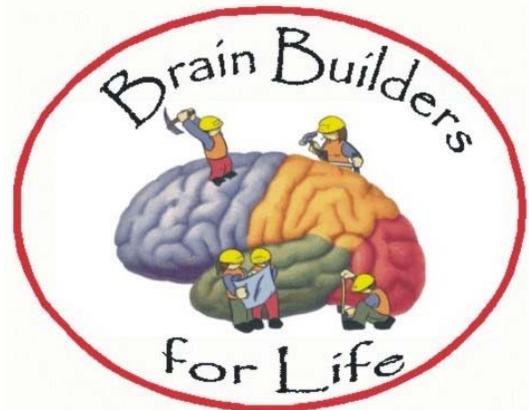
Family, Consumer and Health Sciences

Brain Builders for Life-Prenatal to Age Three

The importance of early childhood development cannot be underestimated. Current research in neuroscience and early brain development indicates that the most critical stage of healthy early brain development is from zero-to-three years of age. Two foundation concepts have been identified by the Arizona Governor's Office for Children, Youth, and Families for early childhood education:

1. High quality early experiences are critical for early brain development which forms the foundation for learning.
2. High quality early childhood education is one of the most effective strategies to ensure children begin school with the skills they need to succeed.

Through a grant provided by the Department of Economic Security, the University of Arizona Cooperative Extension conducted the Brain Builders for Life training institute across the state for childcare providers. Childcare professionals learned valuable information and strategies to improve the quality of health and learning in infants and



toddlers. In Yavapai County, this sixteen hour training was presented to 28 participants. In addition to this training, information on early brain development and how it impacts the growth of young children was also taught to participants of the 16th Annual Northern Arizona Early Childhood Education Conference. Programming efforts also include collaborating and networking with other Yavapai County organizations such as the YRMC Family Resource Council, Yavapai and Prescott College, the Del Webb Family Enrichment Center and KKONA (Kinship Kare of Northern Arizona). Programs are also available for interested of families of young children.



Participants of the Yavapai County Brain Builders for Life training in Prescott demonstrate how the brain of a young child gets "wired".

Marta Elva Stuart - Nineteen Years of Service to Yavapai County Cooperative Extension

Marta Elva Stuart came to Yavapai County in 1995 and served as the 4-H Agent before changing her emphasis to Family Consumer Sciences in 1997. She loved living and working in Yavapai County and Prescott, Arizona. Her educational programs focused on food safety and early childhood development. Marta passed away on August 29, 2011 and is fondly remembered by the clientele she served and her colleagues in the Yavapai County Cooperative Extension offices. She taught all of us to be more collaborative and transparent in our work.



Marta Elva Stuart



Family, Consumer and Health Sciences

Certified Professional Food Manager Training

Salmonella, E. Coli, Norovirus! Do these foodborne illness names and others send chills down your spine? This year one out of six Americans will get sick from a foodborne illness. According to the Center for Disease Control (CDC), every year millions of people suffer from foodborne illness, hundreds of thousands are hospitalized and thousands die. The food safety education program at Yavapai County Cooperative Extension provides research-based food safety information and education through one-to-one contacts, telephone, e-mail, publications and community workshops for industry representatives and consumers of Yavapai County to ensure that their food is safe. Web site links are available for industry, consumers, and K-12 educators at The University of Arizona Cooperative Extension Web site www.extension.arizona.edu/yavapai/food-safety-program.

Over the past year, 160 Yavapai County food establishment managers were trained through the Prometric Certified Professional Food Managers' Program. This nationally-recognized, six-hour certification course is aligned with the newly updated 2009 FDA Model Food Code and is offered

monthly in Prescott and bimonthly in Cottonwood. Required by the Yavapai County Environmental Health Department, this course helps restaurant managers and employees increase their knowledge of food safety principles and make informed decisions to reduce risk factors and the incidence of foodborne illness. Evaluations from the participants have included the following comments: "appreciated the many demonstrations and examples, well-explained information, much critical information given for food managers, great class and instructor."



