

# **Building Communities 2001 Annual Report**

Colorado State University Extension is a dynamic, flexible organization dedicated to delivering quality, relevant programs most needed by people throughout the state. We have a responsive network of citizens, scientists and educators who can anticipate and address critical needs. We focus on programs in the areas in which we have a research base and can make significant contributions.

Extension's role and connection within the higher education system provides the public with access to knowledge that can improve their daily lives. Extension faculty facilitate outreach partnerships across the institution to respond to local needs, assist in the translation and application of research, make connections between communities and resources, and deliver programs to support lifelong learning and problem-solving at the community level. This powerful partnership makes a connection between the intellectual knowledge of the University and the people of Colorado.

The profiles in this report are but a sample of the program impacts Extension is making throughout the state. Many counties have similar program efforts and outcomes. The comparative budget information at the end of this report shows that Extension efforts clearly multiply public funding and provide a solid return on money invested.

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#### From the Director

#### Milan A. Rewerts, Director

As I reflect on 2001, I must comment on the effect of its life-changing events. The happenings of September 11 forced us all to think differently about many things we have taken for granted as Americans. These events made us reorder our priorities to address new challenges, work harder to build personal bridges with members of our communities, show compassion in our teamwork, and constantly act on the best of our humanity.



Family, community and friendships have been more highly valued by many of us in these last months...months when we witnessed changes in the world we could not imagine a year ago. Our job as educators and facilitators of community dialogue will continue to be an important one in the months and years ahead as we help citizens build peaceful, civil communities. We will be considering our role in homeland security and biosecurity--ideas and challenges that were not even on our mind 12 months ago.

A sampling of Extension programs around the theme of "Building Communities," reminds me of the importance of our responsibility as the primary outreach entity of your landgrant university. Our engagement with communities throughout the state is critical for the fulfillment of our mission. In many ways, 2001 was a year of successful accomplishments for Extension. We focused program efforts on ten areas of special importance to Colorado. For example, Extension was proactive in initiating educational sessions on Foot and Mouth Disease in cooperation with the State Veterinarian's office at the Colorado Department of Agriculture, the Colorado State University Diagnostic Lab, and local officials. We received funds from the 2001 Colorado Legislature to add eight Extension agent positions to our staff to respond to program demands driven by growth and change. With our partners--the Agricultural Experiment Station and the College of Agricultural Sciences--we developed a long-range "Plan for Agriculture for Colorado State University" using input from citizens, decision makers, faculty and staff. We planned for and look forward to the 100th-year celebration of 4-H and the 50th anniversary of Colorado's 4-H Youth Fund, Inc. (our state 4-H foundation) in 2002. Recently, I received a letter that said, in part, "I consider 4-H to be the biggest single influencing factor in my life." Messages from those who have benefited from our programs are always rewarding to receive.

Coloradans constantly look to us for "information they can trust," the essential element of Extension education. As we continually work to develop ways to provide the one-on-one contact and local involvement that is a hallmark of Extension, we also consider the efficiencies that technology can provide to help deliver our educational information to Colorado citizens. I encourage you to visit our web site: www.ext.colostate.edu.

Throughout our history, Extension has strived to meet the needs of a changing society, as

we have been challenged to examine and re-examine our mission, role, focus, function, purpose and priorities. Recently, a former state Extension Advisory Council member commented: ..."I have been on many boards but this one has been among the most dynamic...Extension is a fluid organization, never standing still, always fluctuating with changing personalities and intelligent individuals, and always striving to meet the needs of our changing society." By valuing our roots, capitalizing on our present strengths and successes, and defining a vision, we can boldly march ahead to shape our future. As we fulfill our mission of working with and "building communities" through partnerships, we represent the land-grant university in its finest tradition. I look forward to the opportunity to discuss with you the programs and focus of Extension as we continue our powerful partnerships with the citizens of Colorado.

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## **Harsh Terrain Challenges Community Ingenuity**

The dry, dusty northwestern corner of New Mexico and northeastern corner of Arizona are known for their harsh environment and growing conditions--tough places to grow much of anything.

Because of sparse returns from crops and livestock, agricultural land in those areas hasn't been used to produce non-traditional crops as a significant source of income; instead, many farmers have relied on traditional farming practices. And land that isn't being farmed, and soil that isn't being cared for often suffers soil erosion, water pollution and other environmental impacts.

A Four-Corners-area educational partnership is evaluating alternative cropping systems for the harsh terrain through a fruit tree project that uses drip irrigation. Diné College Shiprock Campus (AZ), the Navajo Nation, Colorado State University Extension, the Department of Sociology at Colorado State, and other supporting agencies, are working together on a project that focuses on water efficiency and protection of water quality while providing an alternative crop. Using a state-of-the-art irrigation system located at the Diné College farm allowed the Dine College staff and students, members of the Shiprock community and Extension agents opportunities to find alternative ways to improve agricultural profits while reducing labor and crop water use.

Diné College leaders including Dean Bernice Casaus, Extension agents Jan Sennhenn, Dan Fernandez and Kenny Smith, and John Wilkins-Wells, a Colorado State sociology assistant professor, have worked together to help local farmers explore different crops. Other participants in the demonstration project include the Bureau of Reclamation, and students from the Shiprock High School Vocational Agriculture program. Fruit trees were planted last spring both in a conventional row setting and on a high-density trellis system, with a drip irrigation system that includes a settling pond and filtration system.

"The hands-on learning that this project provided gave the community an opportunity to investigate some alternatives to traditional farming in that area," said Sennhenn. Colorado State University faculty suggested which fruit tree varieties would grow well in the area, and provided guidance to Navajo Nation and Diné College members about how to properly prune the fruit trees. The project also will provide educational programs such as orchard management, insect and disease control, soil fertility and weed management.

