PERCEPTIONS OF THE MONTANA LAND GRANT SYSTEM HELD BY LEGISLATORS AND FACULTY

by

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ABSTRACT

A survey was conducted to determine the perceptions of the agricultural components of the Montana land grant system (College of Agriculture (COA)/Agricultural Experiment Station (AES) and Extension Service (ES)) held by Montana legislators and faculty working in the system. Surveys were mailed to 150 legislators (85 returned) and 198 faculty members (85 returned). Responses were analyzed using SPSS 12.0. Results found that legislators and faculty preferred an administrative structure with one leader for all three components of the agriculture land grant system. Overall, both populations agreed with the nine assumptions defined by the Montana land grant system leadership that served as the foundation for the strategic plans. There was agreement between the two groups with the stated goals of COA/AES and ES. A large number of "Don't Know" responses by legislators indicated a need for improved communication with them about the goals of the land grant system. Both populations identified high levels of success in offering quality scholarly activity, conducting high quality research, and developing the confidence, competence, and character of the state's youth. Significant differences in perceptions of success were found between the two groups for goals such as being accountable to the state's citizens, strengthening Montana's families and communities, and helping people understand stewardship. Priorities identified by the respondents for 2010 included funding for COA, crops and economics for AES, and communication and staffing for ES. Personal contacts and agricultural publications were the primary sources of information about agricultural issues for faculty, while legislators turned to daily newspapers and agricultural publications. During the legislative session, legislators look to agricultural lobbyists, other legislators, and constituents for information about agricultural issues. Results indicate a breakdown in communication between the land grant system and Montana legislators and, in some cases, faculty employees of the system that needs to be addressed to ensure the successful future of the Montana land grant system and Montana agriculture. Changes to the form and function of the land grant system and its relationship with the Legislature are recommended to address the needs of Montana agriculture and Montana's citizens.

THE PROBLEM

Introduction

Agriculture impacts the lives of every person in the world every day. Today's agriculture is impacted not only by public policy, but more and more by consumer interest and demand. It is essential, therefore, to the vitality of the American agricultural industry that the population, both citizens and their elected officials, has some understanding of food, fiber, and natural resources processes in order to make informed decisions and choices about agricultural issues.

Congress provided a mechanism for understanding and advancing agriculture through education, research, and extension, also known as the land grant system. The national land grant system was established by the Morrill Act of 1862 to provide education in agriculture, military tactics, the mechanic arts, and classical studies so working class Americans could receive a liberal, practical education. The agricultural experiment stations and the cooperative extension service were added to the land grant system through the Hatch Act in 1887 and the Smith Lever Act in 1914, respectively, to comprise the land grant system that currently serves the American public (National Association of State Universities and Land Grant Colleges (NASULGC), 1995). The land grant system provides vital research, education, and outreach activities to advance the knowledge and technology of the agricultural industry in the United States. The

support and dedication of the land grant system employees is important to the sustainability and health of the system.

The land grant system is facing multiple challenges in the twenty-first century that will lead to change in the system as well as the agricultural industry as a whole. For example, as agriculture becomes more globally oriented, the impacts of animal disease and consumer perception in other countries have very real consequences for U.S. producers and trade. Continuing economic difficulties across the country have affected the budgets of land grant systems in every state. "The reality of the land grant university is change" (Brannon, 2002, p. 1). In order to meet the changing needs of society with declining resources, the land grant system, with the help of its employees and state legislators, will need to find creative solutions to problems. It is possible for the land grant system to adjust to its changing environment, for as Bonnen (1998) point out, "the university has survived…by creating new roles and adapting its mix of roles to fundamental changes in the nature of society and its practical needs" (p. 1).

In order to remain efficient and effective, the agricultural industry depends on supportive public policies. Public policies on the production of food and fiber need to be created, considered, and influenced by educated and informed policy makers and their constituents (Raven, 1994; Lichte and Birkenholz, 1993; Pope, 1990). Lichte and Birkenholz (1993) indicate that elected officials need to understand agricultural issues in order to represent a "consumer-oriented electorate" (p. 15) and that the voters must understand this is a necessary qualification in national and state policy makers. It is essential to the vitality of the agricultural industry that decision makers knowledgeable

about the agricultural industry are elected and are encouraged to enact policies and laws that support agriculture.

Another key element influencing the vitality of the land grant system is the dedication and support of the system's employees to its goals and mission. As the land grant system faces the challenges of the twenty-first century, it will be the faculty who assess the changing needs of the land grant system's constituents and work to meet those needs. "The core and soul of the land grant university is the mutual informing of research and outreach education so that our emerging scholarship is relevant to the needs and problems that our citizens face" (Brannon, 2002).

Statement of Purpose

The purpose of this study was to assess Montana's decision makers' and College of Agriculture, Agricultural Experiment Station, and Extension Service faculty's perceptions of the agricultural land grant system and the level of agreement between the two groups regarding the purpose, mission, goals, and future of the agricultural components of the land grant system in Montana. The study also examined the effectiveness of communication efforts made by the agricultural land grant system with the legislators during the 58th Legislative Session (2003).

Need for Study

Agriculture impacts all human life daily. "Agriculture is the foundation of human life. The production and distribution of food and fiber have shaped the development of mankind since the beginning of time" (Agriculture in the Classroom Declaration of Principle as referenced by Moore, 1993, p. 10). Agriculture remains an essential industry in the United States although the country is no longer the agrarian society it was when the United States was established. In fact, estimates from the 2000 Census indicate that less than 1.5% of the American workforce is employed in agriculture, forestry, fishing, and hunting (U.S. Census Bureau). A majority of the population are "… more than one generation removed from production agriculture" (Raven, 1994, p. 37). Furthermore, Blackburn (1999, para. 1) points out, "The United States as a society can be described as ignorant about agriculture."

Through technological and production process advances, one producer is able to provide food for over 140 people (University of Florida, 2002) at a low cost for the consumer. While some Americans perceive agriculture in a stereotypical view of farming, the nature of the agricultural industry has evolved into a diverse and highly technical industry that continues to change (Holz-Clause & Jost, 1995). Holz-Clause and Jost (1995) indicate that the perceptions of agriculture by the study participants, Iowa middle school students, "equated agriculture with farming rather than the wider industry" (Conclusions section, para. 1). Blackburn (1999) views this stereotypical perception held by Americans as potentially a greater problem than their lack of direct contact with the agricultural industry.

Modern society is increasingly confronted with complex issues that affect agricultural policy, agriculture production, and agricultural awareness. For instance, recent news stories involving anthrax, bovine spongiform encephalopathy (BSE), food safety, cloning, and environmental concerns have put agricultural issues in every home.

> In short, the era of production only and agricultural specialization is giving way to the era of systems integration. It is a change so big that it will affect all of agriculture's major supporting institutions and programs, including agricultural education. (Richardson, 1990, p. 7)

Mawby (1984) states "many negative decisions affecting food production can be traced to a general lack of understanding of agriculture" (p. 74). Therefore, "consumers as well as policy makers need to be 'agriculturally literate' in order to respond appropriately as issues arise" (Frick, Birkenholz, & Machtmes, 1995, p. 44).

"A basic knowledge of agriculture is especially important where it is the major industry in a state and the lack of agricultural knowledge and experience impedes economic development" (Williams and White, 1991, p. 9). Agriculture is Montana's largest industry. In 2000, agriculture accounted for 36% of Montana's gross sales. Given the essential role that agriculture plays in the economic, social, and environmental aspects of Montana's communities, it is essential that Montana's elected officials, as well as its citizens, understand the structure and purpose of agriculture in Montana. Furthermore, it is important for them to understand the role of the land grant institution in advancing the food, fiber, and natural resources industry.

The land grant system in Montana plays a vital role in the success of the state's agricultural industry. The future of Montana agriculture is influenced, if not determined, by the agricultural education, research, and outreach undertaken by the land grant system.

"Since legislators determine the major funds that support Extension programs [and other land grant system components], they need to know and understand the structure and operation of the agency [and system] as a basis for making decisions" (Miller, 1988, para. 1). Browne and Knudson (1997) state that "as general policy uncertainty escalates regarding the future of the most prominent types of national agricultural programs, the American states are under far more pressure to do more on various agricultural policy issues" (p. 1430). Therefore, it is important that the knowledge and perceptions of the land grant system by the state's key decision makers is assessed and understood so educational efforts may be undertaken if a knowledge deficit or negative perception is found.

As with other land grant systems throughout the United States, the Montana land grant system is facing many challenges and changes. "Inherent in the genesis of the land grant universities was the driving force for their continual change – the needs of the people in the workplace, the community, and the home" (Brannon, 2002). Changing demographics of the state's population, funding shortages from both federal and state sources, and a change in focus from more traditional, production oriented agricultural research and education to alternative agriculture research and education are putting pressure on the state's land grant system to make changes and adjust to the new and varied needs of Montana agriculture. "Broadening and diversifying effective input into the priority-setting process is crucial to building the relevance of the LGCAs' (land grant colleges of agriculture) programs to a broader cross section of the population" (National Research Council (NRC), 1996, p. 25). These changes cannot be realized without the

support and commitment of the land grant system employees. The vitality of the land grant system in Montana depends not only on the knowledge, understanding, and support of state legislators, but also on the dedication, effort, and support of the professors and extension agents.

In most organizations, change is accompanied by planning. "For a mission to be truly useful and instructive, it must set forth results that those charged with fulfilling the mission can understand and focus their efforts on" (Carver, 2000, p. 22). The perceptions, knowledge, and input of faculty regarding the focus and future of the land grant system mission and goals need to be sought and considered. "If individuals don't see how the plan, their participation in it, and its success will improve their lot in life, they will likely not participate or not participate fully" (Sevier, 2003, p. 19). Faculty must be involved in the process if they are going to be responsible for working toward a change in the organization's mission or goals that will address the changes facing Montana agriculture and meet the needs of Montana's citizens. "LGCAs (land grant colleges of agriculture) have a responsibility, based on their philosophical roots and legislative mandate, to be relevant and accessible to the general public and particularly to citizens of ordinary means" (NRC, 1996, p. 3).

Objectives

The objectives of this study were to:

1. Determine decision makers' and employees' knowledge of the goals of the College of Agriculture, Agricultural Experiment Station, and Extension Service in Montana.
2. Determine decision makers' and employees' level of agreement with the strategic plans of College of Agriculture/Agricultural Experiment Station and Extension Service.
3. Determine decision makers' and employees' perception of the level of success in achieving the goals of the strategic plans and the future for the agricultural land grant system in Montana.
4. Determine the nature and level of communication between the land grant system and the study population.

Definitions

- Land grant system – a land grant college or university is an institution that has been designated by its state legislature or Congress to receive the benefits of the Morrill Acts of 1962 and 1890 (University of Florida). The scope of the land grant system has been expanded by the addition of the agricultural experiment stations to conduct research (Hatch Act of 1887) and the extension service to education citizens in their local communities through various outreach efforts (Smith-Lever Act of 1914). The land

grant system was expanded again in 1994 when a provision in the Elementary and Secondary Education Reauthorization Act, titled "The Equity in Educational Land-Grant Status Act of 1994" gave the tribal colleges land grant system status (NASULGC, University of Florida). For the purposes of this study, the Montana land grant system will consist of the MSU College of Agriculture, Montana Agricultural Experiment Station, and MSU Extension Service.

- State decision makers - the legislators elected by the people of Montana to serve in the 58th State of Montana Legislature in 2003.
- Land grant employees – Assistant, Associate, and Full professors in the College of Agriculture and Agricultural Experiment Station and agents in the Extension Service. Extension specialists are considered faculty in the department of the College of Agriculture to which they are assigned. They were included in the population as faculty.
- Agriculture – The science and technology of utilizing natural resources in a sound financial and environmental method to provide food, fiber, shelter and energy for the benefit of mankind. Agriculture encompasses the study of economics, technology, politics, sociology, international relations and trade, and environmental problems, in addition to biology (Shelhamer as cited by Wearley).
- Agricultural literacy – understanding and knowledge of the food and fiber system including its history, significance to the American economy,

society and environment, production practices, processing, and domestic and global marketing (NRC, 1988).

- Agricultural knowledge – basic agricultural knowledge includes production of plant and animal products, the economic impact of agriculture, its societal significance, agriculture's important relationship with natural resources and the environment, the marketing and processing of agricultural products, public agricultural policies, the global significance of agriculture, and the distribution of agricultural products. An individual possessing such knowledge would be able to synthesize, analyze, and communicate basic information about agriculture (Frick as cited by Wearley).
- Farm/ranch – land used to produce crops and/or livestock for sale as agricultural commodities.
- Producer – an individual who operates a farm or ranch.

Assumptions

The following assumptions were made for this study:

- Individuals who serve in the Montana Legislature or who are employed by the land grant system have some knowledge and/or perceptions about agriculture.

- Individuals who serve in the Montana Legislature or who are employed by the land grant system have some knowledge and/or perceptions about the land grant system in Montana.
- Individuals who serve in the Montana Legislature make decisions and formulate public policy concerning agriculture and the Montana land grant system.
- Individuals will honestly report their knowledge base and perceptions.

Limitations

The first population group in this study was limited to the members of the 58th Legislative Session in Montana beginning in January 2003. The House of Representatives is comprised of 100 individuals elected from across the state. The Senate has 50 elected members from across the state.

The second population group in this study consisted of all assistant, associate, and full professors in the College of Agriculture and Agricultural Experiment Station and the agents in the Extension Service. There are 23 assistant professors, 38 associate professors, and 60 full professors in the College of Agriculture and Agricultural Experiment Station. The Extension Service employs 82 agents.

The study is further limited by the responses chosen to be returned by the population. Without full control over the population, the responses are subject to the decision made by each person in the population whether or not to complete and return the

survey instrument. An additional issue affecting the study is the extent to which each respondent honestly answered the questions.

Another limitation of the study was the time period in which the study was conducted. The populations received the survey instrument the end of May 2003 with a number of follow-up communications sent to the populations through August 2003.

REVIEW OF LITERATURE

Importance of Agriculture

Although agriculture is basic to human life, few people in America's modern society are connected to the agricultural industry or have any understanding of the complex industry that comprises agriculture today. As we move into the twenty-first century, there is greater distance between the American public and production agriculture, both geographically and generationally. Production agriculture employs less than 1.5% of the nation's population (U.S. Census Bureau, 2000). Most of the population is "more than one generation removed from production agriculture" (Raven, 1994, p. 37). Americans are physically more removed from agriculture than any time in history, as more people move to urban areas. The result, indicates Tisdale (1991), is a citizenry with limited knowledge of agriculture and its impact on their lives. "Most Americans know little about food and fiber production, its social and economic significance in the United States and its links to human health and environmental quality" (Raven, 1994, p. 37).

Frick and Spotanski (1990) point out that "agriculture has been a resource base that sustained our society while making a significant contribution to our national economy" (p. 13). Agriculture is not only a source of revenue for many states, but advances in agricultural production have also lowered food costs for Americans. "Many U.S. citizens may have little sense of the continuing benefits they receive as a result of farm productivity-enhancing research" (NRC, 1995, p. 24). The average American spent

10.7% of disposable personal income on food in 1997. Americans spent 7.4% of personal expenditures for food eaten at home in 1994 compared with 11.2% in the United Kingdom and over 50% in many developing countries for the same time period (ERS/USDA, p.14-15).

> Thanks to abundant arable land and a varied climate, Americans do not have to rely as heavily on imported food as do some other nations. The American farm-to-consumer distribution system is highly successful at moving large amounts of perishable food over long distances with a minimum of spoilage or delay. Finally, American farmers have a tremendous wealth of agricultural information and state-of-the-art farming equipment at their disposal, allowing them to produce food efficiently." (ERS/USDA, p. 17)

Therefore, many Americans see little need to be educated about agriculture when food is abundant and inexpensive. As Tisdale (1991) states, "the result is a public with little or no knowledge of the practices of agriculture or of the importance of agriculture to the lives of individuals" (p. 11).

The American public needs to be functionally literate about agriculture in order to make informed choices about food and fiber (Tisdale, 1991). Beyond this basic knowledge, however, it is vital to the success of the agricultural industry in the United States that the Americans understand the social, economic, and environmental impacts of agriculture on the lives of the world's population (Pope, 1990).

A need to focus on the agricultural literacy of America's public has been identified by the National Academy of Sciences and expanded on by others. Williams and White (1991) define an agriculturally literate person as someone with a "basic understanding of the food and fiber system, its history and current economic, social and environmental significance to all society" (p. 9). The National Academy of Sciences

Board on Agriculture (1988) defines agricultural literacy as "the goal of education *about* agriculture" (p. 1). This definition encompasses some knowledge of food and fiber production, processing, and domestic and international marketing" (NRC, 1988, p. 1). Since this report, agricultural education organizations have addressed this perceived deficit of knowledge. Deeds, in 1991, pointed out that an operational definition of agricultural literacy, such as, what exactly needs to be taught, who are the target populations for education, and how should this education be undertaken had not been defined by the agricultural education field and, as Trexler (2000) points out, "literacy is a moving target" (p. 2), which changes with technological advances. There remains no question, however, about the necessity of an agriculturally literate populace. "As the world's population increases, agricultural industries remain important if the world is to sustain a growing population. With the need for increased agriculture production comes the need for agricultural literacy" (Blackburn, 1999, para. 1).

> The rationale to support the development of agricultural literacy is based on the assumption that as societal awareness of problems and issues facing agriculture and food production increases, public pressure will increase for the development of policies which are mutually beneficial for both consumers and producers. (Frick, Birkenholz, & Machtmes, 1995, p. 44)

As Pope (1990) point outs, "the American people rely on agriculture for basic survival needs, for economic needs, and to protect the land. The interrelationship of these areas is why agriculture literacy is a basic need in American today" (p. 23).

> For citizens to be minimally educated about agricultural practices is important for the individual and the industry. An individual must be well informed to make responsible choices whether it be in matters of food and fiber or politics [including the election of agriculturally literate legislators]. As fewer people are directly involved in production

> agriculture, public support of the industry becomes even more important. (Tisdale, 1991, p. 11)

Several studies have been conducted to evaluate the knowledge and perceptions of different populations about agriculture. While most of them do not test government or legislative decision makers, they do provide a benchmark of the agricultural literacy and perceptions of various sectors of the American society. Miller's (1988) study looked at South Carolina's legislative members' perceptions of the Clemson University Cooperative Extension Service. Results indicated that the majority did not understand the mission of the Extension Service, thinking it was a public service agency instead of an educational institution. Williams and White (1991) assessed the students in the fifth, eighth, and eleventh grades in a rural Oklahoma school district and found a low level of basic agricultural knowledge. Their results were very disturbing, but "after further reviewing the Kansas study and studies conducted in Arizona, the low scores that were revealed in the Oklahoma study were not surprising" (Williams & White, 1991, p. 9). A study by Leising, Pense, and Igo (2001) assessed the agricultural knowledge of two kindergarten-through-twelfth grade schools in Montana and Oklahoma before and after the introduction of the Food and Fiber Systems Literacy Framework. The students had some knowledge of food and fiber systems before the Framework benchmarks were added to the instruction. Their knowledge increased after they were exposed to the Framework.