Food Safety Industry Council members enjoy lunch at the Iron Springs Café

Food Safety Industry Council

Established in 2002, the Yavapai County Food Safety Industry Council, continues its mission to promote and maximize food safety through education, research and policy provided by leadership of representatives from the food industry, consumers, academia and the Yavapai County Health Department. The Yavapai County Board of Supervisors appoints the 15 members who include food establishment representatives and consumers. Ex-officio members include representatives from the Yavapai County Health Department and the University of Arizona Yavapai County Cooperative Extension.

Significant accomplishments this past year included: the creation and approval of 12 Food Safety Fact Sheets to be used by restaurant managers when training employees; reviewing and approving the Environmental Health software display of food establishment inspections for the YCHS Web site; and beginning the process of revising the Yavapai County Health Code to update it to the 2009 FDA Model Food Code.

Consumer Education "Be Food Safe"

As part of Yavapai County Cooperative Extension's community outreach, Lori Brandman, Program Coordinator, addresses issues of concern to consumers through educational seminars and trainings, as well as through phone calls, e-mails, and one-to-one visits. This past year several programs were presented to specific audiences including two senior citizen centers and the culinary program at Chino Valley High School. Our goal is to provide practical knowledge and information so consumers understand the importance of food safety and disease prevention, related programs are available for interested audiences.



Horticulture

Master Gardener Program

The Yavapai County Master Gardener program teaches interested citizens to become valuable horticultural volunteers in their communities. Extension Agent Jeff Schalau taught and coordinated the 2011 Master Gardener Training Course and managed the program in conjunction with Mary Barnes, Master Gardener Volunteer Coordinator.

After 15 weeks of practical training, class members become Associate Master Gardeners. The Training Course is offered to 40 residents each spring and alternates yearly between Prescott and the Verde Valley. After volunteering 50 hours they become Certified Master Gardeners. Each subsequent year, Master Gardeners provide a minimum of 25 hours of volunteer service and six hours of continuing education to maintain their certification.

In 2011, 163 Master Gardeners contributed 15,725 hours of volunteer service to citizens and institutions of Yavapai

County. This included 5176 face-to-face, 1038 phone, and 185 E-mail contacts. Master Gardener Volunteer Coordinator, Mary Barnes, maintained records, facilitated communication, conducted program planning, and tracked volunteer activities. She also designed and continues to update the Yavapai County Master Gardener web site. Ms. Barnes' valuable volunteer service is integral to Yavapai County Cooperative Extension's success. Master Gardener, Nora Graf, edited and managed the monthly newsletter *Yavapai Gardens* and maintained the Yavapai County MG blog. Master Gardeners also provided volunteer service to school gardens (5), one museum, one hospital, public parks (4), staffed educational displays at 13 public events, coordinated Master Gardener Association meetings/activities (10), and organized the Yavapai County Master Gardener recognition picnic. The Master Gardener Speaker's Bureau also gave presentations to 60 community groups which reached 1,414 people. Yavapai County Cooperative Extension continues to have one of the most ambitious and successful Master Gardener Programs in the state.



Master Gardeners learning to identify native plants near Sedona.

2011 Arizona Highlands Garden Conference

Master Gardeners in Yavapai, Coconino, and Gila, Counties planned, organized, and delivered the 11th Annual Arizona Highlands Garden Conference in Prescott on October 22, 2011. Two pre-conference tours were offered the day prior to the conference: one to the Verde River Headwaters and the other to two small farms in Chino Valley with 45 and 53 participants respectively. The conference was attended by 165 Arizona Master Gardeners and gardening enthusiasts. Eighteen Yavapai County Master Gardeners also assisted in preparing and delivering the conference. Plenary sessions were presented by Dr. Linda Chalker-Scott (Washington State University) and Dr. Whitney Cranshaw (Colorado State University) with multiple concurrent sessions rounding out the conference agenda.