Casaus, dean of Diné College Shiprock campus, said that the project is moving along so smoothly that they have begun long-term planning to include markets for the fruit and project expansions that would contribute jobs to the area. She is pleased with how the project demonstrated to the community water conservation techniques and ways to protect water quality through use of drip irrigation as compared to traditional flood irrigation. "The project helped show the community that they can save as much as 50 percent of the water that they'd normally use on a crop," she said.

Casaus noted that the entire community has watched the project carefully; many people donated money and materials to keep the project going. Others, including the local high school agricultural teacher and his students, helped disk the soil and plant trees. "A lot of people are interested and want to see what happens," she said. The ideas behind the project--such as providing alternative crops, creating canning facilities, adding jobs--are to help the community. "It has truly been a community effort and it will depend on continued community involvement," Casaus said. That's an important element for a project headed by a community college.

--Dell Rae Moellenberg

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## Learning to Manage a Very Salty River

Flowing through the heart of agricultural issues in southeast Colorado is a very salty river.

Jim Valliant, regional irrigation specialist for Colorado State University Extension in the Arkansas River Basin, frequently looks to history to understand the problems--present and potential--facing farmers who rely on the Arkansas River for water.

"The Arkansas River is one of the most saline rivers in the United States, especially for its size," Valliant explains. "Where the mountains meet the plains, it measures 500 parts per million dissolved solids, which is a measure of salinity. It has been recorded as high as 5,100 parts per million at Coolidge, Kan., a measuring point just east of the Kansas-Colorado border," Valliant said.

At least part of the problem has been traced to traditional irrigation practices, which divert the already salty water over salty soils. The water picks up salt and carries it back to the river. Meanwhile, salty soils grow saltier, reducing yields, raising farming costs and lowering returns.

Valliant reaches back millions of years to explain the problem's roots: "The source, of course, is that we used to be the bottom of an ocean and the sea collected here." The salt remained after the mountains rose and the seas drained away. Over the years the river, and the run-off waters that feed it, have collected salt from the former ocean bottom. An estimated 75 percent to 85 percent of the salt in the river is contributed when rainwater flows over rangeland and down to the river. "It's a naturally occurring thing. The problem is we concentrate it on the irrigated land."

Human manipulation of the river waters has served to increase the naturally occurring saline levels, Valliant said. Irrigation, reservoirs and growth and development all play a role.

He reaches back into history again to point out why it matters--intensive agriculture and excessive irrigation have contributed to the demise of past civilizations. The ancient Mayans, Romans and Mesopotamians all built elaborate irrigation systems. In the overpopulation and drought problems that contributed to their downfalls, Valliant sees ominous reminders.

Valliant has devoted much of the past 10 years to finding and demonstrating new irrigation practices and technology to help stem the salty tide in the Arkansas River Basin.

"I've had as many as 21 demonstrations over the area. We've demonstrated surge irrigation, the use of polyacrylimides to reduce erosion and enhance water absorption, and reduced tillage procedures," Valliant said, ticking off a few.

Like the water that flows from ditch to ditch, the information gleaned from these on-farm demonstration projects flows from farmer to farmer. "The good thing is the person who did the work is down at the coffee shop talking to neighbors and therefore it spreads."

Farm practices seem to be changing, said Lorenz Sutherland, area agronomist for the Natural Resources Conservation Service. He observes change particularly among farmers most likely to adopt new techniques and technologies. "Jim has done an outstanding job in working with those early adopters. Before Jim came along, there was no one using polyacrylimides. Now, there are quite a few."

Polyacrylimides are added to the soil to increase water absorption and reduce soil erosion during irrigation. This helps farmers cut costs through more efficient irrigation while reducing the amount of sediment and salt that is returned to the river.

Scientists are convinced that the kinds of irrigation and farm management practices that Valliant has been demonstrating and discussing in the Arkansas River Basin are benefiting the river, Sutherland said. But the enormous size of the watershed makes it difficult to measure an actual change.

"It's really difficult to tell," he said. "When you're dealing with a very, very large watershed with somewhere around 25,000 square miles, a burp in the upper part of the watershed--a big rainstorm in some cases--can have more affect than anything we may do on farms."

Valliant's work has raised awareness of the necessity and benefits of efficient irrigation, said farmer Cliff Walter. Walter partners with his wife and two sons in a general farming operation in Crowley County near Manzanola. The Walters produce alfalfa, corn, onions, watermelon and cantaloupe on about 3,000 acres and run a 125-head cow-calf operation on another 1,000 acres. The Walters must focus on efficient water use in the face of decreasing water supplies.

In Crowley County, much of the surface irrigation water has long since been sold to thirsty Front Range cities, Walter said. "As less and less water is available, then the kind of things Jim has been working on will come in to play and be more and more important."

Walter said he appreciates the volume of information that Valliant and other CSU researchers produce. "That's where they do a real good job is everything that they're working on is documented" and published in newsletters, magazines and local newspapers.

"Jim has always been very progressive in his ideas," Walter said. "He has done very well in research with water management and grass seeding, and just new ideas. So we've tried to work with him very closely and have benefited quite a lot with what we've learned."

--Sue Lenthe

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# "Dining With Diabetes" Provides Improved Health Strategies

Diabetes robs sight, mobility, sensory feeling, health and life from hundreds of thousands of people. In fact, the disease has reached epidemic proportions, according to the Centers for Disease Control and Prevention. In Colorado alone, incidence of diabetes has risen more than 25 percent since 1990, and now affects 205,000 Coloradans.



Of middle-aged people, twice as many have diabetes as don't. The disease and its related complications is a top cause of death for Americans, with heart disease, the leading cause of diabetes-related deaths. People with diabetes are two to four times more at risk for a stroke.

Diabetes is the leading cause of new cases of blindness in adults, and the leading cause of end-stage renal disease. About 60-70 percent of people with diabetes have mild to severe forms of nervous system damage. However, the most striking thing about diabetes is that, unlike so many other debilitating illnesses, its impact on health often lies within the control of people with the disease--if they know how to adjust their lifestyle.