Other studies result in more positive findings. Frick, Birkenholz, and Machtmes (1995) surveyed rural and urban adults in Missouri to assess their agricultural literacy level. Both urban and rural respondents had "relatively positive perceptions of

agriculture" (p. 52). While the two groups were somewhat knowledgeable, there were interesting differences across the various agricultural concepts in the survey. Pavelock, Vaughn, and Kieth (2001) studied public school superintendents in Texas about their knowledge and perceptions of the agricultural science and technology program. Generally, the superintendents had a positive outlook about the agricultural science program and believed they were very knowledgeable about the program. Birkenholz, Harris, and Pry (1994) surveyed college students about their agricultural knowledge and perceptions. They found that the college students generally had positive perceptions about agriculture and were quite knowledgeable.

The Land Grant System

The United States Congress provided a method for Americans to become educated about agriculture, engineering, and classical education. The land-grant system, through education, research, and outreach, promotes "the liberal and practical education of the industrial classes in the several pursuits and professions in life" (NASULGC, p. 12). The Morrill Act of 1862 allowed for land grant colleges or universities to be established in each state and territory in order to endow, support, and maintain at least one college "where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe" (NASULGC, p.12). The agricultural experiment stations, through the Hatch Act of 1887, and the cooperative extension service, through

the Smith-Lever Act of 1914, were added to the land grant system to enhance the development of new technologies and practical education in agriculture. This unique federal/state partnership, supporting agricultural research and the rapid dissemination of new information, formalized a contract for maintaining a viable agricultural industry and an affordable supply of food and fiber for America. The National Research Council (1996) points out that "public investments in agricultural science and technology have helped make farm labor more productive, farm output more stable and abundant, and farm commodities less costly to food processors and manufacturers – outcomes that have benefited not only the farm sector but also U.S. consumers and the U.S. economy generally" (p. 15).

In 1893, Montana endorsed the terms of the Morrill Act and the Hatch Act with the designation of the Agricultural College of the State of Montana and the Montana Agricultural Experiment Station, both established in Bozeman, just four years after statehood was achieved in 1889. Since that time, the land grant system has undergone many changes, but the mission remains the same – to serve the people of Montana through agricultural education, research, and outreach.

"A variety of institutions can play a role in shaping the direction of American agriculture, but none is more qualified than the land-grant colleges of agriculture with their unique tradition of research, teaching, and extension" (Mawby, 1984, p. 72). The land grant system, comprised of colleges of agriculture, agricultural experiment stations, and the extension service, is a foundational element of the American agricultural industry through the education, research, and outreach elements legislated by various

Congressional acts. "Even though land-grant universities have greatly expanded and grown since 1862, they have a mandate to openness, accessibility, and service to people" (University of Florida, "Today's Land-Grant Universities" section, para. 3). However, Hogan (1994) cites several studies that indicate the general public and legislators do not have a clear understanding of the mission or funding mechanisms of the Extension Service, and thus, presumably, also the land grant system. "Land grant colleges of agriculture are public institutions supported by the revenues generated by U.S. Federal, state, and local governments. The public has, therefore, a stake in the accomplishments and services of the system" (NRC, 1995, p. 75). As the financial support of the land grant system depends on the state and Federal legislators, the success of the system depends on the success projected by the system to legislators (Miller, 1988). "Since legislators determine the major funds that support Extension programs, they need to know and understand the structure and operation of the agency as a basis for making decisions" (Miller, 1988, para. 1). Mawby (1988) strongly suggests "Land-grant institutions should assume a leadership role in shaping the comprehensive, credible approach to such issues that America desperately needs. To do so will require the commitment of university leaders to mobilizing intellectual resources throughout their institutions and to educating the public" (p. 72).

Agriculture and Public Policy

Raven (1994) states, "very little is being done to educate adults, the current policymakers, about the agricultural industry" (p. 38). Yet it is essential that our state

decision makers have an understanding about the nature of the state's agricultural industry. NASULGC (2002) suggest that the "American democracy depends on an informed electorate who can think critically, communicate clearly and act decisively (p. 3), dovetails with Lichte and Birkenholz (1993) conclusion that an "educated and well-informed citizens are needed to make more accurate and proper decisions about the care of our land, animals, and food" (p. 16). Fischer and Zuiches (1994) point out that public investment in the land grant system will depend on public perception of the system's accomplishments. Browne and Knudson (1997) indicate the states are being required to do more with less Federal financial support due to changes in Federal priorities and, often, on issues that state leaders do not consider important. State funding is also diminishing with most public universities only receiving 15-30% of their budgets from the state, which used to fund the majority of the university's budget (*The Economist*, 2001, p. 4). Thus,

> "a fundamental challenge facing the SAES [state agricultural experiment station] system is to develop strategies and mechanisms for educating the public and elected officials not only about the social benefits of scientific research but also about the need to recognize and to support the range of basic and 'mission linked' research as an investment in a long-term, cumulative process generating solutions to practical problems." (Fischer and Zuiches, 1994, p. 11)

Hodson and Kotrlik (2002) conducted a study to determine the perceptions of Louisiana legislators about the Extension Service in Louisiana. They found that legislators were familiar with the Extension Service and that its programs were perceived as being effective. Printed information sources were the most effective methods of educating the legislators about Extension with personal contacts, newsletters, and

newspaper articles also considered effective. Democrats and legislators whose districts had a rural component perceived Extension as being more effective than Republicans and legislators whose districts were mainly urban based.

One study assessed the agricultural knowledge and perceptions of members of the Montana Legislature. Wearley's (1996) study found that Montana's elected officials by and large had a positive perception of the agricultural industry. "Forty-four percent of Montana's elected officials scored higher than 90% on the seven knowledge concept areas of agriculture" (p. 55), which indicated a moderately strong level of agricultural knowledge in the Montana Legislature. However, most of the members did not have a complete grasp of the implications of biotechnology and other advances in the agricultural industry. Wearley states, "the results from this study can establish guidelines for educating our elected officials about the industry of agriculture and the importance agriculture plays in American society" (p. 59). He suggests the study be repeated as the representation in the Legislature is constantly changing.

Whiting (1996) suggests that not enough people are aware of "the unique identity of Land-Grant institutions, what they do, and why they are needed" (p. 1755), leading to a decline in support and requiring more marketing and public relations efforts. A project sponsored by the Farm Foundation (Boone, Tucker, and McClaskey, 2002) evaluated communication between land grant universities and the United States Congress. The researchers found a substantial minority of congressional aides indicated little or no contact with a land grant university and no knowledge on how to get in contact with one. Respondents indicated they considered land grant universities to be reliable, of good

reputation and have a high level of knowledge. The congressional aides favored interpersonal communication channels for receiving information. They indicated more contact with faculty would be helpful.

The Changing Land Grant Mission

The land grant institutions, now in every state and territory, were developed to provide higher education and training to the lower and middle class citizens of the country by providing practical knowledge that would impact the country's largest industry at the time, agriculture. "From the beginning, the nature of this access was not merely opening our classrooms to those from middle class and limited-resource families, which by itself was already a radical change, but also ensuring that the new knowledge generated by our research would be applied to 'real-life problems'" (Brannon, 2002). Since its very inception, the land grant system has been at the center of understanding, coping, and promoting change. "The agenda for agricultural research has by no means remained static in the face of social change. Indeed, congressional legislation concerning agriculture historically has demonstrated dynamic responsiveness to public needs" (Fischer and Zuiches, 1994).

The once sharp and defined focus of the land grant system, however, seems to have faded into an undistinguished comprehensiveness (Weathersby, 1984) as the land grant system is tasked with an increasing number of priorities and responsibilities. "The original mission has been amended with new challenges that must be met in a time of declining public support for higher education, societal distrust of science and a negative

public perception of agricultural technology, in a culture that wants cheap food" (Zimdahl, 2003, p. 103). The land grant system faces some of its largest challenges with the dawn of the twenty-first century than any other time in its 140 year history. "The viability of the agricultural system (teaching, research, and extension) at Land Grant universities is being scrutinized, and there are repeated requests that the system be transformed to meet the changing needs of society" (Fischer and Zuiches, 1994). A population shift across the country from a rural to an urban base creates new challenges for the land grant system as the traditional clientele base shrinks and other populations present new and different needs to be addressed. "The extension program's original mandate – to educate farmers regarding new farm technologies and ways in which farm life could be improved – has been challenged by a number of factors, principally the decline in farm population and the changing profile of farms and farmers themselves" (NRC, 1995, p. 68). New science and technology, such as biofuels, biotechnology, and genetically modified crops or products present new challenges and opportunities for the land grant system to undertake (Zulauf and Tweeten, 1993). Environmental concerns and the pressure to develop sustainable agricultural practices and to reverse environmental damage caused by traditional production practices are also creating an environment of change for the land grant system. "Another vision, this time to develop nonfood and nonfeed uses for farm commodities, emerges as advances in science merge with declining real prices for farm commodities and increasing environmental awareness" (Zulauf and Tweeten, 1993). Many people believe the land grant system has not responded in an appropriate or timely manner to these challenges and, as indicated by Chasan (1993), "are

in danger of becoming outmoded, losing political support, and possibly, being abolished unless they begin to address some of today's most pressing problems, such as environmental degradation and rural poverty" (p. 3).

Yet, the fundamental mission of the land grant system to provide a safe and stable supply of food and fiber has not changed (Fischer and Zuiches, 1994). The land grant system has been very successful in fulfilling its original and long standing mission (Chasan, 1993; Zulauf and Tweeten, 1993; Fischer and Zuiches, 1994; Zimdahl, 2003). While the land grant system adapts to the changes it faces in the twenty-first century, York contends that the land grant institutions must not forget their original goals, "the development of knowledge for use philosophy and a service orientation must continue if these institutions are to be true to their heritage and continue to serve effectively the needs of our nation" (para. 7). The land grant system is challenged to find a balance between its traditional, successful tripartite mission of teaching, research, and outreach in the food and fiber industry and the new and varied needs of the American population ranging from urban issues to environmental concerns.

> "The land grant system has served the nation well, but changes are needed that reflect modern realities, challenges, and opportunities. In particular, the system must increase its relevance to contemporary food and agriculture system issues and concerns; reinvigorate its commitment to the linkages among teaching, research, and public service; organize its programs and projects more efficiently and more in keeping with the regional and multistate requirements of many modern food and agriculture system problems; and enhance its accountability to the public." (NRC, 1996, p. 11-12)

Faculty Involvement in Planning and Mission

"In the hope of exercising greater control over the direction of change, schools and colleges are beginning to plan strategically" (Chiarelott, Reed, and Russell, 1991, p. 36). Change can be very disrupting to any organization and each organization deals with change differently. Yet, as Watson (1995) indicates, "the willingness to change and to examine our institutions for improvements is essential" (p. 187). Many organizations attempt to undertake a strategic planning process in order to plan and prepare for a future that looks different from the present. "A strategic planning process describes an organization's destination, assesses the barriers that stand in the way of that destination, and ultimately selects approaches for moving forward by dealing with the barriers" (Luther, 1995). Moos (1982) insists that "universities must respond creatively to major shifts in the culture and to the pressing challenges to our civilization" (p. 31). Many colleges of agriculture, agricultural experiment stations, and extension services have participated in strategic planning to develop mission statements and goals. Mission statements are developed to "communicate to others exactly what their organizations are for, why they exist, what difference they want to make" (Carver, 2000, p. 20). Montana State University's College of Agriculture and Agricultural Experiment Station went through the strategic planning process in 2000. The Extension Service published the results of their strategic planning process in 1999.

While strategic plans are designed to be active documents, guiding the day-to-day functions of the organization, they tend to be a desirable plan that gets published on glossy paper and filed away until the next scheduled strategic planning process (Harrison,

1995). Planning tends to be elusive and inconsistent with the operational realities and decision-making processes of the organization (Marcus, 1999, p. 46) leading to a disillusioned process and/or an ineffective document.

If a strategic plan is going to be a guiding document for the organization, communication with and involvement of the employees must be a key element of the planning process. Luther (1995) indicates that "perhaps the most important contributor to a successful strategic plan…is the participants" (p. 77). It is vital to achieve meaningful involvement of all employees and stakeholders in the process. Developing interest and commitment in the process and result is invaluable to the implementation of the plan (Goodstein, Nolan and Pfeiffer, 1992). Goodstein, Nolan and Pfeiffer (1992) point out that the "organizational culture is a critical factor in both strategic planning and overall organizational success" (p. 69). Ignoring the traditions, power hierarchy, or values of an organization when developing a plan for its future could hinder or prevent the implementation of the plan.

There are more layers of organization culture in an institution of higher education than in a typical corporate environment. Rowley, Lujan, and Dolence (1997) stress that "strategic planners must develop a relationship with, and a method of planning that considers, the realities of tradition, circumstances, faculty, students, staff, resources, and administrative processes. Moreover, participative planning is absolutely critical not only for developing the plan but also for implementing it" (p. 55-56). The role and influence of faculty members in the direction and accomplishments of the university's goals is substantial and to ignore their power and impact would be detrimental to the planning

process and the implementation of the strategic plan's action goals. Rowley, Lujan, and Dolence (1997) point out that while faculty "may not have the capacity to govern directly, they can also exercise significant veto power over the options available to university administrative leadership" (p. 56). Therefore, the involvement of the faculty and other stakeholders is essential to the success of any strategic planning process undertaken at a higher education institution.

METHODOLOGY

This descriptive survey research study assessed the knowledge and perceptions of the agricultural components of the land grant system held by the Montana state legislators and the faculty of the College of Agriculture, Agricultural Experiment Station, and Extension Service. A mailed questionnaire was used to collect responses from this identified population in an economical and controlled fashion.

Population

The population for this study was a census of:

- all elected representatives to the 58th Montana Legislature consisting of 100 Representatives and 50 Senators,
- all faculty of the MSU College of Agriculture and Agricultural Experiment Station comprised of 60 professors, 38 associate professors and 23 assistant professors, and
- all 82 Extension Service agents.

In the Montana system, extension specialists are considered faculty of the College of Agriculture department that houses them, therefore, the extension specialists are included in the faculty population.

Instrument

The instrument was evaluated by a panel of experts prior to it being sent out to the survey population. The panel evaluated it for errors, consistency, readability, and clarity.

The survey instrument (see Appendices E and F) consists of a questionnaire with multiple questions focusing on the goals of the agricultural component of the land grant system (College of Agriculture, Agricultural Experiment Station, Extension Service), asking the level of agreement and perception of success with the stated missions of the agricultural land grant organizations, communication issues for the legislators during the legislative session, and general communication issues for the faculty. The survey was designed following the suggestions of the Dillman Total Design Method, which uses knowledge of sponsorship, the survey population, and the nature of the survey situation to build trust toward a social exchange resulting in the maximum quality and quantity response possible (Dillman, 2000). The assumptions and goals identified and published by the College of Agriculture/Agricultural Experiment Station and Extension Service following recent strategic planning endeavors were used as the basis for most of the questions included to determine the knowledge and perceptions of the goals of the agricultural components of the land grant system. Questions concerning the nature and level of communication with these entities and each population group were based upon the researcher's personal knowledge, as a former staff member of the Dean of Agriculture's office, and experience with the type of communication available and efforts undertaken by the College of Agriculture/Agricultural Experiment Station and Extension Service throughout the year and during a legislative session. Responses were collected

using a Likert-type five or six point scale with a "Don't Know" option for most questions.

Data Collection – Legislative Population

Following Dillman's (2000) Total Design Method, legislators for the 58th Montana Legislature were sent a letter following the conclusion of the legislative session informing them of the survey and requesting their cooperation (Appendix B). A questionnaire (Appendix F) was mailed to all legislators on May 23, 2003, with a cover letter (see Appendix D) and a stamped, business reply envelope. Surveys sent to the state legislators were coded to track responses and assist with follow up efforts. Responses were separated from the code to protect the confidentiality and privacy of the individuals. The first follow up consisted of a postcard reminder on June 20, 2003 (see Appendix H). The second follow up included a letter (see Appendix I) and replacement survey mailed on July 18, 2003. All letters included the Montana State University logo and signature of both the student and the chair of the graduate committee.

Data Collection – Faculty Population

All contact made with the faculty was made through electronic mail. The faculty had the option to complete the questionnaire through a web based format. Kawasaki's (1995) study reinforced other studies that electronic surveys do not adversely affect the return rate of responses. For those who wanted to print and mail their responses, the survey was attached to all electronic mail contacts, except the preliminary notice contact

(Appendix A), in an Adobe PDF file to preserve formatting (Appendix E). The survey hyperlink and attachment was electronically mailed for the first time on May 28, 2003 (see Appendix C). The first follow up contact was made on July 18, 2003 (see Appendix G). All electronic mail contacts included the Montana State University logo and signature of both the student and the chair of the graduate committee.

Approximately a week after the land grant employees first electronic mail contact was sent, the server set up to receive the web-based survey responses stopped accepting input from the instrument. An analysis of the hits, or an instance of connecting to a particular World Wide Web site (Merriam-Webster Online, 2004), on the survey, the confirmation page, and the responses collected in the database determined that approximately six responses were potentially not collected by the database. The second electronic contact (Appendix G) to the land grant employees included a paragraph about the problem requesting anyone who submitted responses after June 3 to resubmit. Most of the six people were identified through the computer address attached to the hit and not found in the list of responses and a separate electronic mail request was sent to them requesting them to resubmit their responses. A computer address from an off-campus location was not possible to trace to a particular person.

Analysis of Data

Responses were collected by returned mail surveys or through an optional web based survey (for faculty only). Surveys sent to the state legislators were coded to track responses and assist with follow-up efforts. Responses were separated from the code to

protect the confidentiality and privacy of the individuals. The design of the survey was not conducive to available optical scanning technology, therefore, legislative responses and hard copy faculty responses were entered by hand into the SPSS Graduate Pack 12.0 for Windows. Faculty responses received via the Web-based format were copied from the Access database into Excel and copied again into SPSS 12.0. Three responses returned by legislators were completely blank. These were included in the data file. There were initially 60 responses to the web-based survey format and 25 responses returned in paper format by the faculty. Two of the web-based responses were deleted from the data set because they were completely empty responses.

