

**PLAN FOR AGRICULTURE AT
COLORADO STATE UNIVERSITY
2002-2007**

PREFACE

Supporting the sustainability of Colorado agriculture, while at the same time conserving the state's natural resources, is fundamental to the land grant mission of Colorado State University. The University is committed to preserving and strengthening an existing agricultural infrastructure that will allow it to connect the agricultural expertise of the University to the citizens of the state. Agriculture in its broadest sense is found in every college within the University. However, the primary leadership role for enhancement and preservation of Colorado's agriculture rests with the College of Agricultural Sciences. The College of Agricultural Sciences is committed to excellence in undergraduate and graduate education, research, and outreach. In addition, it is also committed, when appropriate, to enhancing collaboration with other colleges within the University and with agencies outside the University, such as the Colorado Department of Agriculture and other state agencies, and the United States Department of Agriculture and other federal agencies to address the agricultural issues facing Colorado. In the future, agriculture at CSU, including Cooperative Extension and Agricultural Experiment Station, will be responsive, mobile, and timely in addressing both traditional and non-traditional agriculture issues within the state. In order to provide the best service to its constituents, the College and the related agencies will constantly solicit stakeholder input concerning agricultural issues. The University will ensure that in the future there is an administrative system in place that facilitates its ability to address all agricultural issues and that this leadership is engaged in ensuring that appropriate and timely budgetary priority and faculty attention are given to addressing agriculture's present as well as emerging issues.

IDENTIFICATION OF ISSUES, STRATEGIES, AND ACTIONS

I. AGRICULTURAL ISSUES WITHIN COLORADO AND ITS AGRICULTURAL COMMUNITY

ISSUE I

ASSURING PROFITABLE AGRICULTURE

The major limiting factor to the sustainability of agriculture is the ability of individual producers to derive a profit from their labors and investments. Profitability involves not only production of a high quality product but also controlling inputs, integrating resources, and marketing of the products produced. In order for the College of Agricultural Sciences at Colorado State University to successfully serve its constituency in the future, it must make ensuring agricultural profitability its primary mission.

STRATEGY I

Increase delivery of marketing, forecasting, and cost analysis information that enhances profitability.

Actions

1. Conduct annual Forecasting/Risk Management workshops at strategic locations within Colorado. (CAS, CE, WCIRM)
 - a. A regularly prepared/presented newsletter will be made available to address in a timely manner the Forecasting/Risk Management issues facing Colorado Agriculture.
2. Investigate alternative uses of traditional crops and resources. (AES)
3. Continue to investigate niche markets and specialty crops including organic farming. (CAS, CE, AES)
4. Continue to evaluate the costs of production as essential to improving profitability. (CAS, CE, AES)
5. Conduct regular statewide stakeholder meetings to stay abreast of issues facing agriculture. (CAS, AES, CE, WCIRM)

STRATEGY II

Deliver data responsive to mission of sustaining profitability.

Actions

1. Begin to require, where appropriate, economic impact of research findings and recommendations made, particularly by AES-supported projects. (AES)
2. Require all CE specialists and AES funded faculty to work with stakeholder committees to ensure that research and program delivery are timely and on target. (CE, AES)
3. Increase the analysis and understanding of the global agricultural economy and its effect on local markets, including workshops that convey this information to producers. (CAS, CE, AES)
4. Continue to support profitable agriculture by enhancing a systems approach to management and continue to examine the use of alliances marketing to increase profits. This will be especially important for enhancing the ability of small and medium-sized farms to sustain their existence. (CAS, CE, AES)
5. Place a greater importance on the distribution to all segments of agriculture marketing insights and data that will help producers form marketing alliances and other marketing innovations. (CAS, CE, AES)

STRATEGY III

Integration of agricultural and natural resources will help to ensure profitability of agriculture as a multi-dimensional industry.

