

# Annual Report

Sharing the difference CSU Extension makes in people's lives and their communities.

## 2009 Executive Summary

Colorado State University is committed to research and Extension programs that address economic and environmental viability and sustainability issues related to agriculture, natural resources, families and consumers, youth and other community members, as well as community and regional development. This executive summary highlights research and Extension outcomes, the scope of programs and their impact, the range of challenges and response to stakeholders and others, for 2009. It also highlights the collaborative, integrated and interactive efforts between University researchers and Extension campus and field staff.

Extension employs 170 on campus and throughout the state. Stakeholder input from local and industry advisory councils helps to inform and shape the research and Extension outreach efforts.

### Reorganization

Maintaining the relevance of Colorado State University's engagement with Colorado's communities and addressing harsh budget realities have lead to significant changes in CSU Extension. A resource for families and communities for almost a century, the educational programs from Extension have helped them adapt to economic and societal transformations. Like many of Colorado's families, CSU has experienced serious budget cuts that have significantly pinched its ability to effectively develop and deliver programs that reflect institutional, regional, and local priorities both on and off campus.

CSU's legacy as a land grant university and its missions of teaching/learning, research/discovery, and outreach/engagement require continual institutional self-reflection on the appropriateness and impact of its programs. CSU President Tony Frank initiated a reorganization of Extension in the spring of 2010 which is intended to enhance the university's capacity to engage its broad array of state constituencies. Partnerships with stakeholders have helped shape CSU's self identity in agriculture. Other influences include more recent expectations by elected public officials, state economic development agencies and the private sector to extend campus expertise in economics and business.

Frank has committed a significant portion of his time to listening trips throughout Colorado. "The renewal of CSU's partnership with Colorado's agricultural community is a priority," Frank says. "These statewide trips and meetings with agricultural groups have provided insights on the changing character of rural Colorado and on all dimensions of agricultural enterprises." Common points of discussion have been the impacts of changing markets and the challenges of communities to serve their citizens with locally appropriate and timely information. Because Extension is CSU's largest and geographically most widely distributed engagement agency, the sessions also focused Frank's attention on how to better serve local communities through relevant Extension educational opportunities.

The reorganization of Extension places emphases on engagement and impact. Effective impact requires continual dialogue and listening that then adds value to the businesses and life experiences of Coloradans. It also requires the organizational nimbleness of effective local and regional engagement while capturing the efficiencies of statewide programs. At its roots, the purpose of reorganizing Extension and of the CSU's Office of Outreach and Strategic Partnerships is to enhance the university's ability to apply the resources and talent of higher education to the needs of Colorado's people, governments and businesses. The reorganization also is intended to address the budget realities of significantly diminished resources that have lead to greater regional clustering of the programs Extension agents deliver.

The reorganization is part of Frank's restructuring of his own office to ensure that engagement is as high a priority as teaching and research. Organizationally, the new Office of Engagement is administered by a Vice President who directly reports to the President. This Vice President also serves as the Director of Extension. Consequently, CSU Extension now directly reports to Frank. Dr. Lou Swanson is now the Vice President for Engagement and the Director of Extension. Swanson is very familiar with Colorado agriculture and its rural communities. Prior to the reorganization, CSU Extension was one of the units that reported to him.

President Frank's goal for the Office of Engagement (that also includes the Office of Economic Development, the Division of Continuing Education--which offers CSU undergraduate and graduate degrees off campus, and the Colorado Water Institute) is to eliminate institutional silos by blending programs and personnel. Such institutional blending is expected to provide organizational financial efficiencies and greater program impact on and off campus.

Even prior to the university-level reorganization, CSU Extension was undergoing a significant internal reorganization that complements its recent move toward greater 'regionalization' of its programs and agents. Consistent with Frank's emphasis on locally and regionally appropriate discussions and programs, Extension organizationally has become more decentralized. Colorado is a very diverse state economically, socially, and geographically. Within Extension there are three regions and within each of these regions there are sub-regions that often are quite different from their neighbors. The new organizational structure decentralizes programmatic and administrative decisions to each of the regions. The directors for each of the regions now have greater ability to make state programs regionally and locally appropriate. Colorado's elected local leaders will have more direct influence on local and regional Extension programs and administration than has been the case for decades.

Extension experienced significant budget cuts between 2002 and 2004 and currently again since the onset of the current national economic recession. Both periods of budget cuts have greatly reduced CSU's financial ability to work with its county partners in delivering programs. In addition, many of Extension's county partners are experiencing even deeper budget cuts. CSU Extension and the Office of Economic Development are developing new programs that combine the value of CSU's regional economist with workforce development efforts of state economic development agencies such as the Colorado Department of Labor and Employment and the Governor's Office of Economic Development.