In Colorado, the northeastern corner of the state is among several areas with a high incidence of the disease, according to the Colorado Department of Public Health and Environment. As is typical of many rural areas, there aren't enough registered dietitians or diabetes educators to teach people with diabetes or their caretakers how to control the disease. This leaves people with a difficult choice--drive long distances for care, or try to educate themselves.

"Many effects of diabetes can be partially controlled through lifestyle," said Melissa Bardsley, Colorado State University Extension human nutrition specialist. "About half of the 205,000 people with the disease in Colorado don't know that they have it, so the first step is to raise awareness of the signs and symptoms of diabetes. The second step is to become educated about how to control blood sugar through diet, exercise and sometimes medication."

When a group of Extension agents in Colorado noted that they were getting more diabetes-related calls from the public, they and Bardsley established an educational partnership with the Colorado Diabetes Control Program, a branch of the Colorado Department of Public Health and Environment, which works with communities to lower the incidence of diabetes and reduce deaths caused by the disease. Extension presented an educational program, "Dining with Diabetes," a hands-on meal planning program designed to supplement information provided by registered dieticians and other

professionals, not to replace education delivered by health professionals.

More than 100 residents in six counties four in eastern Colorado, two in the Front Range-attended a series of Dining with Diabetes classes taught by Extension agents and specialists. The program focused on increasing participant understanding of how nutrition, diet and exercise affect blood sugar levels. For example, participants learned what foods supply carbohydrates, how to use artificial sweetener when cooking and baking, and how to glean more information from food labels. Since people with diabetes also are more susceptible to heart attacks and strokes, the classes provided information about hearthealthy eating.

Loretta and Paul Smith, from Akron, decided to attend the classes when Paul's doctor told him he would have to go on insulin because his blood sugar levels were consistently high.

"Paul has had a big change in his tests since the classes," said Loretta. "His doctor was very pleased with the results of the class, too. With the information from the class [on how to control diet], we can work to keep his blood sugar level at an appropriate range."

The Smiths said that before the Dining with Diabetes classes, their only option was to drive 72 miles for diabetes education. "We wouldn't consider going that far out of town to a class, so I guess we would have tried to figure out ourselves what to do." With the classes, Loretta follows a meal plan to prepare food for both her and Paul that keeps blood sugar in line--more vegetables than meat and sugar. She uses lessons from the class, like mixing fruit with yogurt for dessert, which gives Paul a sweet treat that also provides calcium.

Barbara Larsen, Diabetes Control Program manager, said that Extension's involvement in rural diabetes education is an ideal fit with her program. Strapped by a lack of resources, Larsen and just one other person are charged with coordinating the Colorado Department of Public Health's diabetes education programs for patients and professionals.

"It's nice to have a partner who is already out there, connected with the community," said Larsen. "Without Extension to help bring science-based education to rural areas, many people with diabetes would be without information that allows them to control the disease and enjoy life with fewer complications."

--Dell Rae Moellenberg

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## **Internet Volunteers Multiply Community Resources**

Civic volunteerism is a password and hands-on experience is a key. That's what William Van Buskirk, Superintendent of the Wiley School District in southeast Colorado, found intriguing when he signed up for the Colorado Internet Masters Program.

The program--a 30-hour, "hands-on" course offered throughout the state--invites participants to increase their skills and multiply local course impacts through volunteerism by sharing Internet-



related knowledge. Interested citizens commit to one of two types of volunteer service in exchange for a reduced course fee. Those who complete the course and their subsequent volunteer commitment receive certification from the program.

The Colorado Internet Masters Program is an educational and civic volunteer program of the Colorado Rural Development Council, Colorado State University Extension, Small Business Development Centers, the Colorado Rural Technology Academy and partners. A team of volunteer trainers guides participants through ten lessons including Web searches and information evaluation, e-mail use, electronic commerce, and designing a Web page. Course participants receive extensive materials. Internet novices and more experienced users alike gain new skills to use for personal, business and civic purposes.

What makes the Colorado Internet Masters Program unique among educational opportunities is the volunteer component and its multiplier effects. Course participants commit to 30 hours of Internet-related work in their community and subsequently are certified as Internet Masters, or, instead, they can choose to be a trainer-elect. These volunteers attend a Trainer Workshop, team-teach courses, and are certified as Internet Master Trainers.

For his volunteer work, Van Buskirk conducted computer training for 26 senior citizens at the Wiley High School computer lab. With the assistance of Wiley High School's Honor Society, he tutored seniors on using e-mail, using and searching the Internet and other topics. Some seniors then volunteered as elementary school tutors, helping children on computers with basic reading and math skills.

After completing a local Internet Masters course, Kathryn Rechel of Alamosa exceeded expectations with her volunteer efforts. Local officials invited her to teach county employees about the Internet. She developed a flyer offering mini-lessons such as "What is the Internet?," "Internet Search Techniques" and "Using e-Mail." It was sent out with county paychecks, and 55 county officials and employees responded to the offer to learn more. Rechel thinks she reached individuals who weren't likely to sign up for a formal

course, but now may have the interest to do so. Logging 60 hours, she is pleased with her knowledge base and says that the teaching experience "really increased my confidence level." Next, she plans to register for a Web page design class at Trinidad Junior College, and she's thinking of becoming a volunteer Internet Masters trainer.

Civic volunteers in Burlington, CO, contributed more than 300 hours of service to libraries, schools, youth, seniors, businesses and community non-profits. They helped residents strengthen skills in word processing, electronic publishing and e-mail; they developed web pages for a school, hospital, service club and home-based business; and they taught youth to access college information on-line and safely search the Internet for homework and fun.