Actions

1. Continue to strongly support the concept of the Western Center for Integrated Resource Management. (CAS, CE, AES, CNR, CVMBS, WCIRM)
2. Support CSU's involvement in the national integrated program entitled The Conservation Technology Information Center. (CAS, CE, AES)
3. Continue to support and enhance "precision agriculture," research and outreach. The use of this expertise will be focused on its ability to enhance profitability and conservations of resources. (CAS, AES, CE, USDA-ARS, C of ENG)
4. Aggressively build stronger alliances with other colleges within the University and integrate expertise from these colleges to assist with agricultural issues. (CAS, AES, CE)

ISSUE II

ANIMAL AGRICULTURE AND THE ENVIRONMENT

Livestock sales provide approximately 70% of the farm gate receipts of the state. The livestock industry component of Colorado agriculture will continue to be strongly supported by agriculture programs at Colorado State University. The Colorado livestock industry is highly dependent upon confined feeding operations to ensure continued production of food and fiber. The industry is being affected by increased state and federal regulations within many of its components.

Concerns include:

- Soil and water contamination
- Air pollution – dust/odor
- Animal welfare
- Disposal of dead animals

STRATEGY

Provide research and outreach program that addresses the viability of animal agriculture in Colorado.

Actions

1. Investigate the possibility of forming a consortium with WTAM, TTU, NMSU, KSU, UN, and USDA to combine research and outreach efforts to address the issues of confined animal management. (CAS, AES, CE)
2. Examine alternative management practices for animal/animal product production, including consideration of economics as well as animal well-being issues. (CAS, AES)
3. Examine options for dead animal disposal, i.e., composting, base digestion, etc. (CAS, AES, CE, CVMBS)

ISSUE III

IMPACT OF INCREASED AGRICULTURAL REGULATIONS, LAWS AND INITIATIVES

Agriculture and its many components are facing being governed by an increasing number of regulations, laws and initiatives. It is difficult for producers to stay abreast of the changes being implemented and/or proposed. Thus, there is a need for greater education related to these changes.

STRATEGY I

Assist clientele on agricultural enterprises to understand the impact of regulations, laws and guidelines.

Action

1. Conduct statewide workshops explaining and examining the existing regulations and their impact on the industry. (CAS, CE)
2. Facilitate discussions between regulatory agencies and agriculture. (CE, CAS, CNR, CVMBS, WCIRM)

STRATEGY II

Supply research-based information to aid in decision making processes and provide a platform for policy discussions.

Action

1. Strongly support the continued development of the Colorado Policy Institute. (CE, AES, CAS, CNR, CLA, CAHS, VPRIT, PROVOST, etc.)
2. Include the Colorado Department of Agriculture and other agencies where appropriate in policy discussions. (CE, AES, CAS, CNR, CLA, CAHS, VPRIT, PROVOST, etc.)

ISSUE IV

HEALTHY, HIGH QUALITY FOOD

Agriculture, in its broadest sense, is a food producing industry. Every effort must be made to ensure a healthy and safe food supply for the nation and the world.

STRATEGY

Coordination of food production, processing, and health and safety issues is important to agriculture's future.

Actions

1. Foster collaborative efforts on campus among the Departments of Food Science and Human Nutrition, Animal Sciences, Horticulture and Landscape Architecture, and Soil and Crop Sciences to establish a University Studies Program in Food Safety. (CAS, CAHS)
2. Actively recruit scientists capable of forming collaborative relationships. (CAS, AES, CAHS)

3. Continue to support the Center for Red Meat Safety-Department of Animal Sciences in its pursuit of excellence in enhancing the production of safe and healthy meat products. This effort will be closely linked with the issue of profitability; thus, this area may investigate the possibility of increasing its input into marketing of products, packaging and preparation. (CAS, CAHS, CE, AES)

STRATEGY

Healthy, high quality food is a joint responsibility of agriculture that extends to producers and the consumers who purchase, prepare and consume agricultural products. Thus, educating consumers is an important part of ensuring safe, healthy food.