The reorganization is intended to make Extension's agricultural efforts seamlessly integrated CSU's broader agricultural initiatives. The Office of Engagement and College of Agricultural Sciences continue their close partnership with the Colorado Department of Agriculture and the Colorado Agriculture Council.

### Sterling Engagement Center Opens

After almost a year of planning, in late July, 2010 Colorado State University officially opened a pilot regional engagement center in Sterling, Colorado. The center serves Morgan and Logan as well as the five counties that make the Golden Plains Extension area: Kit Carson, Phillips, Sedgewick, Washington and Yuma counties. The building is in downtown Sterling.

The engagement center is co-branded with Northeastern Junior College (NJC) and Morgan Community College (MCC) bringing a regional focus on the broader talent that CSU can bring to this region. Working closely with NJC and MCC, the center will reach out to the rural area encompassing all of northeast Colorado. Sterling was selected because of the historic partnership with NJC. A principle purpose for this center is to add value to the programs that were already in place, thereby avoiding duplication for either CSU programs or with state or county programs. Another purpose is to determine community, business, and regional development needs for the region in collaboration with the public and private sectors.

The center will also serve as a convening site for state and federal partner agencies, with access to computers, the internet and state-of-the-art conferencing. In addition, the center will provide access to off-campus CSU-Fort Collins' BA/BS and Masters degrees (offered through CSU Continuing Education) and CSU-Global Campus. The engagement center provides a collaborative platform for CSU's ongoing engagement with both MCC and NJC as their students complete degrees while staying in the region. Employees at the center include a Regional Extension Science, Technology, Engineering and Math (STEM) Specialist, a Regional Range and Natural Resources Specialist, an office manager and a Community Energy Coordinator. The center will also have offices for admissions, alumni representation from CSU, NJC, MCC and Veteran's Affairs.

## **Program Highlights**

### **Family and Consumer Sciences**

In mid-2009, Extension Family and Consumer Science (FCS) specialists and agents participated in a two-day focusing process which resulted in agreement to focus the majority of statewide Extension work related to FCS programming on Food Safety, Nutrition and Family Financial Stability. Based on stakeholder input and economic indicators, this programmatic focusing continued throughout the year in other program areas. In late 2009 we began evaluating the effectiveness of the current structure, which continued into early 2010, with the goal of providing more focus for Extension programming efforts statewide.

#### *Strong Families, Healthy Homes*

Radon is the second leading cause of lung cancer, behind smoking, in the US. According to EPA radon level maps, parts of Colorado may have some of the highest levels in the country. To educate the public and promote testing, CSU Extension delivered 43 air quality trainings and distributed 1977 radon kits. 91% of participants surveyed reported knowledge gained in potential radon problems in the home; radon testing; radon mitigation; and/or indoor air quality issues and solutions. 89% of participants surveyed reported they intended to test for radon and mitigate if/where necessary. 76% (1005/1324) of participants surveyed reported they tested their homes for radon and implemented mitigation if/where needed.

#### *Master Food Safety Advisors*

Volunteers are trained educators who provide the public with research-based information on food safety and food preservation from Colorado State University and USDA. Trainees become certified after participating in 30 hours of intensive training on methods of canning, pickling, freezing, dehydrating, food safety, and prevention of foodborne illness. Master Food Safety Advisors commit to providing at least 40 hours of volunteer service.

Master Food Safety Advisor activities include answering consumer phone calls, providing information at local farmers' markets and fairs, conducting presentations and workshops for community groups and schools, preparing educational displays, and writing articles for newsletters and newspapers. Additionally, volunteers participate in continuing education opportunities throughout the year and are required to complete a recertification exam every three years to stay active with the program.

There are currently six Colorado counties offering MFSA programs. Larimer County alone has 18 active MFSA volunteers, two of whom have served with this long standing program for over 25 years. Formerly known as Master Food Preservers, they have seen the program evolve and expand to include other aspects of food safety education.

### **4-H Youth Development**

With the guidance of an evaluation specialist, the 4-H Youth Development work team developed several survey instruments designed to capture and compile data about the 4-H experience in a consistent manner. The surveys include life skills development, volunteer leadership skills, perception of 4-H alumni, community service and attributes of the livestock projects in relation to life skills development.

4-H Youth Development programs have continued an emphasis on Science, Engineering, Technology and Math (STEM). One example of success in the increased STEM focus was when 633 youth participated in a National Youth Science Day program, representing every school in Grand County, including the high schools and private schools. This program helped to open the door with many of the school teachers, administrators and students to showcase what CSU Extension and 4-H can offer to school enrichment programs. More than 90% of participants surveyed reported increased knowledge and gained an understanding of science concepts and science in everyday life. Extension is assigning significant scarce reserve resources to launch a statewide STEM initiative. This includes the hiring of four regional STEM specialists and state STEM specialist. The new state specialist is responsible for the curricula and organizational management of the regional specialists. At this time 4-H is developing plans for creating a new category of volunteers to implement the new STEM initiatives.