"The Internet is becoming such an integral part of our everyday life. It's important for all citizens to have an opportunity to learn how to use it," said Program Co-Chair Florine Raitano, executive director of the Colorado Rural Development Council. The Internet Masters Program provides a fundamental building block in technology development for rural communities, which often are at a disadvantage when it comes to infrastructure investments, and access to and training for new technologies.

Colorado State Extension specialists Diana Laughlin and Sheila Knop, from the Center for Rural Assistance, helped lead curriculum development and evaluation for the program. Laughlin noted that "course and trainer workshop evaluations from the program's first year were exceptionally positive, yet when we asked for ways to improve the program, participants offered ideas to strengthen the second edition curriculum." Knop said, "the program's strong multiplier effects are clear. Local organizing committees help sponsor courses. More than a quarter of participants from the first ten courses became trainers, coteaching more courses, and civic volunteers are learning more as they continue to contribute in the community."

Program Co-Chair Mary McPhail Gray, Extension associate director, said that "the Internet Masters Program is a community-building effort taking place throughout the state. It's a partnership that relies on the contributions of many groups to make it effective and affordable." Extension's Technology Unit is among them, providing curriculum and listsery support.

Citizens who want to learn to successfully "surf the net" and help others to do the same can sign up for the Colorado Internet Masters Program. Courses have been offered in Alamosa, Aurora, Burlington, Craig, Fort Morgan, Greeley and Lamar, and more will be offered in other places. For information, visit the Web site at <a href="internetmasters.org">internetmasters.org</a> or call Jacque Miller, Colorado State University Extension (970-491-2515) or Margaret Bowes, Colorado Rural Development Council (970-262-2073).

--Wendy Douglass

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## **Putting Children First--A Community Unites**

When first-time parents or families new to a community need a daycare provider, they are thrown into an overwhelming world of uncertainty. The classifieds advertise who is in business, but parents don't know which ones are qualified, licensed, within their geographic vicinity, or more importantly, if the provider will take good and loving care of their child. Knowing what to expect from a childcare provider--and finding one that meets specific needs--can be demanding, exhausting, and often stressful.



Given that 60 percent of children up to eight years of age in Mesa County are in some type of childcare facility, education around childcare

issues became one of Rebecca Zamora-Van Sice's top priorities. As a Colorado State University Extension family and consumer sciences agent in Mesa County, she understands these concerns first-hand--because her job requires her to be an educational resource for childcare, food safety and nutrition issues, but also because she's a mother. She recognized communication gaps between parents and daycare providers in the community, as well as the need for providers to become better equipped to do their jobs.

Because of her educational work in the county, and with urging from representatives from several county agencies, it wasn't long before she moved into a leadership role in community childcare issues with development of the Mesa County Child Care Resource and Referral Program. The program mission was to provide every child in Mesa County access to quality childcare and to guide care providers to opportunities that could improve their skills. Van Sice worked closely with several vested agencies to nurture partnerships that resulted in collaborative funding for the program from the Mesa County Department of Human Services, Rocky Mountain SER Head Start, Early Childhood Connections, Mesa County Association for the Education of Young Children, Early Childhood Partnerships and the Quality Child Care and Education Coalition of Mesa County.

Van Sice had great ideas on how to bridge the gaps between parents and providers--but she couldn't do it all herself. She hired Debbie Neill as a full-time outreach coordinator to help implement those ideas. The CCRR program is now far more than just a child-care referral service--it could be called a full-fledged childcare brokerage house.

Parents new to daycare issues can take a workshop chock-full of answers to any questions they may have. They learn what to ask and what to look for while visiting care sites--what it means to be a licensed caregiver, what teacher-to-child ratios should be expected, what goes into keeping a center clean and safe. The Referral Center works with the Mesa

County Department of Human Services to keep an updated database of licensed providers available to parents looking for childcare including providers who have experience and expertise with special-needs children, and those who can provide respite care-to give parents a break even if it just means a few hours a week and with short notice.

The childcare outreach program extends beyond parents' needs and deeply into the core of what makes good providers even better. Neill alerts providers when grant or scholarship monies are available to further their education or complete their degree. The CCRR program promotes trainings, workshops and other professional development opportunities to providers on topics such as dealing with difficult behaviors, early literacy, nutrition, media violence, and communicating with parents. There's also a mentoring program where providers new to the profession can gain hands-on experience working in the company of seasoned pros.

The fact that all these services were free was great news to Pam Marks, a veteran provider wanting to expand her home-based childcare facility. Working on a shoestring budget, Marks wasn't sure what steps were needed to grow her business and hire help, or how much money she'd need. When Neil called to introduce the services of CCRR, Marks felt like the entire world opened up. She was introduced to a consultant that helped with budgets and finances, and received answers to nearly all of her questions.

"It's a perfect one-stop place to call. Debby told me about grants, schooling for professional development, state requirements and about everything else I needed to keep moving forward," said Marks. "And if she didn't have an answer, she found out where to get one--usually within 24 hours."

Parents and providers are quickly learning that CCRR is the hub for information about all childcare questions and concerns in the Mesa County area. A large volunteer network also has strengthened the efforts.

"All these early childhood agencies are working together as a team," Neill said. "Everyone wants the welfare of children to be the focus. I'm amazed and grateful that professionals in the field are volunteering to make this happen. It's wonderful."

Van Sice is also pleased and hopes that the success of the program will generate more funds so programs can expand to reach the community's growing needs.

"This program is working," Van Sice says with a smile. "We're getting more requests every month for our service from both individuals and organizations. We've accomplished the first steps in making sure childcare in Mesa County is as good as it can be."

--Leigh Fortson

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## **Precision Farming Project Tests Crop-Yield Questions**



Technology brought the world to Larry Rothe's farm outside Wiggins.

Launched in 1997, a multi-disciplinary Precision Farming Project in northeastern Colorado started with a question: "how to decrease yield variability?"