Actions

1. Enhance existing consumer education efforts by Cooperative Extension. (CE)
2. Continue to investigate packaging, preparation and storage processes that will enhance food safety. (CAS, CAHS, AES)
3. Immediately develop a plan to inform the public concerning bio-security issues and disease outbreaks that potentially affect agriculture and/or consumers. (CAS, CVMBS, CAHS, AES, CE)

ISSUE V

SMALL ACREAGE MANAGEMENT

Significant acres of Colorado land are being diverted from traditional production by non-traditional small acreage owners, many of whom do not have the knowledge or experience to manage their property.

This deficiency of knowledge includes:

- Overgrazing
- Soil erosion
- Dust
- Runoff
- Improper fertilization and water use
- Wildlife habitat fragmentation
- An increase in weeds and invasive plant species

STRATEGY

Provide outreach programs to improve management of small acreage.

Action

1. Develop a state-of-the-art web-based delivery system for small acreage management. (CE, CAS)

2. Continue and enhance a series of small acreage management workshops across the state with cooperation between: (CE)
 - CSU
 - CDA
 - Colorado Soil Conservation Districts
 - County Commissioners
 - Agri Businesses
 - Local and national land trusts

ISSUE VI

THE UTILIZATION, PRESERVATION AND QUALITY OF WATER IS, HAS BEEN AND WILL REMAIN THE LIMITING FACTOR FOR OPTIMUM AGRICULTURAL PRODUCTION IN THE STATES

STRATEGY

Support the Colorado Water Center.

Action

1. Form new partnerships and enhance existing partnerships across the University to keep water issues at the forefront of CSU's agricultural programs. (CAS, AES, CE)
2. Support the implementation of the Strategic Plan for Water Outreach and Research, 2000-2015. See Attachment I. (CAS, AES, CE, CNR, VPRIT, C of ENG)

ISSUE VII

INCREASING INTERACTION BETWEEN TRADITIONAL SUSTAINABLE AGRICULTURE AND THOSE WHO SEEK TO ENSURE THAT AGRICULTURE IS A STEWARD OF THE STATE'S ENVIRONMENTAL RESOURCES

There is a need for broad-based, objective research that will facilitate open-minded discussion of issues. These discussions will necessitate the need for extensive external involvement that will not only help to identify the issues for discussion and research but will also serve as a source for external leadership, sponsorship and guidance of issue-based discussions.

At present, Colorado and the west are focal points for debates revolving around

agriculture and:

- Technically sound and environmentally friendly practices
- Clean air and water
- Utilization of public lands
- Preservation of open space
- Growth
- Conservation of wildlife habitats
- Conservation of natural resources

There is also a critical need to ensure the viability of Colorado rural communities.

STRATEGY

CSU will facilitate land-use discussions with sound, research-based information that will provide insightful data to aid in decision making.

Actions

1. The CAS and CNR will form partnerships where appropriate to address issues of importance to constituents of both Colleges. These partnerships will be formed not only to enhance discussion but also to ensure the mitigation of political risks as well as the appearance of a biased discussion.
2. Support the CPI's effort to offer information for informed decision making. (CPI)
3. The WCIRM and CPI are, and will continue to be, bridges between colleges when issues needing the combined expertise of CAS, CNR, CVMBS, AHS or CLA are addressed. (CPI, WCIRM)

ISSUE VIII

WITH THE INCREASED POPULATION GROWTH IN COLORADO AND ITS EXISTING BOUNTY OF NATURAL RESOURCES, THERE IS AN INCREASE IN "QUALITY OF LIFE AGRICULTURE" (QLA)

"Quality of Life Agriculture" includes:

- The Green Industry
- Equine pursuits
- Outdoor recreation
- Small acreages

STRATEGY

CSU is, and must remain, active and at the forefront of assisting and working with "QLA".