## **Plant Production Systems**

Development of improved wheat cultivars serves the wheat industry in Colorado by reducing wheat production costs, reducing pesticide use, and providing improved marketing options. During the past five years, Colorado wheat farmers have planted an average of 20% of their fields to newly released and improved wheat varieties. This is a faster adoption rate of improved wheat varieties than for growers from comparable states. Estimates from Colorado wheat industry leaders on CSU-developed quality improvements suggest that end-use quality enhancements from cultivars developed at CSU provide an average of \$17.5 million per year increased income for Colorado wheat producers (70 million bushels average x \$0.25 per bushel price increase; 2009 dollars).

Farmer interest in both the dryland and limited irrigation research continues to be strong as demonstrated by their demand for cropping systems information and by practice adoption rates. The overall objective of this multidisciplinary research and outreach project is to advance understanding of biophysical processes in water-limited agroecosystems and develop management practices that promote long term sustainability. In 2009 CSU researchers evaluated the biomass production potential of dryland systems for bioenergy, investigating the quantities of crop biomass needed for maintaining water storage and soil carbon levels to determine if biomass removal for feedstocks can be sustained. Also in 2009 a crop simulation model was calibrated and validated to evaluate water use of limited irrigation cropping systems. This conversion increased net return by \$22,275,000 per year under normal precipitation conditions. Overall summer crop acreage has increased by about 500,000 acres in Colorado since 1986. Assuming that summer crops are grown in a 3 year rotation, there are about 1,500,000 acres under more intensive cropping systems compared to 75,000 in 1986.

Sustainable Colorado farms and ranches are founded on principles of environmental health, economic profitability, and enhancing local communities. Farms must be profitable enough to provide an adequate return on the management, labor, and investment inputs as well as to provide investment capital for adapting to changing trends in markets and societal values. Sustainable agricultural business practices must also include enhancing the productivity of soils and the surrounding natural and social environment, as well as increasing biodiversity on the farm. The Building Farmers Program, which includes eight night classes and mentorship opportunities for participants, expanded to five counties. In addition to immediate benefit to participants (99% reported they had increased their knowledge), this program was used as a model to secure a Building Farmer and Rancher Development grant from USDA to CSU for a multi-state implementation of the program.

## **Natural Resources and Environment**

### *Home Horticulture*

Volunteers in the Colorado Master Gardener<sup>sm</sup> program have played an active role in the education of gardeners for over 30 years. Program participants hone their knowledge through 10 weeks of classes, beginning with basic botany and building upon plant health topics such as soil composition, disease diagnosis, insect identification and control, and turf grass and tree care. These classes are taught in person and online by Colorado State University professors, specialists, and agents. During the first year, Colorado Master Gardener apprentices return 50 hours of volunteer time to the program. After the first season, Colorado Master Gardeners continue to get 12 hours of training and give 24 hours of volunteer service per year. Projects are combined partnerships with the green industry, elementary and secondary schools, and community service programs to promote environmentally responsible horticulture.

### *Small Acreage Management*

Increasing urbanization and the resulting rural/urban interface presents challenges for landowners who are new to small acreage management. Small acreage landowners have a significant impact on the conditions of soil, water, plants, animals, and other natural and man-made resources through their cumulative effects. Management of weeds, insect pests and plant diseases is one of the most costly inputs that clientele in agriculture, the green industry and consuming households must finance every year in Colorado. Invasive, non-native weeds are a concern in many communities and threaten native ecosystems. Fire mitigation and management of forest resources in response to mountain pine bark beetle infestation has increased many of these concerns.

A lack of reliable and comprehensive information sources prompted a collaborative effort between Natural Resource Conservation Service (NRCS), CSU, and CSU Extension to develop web-based multimedia educational tools to educate a greater number of small acreage landowners in the any-time/any-place modality that the Internet offers. A small acreage management website ([www.ext.colostate.edu/sam](http://www.ext.colostate.edu/sam)) with 13 areas of interest, provides information not previously available. In addition, a quarterly Sustainable Small Acreage e-newsletter reaches 1140 landowners in Colorado, 77 Conservation districts and many NRCS field offices.

#### *Native Plant Master*

The mission of the Native Plant Master™ program is to educate the public about native plants in order to foster stewardship, sustainable landscaping and management of weeds that threaten native ecosystems. As a result of the program, over 1.1 million acres of land in the state have been the target of weed control efforts. The program is offered in 10 different locations across the state. Volunteers who complete three courses and educate at least 60 citizens are certified by Colorado State University Extension as Native Plant Masters.