A scale of reliability was calculated for the questions with a Likert-type scale. For the faculty survey, Cronbach's alpha for the questions about the assumptions related to agriculture in Montana was .673. For the questions related to the respondent's agreement with goals of the College of Agriculture/Agricultural Experiment Station and Extension Service, it was .885 and for the questions related to the respondent's perception of the level of successful achievement of the stated goals, the alpha was .927. For the legislator survey, the Cronbach's alpha for the questions about the assumptions related to agriculture in Montana was .704. For the questions related to the respondent's agreement with goals of the College of Agriculture/Agricultural Experiment Station and Extension Service, it was .917 and for the questions related to the respondent's perception of the level of successful achievement of the stated goals, the alpha was .962. Frequencies and independent measures *t* tests were run using SPSS 12.0, depending on the nature of the survey question. The results are detailed in chapter four.

RESULTS OF THE STUDY

The entire populations of state legislators in Montana and faculty members of the agricultural component of the land grant system were surveyed regarding their perceptions of the land grant system in Montana and the nature of communication with the institution. As indicated in Table 1, 56.7% of legislators responded to the survey. Three responses were determined to be not valid as the individuals did not respond to any of the questions, leaving 82 (54.7%) useable survey responses.

Eighty-three, or 41.9%, useable responses from faculty were received (Table 1). For this survey, faculty were defined as tenured or tenure-track faculty in the College of Agriculture and Agricultural Experiment Station and Extension Agents. The number of responses (*n*) varies by table due to nonresponses to individual questions.

Table 1. Response Rate.

	Number of Surveys				
Respondents	Mailed	Returned	Percent	Useable	Percent
Legislators	150	85	56.7	82	54.7
Faculty	198	85	42.9	83	41.9

Demographics

Data in Table 2 and Table 3 reveal that the majority of legislative respondents were male (72.8%) and over the age of 45 (92.6%, 28.8+40.0+23.8). For the faculty, 80.0% of the respondents were male. Two-thirds (65.5%, 38.3+24.7+2.5) of the faculty were over the age of 45.

Table 2. Gender of Legislator and Faculty Respondents.

	Legislators		Faculty	
Gender	*n*	%	*n*	%
Male	59	72.8	64	80.0
Female	22	27.2	16	20.0

Table 3. Age of Legislator and Faculty Respondents.

	Legislators		Faculty	
Age	*n*	%	*n*	%
Under 25	0	0	2	2.5
25-34	0	0	9	11.1
35-44	6	7.5	17	21.0
45-54	23	28.8	31	38.3
55-64	32	40.0	20	24.7
Over 65	19	23.8	2	2.5

Both populations were well educated. Data in Table 4 indicates 97.6% (13.8+28.8+55.0) of faculty had college or advanced degrees, while 70.1% (35.0+26.3+8.8) of legislators had college or advanced degrees. The responses from legislators were more evenly distributed between Democrats (42%) and Republicans (56.8%) than faculty members who were more likely to consider themselves Republican (46.6%) or Independent (27.4%) than Democrat (15.1%) (Table 5).

Table 4. Level of Education of Legislator and Faculty Respondents.

	Legislators		Faculty	
Level of Education	*n*	%	*n*	%
High School	7	8.8	2	2.5
Some College	17	21.3	0	0
Bachelor Degree	28	35.0	11	13.8
Master's Degree	21	26.3	23	28.8
Doctorate Degree	7	8.8	44	55.0

Table 5. Political Affiliation of Legislator and Faculty Respondents.

	Legislators		Faculty	
Political Affiliation	*n*	%	*n*	%
Democrat	34	42.0	11	15.1
Republican	46	56.8	34	46.6
Independent	1	1.2	20	27.4
Other	0	0	8	11.0

The data in Table 6 indicates the length of service in the Montana Legislature reported by the legislator respondents. Reflective of Montana's term limit law, the majority of the respondents have been in the Legislature less than nine years, with 29.6% having five to eight years of service, 27.2% with two to four years, and 28.4% serving less than two years in the Legislature. Table 7 presents data showing how long the faculty respondents have been employed at a land grant institution. A quarter of the faculty (25.3%) have been working at a land grant institution more than 25 years. Twenty percent have been associated with a land grant institution for 21-25 years and 20.3% for 11-15 years. An equal number of employees (12.7%) have worked at a land grant for 6-10 years and 0-5 years.

Table 6. Length of Service in the Montana Legislature by Legislator Respondents.

Length of Service	*n*	%
Less than 2 years	23	28.4
2-4 years	22	27.2
5-8 years	24	29.6
9-12 years	7	8.6
13-16 years	4	4.9
More than 16 years	1	1.2

Table 7. Length of Employment at a Land Grant Institution by Faculty Respondents.

Length of Employment	*n*	%
0-5 years	10	12.7
6-10 years	10	12.7
11-15 years	16	20.3
16-20 years	7	8.9
21-25 years	16	20.3
More than 25 years	20	25.3

The data in Table 8 indicates the occupations reported by the legislators. Thirty percent of legislators indicated they are involved in an agriculture-related occupation, while 19.8% of legislators work in education and 18.5% are involved in business. Seventeen percent indicated "Other." Those responses are in detailed in Appendix Q.

Table 8. Occupations Reported by Legislator Respondents.

Occupation Category	*n*	%
Agriculture	24	29.6
Business	15	18.5
Education	16	19.8
Professional	8	9.4
Service	4	4.9
Other	14	17.3

Half of the legislators reported that less than twenty percent of their constituents are involved in agriculture, as the data in Table 9 shows. Another 22.2% indicated that 20-40% of constituents are involved in agriculture, defined as operating a farm or ranch or working in a agriculture-related business. Slightly more than a quarter (12.3+11.1+3.7) of the legislators indicated 40% or more of constituents involved in agriculture.

Table 9. Percent of Constituents Involved in Agriculture as Reported by Legislators.

Percent of Constituents	*n*	%
<20%	41	50.6
20-40	18	22.2
40-60	10	12.3
60-80	9	11.1
>80%	3	3.7

Legislative respondents were fairly evenly distributed among the three population bases of farm/ranch, rural area (<2500), or town/city (>2500) as shown in Table 10. Twenty-six (32.5%) legislative respondents described farm/ranch as where they live, while 25 (31.2%) indicated rural area and 29 (36.2%) chose town/city. Faculty respondents generally lived in a rural area or town/city with 14.3% choosing farm/ranch, 35.1% in rural areas, and 50.6% indicating town/city.

Table 10. Description of Area Where Respondent Lives.

	Legislators		Faculty	
Description	*n*	%	*n*	%
Farm/Ranch	26	32.5	11	14.3
Rural Area	25	31.3	27	35.1
Town/City	29	36.3	39	50.6

Perceptions of the Goals of Agricultural Land Grant System

The information in Table 11 reveals that legislators and faculty alike indicated a preference for the three components of the land grant system (College of Agriculture, Agricultural Experiment Station, Extension Service) to be administratively structured under the same leadership (Legislators, 44.4%; Faculty, 41.3%). The system's current structure with the College of Agriculture and Agricultural Experiment Station under the same leadership and the Extension Service under different leadership was in the top three

responses for both groups (Legislators, 12.3%; Faculty 23.8%). About one-fourth (24.7%) of the legislators indicated they "Don't Know," while 12.5% of faculty responded "Don't Know." There was some support (Legislators, 9.9%; Faculty, 17.5%) for each component of the land grant system having separate leadership.

Table 11. Frequencies of Legislator and Faculty Responses to the Administrative Structure of the Agricultural Component of the Montana Land Grant System.

	Legislators		Faculty	
Administrative Structure	*n*	%	*n*	%
Separate leadership	8	9.9	14	17.5
College and Station together, Extension separate	10	12.3	19	23.8
College and Extension together, Station separate	3	3.7	1	1.3
Station and Extension together, College separate	4	4.9	3	3.8
All under same leadership	36	44.4	33	41.3
Don't know	20	24.7	10	12.5

An overwhelming majority of both legislators (71, 87.7%) and faculty (73, 89%) indicated that the Montana land grant system is a vital element of the state's economy. Additionally, based on a scale of Not Important (1.0-1.49), Somewhat Important (1.5-2.49), and Very Important (2.5-3.0), legislators (M = 2.72, SD = .51) and faculty (M = 2.62, SD = .58) believe it is very important for Montana's citizens to be knowledgeable about basic agricultural issues.

Nine assumptions about the nature and future of agriculture in the state were identified by the land grant system leadership and provided the foundation for the strategic plan put together in 2000 by the College of Agriculture and Agricultural Experiment Station. Respondents were asked to indicate their level of agreement with these assumptions based on a Likert Scale with five options, Strongly Disagree (1-1.49), Disagree (1.5-2.49), Don't Know (0), Agree (2.5-3.49), and Strong Agree (3.49-4.0).

Means were calculated without the "Don't Know" option, which had been coded as a zero. The data in Table 12 show both legislators (M = 3.72) and faculty (M = 3.74) strongly agreed that plant and animal agricultural systems and natural resources are crucial to the state's economy. Both groups also strongly agreed that state funding for the Montana land grant system is a good investment in Montana's economy (Legislators, M = 3.55; Faculty, M = 3.59). The assumption stating regionalization of agricultural education and research programs in the state will be required due to limited state resources received the lowest level of agreement from both groups (Legislators, M = 2.85, Faculty, M = 2.85). There was a significant difference between legislators (M = 3.64) who agreed that the state's value-added agricultural industry should expand and faculty (M = 3.31) who agreed with that assumption, t = 3.03, p = .003. A significant difference was also found between the legislators and the faculty regarding the impact of regional and global concerns on Montana agriculture with legislators strongly agreeing with the assumption (M = 3.63) and faculty agreeing (M = 3.43), t = 2.26, p = .025.

It is important to note the large number of respondents that indicated a "Don't Know" response to the assumption regarding regionalization of agricultural education and research programs with 27 (32.9%) of legislator respondents and 16 (19.3%) of faculty responded "Don't Know." A couple of written comments next to this question may indicate that respondents were unclear on what was meant by "regionalization" (Appendices P and Q). A fifth of legislator respondents (20.7%) indicated a "Don't Know" response for the assumption that land grant agriculture research impacts Montana's economy and 12.2% responded "Don't Know" to the question that state

funding of the land grant system is a good investment in the economy. Eleven (13.2%) of faculty indicated a "Don't Know" response to the assumption that Montana's value added industry should expand.

Table 12. Legislator and Faculty Agreement with Stated Assumptions Held by the Land Grant System Concerning the State's Agriculture.

	Legislators			Faculty			
Assumptions	*M*	*SD*	DK	*M*	*SD*	DK	*p* value
Plant and animal agricultural systems and natural resources are crucial to Montana's economy.	3.72	.45	0	3.74	.65	0	.779
Environmental concerns in Montana play a role in policy decisions about agriculture.	3.28	.62	3	3.28	.64	5	.955
The needs of Montana's population are diverse and ever changing.	3.28	.60	5	3.16	.60	7	.246
Regional and global concerns have an impact on Montana agriculture.	3.63	.51	2	3.43	.62	4	.025*
Montana's agricultural industry must be more competitive in the global economy.	3.54	.64	2	3.55	.67	8	.973
Montana's value-added agricultural industry should expand.	3.64	.48	5	3.31	.81	11	.003*
Regionalization of agricultural education and research programs in Montana will be required due to limited state resources.	2.85	.83	27	2.84	.80	16	.957
Agricultural research conducted by the land-grant system significantly impacts Montana's economy.	3.27	.60	17	3.45	.64	3	.082
State funding for the Montana land grant system is a good investment in Montana's economy.	3.55	.53	10	3.59	.69	3	.691

* Significant at $p < .05$.
DK = Don't Know
Note: Scale based upon 0=Don't Know, 1-1.49=Strongly Disagree, 1.5-2.49=Disagree, 2.5-3.49=Agree, 3.5-4=Strongly Agree.
Note: Responses indicating Don't Know (coded 0) were considered missing values. Thus the means and standard deviations were calculated without these responses.

The stated goals of the College of Agriculture/Agriculture Experiment Station and Extension Service were taken from the published strategic plans and plans of action and used as survey questions. Respondents were first asked to indicate their level of agreement with the goals of the land grant system based on a Likert Scale with five options, Strongly Disagree (1-1.49), Disagree (1.5-2.49), Don't Know (0), Agree (2.5-3.49), and Strong Agree (3.49-4.0). In Tables 13 and 14, the goals are grouped by the

organization for which they were developed. This distinction was not specified in the survey. "Don't Know" responses were coded as zero and were treated as missing values when the means were calculated and the *t*-tests run.

Legislators and faculty agreed with all of the College of Agriculture and Agricultural Experiment Station goals (Table 13). The legislator (M = 3.69) and faculty (M = 3.56) respondents strongly agreed that the land grant system should be accountable to the citizens. Legislator respondents strongly agreed that the agricultural land grant system should encourage the highest standards of ethics and citizenship (M = 3.63). Faculty strongly agreed that the agricultural land grant system should conduct high quality research (M = 3.56). The goal receiving the lowest level of agreement from legislators (M = 3.17) was to cultivate a nationally and internationally recognized faculty. For faculty, the lowest level of agreement was for the goal to establish new ways of learning (M = 3.25). There were no significant difference between legislators and faculty levels of agreement for these goals detected.

It is important to be aware of the questions that had a high number of "Don't Know" responses. Ten (12.2%) legislator respondents indicated "Don't Know" to two goals: 1) provide visionary and responsive leadership and 2) develop and follow a resource plan. Nineteen (22.9%) of faculty respondents indicated a "Don't Know" response to the goal of establishing new ways of learning while fourteen (16.9%) indicated "Don't Know" to the goal of developing and following an innovative public relations program.

Table 13. Frequencies and Comparisons for Legislator and Faculty Agreement with Stated Goals of the College of Agriculture/Agricultural Experiment Station.

	Legislators			Faculty			
Stated Goals	*M*	*SD*	DK	*M*	*SD*	DK	*p* value
Provide visionary and responsive leadership that meets or exceeds the expectations of clientele.	3.34	.54	10	3.32	.67	1	.793
Offer quality and excellence in scholarly activity.	3.37	.51	4	3.51	.60	2	.110
Facilitate open communication, trust, honesty, and acceptance in the work environment.	3.42	.57	4	3.47	.63	8	.605
Encourage the highest standards of ethics and citizenship.	3.63	.51	2	3.49	.66	1	.155
Ensure responsible and creative use of resources.	3.58	.57	2	3.38	.72	0	.060
Be accountable to the citizens of Montana.	3.69	.49	2	3.56	.64	3	.160
Train students who are competitive and successful in a global economic environment through enhanced programs and improved recruitment and retention.	3.44	.62	4	3.55	.58	5	.277
Conduct high quality research through enhanced programs focused on biological and economic sustainability, improving the quality of life and the environment.	3.53	.58	5	3.56	.60	3	.792
Establish new ways of learning by enhancing and expanding distance education and summer school opportunities.	3.44	.60	8	3.25	.72	19	.086
Cultivate a nationally and internationally recognized faculty through recruitment and by promoting professional development.	3.17	.74	9	3.29	.62	10	.310
Develop and follow an innovative public relations program that provides clear communication and interaction with clientele.	3.28	.68	9	3.29	.65	14	.957
Develop and follow a resource plan that provides infrastructure and allocates resources based on priorities and productivity.	3.41	.60	10	3.26	.64	11	.185

DK = Don't Know

Note: Scale based upon 0=Don't Know, 1-1.49=Strongly Disagree, 1.5-2.49=Disagree, 2.5-3.49=Agree, 3.5-4=Strongly Agree.

Note: Responses indicating Don't Know (coded 0) were considered missing values. Thus the means and standard deviations were calculated without these responses.

Data in Table 14 reveal that legislators and faculty agreed or strongly agreed with all of the Extension Service goals. Legislator respondents strongly agreed with four goals, among them: helping Montanans support and understand good land and natural resources stewardship (M = 3.64) and helping Montanans take advantage of opportunities available through new technology and through adding value to the products produced (M = 3.59). Faculty strongly agreed with the goal to disseminate and encourage the application of research-generated knowledge to individuals, families, and communities (M = 3.51). Faculty also agreed with the goal to use all appropriate educational and research resources in Montana and the region (M = 3.41). Both legislator and faculty respondents indicated their lowest level of agreement for two goals: 1) helping Montana communities achieve their desired future in the face of population change (Legislators, M = 3.17; Faculty, M = 3.14), and 2) assisting Montana communities with a full range of proven economic development strategies to provide livable-wage jobs for adults, entry-level jobs allowing young people to develop sound work ethics, and off-farm jobs enabling farmers/ranchers to retain their operations (Legislators, M = 3.33; Faculty, M = 3.07).

There was a significant difference between legislators (M = 3.59) who strongly agreed with the goal of helping Montanans take advantage of opportunities available through new technology and through adding value to the products produced and faculty respondents (M = 3.24) who agreed with this goal, t = 3.91, $p < .001$. A significant difference was found between legislators (M = 3.33) who agreed with the goal of assisting Montana communities with a full range of proven economic development

strategies and faculty ($M = 3.07$) who agreed with the goal, $t = 2.12$, $p = .036$. There was a significant difference between legislator respondents ($M = 3.56$) and faculty respondents ($M = 3.33$) for the goal of ensuring that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship at a level that provides for continual production and a desirable quality of life, $t = 2.46$, $p = .015$. A significant difference was found between legislator respondents ($M = 3.64$) who strongly agreed with helping Montanans support and understand good land and natural resources stewardship and faculty ($M = 3.39$) who agreed with this goal, $t = 2.63$, $p = .009$.

It is important to note the questions that had a high number of "Don't Know" responses. Large numbers of both legislator and faculty respondents indicated a response of "Don't Know" for two goals: 1) strengthen Montana's families and communities (Legislators, 12.2%; Faculty, 18.1%), and 2) help Montana communities achieve their desired futures in the face of population change (Legislators, 18.3%; Faculty, 22.9%). Twelve (14.6%) legislator respondents indicated "Don't Know" for the goal of helping Montanans apply unbiased, research-based information to make informed decisions that establish and maintain strong and healthy families. Eighteen (21.7%) faculty respondents indicated "Don't Know" for the goal of assisting Montana communities with a full range of proven economic development strategies.

Table 14. Frequencies and Comparisons for Legislator and Faculty Agreement with Stated Goals of the Extension Service.