Actions

1. Maintain CSU's present status as a leader in green infrastructure issues: (CAS, CE, AES)
 - Turf Management
 - Ornamental Horticulture
 - Landscape Design and Architecture
 - Landscape Architecture and Planning
2. Delivery of management practices to small acreage owners with horses will be enhanced through increased outreach activity. (CE, CAS, CVMBS)
3. Promote awareness of and improvements to Colorado's green infrastructure, i.e., open space, parks and working lands of conservation value. This discussion of necessity will involve input from state and federal agencies dealing with wildlife, natural resources and parks, and recreational issues. (CAS, CNR, CE)

ISSUE IX

AGRICULTURE AND RURAL LEADERSHIP IS A CRITICAL COMPONENT OF AGRICULTURE'S FUTURE

STRATEGY

Agriculture must develop leaders capable of communicating the issues of agriculture to the greater population and at the same time be able to be insightful and forward thinking leaders within their own industries.

Actions

1. Provide a mechanism to develop stronger agricultural leaders for the future.
2. Enhance the opportunities for traditional students to gain these experiences as undergraduate students and graduate students. (CAS)
3. Colorado State University will assume the leadership role in partnership with the Colorado Department of Agriculture to reinvent, revitalize and ensure future success of the Colorado Ag and Rural Leadership Program for the state. (CE, CAS)
4. Use state of the art technology to ensure the most efficient delivery of leadership education. (CAS, CE)
5. Advisory committees of industry representatives will be formed to ensure that curricula are current and that graduates are prepared to address the issues of current importance for agriculture. (CAS)

II. ISSUES RELATED TO A STRONG AGRICULTURAL COMMUNITY ON THE CSU CAMPUS

ISSUE

LEADERSHIP OF AGRICULTURE AT CSU

Agriculture, in its broadest sense, is in every college within the University.

1. College of Engineering
 - Civil Engineering
 - Atmospheric Science
 - Chemical and Biosource Engineering
2. College of Liberal Arts
 - Sociology
3. College of Applied Human Sciences
 - Food Sciences and Human Nutrition
 - School of Education
4. College of Veterinary Medicine and Biomedical Sciences
5. College of Business
6. College of Natural Resources
7. College of Natural Sciences
 - Biology
8. College of Agricultural Sciences

The College of Agricultural Sciences is a 5-department college that historically has been recognized as an applied and basic science research unit, primarily related to production agriculture. These efforts are supported by CE and AES.

STRATEGY

To ensure the ability of the University to address the needs of modern, totally integrated agriculture, an administrative structure must be developed that facilitates the cross-college/department discussions needed to service the citizens of the state and to facilitate the University's response.

Actions

An administrative structure will exist that provides the opportunity for the issues of agriculture to be highlighted and focused within the University. This structure should be led by an individual with the following abilities who will:

1. Be willing to seek the counsel and support of the leaders of all colleges, departments and agencies and integrate them into a coordinated program for CSU agriculture.
2. Be unbiased in his/her approach in utilizing all campus resources and not serve as just an advocate for the College of Agricultural Sciences.
3. Be an articulate spokesperson for Agriculture.
4. Be respected by and have access to CSU senior administration.

III. ISSUES WITHIN THE COLLEGE OF AGRICULTURAL SCIENCES

ISSUE 1

THE COLLEGE OF AGRICULTURAL SCIENCES IS COMPOSED OF 5 DEPARTMENTS

The Departments are:

1. Department of Agricultural and Resource Economics
2. Department of Animal Sciences
3. Department of Bioagricultural Sciences and Pest Management
4. Department of Horticulture and Landscape Architecture
5. Department of Soil and Crop Sciences

STRATEGY

The College of Agricultural Sciences must aggressively form partnerships with other departments, programs and individuals from both inside and outside the University in order to serve the agricultural interests of the state.

Actions

1. Take the initiative to form necessary partnerships with other colleges and departments where appropriate to serve Colorado agriculture. (CAS)
2. The College, AES, & CE will encourage and reward cross-discipline research teaching and outreach. (CAS, AES, CE)
3. The CAS will support programs such as WCIRM, CPI and other programs that span college boundaries. (CAS)

ISSUE II

THE COLLEGE OF AGRICULTURAL SCIENCES MUST INCREASE EXTERNALLY SUPPORTED RESEARCH

Compared to other research-oriented colleges within the University, the College of Agricultural Sciences' externally funded research is significantly below the level for some of the other colleges.