#### **Community Development**

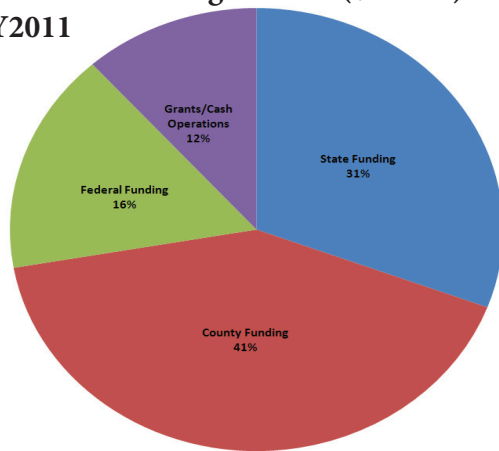
Community development is intrinsic in Extension work. As this core competency area changed leadership and direction, new indicators are being determined. Internal training for Extension personnel was held on the topics of community mobilization, facilitation and economic development. As a result, 60 community capacity-building meetings were held, in addition to over 60 trainings, consultations, workshops, etc. Sixty-six percent of participants evaluated reported increasing their knowledge related to one of the following: individuals' roles in community capacity building; built environment community capital development; natural environment capacity building as related to community vibrancy; building community political capacity; and understanding the role of cultural capacity in community development.

#### **Clean Energy**

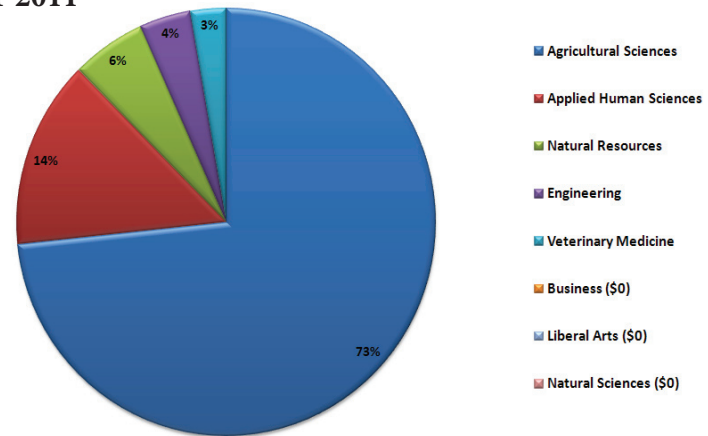
A knowledge gap exists for people interested in renewable energy and energy efficiency which has been proven to slow the implementation of energy efficient measures and installation of renewable energy projects. The Clean Energy Strategic Initiative Team (CESIT) was convened in fall, 2008. In their 18 months of existence, they have documented the need for their work and have engaged team members within Extension, across campus, and from other state agencies and organizations. A state Clean and Renewable Energy Specialist was hired in early 2010. Additionally, Extension is partnering with the Governor's Energy Office to hire regional clean energy coordinators.

# Facts and Figures

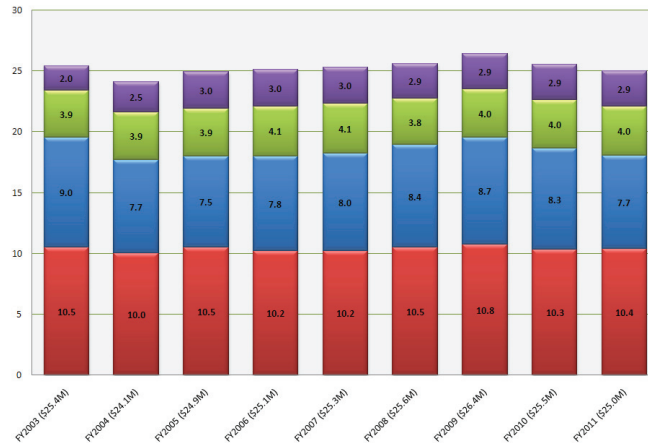
**Extension Funding Sources (\$25.0M)  
FY2011**



**CSU Extension Campus Allocations by College  
FY 2011**



**Extension's  
Historical  
Budget**



## Volunteers

### Certified Master Gardeners

- 1,540 CMG volunteers
- 55,230 volunteer hours contributed
- \$1,151,000 value of volunteer time
- 113,120 one-to-one contacts reported

### Master Food Safety Advisors

- 34 MFSA volunteers
- 1,382 volunteer hours contributed
- \$27,948 value of volunteer time

### Native Plant Masters

- 460 NPM volunteers
- 58,624 volunteer hours contributed
- \$1,187,136 value of volunteer time

### 4-H Youth Development

- 6,151 volunteer leaders
- 787,328 estimated hours contributed
- \$15,943,392 estimated value of volunteer time

**Colorado State University**  
**Extension**

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