Rothe and other area farmers had long been looking for answers on how to deal with varying crop yields within specific fields for their traditional farming methods. Burgeoning technology was making it possible to map fields and pinpoint yield levels, but acquiring that technology cost thousands of dollars. So the

question remained.

Then gradually, that original question blossomed into a high-tech project with four test plots on farms in Wiggins, Yuma and Greeley, under the study of as many as 18 scientists and 30 graduate students, some from as far away as India and Pakistan. Bruce Bosley, Colorado State University Extension area cropping systems specialist, said that experts have scrutinized such wide-ranging factors as soil composition, water application, weeds, insects and plant diseases and how they affect yields. And because the project takes place in multiple counties, it tests yield factors on a regional basis.

"The neat thing about the project is the collaboration of many different disciplines," Bosley said. "It's everyone working together using technology to see how the different aspects of field factors impact yields. It includes the U.S. Department of Agriculture's Agricultural Research Service, Colorado State researchers, Extension specialists, and private industry cooperators, including irrigation, fertilizer and computer technology companies."

Dale Heermann, USDA-ARS, chairs the project's research management team. He explained that precision agriculture techniques bring the information age to crop production with an objective to apply the right amount of inputs to the right place at the right time. Industry is providing new tools and technologies to make this possible-including yield monitors, variable-rate application equipment, remote sensing interfaced with Global Positioning Systems--GPS, and geographic information systems--GIS, for determining position and analyzing data.

"The challenge for the project is to join the science of crop production with development of knowledge to provide economic and environmental benefits to farmers," Heermann

said. "Participants learn from each other and from the different disciplines involved in the entire production system. It is exciting to be on the cutting edge of new technology and to add to the science expertise that will allow farmers to wisely adopt new technologies."

In addition to Heermann and Bosley, the project management committee includes Extension faculty--Philip Westra, weed specialist; Frank Peairs, entomology specialist and Raj Khosla, agronomy specialist; Soil and Crop Science Professor Dwayne Westfall; and Kim Fleming, the project's field coordinator since its inception.

"For me it's kind of fun," Rothe said. "I get to meet all kinds of people and see all kinds of research. It's interesting to talk with faculty, because you always learn a little bit from all these different people and their different disciplines." His 173-acre center-pivot circle has been planted in corn since the project began, but this year scientists will switch to study potatoes.

On Bob Geisick's nearly 2,500-acre Wiggins farm, which he farms with his brothers Ron, Rodger and Gary, a 133-acre circle has been devoted to the Precision Farming Project since its beginning. The Geisicks took information from the project and fine-tuned a zone-management technique. Using a yield map or aerial photos, they drew zones of high-producing soils, and mapped out medium- and lower-producing areas. Then they adjusted fertilizer applications and applied different amounts in an attempt to even out the field. They determined exactly how to adjust fertilizer, water and other inputs.

The experts are still working on the question--is it better to put less inputs--fewer seeds and less fertilizer--on low-yielding areas, and more in the areas that yield well, or the reverse? Bosley said, "I think the scientists are leaning to less, but the farmers aren't convinced yet." The test plots have yet to yield one definitive answer, but farmers are using information from the project.

For Rothe, the project has yielded a few surprises. "I found out that in one particular part of the field, I've been over-applying nitrogen by almost 100 pounds--about \$25 worth--per acre," he said. "If I can match applications to soil tests, I can save money by not over-applying fertilizer." Rothe has gleaned similar research results for water application, insects and weeds. "Too much water was being applied in some parts of the field, and weeds and insect pests were less of a factor in affecting yields than we thought," he said.

Bosley said the study has been able to demonstrate to cooperating farmers how various field factors interact with each other and how they can rely on information gathered from their fields to reduce inputs. "We've been able to show that 10 inches of extra water may be good insurance, but it also leaches nitrogen from the root zone," he said.

The Precision Farming Project serves as a reminder that successful farming relies on asking questions, seeking answers and embracing change. "Producers who are invested in watching it and tinkering with it are more willing and ready to change. They tend to be the survivors in the long run," Bosley said.

--Sue Lenthe

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## 4-H Experiences Translate into Job Skills

Youth who participate in traditional 4-H programs and projects for many years discover that they can market their 4-H experience and the life skills they learn into jobs and a place in the workforce.

Colorado State University Extension's 4-H Youth Development Program strives to teach youth the skills and values represented by the 4-H clover-Head, Heart, Hands and Health. Jan Carroll, Extension youth development specialist, said that each petal of the clover symbolizes character traits that youth develop and internalize throughout their 4-H experience. "These traits and skills also transfer into the work world as the foundation for work ethics, which are so valuable for future employers," she said. These skill-sets are:



- Head skills: decision making, problem solving, goal setting, resiliency, keeping records, planning, organizing, and critical thinking;
- Heart skills: sharing, empathy, concern for others, conflict resolution, cooperation, communication, and social skills;
- Hands skills: leadership, teamwork, self-motivation, volunteerism, community service, and responsible citizenship;
- Health skills: self-esteem, building character, managing feelings, stress management, self-discipline, personal safety, and healthy lifestyle choices.

Youth learn these skills systemically by participating in various activities, events and programs that 4-H offers. Whether youth choose to participate in sport fishing, photography, model rocketry, entomology, sewing, performing arts, dog obedience or community service--each life skill mentioned above is woven into each activity, curriculum, project and record book. For example, when 4-H members commit to a project, they learn organization, goal-setting and decision-making, or when they are asked to present their projects, they learn communication, self-esteem and critical thinking skills.

"We integrate these workforce preparation life-skills into everything we do," said Kathy Wolfe, Extension 4-H agent in Larimer County. "Youth who participate in 4-H are seen as great community resources who are knowledgeable, responsible, and good communicators."

Louise Welsby, Extension 4-H agent in Pueblo County, noted that "the 4-H program is like a stage for youth; they can practice and then demonstrate life skills that enable them

to become productive adults."