Two New Landscape Pests Identified

Two organisms previously unknown in Arizona were identified and documented in Yavapai County during 2011. Agent Jeff Schalau identified the snailcase bagworm (*Apterona helix*) in Prescott in June 2011. The ID was confirmed by Carl Olson, UA Entomology Collection Curator and recorded with the Arizona Department of Agriculture and USDA APHIS. In July 2011, diseased wood was sampled from Leyland cypress. *Seiridium* canker was confirmed in those samples by University of California, Davis Plant Pathologist Steven Koike. Both samples were collected in Prescott, AZ. Confirmation of this pest was a significant finding as Leyland cypress has been widely planted in Yavapai County and across Arizona. Mr. Schalau

has authored a publication on *Seiridium* canker to assist nurseries and landscape contractors managing its spread and subsequent tree mortality.



Seiridium canker conidia (reproductive structures) under a compound microscope (photo by Steven Koike).



Natural Resources Education

Mingus Springs Camp Purchased by University of Arizona

Arizona 4-H purchased *Mingus Springs Camp and Outdoor Learning Center* from the Henry Dahlberg Foundation in December 2011. The Center, which was valued at \$1,000,000, was sold to Arizona 4-H for \$425,000. The University of Arizona College of Agriculture and Life Sciences truly appreciates the gift of \$575,000 from the Henry Dahlberg Foundation. Arizona 4-H raised some funds prior to the purchase and borrowed the remainder from the UA Foundation. To date, Arizona 4-H has raised \$300,000 toward the purchase price.

Mingus Springs Camp is located along Ash Creek on the western side of Mingus Mountain between Prescott and Cottonwood. It has a legacy of outdoor science education and applied watershed research. *Mingus Springs Camp* can accommodate up to 100 campers. A dining hall, recreation hall, cabins and bathhouse are also on site. Other amenities include, swimming, fishing, a low ropes course, Frisbee golf, hiking, and wildlife viewing. Yavapai County Cooperative Extension looks forward to providing educational programming at *Mingus Springs Camp*.



Natural Resources Conservation Workshop for Arizona Youth (NRCWAY)

NRCWAY was held at Mingus Springs Camp June 27 to July 1, 2011. NRCWAY is sponsored by the Arizona Section, Society for Range Management (SRM). Agent Jeff Schalaus co-directed this week-long residential program in collaboration with Cochise County agents Kim McReynolds (Camp Director) and Susan Pater (Co-Director). Thirty-six

youth from across Arizona participated in this diverse camping experience. The workshop utilized experienced natural resource professionals and University of Arizona faculty as instructors to build skills/competencies of the youth participants and continues to be the preeminent natural resource camp experience in the state of Arizona.

Invasive Species Education

Invasive and noxious weeds are spreading across open spaces and water bodies throughout North America. In Yavapai County, there are significant populations of: yellow star thistle, Malta star thistle, Russian knapweed, spotted knapweed, diffuse knapweed, Scotch thistle, Canada thistle, annual brome grasses, and many others. New invasive plants continue to be introduced by contaminated seed, heavy equipment, recreationists, and wildlife. In addition, the nursery and landscape industries could potentially introduce plants which could become invasive (Pampas grass is one example).

Yavapai County Cooperative Extension Agent, Jeff Schalaus, provided educational programs, consultation, and information to Yavapai County residents through workshops and site visits. He also collaborates with weed management areas and agency professionals to coordinate weed management activities and pesticide certification training.



Yellow star thistle is a noxious weed invading wildlands across the temperate zones of the western United States. California currently has 14 million acres infested with yellow star thistle.



Natural Resources - Water Education

Youth Water Resource Education

Wild Over Water (WOW), a direct outreach program, brought trained Project WET docents into 28 local fourth grade classrooms making 125 classroom visits. This year the program was expanded from four to five lessons. A total of 764 Chino Valley, Prescott and Prescott Valley students learned important water lessons through the WOW program.