	Legislators			Faculty			*p* value
Stated Goals	*M*	*SD*	DK	*M*	*SD*	DK	
Disseminate and encourage the application of research-generated knowledge to individuals, families, and communities.	3.49	.55	4	3.51	.70	4	.798
Improve agriculture, forestry, and other businesses.	3.51	.57	0	3.38	.59	1	.168
Strengthen Montana's families and communities.	3.34	.74	10	3.27	.60	15	.536
Use all appropriate educational and research resources in Montana and the region.	3.47	.50	6	3.41	.55	4	.530
Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship at a level that provides for continual production and a desirable quality of life.	3.56	.53	5	3.33	.60	3	.015*
Help Montana individuals, families, and communities apply unbiased, research-based information to make informed decisions that establish and maintain strong and healthy families.	3.40	.65	12	3.37	.57	4	.748
Contribute to Montana youth by developing their confidence, competence, and character to become critical thinkers, active citizens, caring human beings, innately curious, self-sufficient, adaptable to change, and connected to the community.	3.38	.74	6	3.41	.58	8	.842
Assist Montana communities with a full range of proven economic development strategies to provide livable-wage jobs for adults, entry-level jobs allowing young people to develop sound work ethics, and off-farm jobs enabling farmers/ranchers to retain their operations.	3.33	.75	7	3.07	.66	18	.036*
Help Montanans support and understand good land and natural resource stewardship.	3.64	.51	6	3.39	.63	2	.009*
Help Montana communities achieve their desired futures in the face of population change.	3.17	.89	15	3.14	.58	19	.835
Help Montanans take advantage of opportunities available through new technology and through adding value to the products produced.	3.59	.52	2	3.24	.58	9	.000*

* Significant at $p < .05$.
DK = Don't Know
Note: Scale based upon 0=Don't Know, 1-1.49=Strongly Disagree, 1.5-2.49=Disagree, 2.5-3.49=Agree, 3.5-4=Strongly Agree.
Note: Responses indicating Don't Know (coded 0) were considered missing values. Thus the means and standard deviations were calculated without these responses.

Respondents were asked to rate how successful the land grant system had been in accomplishing the stated goals on a Likert scale of poor (1-1.49), fair (1.5-2.49), good (2.5-3.49), very good (3.5-4.49), excellent (4.5-5), and don't know (0). In Tables 15 and 16, the goals are grouped by the organization for which they were developed. This distinction was not specified in the survey. Responses were more variable regarding the successful accomplishment of the stated goals than the respondent's agreement level with the goals and ranged from fair to very good.

Both populations indicated that the College of Agriculture and Agricultural Experiment Station had been most successful in offering quality and excellence in scholarly activity (Legislators M = 3.53, Faculty M = 3.42), as the data in Table 15 presents. Both legislators and faculty also indicated that the College of Agriculture and Agricultural Experiment Station has been successful in conducting high quality research through enhanced programs focused on biological and economic sustainability, improving the quality of life and the environment (Legislators M = 3.30, Faculty M = 3.35). Legislators rated the land grant system the lowest in being accountable to the citizens of Montana (M = 2.72). The goal that faculty indicated had been not well achieved by the system was developing and following a resource plan that provides infrastructure and allocates resources based on priorities and productivity (M = 2.28). A significant difference was found between legislators and faculty regarding the goal of being accountable to the citizens of Montana. Faculty (M = 3.17) indicated a significantly higher success rate in achieving this goal than legislators (M = 2.72), t = -2.54, p = .012. A significant difference was found between legislators (M = 3.20) and

faculty (M = 2.81) on the success of encouraging the highest standards of ethics and citizenship, t = 2.32, p = .022. Legislators (M = 3.00) indicated a higher success rate in facilitating open communication, trust, honesty, and acceptance in the work environment than faculty (M = 2.61) resulting in a statistically significant difference, t = 2.48, p = .014. Faculty (M = 2.28) indicated a statistically significant lower level of success in developing and following a resource plan that provides infrastructure and allocates resources based on priorities and productivity than legislators (M = 2.80), t = 3.03, p = .003.

Large numbers of legislator respondents indicated a "Don't Know" answer to every question in Table 15. Twenty-five percent or more of the legislator respondent answered "Don't Know" about the level of success to four goals: 1) encourage the highest standards of ethics and citizenship, 2) establish new ways of learning by enhancing and expanding distance education and summer school opportunities, 3) cultivate a nationally and internationally recognized faculty through recruitment and by promoting professional development, and 4) develop and follow a resource plan that provides infrastructure and allocates resources based on priorities and productivity. Eleven (13.3%) of faculty respondents answered "Don't Know" regarding the success level of establishing new ways of learning by enhancing and expanding distance education and summer school opportunities.

Table 15. Frequencies and Comparisons for Legislator and Faculty Perceptions of the College of Agriculture/Agricultural Experiment Station Success in Achieving its Stated Goals.

	Legislators			Faculty			*p* value
Stated Goals	*M*	*SD*	*DK*	*M*	*SD*	DK	
Provide visionary and responsive leadership that meets or exceeds the expectations of clientele.	3.15	.99	15	2.87	.91	1	.079
Offer quality and excellence in scholarly activity.	3.53	.87	16	3.42	.90	1	.448
Facilitate open communication, trust, honesty, and acceptance in the work environment.	3.00	.84	20	2.61	.96	3	.014*
Encourage the highest standards of ethics and citizenship.	3.21	.97	22	2.81	1.00	1	.022*
Ensure responsible and creative use of resources.	3.06	.97	18	2.96	1.00	1	.541
Be accountable to the citizens of Montana.	2.72	.98	16	3.18	1.13	0	.012*
Train students who are competitive and successful in a global economic environment through enhanced programs and improved recruitment and retention.	3.05	.89	15	3.28	1.00	4	.161
Conduct high quality research through enhanced programs focused on biological and economic sustainability, improving the quality of life and the environment.	3.30	1.02	16	3.35	.98	3	.751
Establish new ways of learning by enhancing and expanding distance education and summer school opportunities.	2.84	.92	28	2.51	1.02	11	.067
Cultivate a nationally and internationally recognized faculty through recruitment and by promoting professional development.	2.87	.88	34	2.82	1.08	2	.795
Develop and follow an innovative public relations program that provides clear communication and interaction with clientele.	2.74	.77	18	2.58	.93	4	.270
Develop and follow a resource plan that provides infrastructure and allocates resources based on priorities and productivity.	2.80	.95	29	2.28	.92	8	.003*

*Significant at $p < .05$.
DK = Don't Know
Note: Scale based upon 0=Don't Know, 0.5-1.49=Poor, 1.5-2.49=Fair, 2.5-3.49=Good, 3.5-4.49=Very Good, 4.5-5=Excellent.
Note: Responses indicating Don't Know (coded 0) were considered missing values. Thus the means and standard deviations were calculated without these responses.

The data in Table 16 reveal that among the Extension Service goals, legislators (M = 3.22) and faculty (M = 3.36) respondents considered contributing to Montana youth by developing their confidence, competence, and character as the most successfully completed goal. The goals receiving the lowest (fair) rating of success by both legislator and faculty were: 1) helping Montana communities achieve their desired futures (Legislators, M = 2.20; Faculty, M = 2.49) and 2) assisting Montana communities with a full range of proven economic development strategies (Legislators, M = 2.29; Faculty, M = 2.41).

Faculty (M = 3.25) indicated a significantly higher success rate for helping Montanans support and understand good land and natural resource stewardship than legislators (M = 2.81), t = -2.88, p = .005. There was a significant difference between legislator responses (M = 2.66) to the goal of helping Montana individuals, families, and communities apply unbiased, research-based information to make informed decisions and faculty responses (M = 3.21) to this goal, t = -3.29, p = .001. Legislators (M = 2.75) indicated a significantly lower success rate to ensuring that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship than faculty respondents (M = 3.11), t = -2.12, p = .036.

In reviewing the number of respondents answering “Don’t Know,” it is important to note that 18.3% or more of legislator respondents indicated “Don’t Know” on every question in Table 16. Nine (10.8%) of faculty responded “Don’t Know” to the level of success in helping Montana communities achieve their desired futures in the face of population change.

Table 16. Frequencies and Comparisons for Legislator and Faculty Perceptions of the Extension Service Success in Achieving its Stated Goals.

	Legislators			Faculty			*p* value
Stated Goals	*M*	*SD*	DK	*M*	*SD*	DK	
Disseminate and encourage the application of research-generated knowledge to individuals, families, and communities.	3.08	1.05	17	3.19	1.05	2	.526
Improve agriculture, forestry, and other businesses.	3.14	1.07	15	3.17	.88	2	.864
Strengthen Montana's families and communities.	2.72	.95	26	2.90	.91	5	.269
Use all appropriate educational and research resources in Montana and the region.	2.80	.97	19	2.95	.95	2	.375
Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship at a level that provides for continual production and a desirable quality of life.	2.75	1.05	19	3.11	.90	4	.036*
Help Montana individuals, families, and communities apply unbiased, research-based information to make informed decisions that establish and maintain strong and healthy families.	2.66	.92	25	3.21	.92	7	.001*
Contribute to Montana youth by developing their confidence, competence, and character to become critical thinkers, active citizens, caring human beings, innately curious, self-sufficient, adaptable to change, and connected to the community.	3.22	1.08	18	3.36	1.00	3	.411
Assist Montana communities with a full range of proven economic development strategies to provide livable-wage jobs for adults, entry-level jobs allowing young people to develop sound work ethics, and off-farm jobs enabling farmers/ranchers to retain their operations.	2.29	.85	27	2.41	.89	8	.433
Help Montanans support and understand good land and natural resource stewardship.	2.81	.91	17	3.25	.88	1	.005*
Help Montana communities achieve their desired futures in the face of population change.	2.20	.88	30	2.49	.87	9	.074
Help Montanans take advantage of opportunities available through new technology and through adding value to the products produced.	2.69	.93	21	2.73	.90	4	.827

*Significant at $p < .05$.
DK = Don't Know
Note: Scale based upon 0=Don't Know, 0.5-1.49=Poor, 1.5-2.49=Fair, 2.5-3.49=Good, 3.5-4.49=Very Good, 4.5-5=Excellent.
Note: Responses indicating Don't Know (coded 0) were considered missing values. Thus the means and standard deviations were calculated without these responses.

Respondents were asked to write down the top three challenges they believed faced the College of Agriculture in 2010. The responses were grouped by common themes based on the researcher's interpretation. All of the responses and the categories into which they were grouped can be found in Appendices J and K. The top issue for both legislators (58) and faculty (49) was funding. Other important issues identified in Table 17 were quality and quantity of faculty (Legislators, 16; Faculty, 22), quality and quantity of students and other issues affecting students such as tuition and jobs (Legislators, 23; Faculty, 48).

Table 17. Respondents Responses to the Top Three Challenges Facing MSU's College of Agriculture.

Response Category	Legislators	Faculty
Funding	58	49
Students (Enrollment, Tuition, Recruitment, Retention)	23	48
Research	22	7
Faculty (Recruitment, Retention)	16	22
Leadership	2	11
Relevance	2	10
Other	72	53

Note: Comments grouped based on the researcher's interpretation. Full text of the comments can be found in Appendices J and K.

Respondents were asked to list the top three priorities they perceived the Montana Agriculture Experiment Station should be addressing in 2010. The responses were grouped by common themes based on the researcher's interpretation and are presented in Table 18. The responses and assigned categories are in Appendices L and M. Crops (Legislators, 27; Faculty 23) and value added research and products (Legislators, 15; Faculty 23) were top priorities for both legislators and faculty. Biotechnology and

genetically modified products (23) and weeds (15) were indicated as a key priority for research by legislators. Economics was a main issue for faculty respondents (29).

Table 18. Respondents' Responses to the Perceived Top Three Agricultural Research Priorities for the Montana Agricultural Experiment Station in 2010.

Response Category	Legislators	Faculty
Crops	27	23
Biotechnology	23	10
Value Added	15	23
Weeds	15	3
Livestock	15	8
Economics	10	29
Funding	7	8
Other	59	79

Note: Comments grouped based on the researcher's interpretation. Full text of the comments can be found in Appendices L and M.

Respondents were asked to indicate the top three challenges they believed the Extension Service faces in 2010. Responses were grouped by common themes based on the researcher's interpretation and are presented in Table 19. The responses and assigned categories are in Appendices N and O. Communication and education (Legislators, 34; Faculty, 26) and funding issues (Legislators, 33; Faculty, 38) were mentioned often by legislators and faculty. Key issues for the faculty regarding the future of the Extension Service included administration and staffing (42) and the changing environment (29). The relevance and subsequent existence of the Extension Service was also indicated as an area of concern, especially by legislators (33), but also by faculty (20).

Table 19. Respondents' Responses to the Top Three Challenges for the Extension Service in 2010.

Response Category	Legislators	Faculty
Communication and Education	34	26
Funding	33	38
Relevance and Survival	33	20
Changing environment	15	29
Administration and Staffing	14	42
Other	32	30

Note: Comments grouped based on the researcher's interpretation. Full text of the comments can be found in Appendices N and O.

Respondents were asked to identify funding sources that would address the challenges and priorities identified in Tables 17-19. The results are shown in Table 20. Respondents were allowed to choose more than one response. Legislator respondents indicated that new federal funds (41, 48.2%), reallocating funds (41, 48.2%), and new state funds (37, 43.5%) were the top three options for funding to address challenges in 2010. Faculty indicated that the top three options for resources were new state funds (50, 60.2%), new federal funds (41, 49.4%), and eliminating other programs (41, 49.4%). The survey did not ask what programs respondents would recommend be eliminated to secure funds for new challenges and priorities. Responses indicated as other by respondents included private and grant funding, prioritization, and efficient and proper use of funds (Appendices P and Q).

Table 20. Frequencies of Responses by Legislators and Faculty to Funding Needed for Challenges to the Agricultural Components of the Land Grant System.

	Legislators		Faculty	
Funding Source Option	*n*	%	*n*	%
New state funds	37	43.5	50	60.2
Reallocate funds	41	48.2	33	39.8
Eliminate other programs	33	38.8	41	49.4
New federal funds	41	48.2	41	49.4
Other	17	20.0	12	14.5

Note: Other responses listed in Appendices P and Q.

Faculty Communication Issues

Faculty were asked to rank their top three sources of information on general agricultural issues. The results are presented in Table 21. Personal contacts were the source ranked first (39.7%), followed by agriculture newspapers (14.1%) and websites (11.5%) The number of faculty that receive publications from the College of Agriculture and the Extension Service are presented in Table 22 and 23, respectively. The majority of the faculty received the AgLink newsletter (65) from the College of Agriculture and various MontGuides from the Extension Service (48). Other publications offered by the College of Agriculture/Agriculture Experiment Station and Extension Service were received by fewer faculty.

Table 21. Common Sources for Information about Montana Agriculture for Faculty Respondents.

	First Choice		Second Choice		Third Choice	
	n	%	*n*	%	*n*	%
Magazines	3	3.8	6	8.0	9	12.2
Daily Newspapers	13	16.7	9	12.0	13	17.6
Agriculture Newspapers	11	14.1	14	18.7	14	18.9
Newsletters	4	5.1	7	9.3	3	4.1
Radio programs	3	3.8	9	12.0	4	5.4
TV programs	2	2.6	4	5.3	4	5.4
Web sites	9	11.5	15	20.0	12	16.2
Personal contacts	31	39.7	8	10.7	9	12.2
Other	2	2.6	3	4.0	6	8.1

Table 22. College of Agriculture/Agricultural Experiment Station Publications Received on a Regular Basis by Faculty.

College of Agriculture/Agricultural Experiment Station publications	*n*
AgLink Newsletter	65
Recruitment Information	18
Specific issue help	21
Educational programming announcements	22
Other newsletters	13
Other	5

Table 23. Extension Service Publications Received on a Regular Basis by Faculty.

Extension Service publications	*n*
MontGuides and other publications	48
Extension Today newsletter	37
Specific issue help	25
Educational programming announcements	29
Other newsletters	31
Other	6

Legislator Communication Issues

Data in Table 24 show the top two sources of information about Montana agriculture ranked as the first choice by legislators were daily newspapers (33.3%) and

agriculture publications (23.5%). Relatives involved in production agriculture were another source for legislators (11.1%). Legislators chose daily newspapers (17.5%) and agriculture publications (17.5%) as their top two sources in the second choice ranking as well. The third choice ranking had legislators looking to agriculture publications (18.7%) and radio programs (13.3%) for their top two sources of information.

Table 24. Common Sources for Information about Montana Agriculture for Legislator Respondents.

	First Choice		Second Choice		Third Choice	
	n	%	*n*	%	*n*	%
Magazines	3	3.7	6	7.5	6	8.0
Daily Newspapers	27	33.3	14	17.5	7	9.3
Agriculture Publications	19	23.5	14	17.5	14	18.7
Newsletters	2	2.5	13	16.3	9	12.0
Radio programs	3	3.7	10	12.5	10	13.3
TV programs	3	3.7	4	5.0	7	9.3
Web sites	1	1.2	1	1.3	4	5.3
Relative involved in production agriculture	9	11.1	2	2.5	6	8.0
Relative involved in agriculture business	2	2.5	5	6.3	2	2.7
Friend/Neighbor	5	6.2	7	8.8	9	12.0
Other	7	8.6	4	5.0	1	1.3

Twenty-one legislators (25.6%) indicated they had contact with the College of Agriculture/Agriculture Experiment Station throughout the year. Data in Table 25 indicates most of the contact occurred through newsletters (16), letters (10), or direct, in-person contact (10). The contact was infrequent with the majority of legislators reporting monthly (13) or annual contact (8).

Table 25. Nature and Type of Contact Legislators Reported Having with the College of Agriculture and Agricultural Experiment Station.

Nature of Contact	*n*
In person	10
Field day	7
Letters	10
Newsletters	16
Web pages	3
Electronic mail	5
Other	1
Type of Contact	
AgLink	8
Recruitment	2
Specific issues	9
Educational programming	10
Other newsletters	15
Other	2

Forty-six legislators (56.1%) had contact with the Extension Service throughout the year. Table 26 shows most of the contact occurred in person (38) or through newsletters (31). The legislators had infrequent contact with the Extension Service, mainly on a monthly (26) or annual basis (18). Specifically, contact was made most often regarding specific issues (22) followed by receiving the Extension Today newsletter (17), other newsletters (15), and educational programming (15).

Table 26. Nature and Type of Contact Legislators Reported Having with the Extension Service.

Nature of Contact	*n*
In person	38
Field day	11
Letters	9
Newsletters	31
Web pages	4
Electronic mail	11
Other	2
Type of Contact	
MontGuides	10
Extension Today	17
Specific issues	22
Educational programming	15
Other newsletters	15
Other	6

Legislators were asked who they would contact if they had an agriculture-related question. The results are presented in Table 27. The top two sources for information ranked as the first choice by legislators were a MSU Extension Agent (43.6%) and a neighbor or friend (21.8%). The second ranked choices indicated by legislators were a neighbor or friend (26.2%) and College of Agriculture faculty (21.5%). The top two sources of information ranked third by legislators were College of Agriculture faculty (20.0%) and a MSU Extension Agent (16.7%) or Extension Specialist (16.7%). Other choices listed by legislators included Montana Department of Agriculture staff, other legislators, and lobbyists (Appendix Q).