Joe Bottini, a Pueblo County 4-Her from 1978 to 1987, was especially interested in woodworking, market and breeding sheep, and leadership projects. He now owns two businesses in Pueblo--Bottini Wood Products and Precision Landscaping. He said that the skills he learned through 4-H leadership and project work helped him become a successful businessman and taught him how to work with people.

Geri Catulli Lane was a Pueblo County 4-H member from 1970 to 1978. In looking back on her 4-H experiences, she said, "4-H gave me with the tools necessary to learn how to problem-solve and make decisions--no matter how difficult the path in front of me. The program provided me with opportunities for which, with hard work, there could be no outcome other than success."

Not only do members gain skills and experiences by participating in 4-H, but 4-H also teaches them how to package and market these skills to potential employers. Carroll, a specialist in workforce preparation, said "we teach youth how to summarize their 4-H experiences on resumes, give them tips for successful interviews, coach them how to find and keep their first job, and review with them how to complete job applications and compile references."

Each summer, Wolfe and fellow Extension 4-H agent, Gary Small, organize a Science, Technology and Career Tour for a group of teens aged 12 to 18. They visit high-tech businesses to help youth explore interesting professions, and to open their eyes to the many types of jobs that require a science and math background. They have visited manufacturers and developers of electronic parts, industrial robots, aerospace equipment, water analysis instruments, hurricane predictions, three-dimensional computer modeling, and wind-energy generation. One trait that managers and business owners overwhelmingly emphasize to the students is the importance of record keeping in daily business operation. Since record keeping is a fundamental 4-H experience, the teens are impressed to see a direct correlation to the "real world" from what they learn in 4-H.

Many employers have expressed satisfaction with 4-Hers as employees because of their ability to handle responsibility, make decisions, and follow-through on commitments.

Kate Coleman, 29, a 13-year employee of King Soopers in Fort Collins, said that the public speaking and decision-making skills she gained through 4-H helped her with her first interview for a clerk position through numerous promotions to her current position as scan coordinator. "Junior leader and group experiences were what gave me the most confidence," she said.



Tiffany Young, 20, former eleven-year Colorado 4-Her, said, "I recommend 4-H for every kid. It taught me leadership, responsibility, communication skills, and how to get along with others...plus I met many long-lasting friends." She began as a Clover Bud member and later participated in shooting sports, leathercraft, ceramics, cake decorating, dog obedience and junior leader. Young used her networking connections to channel her skills into a unique job at the Loveland, CO., Baskin Robbins store, where she has worked for five years decorating all their ice cream products and interacting with customers. Sherry Baker, former manager for Baskin Robbins, said, "Tiffany was really a life

saver the way she just came here with all the experience and talent to do this job. She is a great employee-she's dependable, has great customer service skills, and is a team player. I

wish I'd had a dozen more just like her."

--Colleen Rodriguez

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# **Skill-Building Education Changes a Handout To a Hand Up**

Many people who have been on the rolls of welfare and have gotten back on their feet would say there's a difference between a handout and a hand up.

It's arguable that the difference is empowerment. Knowledge is empowering; it is often an element that makes a significant difference between staying down or moving up, or a difference in self-esteem and lifestyle. Several Colorado State University Extension agents in the metropolitan Denver area and Colorado's Front Range counties devote time to work with many individuals and programs in the Welfare to Work process, including limited income and low-income audiences through the Temporary Assistance to Needy Families (TANF) Program, doing what it takes to provide education about key life skills, and giving participants a hand up out of government assistance programs.



One of those educators, Jane Frobose, Extension consumer and family agent in Denver County, juggles commitments to a plethora of groups and agencies, developing partnerships, collaborations-whatever works, to reach and ultimately strengthen Colorado families.

"I work through the guiding principle that if adults know how to deal with family issues--how to stretch their budget, understand their children through development stages, feed their families so they're healthy--they will be under less stress, and

therefore their families will be stronger. When things are going well at home, then it's easier for them to focus on developing workforce skills and finding fulfilling work," said Frobose. "I try to aim all that I do at strengthening families by providing women and other family members the survival skills and knowledge they need to help them become more self-sufficient."

Kay Zimka and Doreen LaDuca, Extension consumer and family agents in Jefferson County, also partner with an extensive group of professionals to provide life-skills education to participants in that county's Welfare to Work program. They provide educational classes on managing finances, stress and time management, helping participants eat more nutritiously while stretching their food dollars, and food safety. Other team members focus on conflict and anger management, parenting, dress for success, decisions about car repair, computer training, job preparation, and a multitude of other topics.

Zimka said, "Many participants face barriers that affect their desire and ability to focus and learn. All of us as educators are challenged to help participants solve problems,

handle conflict, and function in a structured environment. Our programs attempt to empower participants to make informed choices."

To accomplish that task, the consumer and family educators work with both public and private agencies. They provide classes for people through partnerships with schools and non-profit agencies such as Head Start and Even Start, county human service departments, homeless and victim shelters, battered women's shelters, half-way houses, drug and substance abuse rehabilitation centers, homes for the disabled, single-parent transitional housing, and the list goes on. Their work includes providing community audiences with health, nutrition and disease prevention education, and age-appropriate human development and parenting information and education.

Shawan Turner, an instructor at the Center for Women's Employment and Education in Denver, can attest to how effective these Extension agents' skill-building efforts have been. The center helps women on low income, no income or TANF, transition into the workplace by providing classes that include everything from work skills to home



skills. Turner, who transitioned off of government support herself several years ago, asks Frobose to teach personal budgeting skills to each class group.

"Jane helps these women understand the value of a dollar, and she teaches them how to budget and shop smart," Turner said. "A person in the system with one child may get up to \$200 a month in food stamp assistance, but when working at a beginning position without government assistance and with other expenses, that person often doesn't have much more to spend on food. These women have to learn how to spend more carefully."