The 4th annual Verde Valley Water Festival took place at Dead Horse Ranch State Park this year. This community supported event has allowed a total of 436 fourth grade students from Verde Valley schools to learn about their local watershed and their role in taking care of water as a precious resource. Over 80 volunteers were trained to present lessons to the student participants. Bradshaw Mountain Middle School hosted a Water Festival with trained eighth grade students presenting four lessons to 568 fourth grade students from the Humboldt Unified School district.



120 seventh grade students participated in the Cottonwood Middle School (CMS) Water Audit. CMS students calculated water usage at their school before and after water saving devices were installed. Students were able to see real water savings after installations of simple water saving devices such as faucet aerators.



Students investigating water quality at Mingus Springs Camp.

A major focus in Yavapai County has been to promote and present Arizona Project WET. Here, K-12 teachers attend workshops that provide training to help in the integration of water resource education into their curriculum. A total of 129 teachers attended Project WET trainings in 2011 and are using this curriculum in their classrooms.

Water Resource Education for Adults

A Master Watershed Stewards class was held in the spring of 2011 in conjunction with the Oak Creek Canyon Task Force. Fourteen students learned about water quality impairments to Oak Creek and strategies for addressing those impairments.

Program Coordinator, Edessa Carr helped support Prescott Creeks Watershed Improvement Council, recipient of ADEQ water quality improvement grant, to develop a citizen's creek care guide.

Edessa delivered two Private Well Owner's Workshops in Chino Valley and Sedona. Over 107 people learned about the basics of well construction, testing of water, interpreting test results, preventing well contamination and treatment options for various contaminants.

Yavapai County Cooperative Extension has offered Private Well Water Testing to consumers since 1997. Self-administered water quality test kits were provided at low cost to several hundred private well owners. This allowed well owners to test their well for arsenic and other contaminants. Edessa assisted these well owners in interpreting test results when needed and in taking additional steps if warranted.

Timely information has been provided to diverse clientele through direct and indirect contact. Edessa worked at youth camps held at Mingus Springs Camp, conducted educational outreach at Verde River Days and led an educational field tour for the Highlands Garden Conference.



Natural Resources - Preparing for Wildfire



Fire fighters installing plants for the fire-wise demonstration landscape at Black Canyon City fire station.

Wildfire defensible space education was highlighted in 2010 with the installation of the first fire-wise public demonstration landscape in Yavapai County. Located at Black Canyon City's fire station, the landscape features fire-wise and WaterSmart® plant selections for use in Lower Sonoran Desert areas between 1000 and 3000 feet in elevation. In addition to identifying appropriate plant choices, Instructional Specialist, Senior Mark DiLucido coordinated the landscape design and installation and are currently producing an interpretive brochure that will explain other important concepts of creating and maintaining defensible space in the Lower Sonoran Desert.

Prescott area communities and property owners benefited from "Lessons Learned From The Wallow Fire," a program by Mark that was developed after he toured national forest and private properties in the path of the Wallow fire. "Lessons," used aerial and ground-level photographs of properties and forest to analyze the effectiveness of current defensible space strategies. Two strategies, tree thinning on the national forest and defensible space implementation on private property, helped slow dangerous crown fires and protect homes and property near Alpine and Nutrioso. These strategies are also in

use by most local communities so verification of their effectiveness is critical to protecting homes and property in our area.

The local communities of Walker and Hidden Valley are taking defensible space to the next level by implementing grant funded programs specific to the thinning of ponderosa pines on private property. Other communities' programs have addressed ladder and chaparral fuels reduction, and incidental ponderosa removal, but these are the first local programs to specifically target ponderosa thinning. Mark supported these programs by giving presentations about healthy forest practices and the benefits of restoring forests to natural densities. Yavapai County Cooperative Extension also is assisting Hidden Valley in administering its thinning program by documenting community wide thinning progress with digitally produced maps.



Wallow fire damage on the Apache-Sitgreaves National Forest as viewed from atop Escudilla Mountain and looking toward Alpine.