Table 27. Top Three Choices of Contacts Legislator Respondents Would Contact with a Question about Agriculture.

	First Choice		Second Choice		Third Choice	
Sources	*n*	%	*n*	%	*n*	%
MSU Extension Agent	34	43.6	13	20.0	10	16.7
MSU Extension Specialist	8	10.3	9	13.8	10	16.7
MAES Research Center	5	6.4	1	1.5	4	6.7
College of Ag Faculty	2	2.6	14	21.5	12	20.0
Private crop/livestock consultant	4	5.1	7	10.8	9	15.0
Neighbor/Friend	17	21.8	17	26.2	9	15.0
Other	8	10.3	4	6.2	6	10.0

Note: Responses listed as Other in Appendix Q.

Legislator respondents were asked what sources they most commonly use for agricultural information during the legislative session. The results are presented in Table 28. The top two sources for information ranked as the first choice by legislators were a agricultural lobbyists (45.1%) and other legislators (26.8%). The second ranked choices indicated by legislators were agricultural lobbyists (25.9%) and constituents (16.0%). The top two sources of information ranked third by legislators were other legislators (17.3%) and constituents (14.8%). It is interesting to note that MSU administrators, faculty, and materials are not considered sources for information by the legislators during the session. News media also was consulted infrequently (Table 28).

Table 28. Top Three Sources for Information about Agricultural Issues During a Legislative Session for Legislator Respondents.

	First Choice		Second Choice		Third Choice	
Sources for Agriculture Information	*n*	%	*n*	%	*n*	%
Agricultural Lobbyists	37	45.1	21	25.9	8	9.9
Other Legislators	22	26.8	12	14.8	14	17.3
Constituents	6	7.3	13	16.0	12	14.8
Extension Personnel	1	1.2	3	3.7	8	9.9
MSU Leadership (President, Provost, Deans, Directors)	5	6.1	11	13.6	7	8.6
MSU Department Heads	0	0	3	3.7	4	4.9
MSU Faculty	0	0	0	0	1	1.2
Events at the Capitol	2	2.4	6	7.4	5	6.2
Materials provided by agricultural association groups	4	4.7	7	8.6	10	12.3
Material provided by MSU Ag departments	1	1.2	2	2.5	5	6.2
News media	3	3.7	1	1.2	3	3.7
Out of state contacts	0	0	0	0	0	0
Other	1	1.2	2	2.5	4	4.9

Note: Responses to Other listed in Appendix Q.

Montana State University's President (57) and Director of University Relations (38) were the leadership figures in the agricultural land grant system that provided the most contact with legislators during the legislative session. Contact with the Dean of Agriculture and Director of the Agricultural Experiment Station and College of Agriculture department heads was also reported (Table 29). The Montana Department of Agriculture and lobbyists were among the other responses reported (Appendix Q).

Table 29. Legislator Respondents Reported Contact with Agricultural Land Grant System Leadership during the Legislative Session.

Leadership	*n*
President of MSU	57
Dean of Ag and Director of MAES	24
Director of Extension	9
Director of University Relations	38
Department Heads or Station Superintendents	19
Other	6

Note: Responses to Other listed in Appendix Q.

Forty legislators reported that interaction with the land grant system influenced their perception of agriculture land grant system while 31 reported that the interaction had no influence on their perception. Thirty-nine indicated that their perception was positively influenced and one indicated the interaction influenced his/her perception both positively and negatively.

Legislators indicated their level of knowledge about agriculture was good before the legislative session (M = 2.77). After the legislative session, the reported level of knowledge was still good, but also improved (M = 2.96).

Legislators were asked to rate the quality of the materials and presentations provided by the Agriculture Experiment Station and Extension Service during the legislative session. The materials and presentation provided by the Agriculture Experiment Station and the Extension Service were considered good (Table 30). "Don't Know" responses were coded as zero and were treated as missing values when the means were calculated and the *t*-tests run. There were a large number of "Don't Know" responses to the questions in Table 30. One explanation for the high number of "Don't Know" responses might be due to the fact most information is provided only to the legislative subcommittee responsible for the land grant system budgets.

Table 30. Legislator Respondents Reported Ratings of Materials and Presentations of Agricultural Land Grant System Components During the Session.

	M	*SD*	DK
AES materials	3.23	.99	16
ES materials	3.06	.90	15
AES presentations	3.04	1.05	22
ES presentations	3.04	1.05	20

Note: Scale based upon 0=Don't Know, 1-1.49=Poor, 1.5-2.49=Fair, 2.5-3.49=Good, 3.5-4.49=Very Good, 4.5-5=Excellent.

Comparison of Perceptions by Political Affiliation

Independent sample *t*-tests were run to compare the responses of Democratic legislator respondents and Republican legislator respondents to the questions about the foundational assumptions about Montana agriculture upon which the goals were based, agreement with the goals of the agricultural components of the land grant system, and perceptions of the level of success in achieving the stated goals. There were 34 Democrats, 46 Republicans and 1 Independent among the legislator respondents. Table 31 shows the questions that had significant differences between the two groups. Republican respondents (M = 3.80) expressed a greater degree of strong agreement for the assumption that plant and animal agriculture systems and natural resources are crucial to Montana's economy than Democratic respondents (M = 3.58), t = -2.25, p = .027. Democrats (M = 3.82) expressed a greater degree of strong agreement for the assumption that regional and global concerns have an impact on Montana agriculture than Republican respondents (M = 3.52), t = 2.79, p = .007. Democratic respondents (M = 3.43) also expressed a greater degree of agreement for the goal of cultivating a nationally and internationally recognized faculty than Republicans (M = 3.00), t = 2.70, p = .009. There was a significant difference between Democrats (M = 3.70) who strongly agreed that state funding for the Montana land grant system is a good investment in the state's economy and Republicans (M = 3.46) who indicated only an agree level of agreement, t = 2.01, p = .048. A significant difference was found between Democratic respondents (M = 3.76) who strongly agreed that land grant system should conduct high quality research and

Republican respondents (M = 3.35) who indicated only an agree level of agreement, t = 3.18, p = .002.

Table 31. Comparison of Democratic and Republican Legislator Respondents on Land Grant Assumptions and Goals

Statement	Democrat M	Republican M	p value
Assumptions			
Plant and animal agriculture systems and natural resources are crucial to Montana's economy.	3.58	3.80	.027*
Regional and global concerns have an impact on Montana agriculture.	3.82	3.52	.007*
State funding for the Montana land grant system is a good investment in Montana's economy.	3.70	3.46	.048*
Approval of Goals			
Conduct high quality research through enhanced programs focused on biological and economic sustainability, improving the quality of life and the environment.	3.76	3.35	.002*
Cultivate a nationally and internationally recognized faculty through recruitment and by promoting professional development.	3.43	3.00	.009*

*Significant at $p < .05$.

Note: Approval of goals scale based upon 0=Don't Know, 1-1.49=Strongly Disagree, 1.5-2.49=Disagree, 2.5-3.49=Agree, 3.5-4=Strongly Agree.

Independent sample t-tests were conducted between Democratic and Republican faculty respondents, Democratic and Independent faculty respondents, and Republican and Independent faculty respondents for the assumptions about Montana agriculture upon which the land grant system goals were based, agreement with the goals of the agricultural components of the land grant system, and perceptions of the level of success in achieving the stated goals. There were 11 Democrats, 34 Republicans and 20 Independents among the faculty respondents. There were no significant differences detected between Democratic and Independent faculty respondents. The questions for which there was a significant difference between Democrats and Republicans are

indicated in Table 32. The Republican faculty respondents (M = 3.91) indicated a stronger level of approval for the assumption that plant and animal agriculture systems and natural resources are crucial to Montana's economy than Democratic respondents (M = 3.55), t = -2.05, p = .047. There was a significant difference between Republican respondents (M = 3.42) who had a higher level of agreement than Democratic respondents (M = 2.70) for the assumption that Montana's value-added agricultural industry should expand, t = -2.27, p = .029. Democrats (M = 2.78) had a lower level of agreement than their Republican counterparts (M = 3.30) for the goal of developing and following an innovative public relations program, t = -2.32, p = .026. Democratic faculty (M = 3.13) indicated a higher level of success in achieving the goal of establishing new ways of learning through distance education and summer school than Republican respondents (M = 2.31), t = 2.18, p = .035.

Table 32. Comparison of Democratic and Republican Faculty Respondents on Land Grant Assumptions and Goals

Statement	Democrat M	Republican M	p value
Assumptions			
Plant and animal agriculture systems and natural resources are crucial to Montana's economy.	3.55	3.91	.047*
Montana's value-added agricultural industry should expand.	2.70	3.42	.029*
Approval of Goals			
Develop and follow an innovative public relations program that provides clear communication and interaction with clientele.	2.78	3.30	.026*
Success of Goals			
Establish new ways of learning by enhancing and expanding distance education and summer school opportunities.	3.13	2.31	.035*

*Significant at $p < .05$.

Note: Approval of goals scale based upon 0=Don't Know, 1-1.49=Strongly Disagree, 1.5-2.49=Disagree, 2.5-3.49=Agree, 3.5-4=Strongly Agree.

Note: Success of goals scale based upon 0=Don't Know, 0.5-1.49=Poor, 1.5-2.49=Fair, 2.5-3.49=Good, 3.5-4.49=Very Good, 4.5-5=Excellent.

Table 33 presents the questions for which there was a significant difference between Republican faculty respondents and Independent faculty respondents. Republicans ($M = 3.64$) indicated a higher level of success in achieving the goal of contributing to Montana youth than the Independents ($M = 3.00$), $t = 2.17$, $p = .035$.

Table 33. Comparison of Republican and Independent Faculty Respondents on Land Grant Assumptions and Goals

Statement	Republican *M*	Independent *M*	*p* value
Success of Goals			
Contribute to Montana youth by developing their confidence, competence, and character to become critical thinkers, active citizens, caring human beings, innately curious, self-sufficient, adaptable to change, and connected to the community.	3.64	3.00	.035*

*Significant at $p < .05$.

Note: Success of goals scale based upon 0=Don't Know, 0.5-1.49=Poor, 1.5-2.49=Fair, 2.5-3.49=Good, 3.5-4.49=Very Good, 4.5-5=Excellent.

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

The purpose of this study was to assess perceptions of the land grant system's agricultural components (College of Agriculture, Agricultural Experiment Station, Extension Service) held by Montana state legislators and the land grant system faculty. Additionally, the study was to determine the level of agreement of and between each sample population regarding the purpose, mission, goals, and future of the land grant system. Finally, the study examined the effectiveness of communication efforts made by the agricultural land grant system with the legislators during the 58th Legislative Session (2003).

The objectives of this study were to:

1. Determine decision makers' and employees' knowledge of the goals of the College of Agriculture, Agricultural Experiment Station, and Extension Service in Montana.
2. Determine decision makers' and employees' level of agreement with the strategic plans of College of Agriculture/Agricultural Experiment Station and Extension Service.
3. Determine decision makers' and employees' perception of the level of success in achieving the goals of the strategic plans and the future for the agricultural land grant system in Montana.
4. Determine the nature and level of communication between the land grant system and the study population.

Conclusions

The following conclusions are based on the analysis and summarization of the data presented in this study.

1. The land grant system adds value to Montana's economy; however, perceptions of the success of the system's goals were varied. Legislators and faculty recognize the importance of the land grant system to the state and both groups strongly agree that agricultural systems and natural resources add value to Montana's economy. Legislators rated the success of the College of Agriculture/Agricultural Experiment Station from good to very good. The success of the Extension Service in achieving its goals was rated by legislators from fair to good. Faculty rated the success of the College of Agriculture/Agricultural Experiment Station and the Extension Service as fair to good.
2. The goals established by the College of Agriculture/Agricultural Experiment Station and the Extension Service are supported by legislators and faculty in varying degrees. Legislators and faculty agreed or strongly agreed with the assumptions presented about the nature and future of agriculture in Montana and they agreed with all the stated goals of the College of Agriculture/Agricultural Experiment Station and the Extension Service. Certain assumptions and goals, however, did not generate the same level of support from each group, indicating the potential for

misunderstanding or disagreement with the goals from which the land grant system is operating. This is a troubling situation in the case of the legislators, as legislative actions and state budgets impacting the land grant system depend on a measure of understanding, if not agreement. Miller (1988) points out that legislators "need to know and understand the structure and operation of the agency as a basis for making decision" (p. 1) since they determine the funding support. A study by Christenson, Dillman, Warner and Salant (1995) showed that, while the land grant concept is strongly supported when explained in segments, the terminology is not recognized or understood. It may be possible that the lower than expected level of agreement results from a lack of knowledge or understanding about the intent and purpose of the land grant system. The low faculty approval rates for a number of goals are more disturbing, however. Ideally, the faculty are working to accomplishing the goals identified in the land grant system strategic and action plans. Successful achievement of these goals is possible only if faculty members agree with the goals and will act on them. Rowley, Lujan, and Dolence (1997) point out that while faculty "may not have the capacity to govern directly, they can also exercise significant veto power over the options available to university administrative leadership" (p. 56).

3. Budgets and funding issues present strong challenges to the land grant system in the coming years. The main concern for the College of

Agriculture in 2010 for both legislators and faculty was funding and budgets. This is a valid concern, as *The Economist* (2001) points out, "Public universities in general, which used to cover most of their budgets from state money, now get only 15-30% from that source" (p. 4). Yet, Browne (1997) indicates that "many American states increasingly do more while the national government does less" (p. 1429) and if the state policy makers fail to value an activity, its funding is threatened in an environment of tightening budgets. Legislators and faculty preferred to see new funding for the 2010 challenges they identified, presumably so they would not have to make difficult decisions between programs. If choices had to be made, legislators would reallocate funds while faculty would eliminate programs. These options are essentially the same, however, since reallocating funds would usually lead to the elimination of programs. Faculty may have more insight into programs that are outdated or unproductive that would lead them to prefer elimination of programs over other funding options.

4. More extensive and consistent communication and education between the land grant system and the state legislators is needed to ensure adequate knowledge and support of the mission and goals of the land grant system. Policy and budget decisions are influenced by adequate knowledge and understanding of agricultural issues and the relationships the legislators have with people in the various segments of the agricultural industry.

"Communicating the impacts and accomplishments of Cooperative Extension [and other land grant] programs is vital for the continued support of these programs" (Hogan, 1994, p. 32). More frequent communication with state legislators will help change the misperceptions they hold about the land grant institution.

5. The outreach function (communication and education) of the agricultural components of the land grant system is essential to ensure a knowledgeable citizenry about basic agricultural issues. Legislators and faculty indicated it was very important for Montana's citizens to be knowledgeable about basic agricultural issues. Lichte and Birkenholz (1993) agree, stating "Educated and well-informed citizens are needed to make more accurate and proper decisions about the care of our land, animals, and food" (p.16).

6. There is no consistent source of information on agricultural issues for faculty and legislators. Faculty indicated their first choice for information about issues in agriculture was personal contacts, followed by websites and agricultural newspapers. Daily newspapers, agricultural publications, Extension agents and neighbors were the top sources of information about agriculture for legislators.

7. The Agricultural Experiment Station and the Extension Service are underutilized by legislators as sources of information about agriculture, both during and between legislative sessions. During the legislative

session, legislators tended to rely on sources of information about agriculture that are easily accessible, such as personal contacts and existing relationships. The most common sources were agricultural lobbyists and other legislators. A quarter of the legislator respondents were in contact with the College of Agriculture/Agricultural Experiment Station throughout the year, while just over half of legislator respondents reported contact with the Extension Service throughout the year.

8. The administrative structure for the land grant system should place the three agricultural components of the land grant system (College of Agriculture, Agricultural Experiment Station, Extension Service) under the same leadership. Legislators and faculty in the study were more likely to support this combined administrative structure. The necessary collaboration and flow of information between the academic, research, and outreach segments of the land grant system that is necessary to meet the needs of Montana's citizens is more likely to be achieved by a unified administrative structure. The National Research Council (1996) supports the land grant system's commitment to the integration of teaching, research and outreach as the connection between the three is valuable to science, learning, and public service and must be supported and strengthened. It cautions, however, that "split appointments, separate structures and budgets, and separate federal grants programs for research and extension may in fact be divisive rather than integrating forces, and

> the committee strongly encourages LGCAs [land grant colleges of agriculture] to rethink these often divisive arrangements" (p. 37). The current structure of the Montana land grant system has the College of Agriculture and Agricultural Experiment Station guided by the Dean and Director (one person) and the Extension Service under the leadership of the Vice Provost and Director of Extension (one person).

Implications

The following implications have been generated from this study.

1. The number of legislator respondents that returned blank surveys, indicated "Don't Know" responses, or wrote comments indicating a lack of knowledge implies a need for more education and communication about the nature of the land grant system and its impacts on the state's population and economy.
2. The future of agriculture in the state and the producers that comprise the industry hinges upon the vitality of the land grant system. That vitality is threatened when the goals and assumptions of the system are not supported by the state's decision makers or even its own employees.

Recommendations

Based on the findings of this study, the following recommendations are offered to improve perceptions and communication between the land grant system's agricultural components and the legislature, and within the land grant system.

1. The land grant system needs to restructure and reformulate the way it conducts its business of accomplishing the mission of agricultural education, research, and outreach. The outreach function of the land grant mission needs to be emphasized and faculty with outreach responsibilities need to be evaluated and rewarded based on criteria that reflect this value. Strategic planning efforts are repeatedly undertaken, and yet, provide little direction for the daily activities of the land grant system employees. An effort needs to be made to 1) address the weaknesses of strategic planning and to find a way to assess needs, 2) plan the necessary efforts to meet the needs, and 3) evaluate the level of success in achieving the established task or goal. While some areas of the land grant structure may be well served by long term planning, others may be more responsive to shorter term planning with yearly action items tied to measurable goals that are reinforced with personal or departmental rewards. The agricultural components of the land grant system are not well served by a unified, single approach that permits only one or two people from the university system to represent the interests of agriculture in the land grant system. With separate budgets before the Legislature, the Agricultural Experiment

Station and the Extension Service need to establish their own relationships and build their own case for the funds being requested. Although the three budgets (Agricultural Experiment Station, Extension Service and Montana State University) may seem to be contradictory and in competition with each other, the system as a whole greatly benefits from the funds appropriated to each budget. The Agricultural Experiment Station and Extension Service state funds are matched with federal funds and provide money for salaries, research projects, education and outreach efforts, and other activities that provide more faculty and scientists to the university system than could be supported by the Montana University System budget alone.