STRATEGY

The College must recognize this issue as an opportunity, and proceed immediately to enhance support for externally funded research, recruit and admit graduate students with potential to excel, and identify programs with the potential to achieve national prominence without hindering its ability to serve the needs of Colorado agriculture.

Actions

1. Five areas of research with potential for excellence have been identified and then will be supported by strategic hiring and budget allocations. The Five Areas of Research Excellence in the College of Agricultural Sciences will be: (CAS)
 - **Agricultural genomics**
 - **Biotechnology, breeding, and pest management for economically and environmentally viable production of beef cattle, wheat, potato and dry bean**
 - **Healthy, high quality foods**
 - **Analysis and management of Colorado agricultural and environmental systems**
 - **Quality of Life Agriculture (green infrastructure, small acreage management, Equine Sciences and rural development)**
2. Future hires will be evaluated on their ability to generate externally supported research as well as their ability to teach and complete applied research and outreach responsibilities.
3. The College will set as a goal the doubling of the present level of externally funded research by FY 2007.
4. The College will actively seek to form collaborative agricultural relationships with federal and state agencies such as USDA-ARS, as well as other state and federal agencies.
5. The College Agricultural Sciences will create the position of Associate Dean for Research to direct and encourage research initiatives and to work closely with the director of the Agricultural Experiment Station to identify and ensure the success of the College's research programs.

ISSUE III

AT TIMES THERE IS A DISCONNECT BETWEEN THE INFORMATION GENERATED ON CAMPUS AND THE INFORMATION THAT IS AVAILABLE TO COUNTY EXTENSION PERSONNEL AND THE CITIZENS OF THE STATE

STRATEGY

In order to deliver important educational information to its clientele, the College of Agricultural Sciences must develop mechanisms that will allow campus generated information to become available to county extension personnel and the citizens of the state in a more efficient and seamless process. All College of Agricultural Sciences faculty, regardless of appointment, must see outreach as a major component of their academic responsibilities.

Actions

1. State/Regional Extension Specialists with program leadership must ensure that outreach education is taking place. (CAS, CE) This can be assured by:
 - a. Annual plans of work
 - b. Required stakeholder input
 - c. Increasing delivery of information by
 - Off-campus seminars
 - Web-based applications
 - In-service training for agents
2. Investigate the possibility that county extension personnel be directly linked to a department on the main campus where appropriate.
3. Require collaboration between CE and AES personnel, and AES Research Centers.
4. Develop a plan to acquire additional financial support for the delivery of outreach information by Cooperative Extension Specialists. (CE, CAS)
5. Establish issue based “Virtual Resource Centers” (VRC) to provide more effective information delivery by integration of extension, teaching and research programs and personnel. The VRCs will:
 - Provide a uniform and readily accessible communication system to unite diverse agricultural resources from the many colleges within the CSU agricultural community.
 - Improve CSU’s visibility and facilitate easier and more rapid access by clientele.
 - Allow the University to have a rapid response to emerging issues such as mad cow disease, E coli outbreaks, bio security, etc.
 - Be established as critical issues and pragmatic needs arise.
 - Have a coordinator as the central contact for each VRC.
 - Ensure that the website and other resources are active, multi-agency and multi-disciplinary in scope and easily accessible by clientele.
 - Individual VRCs will cease to function when no longer needed.

6. In cooperation with the Division of Educational Outreach, continue to examine effective ways to deliver distance education and outreach programs at county extension offices and potential community colleges.

ISSUE IV

PUBLIC AND MEDIA RELATIONS ARE AN IMPORTANT PART OF A SUCCESSFUL COLLEGE OF AGRICULTURE

STRATEGY

Increase visibility of Agricultural Programs at Colorado State University.