Education and outreach at public events continued with Extension's three day presence at the Best Fest in Prescott. Most of the questions during Best Fest were property specific so detailed defensible space answers were able to be provided. Defensible space presentations to other communities, Firewise USA Communities, and interested groups was ongoing throughout 2011 and will continue this year when Extension will once again offer its unique and highly successful course, *Survivable Space for Landscape Professionals*. This 12-hour certificated course in the art and science of survivable space landscaping targets the nursery and landscape professions but is also suggested for committee members working on in Firewise USA community designation as well as the general public. Visit our website at the address below for more information about the course and upcoming dates.

Extension continues to use social media for education and outreach to residents of Yavapai County. Currently the defensible space program utilizes a Twitter feed and internet web pages to provide timely information and links to other relevant websites. Integration of FaceBook and LinkedIn into defensible space outreach is planned for 2012.



Yavapai County Cooperative Extension defensible space Twitter page
Defensible space Twitter feed: @CommWildFirePro
Defensible space webpage:
<http://extension.arizona.edu/yavapai/wildfire-survivable-space>



New CALS Leadership Team



Dr. Shane Burgess, Dean, College of Agriculture and Life Sciences (CALS)

Burgess succeeds Eugene G. Sander, who recently retired as Dean and Vice Provost and is currently serving as UA President while the Arizona Board of Regents searches for a new chief executive.

A native of New Zealand, Burgess has worked around the world as a practicing veterinarian and scientist. His areas of expertise include cancer biology, virology, proteomics, immunology and bioinformatics.

"I think we are very fortunate to have attracted Shane Burgess from Mississippi State to lead the College of Agriculture and Life Sciences," said Sander. "Shane is an outstanding administrator and scientist who will give us real leadership in one of the more important areas impacting the agricultural sciences. I look forward to introducing him to the agricultural industry in our state."

Dean Shane Burgess announced the appointment of four new Associate Deans in the University of Arizona College of Agriculture and Life Sciences on February 13, 2012.



Dr. Joy Winzerling, Bart Cardon Associate Dean for Academic Programs and Career Development

Currently professor and head of the Department of Nutritional Sciences, Dr. Winzerling is also a Registered Dietitian. She holds a B.S. in biological science and a doctorate in nutritional science from the UA and completed postdoctoral training in the

Department of Biochemistry and Molecular Biophysics and Arizona Research Laboratories. Her research has been cross disciplinary in the fields of entomology and human nutrition.

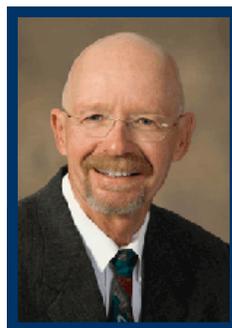


Dr. Ron Allen, Associate Dean for Research and Director of the Arizona Agricultural Experiment Station

Professor Allen is a veteran animal scientist who has taught and conducted research at Iowa State University, Michigan State University, and since 1980, the University of Arizona. He is currently

department head, Roy and Phyllis Hislop Chair and professor in the Department of Animal Sciences. The

focus of his research for nearly 30 years has been the growth and repair of skeletal muscle in domestic animals and humans, with implications ranging from improved medical treatments for muscle injuries to better understanding of the human aging process.



Dr. Jeff Silvertooth, Associate Dean for Economic Development and Director of Arizona Cooperative Extension

Professor Silvertooth's background includes direct and extensive experience in Cooperative Extension, research, instruction, administration and service. Arriving at the UA with a doctorate in soil science/soil fertility from Oklahoma State in 1987, he worked as an extension agronomist in cotton for 14 years, eventually

becoming a professor in the Department of Plant Sciences and the Department of Soil and Water Science.

As a long-serving department head, and a faculty member who has served the state for a quarter of a century, Dr. Silvertooth offers a wealth of experience and understanding in how the state's primary economy works. He will oversee a very extensive and extremely talented team that has a presence in every county in the state.