2. Appropriation of funds needs to support the reported goals and values for the land grant system. Legislators indicated the land grant system adds value to Montana and its economy and that it is very important for the land grant system to be accountable to the citizens of Montana, however, they showed little support for these values by suggesting the land grant system look to federal funds to address the challenges facing the agricultural industry and the land grant system in coming years. Federal resources draw the educational and research focus away from issues affecting Montanans to national issues and force the land grant system to be more accountable to national needs and federal agencies than to Montana needs and state decision makers. The faculty recognize that work on state issues

needs to be supported by state funds when they indicated they would look for new state funds to address challenges in the next few years.

3. Communication with legislators about the activities, successes, and accomplishments of the land grant system should be more frequent, more consistent, and more comprehensive. Communication methods should be varied from written material to meetings and presentations to one-on-one contact. The communication style should be brief and direct (Boone, Tucker, and McClaskey, 2002). Relationships and lines of communication need to be developed between legislators and the land grant system administration, faculty, and staff in order to increase involvement and improve knowledge and understanding. This opportunity is missed when the university utilizes a "one voice" approach of representing all university components and the Agricultural Experiment Station and Extension Service to legislators.

4. One recommendation for achieving better communication with legislators is to hire a legislative liaison/information coordinator in the College of Agriculture, Agricultural Experiment Station, and/or Extension Service to develop and maintain relationships with legislators, agriculture industry association staff, and other external stakeholders. This person would also focus on educating Montanans about the opportunities and services offered by the agricultural components of the land grant system and the positive impacts the land grant system and agriculture in general have on

the Montana economy and culture. By serving as a liaison between the land grant system and agricultural leaders in the state's communities, such as agricultural education teachers, 4-H advisors, and extension agents, this position would supply the information and support to assist in communicating the successes and impacts of the land grant system and agriculture in general to Montana's citizens. By providing a link between the professors and researchers and the agents and other outreach personnel, this person would provide a way to collect and synthesize information that needs to be disseminated to the people of the state. Focusing on communication, collaboration between the agricultural components of the land grant system, and developing relationships with a variety of stakeholders across the state would complement the communication efforts by the land grant system's administrators, who need to balance their on-campus and off-campus responsibilities.

5. The message of the land grant system, i.e., its successes and its needs, msut be made more clearly during the legislative session. The administrators and faculty of the land grant system need to be more visible to legislators in Helena during the legislative session. The study shows that legislators turn to sources of information that are accessible and known to them. If land grant administrators and faculty cannot be visible and accessible to the legislators during the session, then a strong relationship with the lobbyists representing agricultural interests during

the legislative session needs to be developed. A note from one legislator respondent makes this point,

> "Nothing can replace the personal contact with someone representing the College of Ag. Cathy Conover does an excellent job in representing the university in general but I believe that "unified" approach does not serve the College of Ag very well. With fewer legislators having an ag background, I believe your job will become more difficulty in future sessions. My suggestion would be to make contact with the six members of the appropriation sub-committee on education. This is where most of the major decisions are made concerning funding for the university system," (Appendix Q).

6. If or when strategic planning is undertaken, faculty should have an integral role in the process. If the strategic plan is to have an impact as a guide to a desired future for the land grant system, the core of the system - the faculty - must have significant input to the process. In the past, the land grant system's strategic plans have been conceptualized and written by the administrative leadership, i.e., department heads and deans. Involving faculty and staff in the process of developing a mission, focus, goals, and priorities would engage them and give them some ownership of the outcome. They would then be more likely to take steps to achieve the goals identified.

7. External stakeholders also need to be involved in the strategic planning of the land grant system. Involving legislators, agricultural associations, and other stakeholders in the process through open and frequent communication could earn the approval and generate the success

necessary for the state's agricultural industry to prosper. This input on priorities and direction for the land grant system would develop a constructive dialog that may benefit Montana's agricultural industry through mutual understanding and communication and the development of goals and programs with the support and commitment of a variety of stakeholders.

Recommendations for Further Study

The implementation and evaluation of this survey have raised questions and issues that could be addressed in further study and research.

1. A more in-depth study into communicating effectively with legislators, similar to the Farm Foundation study (Boone, et. al., 2002), would provide more thorough information on the best ways to inform and educate legislators about the successes and impacts of the Montana land grant system.
2. A study to determine if legislators act on their reported perceptions and knowledge would provide information on the impact of education and communication efforts. Comparing voting records and public statements with reported perceptions of agriculture and the land grant system would demonstrate the level to which legislators take action to support their perceptions and beliefs and how effective communication and education about agricultural issues is in influencing the actions of decision makers.

3. A focused study on the agreement and commitment of faculty with the published mission and goals of the agricultural components of the land grant system would indicate whether there is a disconnection between the plan and the actual day-to-day activities of the faculty.

4. Repeating this or other studies to determine the knowledge and perceptions of state legislators regarding agriculture in Montana is essential as the population and culture of the state continues to change and the number of legislators without any agricultural knowledge or experience increases. If this study were to be repeated, several issues should be considered. For example, several terms need to be defined. For instance, a number of respondents indicated they did not know what was meant by "regionalization" (Appendices P and Q) and the Christenson, et. al. (1995) study indicated people were unfamiliar with the term "land grant." This study did not ask which programs respondents would eliminate if they choose that option for funding other priorities. This study also did not ask the respondents to identify other goals toward which the land grant system should consider working.

Summary

Agriculture in the state is enhanced and strengthened by the education, research, and outreach roles of the land grant system. The vitality of the agricultural industry correlates to the health of the land grant system and the knowledge and understanding of

society's decision makers. Every effort must be made to evaluate the knowledge and perceptions of the general public and the country's decision makers and then educate them about the reality of twenty-first century agriculture.

Legislators and faculty are supportive of the land grant system, its mission, and its goals. There is evidence, however, that there is a lack of knowledge or understanding of the specific goals developed by the land grant system indicating a need for more comprehensive and consistent communication and education. The direct involvement of faculty and legislators in the strategic planning process could lead to a greater sense of ownership in the goals of the land grant system resulting in higher ratings of approval and success.

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APPENDICES

APPENDIX A

PRELIMINARY LETTER OF INTRODUCTION TO THE FACULTY POPULATION

Within a week, you will be receiving a request to complete a brief questionnaire that is part of a graduate research project at Montana State University. The study will determine the perceptions of the Montana agricultural land grant system held by Montana decision makers and employees of the land grant system.

We wanted to extend you the courtesy of informing you in advance that you have been selected to participate in the study due to your position in the Montana land grant system. The study is important because it will provide some insight to the viewpoints of these two groups concerning the role of the land grant system in Montana and the future of agricultural research and education in Montana.

Thank you for your time and effort. Your honest and prompt response is greatly appreciated.

Sincerely,

Lisa Duffey & Van Shelhamer

APPENDIX B

PRELIMINARY LETTER OF INTRODUCTION TO THE LEGISLATOR POPULATION

May 19, 2003

THE HONORABLE JOHN DOE
MONTANA HOUSE OF REPRESENTATIVES
123 MAIN STREET
HOMETOWN, MT 59000-0000

Dear REPRESENTATIVE DOE:

Within the week, you will be receiving in the mail a request to complete a brief questionnaire that is part of a graduate research project at Montana State University. The study will determine the perceptions of the Montana agricultural land grant system held by Montana decision makers and employees of the land grant system.

We wanted to extend you the courtesy of informing you in advance that you have been selected to participate in the study due to your vital role in the decision-making process in the government of the State of Montana. The study is important because it will provide some insight to the viewpoints of these two groups concerning the role of the land grant system in Montana and the future of agricultural research and education in Montana.

Thank you for your time and effort. Your honest and prompt response is greatly appreciated.

Sincerely,

Lisa Duffey
Graduate Student

Dr. C. Van Shelhamer
Professor

APPENDIX C

LETTER ACCOMPANYING SURVEY TO FACULTY POPULATION

I am a graduate student in the MSU Agricultural Education Department. As part of my graduate program, I am conducting a study of the agricultural knowledge and perceptions of the faculty of the agricultural components of the land grant system. As a member of the faculty, your role in the policies and decisions of the institution is clear. For this reason, I am seeking your input.

This study will compare the viewpoints of Montana's state legislators and the faculty of the land grant system regarding the role of the land grant system in Montana and the future of agricultural research and education in Montana. For the purposes of this study, the land grant system will refer to the organizations traditionally associated with a land grant institution – the College of Agriculture, Agricultural Experiment Station, and the Extension Service.

The survey is brief and should take about 15 minutes of your time. Please complete the questionnaire by **June 11, 2003**. You may complete the survey via the Internet at http://ag.montana.edu/lisatest/or by printing the attached PDF file, filling out the questionnaire and returning it via campus mail to Lisa Duffey, Ag Ed/Entomology, Leon Johnson Hall. Your responses will be kept confidential. If you wish, a summary of my results can be sent to you at the conclusion of the study for your information.

If you have any questions, please contact me at (406) 994-4323.

Thank you for your time.

Sincerely,

Lisa Duffey
M.S. Graduate Student
Division of Agricultural Education/AOT, MSU

Van Shelhamer
Professor
Division of Agricultural Education/AOT, MSU

APPENDIX D

LETTER ACCOMPANYING SURVEY TO LEGISLATOR POPULATION

May 22, 2003

THE HONORABLE JANE DOE
MONTANA HOUSE OF REPRESENTATIVES
456 MAIN DRIVE
ANY CITY, MT 59000-0000

DEAR REPRESENTATIVE DOE:

I am a graduate student at Montana State University in Agricultural Education. As part of my graduate program, I am conducting a study of the agricultural perceptions of key state leaders. As a state legislator, your role in the state's policies and decisions is clear. For this reason, we are seeking your input.

This study will compare the viewpoints of Montana's state legislators with those of the faculty of the land grant system regarding the future of agricultural research and education, and the role of the land grant system in Montana. For the purposes of this study, the land grant system will refer to the organizations traditionally associated with a land grant institution – the College of Agriculture, the Agricultural Experiment Station, and the Extension Service.

The survey is brief and should take about 15 minutes of your time. Please return the completed questionnaire by June 6, 2003 in the self addressed, postage paid envelope provided. Your responses will be kept confidential. A code on your survey will allow me to remove you from any follow up lists while keeping your responses confidential. If you wish, a summary of my results can be sent to you at the conclusion of the study for your information.

Thank you for your time and effort in assisting us with this project. We would like to thank you for serving as a state legislator. Your commitment to the wellbeing of Montana and its citizens is commendable.

Sincerely,

Lisa Duffey
Graduate Student

Dr. C. Van Shelhamer
Professor

APPENDIX E

SURVEY TO FACULTY POPULATION

Perceptions of the Agricultural Components of Montana's Land Grant System



Division of Agriculture Education/AOT
College of Agriculture
Montana State University

Spring 2003

The purpose of this survey is to determine the perceptions of land grant system employees concerning the agricultural components of Montana's land grant institution. This study will compare the viewpoints of Montana's state legislators and the faculty of the land grant system regarding the role of the land grant system in Montana and the future of agricultural research and education in Montana.

The survey will take you approximately 15 minutes to complete. After you are finished completing the survey, fold it in half and return it in the envelope provided.

Please respond to each question as accurately as possible by filling in the appropriate circle as completely as possible. Be careful not to mark too closely to another circle or your response may not be recorded correctly.

START HERE

1. Do you believe that Montana land grant institution (College of Agriculture, Montana Agricultural Experiment Station, Extension Service) is a vital element of Montana's economy?

O Yes
O Somewhat
O No

2. What do you believe are the key concepts that should be included in the mission statement for agricultural components of the Montana land grant institution? *(Choose all that apply.)*

O Educate and inform the state's population.
O Train students for the future of agriculture.
O Generate new knowledge
O Provide a stimulating environment for research and education.
O Disseminate information and share expertise on issues vital to the state and its population
O Other – Please specify:_____

3. What do you believe the administrative structure of the Montana land grant system should be? *(Choose only one.)*

O College of Agriculture, Agricultural Experiment Station, and Extension Service under separate leadership.
O College of Agriculture and Agricultural Experiment Station under same leadership
Extension Service under separate leadership.
O College of Agriculture and Extension Service under same leadership
Agricultural Experiment Station under separate leadership.
O Agricultural Experiment Station and Extension Service under same leadership
College of Agriculture under separate leadership.
O College of Agriculture, Agricultural Experiment Station, and Extension Service under same leadership.
O I don't know.

Please indicate your level of agreement or disagreement with the following statements by filling in the appropriate circle.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
4. Plant and animal agricultural systems and natural resources are crucial to Montana's economy.	O	O	O	O	O
5. Environmental concerns in Montana play a role in policy decisions about agriculture.	O	O	O	O	O
6. The needs of Montana's population are diverse and ever changing.	O	O	O	O	O
7. Regional and global concerns have an impact on Montana agriculture.	O	O	O	O	O
8. Montana's agricultural industry must be more competitive in the global economy.	O	O	O	O	O
9. Montana's value-added agricultural industry should expand.	O	O	O	O	O
10. Regionalization of agricultural education and research programs in Montana will be required due to limited state resources.	O	O	O	O	O
11. Agricultural research conducted by the land-grant system significantly impacts Montana's economy.	O	O	O	O	O
12. State funding for the Montana land grant system is a good investment in Montana's economy.	O	O	O	O	O

Example: If you **neither agree nor disagree** that the land grant system should be accountable to the citizens of Montana and believe that the system is doing a **good** job at achieving that goal you would mark your answer as shown below.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree		Poor	Fair	Good	Very Good	Excellent	Don't Know
O	O	•	O	O	**Be accountable to the citizens of Montana.**	O	O	•	O	O	O

*Please indicate your **level of agreement or disagreement** with the following goals of the land grant system by filling in the appropriate circle on the left.*

*Please indicate **the level of success** you believe the land grant system has achieved for the following goals by filling in the appropriate circle on the right.*

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	**The agricultural component of the Montana land grant system should ...**	Poor	Fair	Good	Very Good	Excellent	Don't Know
O	O	O	O	O	**13.** Provide visionary and responsive leadership that meets or exceeds the expectations of clientele.	O	O	O	O	O	O
O	O	O	O	O	**14.** Offer quality and excellence in scholarly activity.	O	O	O	O	O	O
O	O	O	O	O	**15.** Facilitate open communication, trust, honesty, and acceptance in the work environment.	O	O	O	O	O	O
O	O	O	O	O	**16.** Encourage the highest standards of ethics and citizenship.	O	O	O	O	O	O

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	The agricultural component of the Montana land grant system should ...	Poor	Fair	Good	Very Good	Excellent	Don't Know
O	O	O	O	O	**17.** Ensure responsible and creative use of resources.	O	O	O	O	O	O
O	O	O	O	O	**18.** Be accountable to the citizens of Montana.	O	O	O	O	O	O
O	O	O	O	O	**19.** Train students who are competitive and successful in a global economic environment through enhanced programs and improved recruitment and retention.	O	O	O	O	O	O
O	O	O	O	O	**20.** Conduct high quality research through enhanced programs focused on biological and economic sustainability, improving the quality of life and the environment.	O	O	O	O	O	O
O	O	O	O	O	**21.** Establish new ways of learning by enhancing and expanding distance education and summer school opportunities.	O	O	O	O	O	O
O	O	O	O	O	**22.** Cultivate a nationally and internationally recognized faculty through recruitment and by promoting professional development.	O	O	O	O	O	O
O	O	O	O	O	**23.** Develop and follow an innovative public relations program that provides clear communication and interaction with clientele.	O	O	O	O	O	O
O	O	O	O	O	**24.** Develop and follow a resource plan that provides infrastructure and allocates resources based on priorities and productivity.	O	O	O	O	O	O
O	O	O	O	O	**25.** Disseminate and encourage the application of research-generated knowledge to individuals, families, and communities.	O	O	O	O	O	O
O	O	O	O	O	**26.** Improve agriculture, forestry, and other businesses.	O	O	O	O	O	O
O	O	O	O	O	**27.** Strengthen Montana's families and communities.	O	O	O	O	O	O

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	The agricultural component of the Montana land grant system should ...	Poor	Fair	Good	Very Good	Excellent	Don't Know
O	O	O	O	O	**28.** Use all appropriate educational and research resources in Montana and the region.	O	O	O	O	O	O
O	O	O	O	O	**29.** Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship at a level that provides for continual production and a desirable quality of life.	O	O	O	O	O	O
O	O	O	O	O	**30.** Help Montana individuals, families, and communities apply unbiased, research-based information to make informed decisions that establish and maintain strong and healthy families.	O	O	O	O	O	O
O	O	O	O	O	**31.** Contribute to Montana youth by developing their confidence, competence, and character to become critical thinkers, active citizens, caring human beings, innately curious, self-sufficient, adaptable to change, and connected to the community.	O	O	O	O	O	O
O	O	O	O	O	**32.** Assist Montana communities with a full range of proven economic development strategies to provide livable-wage jobs for adults, entry-level jobs allowing young people to develop sound work ethics, and off-farm jobs enabling farmers/ranchers to retain their operations.	O	O	O	O	O	O
O	O	O	O	O	**33.** Help Montanans support and understand good land and natural resource stewardship.	O	O	O	O	O	O
O	O	O	O	O	**34.** Help Montana communities achieve their desired futures in the face of population change.	O	O	O	O	O	O
O	O	O	O	O	**35.** Help Montanans take advantage of opportunities available through new technology and through adding value to the products produced.	O	O	O	O	O	O

Please write down your top three responses to the following questions as legibly as possible.

36. What do you believe will be the top three challenges facing MSU's College of Agriculture in 2010?

A.

B.

C.

37. Indicate what you perceive the top three agricultural research priorities should be for the Montana Agricultural Experiment Station in 2010.

A.

B.

C.

38. What do you believe will be the top three challenges for the Extension Service in 2010?

A.

B.

C.

39. Funding for addressing the challenges you identified above will: *(Choose all that apply.)*

- O Require new state funds.
- O Require that funds be found within current budgets.
- O Require that other activities be eliminated to fund the new activities.
- O Require new federal funds.
- O Other – Please specify: _____

Read each statement in this section carefully and fill in the circle of the most accurate response.