Turner added that it's also tempting to overspend when one is beginning to receive a paycheck, but overspending can quickly send someone back into the welfare system. She describes the consumer lessons about shopping wisely and spending wisely as a tremendous help, and lessons that can calm fears and build confidence.

"I wish I'd met Jane when I was a student transitioning out of the government assistance system," Turner said. "She empowers these women, and she makes them feel comfortable. They leave her presentations with confidence. That's why I have her here as often as I can."

--Dell Rae Moellenberg

For more information, contact your <u>local Colorado State University Extension office</u>.

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## Citizens Learn How to Have Their "Say"

Planning and development issues are frequently controversial in Summit County, CO, where

development of world-class ski resorts and the lure of natural beauty have fueled rapid growth.

Colorado State University Extension is using education to help defuse dicey community conversations about growth and development.

In 1999, Summit County Extension began offering a Citizen Planning Academy designed to help people who were interested in participating in community planning better understand the process. The underlying premise was that by demystifying the process, people would be more likely to participate and less likely to feel disenfranchised. Written by Extension County Director Brian McAleer, the seven-week course is offered each fall to anyone interested in a primer on planning.

"It provides an overview of current and long-term planning processes so that local residents and leaders have the information necessary to provide meaningful input on and make comprehensive decisions regarding planning growth and development," McAleer explained.

Participants can opt to take the entire course or just specific sessions. Professionals both inside and outside government planning organizations teach the sessions. Municipal and private planners, landscape architects, natural resource consultants and other professionals speak to topics that include community planning, zoning, subdivision, code enactment, compliance and enforcement, reviewing site plans, meeting procedures, citizen participation and natural resources planning.

Students, too, come from diverse backgrounds. "A variety of different types of people take the course for a variety of different reasons," McAleer said. "Some are professionals in their own right. Some are citizens just interested in learning more about the planning process. Some are people who either aspire to be planning commissioners or are on the planning commission and want to hone their skills and learn more."

Breckenridge resident Lisa Annaheim said she took the course because she wanted to learn more about how the process works. As director of finance and administration for Vail Resorts Development Co., which is working to develop 300 acres it owns within Breckenridge, Annaheim spends a lot of time working with the town's planners and planning commissioners.

Participating in the Citizen Planning Academy gave her a lot of insight into how towns

develop master plans, she said. "I think they did a good job of laying out the process of how it all works and the interaction with the staff from the town as well as getting public input from the community."

The Citizen Planning Academy has its roots in the efforts of a now-defunct nonprofit organization called Shaping Our Summit, McAleer said. That organization sought to boost citizen involvement in community issues.

"We had a growth symposium sponsored by Shaping Our Summit. Because we got tremendous attendance at the growth forum, it was obvious that people were looking for ways to participate but sometimes felt disenfranchised by the process."

Working in partnership with Shaping Our Summit, McAleer sought first to close the information gap. He wrote a book that walks people through the planning process. The book, titled Plan on It, became the text for the Citizen Planning Academy. Shaping Our Summit has since disbanded, "But the momentum was there for the planning academy," McAleer said.

In Summit County, where each municipality has a planning commission and the county itself has five planning commissions at work, there are ample supplies of potential students for the planning academy, planning academy graduate Rodney Allen pointed out.

Allen estimated there are some 80 planning commissioners throughout the county and that most could benefit from the information the academy provides. A member of the county's upper Blue River Basin planning commission, Allen is a Breckenridge-area resident and buyer-broker for Exclusive Mountain Retreats Real Estate.

Allen said he took the course because he wanted to enhance his knowledge, despite the fact that he'd already served as a planning commissioner for nearly a year when he signed up for the academy in fall, 2000.

"Quite honestly, half the stuff in the course I already knew, but that didn't bother me because it's always good to refresh. I thought it was really helpful to members of the public who are frustrated with growth and development and trying to figure out why it happens, how decisions are made and how they can have a say in it."

Allen said he appreciated the detail offered in the sessions and that he learned a lot about working with the public as a member of an official planning entity.

"There was a session on chairing and controlling meetings, handling difficult members of the public, maintaining order, and giving the public their say. I found that quite helpful."

McAleer said the success of the Citizen Planning Academy is a result of help from a number of Summit County partners including Colorado Mountain College, who handles registration through their spring catalog, but also in part through evaluations provided by participants. Over the years the course has evolved in response to those evaluations. "In 2001, I don't think we had any negative comments on any evaluations, which is very gratifying," he said.

There may be other indicators of the program's success, McAleer said. "We do see increased participation in public meetings. It's hard to know whether that's a result of people feeling more knowledgeable and comfortable because of the Planning Academy or because there may be controversy over issues being brought up. It may be a combination of both. But certainly we're seeing an increase in participation."

--Sue Lenthe

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## **Richard Woodfin: A Century of Memories**



In 1900, when Richard O. Woodfin was born in Pleasant Gap, Missouri, he had no idea what the next 101 years would bring. But he celebrated his 101st birthday last December and can say that in looking back, it has been a life full of adventure.

Before Richard was two years old, the Woodfin family moved from Missouri to a Kansas homestead in a covered wagon, and by the time he was five, he had learned to plow and manage a team of horses. From life in a dugout, the family moved to Oklahoma, where he started school and saw his first airplane, and then to Colorado, where his family purchased a farm near Cheyenne Wells that, according to the real-estate agent, could "grow cheese on a cactus."

Woodfin attended Horns High School on the Colorado A&M campus in between employment as a lettuce hauler, wheat stacker, milk tester, and

railroad worker (at \$6 a day). After graduation in 1923, he attended Colorado A&M, where he was a member of the first freshman class to haul rocks up the hill to make the white-washed "A." After graduation in 1928, he got a job as a vocational agriculture teacher in Nebraska for a salary of \$175/month.