Actions

1. A plan that has been developed will be implemented by the Office of University Relations and Cooperative Extension and the College of Agricultural Sciences to enhance the visibility of CSU's agricultural efforts. See Attachment II: Colorado State University Agriculture Media and Community Relations Plan.
2. A part-time position within the College has been created to increase the production of timely and appropriate communications releases. (CAS)
3. Investigate the possibility of a joint program with Technical Journalism to train students in Ag Journalism and media relations. (CAS)

ISSUE V

THE COLLEGE OF AGRICULTURAL SCIENCES LOSES RECRUITING BATTLES FOR OUTSTANDING COLORADO STUDENTS WITH PEER INSTITUTIONS SUCH AS KSU, TAMU, TTU & U. of W

STRATEGY

Recruit and retain outstanding students for the College of Agricultural Sciences.

Actions

1. Outstanding students will be identified, visited in their communities, and brought to campus.
2. There will be a campaign to enhance scholarship support for the recruitment of these outstanding students.
3. Develop a collaborative recruitment plan to establish a partnership between the College, its alumni, agents, science teachers and Vocational Ag instructors.
4. Increase the number of CSU graduates working as Vocational Ag teachers and Cooperative Extension Agents.

5. Continue to increase its efforts to recruit at state and regional 2-year colleges.
6. Increase its efforts to recruit minority students from within Colorado.

ISSUE VI

THERE IS A GROWING AND IMPORTANT NEED TO ENSURE THAT GRADUATES OF THE COLLEGE ARE PREPARED TO BECOME PRODUCTIVE CITIZENS OF THE WORLD THEY ENTER UPON GRADUATION

STRATEGY

Continually review curriculum resulting in efficient and effective delivery of pertinent discipline information as well as life skills.

Actions

1. Utilize hands-on experience where appropriate to help ensure the success of CAS graduates.
2. A greater emphasis will be placed on:
 - Completion of undergraduate internships
 - Credit for work experience
 - Enhancement of communication and leadership skills
 - Utilization of technology
 - New and emerging agricultural issues
 - Decision making skills
 - International experiences
3. The CAS will continue to develop and offer a larger variety of distance-delivered courses for degree completion.
4. Integrate the Y-Cross Ranch, jointly owned with the University of Wyoming, into the hands-on training of students in the WCIRM degree program as well as other majors.
5. Review all curricula and student training with departmental as well as college advisory committees.

ISSUE VII

THE COLLEGE OF AGRICULTURAL SCIENCES SHOULD DEVELOP A STRONGER RELATIONSHIP WITH ITS ALUMNI BASE

The Ag Alumni Chapter will enhance development activities, identify and recruit outstanding students, and provide feedback to the College on its academic programs, research projects and outreach activities.

STRATEGY

The CAS will work more closely with alumni to garner support for the College and its programs.

Actions

1. Form an Ag Alumni Chapter of the CSU Alumni Association.

ISSUE VIII

AGRICULTURE IS BECOMING MORE TECHNOLOGICALLY DEPENDENT

STRATEGY

To ensure that students and faculty have the latest in technology available for their use. The CAS will maintain a level of excellence in agricultural technology that ensures it is at the forefront of colleges of agriculture.

Actions

1. Increase the use of GIS and GPS technology.
2. Maintain precision agriculture as a focal point of teaching, research, and outreach.
3. Continue to develop an undergraduate concentration in Applied Agricultural Information Technology.
4. Ensure that the technology capabilities of its College of Agricultural Sciences graduates are adequate for their success.
5. Continue to provide the latest in technology advancements to its faculty.

ISSUE IX

TO IMPLEMENT THIS PLAN, ADDITIONAL RESOURCES ARE NEEDED

STRATEGY

Development activities will be enhanced, budget reallocation will be practiced, and, where appropriate, additional support will be requested at the State and Federal levels.

Action

1. With the guidance of the College's Director of Development, the College will continue to increase its development activities.
2. Administrators will continue to assess priorities to determine funding for the implementation of this plan.
3. Where appropriate and as a part of University planning, new support will be requested from State and Federal partners.