Dr. Soyeon Shim, Associate Dean for Strategic Initiatives

Professor Shim holds this newly-created position while continuing as director of the Norton School of Family and Consumer Sciences and professor of retailing and consumer sciences. The part-time associate dean position was created to take advantage of Dr. Shim's extensive talents in strategic leadership and management as well as her business skills, at a time when the college is facing

significant budgetary constraints requiring some elements of restructuring and innovative directions. Her skills are also invaluable as CALS focuses on becoming a more engaged economic engine for the state.

All four Associate Deans will serve on the CALS Executive Council with Dean Burgess.

"Every one of these new Associate Deans is committed to serving the faculty and students of the college," Burgess says. "I am also specially tasking them not only to manage in each of their areas, but also to lead us all in defining how we will live within our budget and, at the same time, serve the people of Arizona by delivering on our mission to develop our state's people and our economy."



Yavapai County Cooperative Extension Faculty and Staff

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Doug Tolleson	Assistant Range Management Specialist, V Bar V Ranch Experiment Station
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Yavapai County Cooperative Extension Advisory Board

Nora Graf	Board Chair, Master Gardener
Angela Teskey Peterson	Co-Chair, 4-H Leader/Rancher
Dr. Josephine Kelleher	Educator
Jeanne Briggs	Food Safety/Nutrition
Paul Groseta	Rancher
Trudy Birkemeyer	Rancher
Gary Mortimer	Nurseryman/Rancher

University of Arizona Visiting Faculty in 2011

Joyce Alves, FCS Agent, Apache County
Janick Artiola, Water Quality Research Scientist, SWES
Kirk Astroth, Assoc. Director, 4-H Youth Development
Stacey Bealmear, Horticulture Agent, Yuma County
Hattie Braun, Horticulture Instructional Specialist, Coconino Co.
Rob Call, Horticulture Agent, Cochise County
Shane Burgess, Dean, College of Agriculture and Life Sciences
Jim Christenson, Assoc. Dean & Director, Cooperative Extension
Mike Crimmins, Climate Specialist, SWES
Peder Cuneo, Specialist, Animal Science
Kitt Farrell-Poe, Water Quality Specialist
Dean Fish, ANR Agent, Santa Cruz County
Robin Grumbles, ANR Agent, Mohave County
Larry Howery, Rangeland Specialist, SNR
Chris Jones, ANR Agent, Gila County
Colin Kaltenbach, Director, Agric. Experiment Station
Mike Kilby, Specialist, Plant Sciences Department (retired)
Ed Martin, Irrigation Specialist and Associate Director

Kim McReynolds, Nat. Res. Area Specialist, Cochise County
Terry Mikel, Horticulture Agent (retired), Maricopa County
Joanna Nadeau, Research Analyst, Water Resources Res. Ctr.
Kurt Nolte, Agric. Agent, Yuma County
Scott Koenig, Associate Director, CALS Development/Alumni
Susan Pater, 4-H Agent/County Director, Cochise County
David Quanrud, Assoc. Res. Scientist, Office of Arid Land Studies
Channah Rock, Water Quality Specialist, SWES
Candice Rupprecht, Master Watershed Steward Coordinator
George Ruyle, Rangeland Program Chair, SNR
Ursula Schuch, Commercial Horticulture Specialist, Plant Sci.
Kerry Schwartz, Arizona Project WET Director
Trent Teegerstrom, Specialist, Agric. and Resource Economics
Doug Tolleson, Range Management Specialist, V Bar V ranch
Russ Tronstad, Specialist, Agric. and Resource Economics
Beth Tucker, FCS Agent, Coconino County
Kai Umeda, Area Turf Agent, Maricopa County
Kelly Young, Assist. Agent, Horticulture, Maricopa County

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This Report is available in Adobe Acrobat format on the Yavapai County Cooperative Extension Web Site

<http://extension.arizona.edu/yavapai/>

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Economic Development & Extension, College of Agriculture and Life Sciences, The University of Arizona. The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, or sexual orientation in its programs and activities.