40. How important do you believe it is for Montana's citizens to be knowledgeable about basic agricultural issues?

- O Not important
- O Somewhat important
- O Very important

41. Please rank the following as your first, second, and third most common sources for information about Montana agriculture and current issues in agriculture. *(Place a 1 by your first choice, a 2 by your second choice, and 3 by your third most common source.)*

- ____ Magazines
- ____ Daily Newspapers
- ____ Agriculture Newspapers
- ____ Newsletters
- ____ Radio programs
- ____ TV programs
- ____ Web sites
- ____ Personal contacts
- ____ Other – Please specify: _____

42. Please indicate which of the following Extension Service publications you receive on a regular basis. *(Choose all that apply.)*

- O MontGuides and other publications
- O Extension Today Newsletter
- O Specific issue help
- O Educational programming announcements
- O Other newsletters
- O Other – Please specify: _____

43. Please indicate which of the following College of Agriculture/Montana Agricultural Experiment Station publications you receive on a regular basis. *(Choose all that apply.)*

- O AgLink Newsletter
- O Recruitment information
- O Specific issue help
- O Educational programming announcements
- O Other newsletters
- O Other – Please specify: _____

Read each statement in this section carefully. Fill in the one circle of the most accurate response.

44. What is your gender?
- O Female
- O Male

45. What age bracket are you in?
- O under 25
- O 25-34
- O 35-44
- O 45-54
- O 55-64
- O over 65

46. What is your level of education?
- O High school graduate
- O Some college
- O College graduate
- O Masters degree
- O Doctorate degree

47. Please indicate your field of study. _____

48. How many years have you worked at a land grant institution?
- O 0-5 years
- O 6-10 years
- O 11-15 years
- O 16-20 years
- O 21-25 years
- O More than 25 years

49. Indicate your faculty rank.
- O Assistant Professor
- O Associate Professor
- O Professor
- O Other – Please specify: _____

50. Indicate the department/organization in which you are employed.
- O Agricultural Economics and Economics
- O Animal and Range Sciences
- O Entomology
- O Land Resources and Environmental Sciences
- O Plant Sciences and Plant Pathology
- O Research Centers
- O Veterinary Molecular Biology
- O Extension Service

51. Indicate your political affiliation.
- O Democrat
- O Republican
- O Independent
- O Other

52. How would you describe where you live?
- O Farm/Ranch
- O Rural area (< 2500)
- O Town/City (>2500)

53. What is the population of the town closest to your home?
- O Under 2,500
- O 2,501-10,000
- O 10,001-25,000
- O 25,001-50,000
- O Over 50,000

54. Were you a member of FFA?
- O Yes
- O No

55. Were you a member of 4-H?
- O Yes
- O No

Thank you for your time in responding to this survey.

If you would like a copy of the major findings of the study, please check here. □

APPENDIX F

SURVEY TO LEGISLATOR POPULATION

Perceptions of the Agricultural Components of Montana's Land Grant System



Division of Agriculture Education/AOT
College of Agriculture
Montana State University

Spring 2003

The purpose of this survey is to determine the perceptions of Montana legislators concerning the agricultural components of Montana's land grant institution. This study will compare the viewpoints of Montana's state legislators and the faculty of the land grant system regarding the role of the land grant system in Montana and the future of agricultural research and education in Montana.

The survey will take you approximately 15 minutes to complete. After you are finished completing the survey, fold it in half and return it in the envelope provided.

Code: ML#

Please respond to each question as accurately as possible by filling in the appropriate circle as completely as possible. Be careful not to mark too closely to another circle or your response may not be recorded correctly.

START HERE

1. Do you believe that Montana land grant institution (College of Agriculture, Montana Agricultural Experiment Station, Extension Service) is a vital element of Montana's economy?

O Yes
O Somewhat
O No

2. What do you believe are the key concepts that should be included in the mission statement for agricultural components of the Montana land grant institution? *Check all that apply.*

O Educate and inform the state's population.
O Train students for the future of agriculture.
O Generate new knowledge
O Provide a stimulating environment for research and education.
O Disseminate information and share expertise on issues vital to the state and its population
O Other – Please specify:_____

3. What do you believe the administrative structure of the Montana land grant system should be? *Choose only one.*

O College of Agriculture, Agricultural Experiment Station, and Extension Service under separate leadership.
O College of Agriculture and Agricultural Experiment Station under same leadership
Extension Service under separate leadership.
O College of Agriculture and Extension Service under same leadership
Agricultural Experiment Station under separate leadership.
O Agricultural Experiment Station and Extension Service under same leadership
College of Agriculture under separate leadership.
O College of Agriculture, Agricultural Experiment Station, and Extension Service under same leadership.
O I don't know.

Please indicate your level of agreement or disagreement with the following statements by filling in the appropriate circle.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
4. Plant and animal agricultural systems and natural resources are crucial to Montana's economy.	O	O	O	O	O
5. Environmental concerns in Montana play a role in policy decisions about agriculture.	O	O	O	O	O
6. The needs of Montana's population are diverse and ever changing.	O	O	O	O	O
7. Regional and global concerns have an impact on Montana agriculture.	O	O	O	O	O
8. Montana's agricultural industry must be more competitive in the global economy.	O	O	O	O	O
9. Montana's value-added agricultural industry should expand.	O	O	O	O	O
10. Regionalization of agricultural education and research programs in Montana will be required due to limited state resources.	O	O	O	O	O
11. Agricultural research conducted by the land-grant system significantly impacts Montana's economy.	O	O	O	O	O
12. State funding for the Montana land grant system is a good investment in Montana's economy.	O	O	O	O	O

Example: If you **neither agree nor disagree** that the land grant system should be accountable to the citizens of Montana and believe that the system is doing a **good** job at achieving that goal you would mark your answer as shown below.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree		Poor	Fair	Good	Very Good	Excellent	Don't Know
O	O	•	O	O	**Be accountable to the citizens of Montana.**	O	O	•	O	O	O

*Please indicate your **level of agreement or disagreement** with the following goals of the land grant system by filling in the appropriate circle on the left.*

*Please indicate **the level of success** you believe the land grant system has achieved for the following goals by filling in the appropriate circle on the right.*

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	**The agricultural component of the Montana land grant system should ...**	Poor	Fair	Good	Very Good	Excellent	Don't Know
O	O	O	O	O	**13.** Provide visionary and responsive leadership that meets or exceeds the expectations of clientele.	O	O	O	O	O	O
O	O	O	O	O	**14.** Offer quality and excellence in scholarly activity.	O	O	O	O	O	O
O	O	O	O	O	**15.** Facilitate open communication, trust, honesty, and acceptance in the work environment.	O	O	O	O	O	O
O	O	O	O	O	**16.** Encourage the highest standards of ethics and citizenship.	O	O	O	O	O	O

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	The agricultural component of the Montana land grant system should ...	Poor	Fair	Good	Very Good	Excellent	Don't Know
O	O	O	O	O	**17.** Ensure responsible and creative use of resources.	O	O	O	O	O	O
O	O	O	O	O	**18.** Be accountable to the citizens of Montana.	O	O	O	O	O	O
O	O	O	O	O	**19.** Train students who are competitive and successful in a global economic environment through enhanced programs and improved recruitment and retention.	O	O	O	O	O	O
O	O	O	O	O	**20.** Conduct high quality research through enhanced programs focused on biological and economic sustainability, improving the quality of life and the environment.	O	O	O	O	O	O
O	O	O	O	O	**21.** Establish new ways of learning by enhancing and expanding distance education and summer school opportunities.	O	O	O	O	O	O
O	O	O	O	O	**22.** Cultivate a nationally and internationally recognized faculty through recruitment and by promoting professional development.	O	O	O	O	O	O
O	O	O	O	O	**23.** Develop and follow an innovative public relations program that provides clear communication and interaction with clientele.	O	O	O	O	O	O
O	O	O	O	O	**24.** Develop and follow a resource plan that provides infrastructure and allocates resources based on priorities and productivity.	O	O	O	O	O	O
O	O	O	O	O	**25.** Disseminate and encourage the application of research-generated knowledge to individuals, families, and communities.	O	O	O	O	O	O
O	O	O	O	O	**26.** Improve agriculture, forestry, and other businesses.	O	O	O	O	O	O
O	O	O	O	O	**27.** Strengthen Montana's families and communities.	O	O	O	O	O	O

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	The agricultural component of the Montana land grant system should ...	Poor	Fair	Good	Very Good	Excellent	Don't Know
O	O	O	O	O	**28.** Use all appropriate educational and research resources in Montana and the region.	O	O	O	O	O	O
O	O	O	O	O	**29.** Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship at a level that provides for continual production and a desirable quality of life.	O	O	O	O	O	O
O	O	O	O	O	**30.** Help Montana individuals, families, and communities apply unbiased, research-based information to make informed decisions that establish and maintain strong and healthy families.	O	O	O	O	O	O
O	O	O	O	O	**31.** Contribute to Montana youth by developing their confidence, competence, and character to become critical thinkers, active citizens, caring human beings, innately curious, self-sufficient, adaptable to change, and connected to the community.	O	O	O	O	O	O
O	O	O	O	O	**32.** Assist Montana communities with a full range of proven economic development strategies to provide livable-wage jobs for adults, entry-level jobs allowing young people to develop sound work ethics, and off-farm jobs enabling farmers/ranchers to retain their operations.	O	O	O	O	O	O
O	O	O	O	O	**33.** Help Montanans support and understand good land and natural resource stewardship.	O	O	O	O	O	O
O	O	O	O	O	**34.** Help Montana communities achieve their desired futures in the face of population change.	O	O	O	O	O	O
O	O	O	O	O	**35.** Help Montanans take advantage of opportunities available through new technology and through adding value to the products produced.	O	O	O	O	O	O

Please write down your top three responses to the following questions as legibly as possible.

36. What do you believe will be the top three challenges facing MSU's College of Agriculture in 2010?

A.

B.

C.

37. Indicate what you perceive the top three agricultural research priorities should be for the Montana Agricultural Experiment Station in 2010.

A.

B.

C.

38. What do you believe will be the top three challenges for the Extension Service in 2010?

A.

B.

C.

39. Funding for addressing the challenges you identified above will: *(Check all that apply.)*

- O Require new state funds.
- O Require that funds be found within current budgets.
- O Require that other activities be eliminated to fund the new activities.
- O Require new federal funds.
- O Other – Please specify:_____

Read each statement in this section carefully. Carefully fill in the circle of the most accurate response.

40. How important do you believe it is for Montana's citizens to be knowledgeable about basic agricultural issues?

- O Not important
- O Somewhat important
- O Very important

41. Please indicate your first, second, and third most common sources for information about Montana agriculture and its issues. ***Place a 1 by your first choice, a 2 by your second choice, and 3 by your third most common source.***

- ___ Magazines
- ___ Daily Newspapers
- ___ Agriculture Publications
- ___ Newsletters
- ___ Radio programs
- ___ TV programs
- ___ Web sites
- ___ Relative involved in production agriculture
- ___ Relative involved in agriculture business
- ___ Friend/Neighbor
- ___ Other – Please specify: _____

42. Do you have contact with the MSU Extension Service throughout the year?

- O No *(Go on to Question 46.)*
- O Yes →

43. If yes, what is the nature of the contact you have with Extension? ***Choose all that apply.***

- O In person
- O Field Day
- O Letters
- O Newsletters
- O Web pages
- O Electronic mail
- O Other – Please specify: _____

44. **If yes, how frequent is the contact with the Extension Service, on average?**
- O Daily
- O Weekly
- O Monthly
- O Yearly

45. **If yes, what type of information and/or publications do you receive from Extension?** ***Choose all that apply.***
- O MontGuides and other publications
- O Extension Today Newsletter
- O Specific issue help
- O Educational programming announcements
- O Other newsletters
- O Other – Please specify: _____

46. **Do you have contact with the MSU College of Agriculture throughout the year?**
- O No *(Go on to Question 50.)*
- O Yes →

47. **If yes, what is the nature of the contact you have with the College?** ***Choose all that apply.***
- O In person
- O Field Day
- O Letters
- O Newsletters
- O Web pages
- O Electronic mail
- O Other – Please specify: _____

48. **If yes, how frequent is the contact with the College of Agriculture, on average?**
- O Daily
- O Weekly
- O Monthly
- O Yearly

49. **If yes, what type of information and/or publications do you receive from the College?** ***Choose all that apply.***
- O AgLink Newsletter
- O Recruitment information
- O Specific issue help
- O Educational programming announcements
- O Other newsletters
- O Other – Please specify: _____

50. **If you had a question about agriculture, who would you contact to answer it?** ***Please rank the following options as your first, second and third choices by placing a 1, 2 and 3 by your choices.***
- ___ MSU Extension Agent
- ___ MSU Extension Specialist
- ___ MAES Research Center
- ___ College of Ag Faculty
- ___ Private crop/livestock consultant
- ___ Neighbor/Friend
- ___ Other – Please specify: _____

51. **Please indicate your first, second, and third most common sources for information about agricultural issues during the 2003 Legislative Session.** ***Place a 1 by your first choice, a 2 by your second choice, and 3 by your third most common source.***
- ___ Agricultural Lobbyists
- ___ Other Legislators
- ___ Constituents
- ___ Extension personnel
- ___ MSU leadership (President, Provost, Deans, and Directors)
- ___ MSU Department Heads
- ___ MSU Faculty
- ___ Events at the Capitol
- ___ Materials provided by agricultural association groups
- ___ Material provided by MSU Ag departments
- ___ News media
- ___ Out of state contacts – Specify: _____
- ___ Other – Please specify: _____

52. **Please indicate if you had contact with the MSU agricultural land-grant system leadership during the session?** *(Choose all that apply.)*

- O President of MSU
- O Dean of Agriculture and Director of Montana Agricultural Experiment Station
- O Director of Extension
- O Director of University Relations
- O Department Heads or Station Superintendents
- O Other – Please specify: _____

53. **Did your interaction influence your perception of the agricultural land grant system?**

- O No *(Go on to Question 55.)*
- O Yes

54. **If yes, overall how were you influenced?**

- O Positively
- O Negatively

	Poor	Fair	Good	Very Good	Excellent	Don't Know
55. **Before the session, how would you characterize your knowledge of the Montana land grant system (Agricultural Experiment Station, College of Agriculture, Extension Service)?**	O	O	O	O	O	O
56. **After the session, how would you characterize your knowledge of the Montana land grant system (Agricultural Experiment Station, College of Agriculture, Extension Service)?**	O	O	O	O	O	O

	Poor	Fair	Good	Very Good	Excellent	Don't Know
57. **How would you rate the materials provided by the Agricultural Experiment Station during the session?**	O	O	O	O	O	O
58. **How would you rate the materials provided by the Extension Service during the session?**	O	O	O	O	O	O
59. **How would you rate the presentations provided by the Agricultural Experiment Station during the session?**	O	O	O	O	O	O
60. **How would you rate the presentations provided by the Extension Service during the session?**	O	O	O	O	O	O

Carefully fill in the oval of the most accurate response to the questions in this section.

61. **What is your gender?**

- O Female
- O Male

62. **What age bracket are you in?**

- O under 25
- O 25-34
- O 35-44
- O 45-54
- O 55-64
- O over 65

63. **What is your occupation?**
- O Agriculture
- O Business/Sales
- O Education
- O Professional (Law/Medicine)
- O Service
- O Other – Please specify: _____

64. **How would you describe where you live?**
- O Farm/Ranch
- O Rural area (< 2500)
- O Town/City (>2500)

65. **What is the population of your legislative district?**
- O Under 2,500
- O 2,501-10,000
- O 10,001-25,000
- O 25,001-50,000
- O Over 50,000

66. **Indicate your political affiliation.**
- O Democrat
- O Republican
- O Independent
- O Other

67. **How many years of Montana Legislative experience do you have?**
- O Less than 2
- O 2-4 years
- O 5-8 years
- O 9-12 years
- O 13-16 years
- O More than 16 years

68. **What percentage of your constituents are involved in agriculture (operate a farm or ranch or work in an agriculture-related business)**
- O Less than 20
- O 20-40
- O 40-60
- O 60-80
- O More than 80

69. **What is your highest level of education?**
- O High school graduate
- O Some college
- O College graduate
- O Masters degree
- O Doctorate degree

70. **If you attended college, please indicate your field of study.**

_____

71. **Were you a member of FFA?**
- O Yes
- O No

72. **Were you a member of 4-H?**
- O Yes
- O No

Thank you for your time in responding to this survey.

If you would like a copy of the major findings of the study, please check here. □

APPENDIX G

REMINDER ELECTRONIC MAIL MESSAGE TO FACULTY

If you have already completed this survey, thank you for your time and input. We appreciate your assistance. If you have NOT already done so, please complete the survey that is attached or at the Internet site listed below. Your response is important to the success of this project.

Please note: Due to a server error, any response submitted after June 3 was not recorded in the database. If you know that you responded to the survey after June 3 and are willing to resubmit your responses, we would appreciate it. The issue with the server has been resolved.

This study will compare the viewpoints of Montana's state legislators and the faculty of the land grant system regarding the role of the land grant system in Montana and the future of agricultural research and education in Montana. For the purposes of this study, the land grant system will refer to the organizations traditionally associated with a land grant institution – the College of Agriculture, Agricultural Experiment Station, and the Extension Service.

The survey is brief and should take about 30 minutes of your time. Please complete the questionnaire by **August 31, 2003**. You may complete the survey via the Internet at http://ag.montana.edu/lisatest/or by printing the attached PDF file, filling out the questionnaire and returning it via campus mail to Lisa Duffey, Ag Ed/Entomology, Leon Johnson Hall. Your responses will be kept confidential. If you wish, a summary of my results can be sent to you at the conclusion of the study for your information.

If you have any questions, please contact me at (406) 994-4323.

Thank you for your time.

Sincerely,

Lisa Duffey
M.S. Graduate Student
Division of Agricultural Education/AOT, MSU

Van Shelhamer
Professor
Division of Agricultural Education/AOT, MSU

APPENDIX H

REMINDER POSTCARD TO LEGISLATOR POPULATION

June 20, 2003

A few weeks ago, a questionnaire inquiring about your perceptions of the agricultural land-grant system was mailed to you because of your role in the decision making processes of the Montana government.

If you have already completed and returned your questionnaire, we thank you. If you have not finished the survey, please take 30 minutes today to do so. Your response is important to the study because it provides a viewpoint that may be different from the other people who have returned the survey.

If you did not receive a questionnaire or misplaced it, please contact us and we will forward one to you immediately.

Lisa Duffey and Van Shelhamer
MSU Agricultural Education/AOT
Bozeman, MT 59717
(406) 994-4323
lduffey@montana.edu

APPENDIX I

FOLLOW-UP LETTER ACCOMPANYING SURVEY TO LEGISLATORS

July 18, 2003

THE HONORABLE JOHN DOE
MONTANA SENATE
123 MAIN STREET
HOMETOWN, MT 59000-0000

DEAR SENATOR DOE:

Almost two months ago, we sent you a questionnaire requesting your viewpoints regarding the future of agricultural research and education, and the role of the land grant system in Montana. Unfortunately, we have not yet received your important opinions. As a state legislator, your role in the state's policies and decisions is clear and your response to this survey is crucial to the success of this project.