In 1930, he submitted an application to be a County Agricultural Agent in Colorado, and shortly after, started as a County Agent in Ordway (Crowley County), where he remembers his office was in the jail and his salary was \$2,200/year. He met Irene Carpenter there when she came to pick up her mother at a home demonstration meeting; they were married in June 1931. Times were tough then--a vote to cut taxes meant a job abolishment, and a move to Fremont County--and in just a few months that job also was abolished. While out of work from 1931 to 1932, he hauled vegetables, pounded nails, sold insurance, until he found a job in Denver as a milk tester.

Still pursuing a career as an Extension Agent, he applied and got a job for \$125/month as the Kit Carson County Agent. He remembers the Farm Bureau purchasing a 120-volt generator and 100 feet of electrical cord to run a motion picture projector--all carried in his car--to bring information on electrification to rural residents. He attended monthly community meetings "where the real extension work was done." He helped with farm management, land-use planning, and a five-year ag production study to determine what it would take to net \$2,400 a year. During this time, he and Irene had three children. In 1944, he received the Distinguished Service Award from the Colorado County Agents

Association, of which he served as treasurer, secretary, vice president and president.

In 1946 he transferred to the Mesa County Agent position. His tasks were to organize a county Farm Bureau and community committees to pursue high-quality domestic water, and to provide educational programs on farm management, livestock, home economics, pest control, soil and crops. Woodfin retired in Jan 1962, and became Farm Director for KREX radio. In 1966 he was elected State Representative for Mesa County. He is an avid CSU fan, and a member of the CSU Alumni 50-Year Club. He established the Woodfin Family 4-H Scholarship and still attends the National County Agents Association Convention.

--Wendy Douglass

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#### Barbara Holthaus: A Milestone of Service to 4-H

Barbara Holthaus is truly a native Coloradan-born in Englewood, CO, in 1922. She received a B.S. degree in 1943 from the University of Denver where she majored in retailing and secretarial science. Her first introduction to Extension volunteer work was in 1947 when she joined the Arapahoe County Azusa Home Demonstration Club. She and several other homemakers formed the Lucky Leaf 4-H Club to teach sewing and other skills to youth.

Holthaus was awarded a trip to National 4-H Congress in Chicago in 1959 for her many years of teaching. She represented eleven western states with a trip sponsored by the Singer Sewing Machine Company. During the last 50 years, Holthaus has provided leadership for a half-dozen 4-H clubs in Arapahoe County, working with hundreds of local youth. An especially memorable activity was her ability to foster leadership skills and encourage 4-H junior leaders (youth 13 years old or more who assume leadership roles) to provide educational opportunities and 4-H experiences for retarded youth, in cooperation with the Gallup School for the Retarded in Littleton. She was recognized by the Arapahoe Association for Retarded Citizens with an award for her many years of service as a 4-H leader for retarded children.

Another notable contribution of Barbara Holthaus has been her interest in ensuring long-term financial support for the Colorado 4-H Youth Development Program. In 1967, she organized the Arapahoe County 4-H Foundation, becoming a charter member. She served in a number of offices and is still a sustaining donor and honorary member. She helped pilot a statewide fund-raising program called the 4-H Alliance for which she served as chair and as a committee member for seven years. She has been a key participant in and currently serves as chair of the executive board of the Colorado 4-H Youth Fund, the state 4-H foundation.

Other contributions Holthaus has made to Colorado State University and Extension have included service as a member and officer on the Arapahoe County Advisory Council and the Colorado Extension Advisory Council. In 1990, she and husband William established an endowment fund for the Bill and Barbara Holthaus Family 4-H Scholarship for youth attending Colorado State University. She is a Charter Member of Colorado State University's 1870 Club and for four years served on its steering committee. She recently was honored with the Colorado State University Distinguished Extension Award by the CSU Alumni Association.

During her almost 55 years of service, Holthaus has been recognized with many honors for her contributions to positive youth development, including the Service to Youth

Award from the Englewood Women's Club; the Grandview Grange Award for outstanding leadership in 4-H Club work; the State 4-H Leader Recognition for 20 years of service; the Arapahoe County Fair Outstanding Leader Award; Twenty Years of 4-H Leadership Award by the Colorado Farm Bureau; Friend of 4-H Award by the Colorado Association of Extension 4-H Agents; Friend of Extension Award by Epsilon Sigma Phi-Extension's Honorary Fraternity; and the Important Volunteer of the Year Award by the Arapahoe County 4-H Foundation.

When she is not doing the 4-H work she loves, she finds time to be active in the redevelopment of downtown Englewood--she was appointed by the City Council to the Englewood Downtown Development Authority, and she often delivers Meals on Wheels and makes daily visits to area nursing homes. Her personal interests include sewing, cooking, home decorating and traveling. As Barbara looks forward to celebrating her 80th birthday this year, she also can look back on her 55 grand years of service to Colorado State University Extension and the 4-H program.

--Wendy Douglass

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## **Background and Funding**

Extension is the off-campus educational arm of Colorado State University. The Extension system, a nationwide educational network, is a partnership of county, state and federal governments working cooperatively with the private sector. The Federal Smith-Lever Act established state Extension Services as a third program branch, along with resident instruction and research, of the land-grant universities in each state. Extension agents and specialists are faculty of Colorado State University. They work with local constituents throughout Colorado in planning, developing and implementing the educational programs of Extension. Volunteers also have an important role in the delivery of Extension programs. Extension programs serve Coloradans wherever they live.

Funding for Extension is provided from multiple sources: federal, state, county and non? tax monies. Federal funds are allocated to the states on the basis of law and formula. Additionally, some federal funds are earmarked to meet special national priority needs. Extension receives state funds from Colorado State University's allocation through the Colorado Commission on Higher Education as part of the state's higher education budget. County commissioners appropriate annual budget funds to support the operation of the Extension office in their county. Some funds are received from non?tax sources such as program grants and cost recovery fees.

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