The responses we have received so far are providing valuable insights to the perceptions of legislators and faculty about the land grant system, however, the results will be incomplete and unrepresentative without your important input. We believe the final results are going to be useful in helping the land grant system's leadership develop educational and communication strategies and your response is essential to this process.

A code on your survey allows us to remove you from any follow up lists while keeping your responses confidential. Providing you the security that your responses are completely confidential is important to us at Montana State University.

Please fill out the enclosed survey today and return it in the business reply envelope. The survey should take about 30 minutes. If you have a reason for not returning the survey, please write it on the cover of the questionnaire and return it in the envelope. Unfortunately, if we do not receive your response by August 8, 2003, your perceptions will not be included in final report. If you have any questions, I can be reached at (406) 994-4323.

Sincerely,

Lisa Duffey
Graduate Student

Dr. C. Van Shelhamer
Professor

Enclosure.

Appendix J

FACULTY RESPONSES TO QUESTION 36

Question 36: What do you believe will be the top three challenges facing MSU's College of Agriculture in 2010?

Category: Faculty

- Attracting and retaining faculty
- Attracting and retaining quality faculty and administrators.
- Attracting quality faculty
- Attracting quality new faculty
- Declining FTE's
- Finding sufficient number of professors, who have a sincere interest in Ag production issues, who are willing to provide instruction on applied Ag production. It is hard to generate national recognition without maintaining a narrow focus.
- Hiring and maintaining quality researchers and educators
- Low wages in Extension and Research positions will not attract the best personnel on a national scale and the best we have will transfer to other states.
- Maintain a quality faculty
- Maintaining faculty for core coursework
- Maintaining faculty positions
- Recruiting and retaining faculty and leadership
- Recruiting good academic faculty
- Recruiting high quality faculty that can provide balanced applied and basic agricultural science programs.
- Recruitment and retention of quality faculty
- Recruitment and Retention of quality faculty
- Recruitment of competent faculty, students because of declining resources
- Retaining faculty & staff appropriate to mission
- Retaining outstanding agriculture educators
- Retaining quality faculty
- Retention of faculty
- Retention of quality faculty

Category: Funding

- Adequate funding
- Balancing the needs of hard funds vs. soft grant dollars
- Budget
- Budget (always)
- Budgets
- Competing for scarce resources
- Competition for available dollars for education and research
- Cost of tuition
- Declining funding
- Finances, finances, finances
- Financial constraints
- Financial support
- Finding new sources of extra-mural funding with continued declines in state funding.
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding

- Funding base
- Funding for research programs
- Funding from any of a variety of sources
- Funding issues
- Funding sources
- High costs of education and research
- How to adequately fund the College of Ag
- How to survive based on the economy and level of funding from the state.
- Increasing cost of education
- Lack of State and Federal Funding.
- Low funding from the state of Montana
- Low level of support from the legislature
- Maintain or increase state and federal funding
- Maintaining a budget that will keep Departments and Research Centers open.
- Maintaining sufficient base-level funding to provide minimal research, teaching and extension support.
- Money
- Obtaining adequate funding for basic research.
- Reductions in resources spent on administration
- State funding
- State Monetary Resources.
- State-based funding
- Sufficient funding to offer meaningful causes
- Support from State and University

Category: Leadership

- Finding a Dean that will provide vision and leadership through difficult financial times.
- Finding quality administrative leaders who instill confidence in both faculty and producers
- Lack of leadership that can adapt to a quickly changing "educational environment."
- Leadership continuity
- Leadership of the college and goal to accomplish
- Leadership
- Long-term vision & mission to meet needs of changing agriculture in Montana
- Maintain leadership stability
- Maintaining visionary dynamic dean, associate deans and department heads
- Recruiting and retaining competent administrators
- Retaining visionary leaders

Category: Other

- A vision of the future (and associated management to achieve that vision) that does not match the current and expected future resources available to the U system.
- Agricultural Production/Sustainability in the years to come
- Allowing the Extension Service Specialists to be separate from the College of Agriculture
- Change in population from rural base to urban base
- Changes in the population
- Dealing with environmental concerns whether real or perceived.

- Declining role of production agriculture in economy
- Decreased overall University emphasis on agriculture leaving the College of Ag with little moral or fiscal support.
- Decreasing rural population
- Delivering research results to citizen users, producers and managers quickly
- Demonstrating to the legislature and the public that MSU is responsive to THEIR needs rather than giving them only lip service and than emphasizing what the "ivory tower" really wants to do.
- Depressed agricultural commodity prices.
- Economics for Ag.
- economy
- Educate the changing population of Montana about the importance of agricultural education and research. Montana is becoming more urban and many that are moving to Montana do not appreciate the value of agricultural research in improving Montana's economy
- Effective public communication
- Emphasize natural resources as well as agriculture
- Expressing its role in the MT economy
- Facilities
- Farm/ranch practices – innovative
- Finding Economically sustainable agriculture options
- Helping MT deal with environmental legislation/regulation
- Helping MT ranchers/farmers to be low cost producers
- Identifying the agriculture needs of the state.
- Improving facilities
- increased environmental pressure from outside of Montana
- Increasing cooperation and sharing resources with Extension and the Experiment Stations.
- Keeping up with new information and technologies
- Lack of cutting edge teaching classrooms and laboratory facilities
- Loss of valuable farmland to development
- Maintain physical ability to meet changes in Ag Technology
- Maintaining a link with the people of Montana (outside of the University system)
- Maintaining an emphasis on the state of Montana, even though most of the funding comes from federal sources
- Maintaining ties to production agriculture as most new positions are filled with non-production oriented individuals.
- Meeting needs of changing face of agriculture
- Population
- Profitable market access for Montana produced products
- Public image - For many, the term Ag production brings negative images. Concentrated feeding operations, extensive pesticide use, and continuous call for more government subsidies. A closure bond will need to be developed to between urban citizens and Ag
- Public relationship
- Regionalization
- Serving a declining, aging rural population.
- Shrinking farm/ranch population
- Social perceptions. While COA trains several hundred students, thousands of MSU students have no idea where their food comes from, are worried about its safety, and are uninformed proponents of organic and vegetarian diets.

- Strengthen Community/Producer Relationships in EACH County via.; one-on-one (group) meetings to let the Montana Citizenry know what the College of Agriculture is Doing; eh what is it doing, by the way?
- Technology
- The need to restructure to meet changing demographics and agricultural economics.
- University becoming a private institution
- Urban sprawl
- Will agriculture be important in Montana
- Working with a diverse clientele, we see an age and an educational level difference at this time. We need to meet the needs of all. We can not always use technology for dissemination of information as many clientele do not have the technology or the ski…
- Your #29 above. (Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship…)
- Your #31 above. (Contribute to Montana youth by developing their confidence, competence, and character…)
- Your #32 above. (Assist Montana communities with a full range of proven economic development strategies…)

Category: Relevance

- Being responsive to the wide variety of needs in Montana
- Priorities
- Relevance
- Relevance
- Relevance
- Relevance
- Relevance of the College in the face of changing demographics.
- Remaining pertinent with regards to constantly changing technologies in the agricultural industry.
- Research needs to be relevant to the situations we are in with agriculture.
- Staying relevant; i.e. turning out students that are equipped to work in Montana in agriculture.

Category: Research

- Ensuring research productivity and integrity.
- Improving production practices for Montana agriculture
- Maintaining an unbiased research effort when most funding is grant driven
- Preventing faculty from over emphasizing research activities (where the rewards are) rather than teaching and extension (which are equally or more important to Montanans)
- Redirecting research programs to make them responsive to state's needs
- Updated research – publicized on a timely basis
- Working on issues that are important to the citizens of Montana rather than chasing research dollars.

Category: Students

- Attracting students and providing them with a broadening and useful education
- Attracting students into agriculture.
- Attracting top students wanting to stay in agriculture
- Changing student body (i.e., more urban)
- Competition for students
- Continuing to attract undergraduate and undergraduate students to major in College of Agriculture departments.
- Declining enrollment
- Declining enrollment. US farm/ranch production is so efficient; the need for college-trained production agriculturists is a small pool. However, we can recruit and train students for all the auxiliary industries associated with Ag and food production.
- Declining student enrollment
- Demand for more distance learning classes
- Development and maintenance of resident instruction programs that support the needs of students desiring to gain employment in agricultural occupations within the state of Montana.
- Enrollment
- Enrollment
- Enrollment- There has been a trend for farm/ranch children to seek jobs outside of agriculture. I am sure that will not turn around by 2010. If it does it will be a different view of the agriculture industry.
- Fewer students - less going back to agriculture
- Finding a sufficient number of Montana born and raised students interested in being Ag producers. The thought of going back to a sparsely populated area to raise a family is not overly attractive. Knowing your children may have just five or six kids in
- Finding ways to include more students in hands on agriculture and research
- High demand from students & producers w/ limited resources
- How to maintain student enrollment
- How to meet the educational needs of students
- Improving academic quality
- Increased proportion of students from urban areas
- Keeping educational programs/opportunities affordable for Montana families
- Maintain or increase undergraduate student numbers
- Maintaining degree programs/majors that have few students
- Maintenance of resident instruction programs already developed that support the needs of students desiring to seek employment in high-tech fields of agriculture or related disciplines.
- Nationally recognized scholarship
- Offering viable applicable curriculum in the face of lower wage offerings for agricultural positions in relation to other majors.
- Providing "hands-on" experiential learning for students in order to place them in situations of application for the knowledge gained in the classroom.
- Providing distance education
- Providing students with viable opportunities to remain in Montana after graduation
- Recruiting and retaining a high quality student body (both graduate and undergraduate students) and making programs in the College of

- Ag attractive to the changing needs of students
- Recruitment
- Recruitment & retention of students
- Recruitment of students
- Re-development and maintenance of resident instruction programs that recruit and retain students interested in applied production agriculture management and practices.
- Reduced student enrollment
- Retention/Recruitment
- Solely Production Agriculture based curricula (need greater diversification of programs)
- Student enrollment
- Student Numbers
- Student population/interest in Agriculture
- Student recruitment
- Student recruitment
- Student recruitment and retention
- Students
- Tuition increases
- Updating undergrad curriculum

Appendix K

LEGISLATOR RESPONSES TO QUESTION 36

Question 36: What do you believe will be the top three challenges facing MSU's College of Agriculture in 2010?

Category: Faculty

- 1st class professors
- Attracting quality faculty
- Faculty retention
- Personnel – staffing
- Qualified instructors
- Quality faculty
- Recruit & retain staff
- Recruiting faculty because of under funding by legislature
- Responsible educators
- Retain quality faculty & staff
- Retain staffing
- Retaining and/or hiring qualified educated professors
- Retaining faculty because of under funding by legislature
- Retaining qualified staff
- Retaining quality faculty
- Staff retention

Category: Funding

- Adequate funding
- Adequate funding
- Adequate funding from state
- Adequate state funding
- Alternative funding sources
- Controlling expenditures
- Escalating costs of doing business
- Expanding services to Montana because of under funding
- Finances
- Finances
- Finding ways to keep research stations open
- Funding
- Funding
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- Funding
- Funding
- Funding all of the efforts
- Funding as agriculture is being replace by third world country
- Funding sources to maintain adequate levels of service
- Funding!
- Garnering proper funding
- Having adequate funding
- Keeping experiment station going at the level it needs
- Keeping Experiment Station open/viable
- Keeping experimental station open
- Limited state government funding
- Money
- More funding

- Obtaining adequate funding
- Operating within budget
- Program expansion
- Resource Allocation
- Resources
- State funding

Category: Leadership

- Leadership
- Stable leadership

Category: Other

- ?
- ?
- A changing agricultural environment
- A more complicated land use policy or the lack of a policy
- Adapting to change
- Adapting to change
- Adapting to changing economy and environment
- Ag diversification
- Being diverse enough to relate to non-Ag Montanans
- Breaking with Multi National Corp for R&D
- Bringing computers (technology) into the work place
- Competing with a global market & be profitable
- Competition from other institutions
- Continued acceptance of Ag College
- Continuing to do things 'the old way'
- Corporate agriculture
- Curbing the "bigger is better" attitude
- Decline of family farms
- Direction
- Disease
- Don't have enough knowledge to respond
- Drought and impacts
- Economic achievement
- Ensuring high quality Ag products are available to MT & international markets
- Environmental pressures
- Finding Ag markets
- Global economy
- GMO
- GMO's
- Have no idea
- Having an agriculture industry to support
- Helping folks to see benefits of change
- Individual farm families finding new occupations
- International marketing
- Keeping families on the farms
- Keeping farming affordable
- Keeping general populace especially in urban areas in tune to the importance of Ag in MT
- Keeping people in production Ag
- Keeping up with technology
- Location
- Loss of family farm & growth of corporate farms
- Mad Cow Disease
- Maintaining family farms rather than corporate farms
- Maintaining healthy sustainable forests, through logging, thinning, stop obliteration of USFS roads
- Marketing comm.
- More technical assistance
- Not enough farmers
- Not to be discounted as unimportant by the Bozeman community & urban areas of the state

- Open up grazing to help keep weeks and wild fire/grasses down
- Other sectors of Montana's economy surpassing agriculture
- Over extended (mega) farms
- Population growth in west side
- Population loss on east side
- Promotion of & safe use of bio-engineered crops (grains & forage)
- Public awareness of Ag importance
- Public information & involvement
- Radical environmentalists
- Retaining family farms
- Shrinking Ag population
- Skewing evidence of assisting Ag producers in keeping up w/ market demands
- Study coal methane gas water affect on agriculture land
- Sustaining the Ag industry
- Technological availability (equipment, etc.)
- Technology
- Test new varieties and products for MT Ag production
- Value added Ag in Montana
- Value added crops
- Value added products
- Value-added products leaving Montana
- Vision that includes promotion of family farm Ag
- Water retention in soils
- Whether Ag is viable

Category: Relevance

- Prioritization of goals
- Relevance

Category: Research

- Adding added value
- Adding value to crops rather than selling raw resources
- Approval (global) of genetically improved cereal grains
- Biotech research
- Continue to develop drought resistant crops
- Coping with bio-tech in grains
- Development of improved genetic information on crops in Montana
- Development of workable controls of noxious weeds
- Genetically altered crops
- Genetically modified Ag products – control & marketing them
- Genetics
- Helping farmers use technology that does not destroy the environment
- Herbicide/pesticide use
- High tech science in all agric.
- High tech will not be affordable
- Improving production capability of Montana based crops and livestock
- Providing ongoing research and use of technology to keep Montana Ag products competitive
- Research
- Research CWD and Mad Cow for cause, transmission, and cure
- Research on uses of crops grown in Montana
- Research programs
- Researching methods to create value-added Ag industries that are based in Montana

Category: Students

- Affordability for students
- Ag families being able to afford school
- Attracting instate students
- Attracting students
- Attracting students
- Educating MT students
- Education
- Enlarge Ag courses
- Enrollment
- Having programs that anticipate changing interests of students
- Help retain MSU graduates in the state
- Holding tuition low enough to be affordable
- Interested students
- Job placement
- Keeping graduates in Montana
- Making the college available to everyone
- Providing educational opportunities to those without resources
- Recruiting students interested in agriculture
- Student affordability
- Student tuition
- Student who wish to stay in Ag
- Successful placement of graduates
- Tuition increases

Appendix L

FACULTY RESPONSES TO QUESTION 37

Question 37: Indicate what you perceive the top three agricultural research priorities should be for the Montana Agricultural Experiment Station in 2010.

Category: Biotechnology

- Application of Biotechnology to animal and crop production and health
- Bio – weeds and alternatives
- Bio fuels
- Bio-based energy resources
- Biotechnology
- Biotechnology
- Development of bio-based cropping systems rather than current food-based system
- Development of unique biobased products
- G.M. Wheat
- Incorporating GMO's in MT agriculture

Category: Crops

- Alternative cropping systems
- Alternative crops and cropping systems to diversify Montana's agricultural systems
- Assisting in developing Markets for other non-traditional crops that can and have been grown here in Montana, if possible
- Crop and forage variety trials.
- Crop diversity & cropping systems
- Cropping systems that meet pest management strategies and economic returns for producers
- Developing cropping systems that will allow transition to organic production of small grains.
- Developing ecologically based decision support systems for pest management in agricultural and natural ecosystems.
- Disease resistant grains.
- Disease resistant varieties
- Drought resistance in crops
- Enhancing crop quality
- Improved annual forage crops
- Improving genetics of appropriate crops
- Improving yields
- Integration of new crops into livestock production and disease prevention in livestock.
- New crop varieties
- New crops or production methods
- New crops/added value processing
- Provide crop producers with crops that are more drought resistant
- Sustainable agriculture/ IPM / dry land crops
- Sustainable cropping and land-use systems.
- Sustainable cropping systems (environmental and economic)

Category: Economics

- Ag economics
- Ag economics, product development and marketing
- Alternative enterprises for farmers and ranchers.
- Developing new markets
- Economic and environmental sustainability
- Economic decision making in agriculture
- Economic enhancement
- Economic sustainability

- Economical use of produced crops in adding value to Livestock; diversity of livestock production.
- Economics
- Financial management
- Helping producers be low cost/sustainable businesses
- How to help family farms survive
- How to help farmers & ranchers compete in a global economy
- How to help producers receive a fair market value
- Improving producer profitability
- Improving returns to MT Agriculture
- Keeping competitive with agricultural production products
- Marketing Ag products
- Marketing issues
- Marketing of MT Ag products
- Montana brand marketing strategy development.
- Profitability is always tops
- Profitability of practices introduced, both long term and short term
- Provide agricultural producers with knowledge to manage farm income variability
- Relationships between production and resources.
- Working to broaden and diversify Montana's production Ag economic base.
- Your #29 above. (Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship…)
- Your #32 above. (Assist Montana communities with a full range of proven economic development strategies…)

Category: Funding

- Building a new Animal Science Building
- Faculty positions
- Funding for facilities and land for appropriate livestock research programs. Crop research stations are almost late-20th century, but livestock operation is 50+ years old. Accountability – The stat support to operate is <50% (and shrinking), put populace demands 100% say in what we
- Funding for Research Associate positions. Cohesive, long-term research is impossible when only employing 2-3 year graduate students.
- Funding state
- G&C
- Generate sufficient funds to support quality research
- State funding

Category: Livestock

- Beef issues will become greater over time.
- Food contamination
- Food safety
- Food Safety/Risk Assessment
- Food safety issues
- Increasing livestock production efficiency.
- Provide livestock producers with methods to monitor for emerging catastrophic diseases
- Sustainable livestock systems (environmental and economic)

Category: Other

- Addressing wildlife and environmental conflicts that effect agriculture.
- Agro terrorism
- Alternative practices
- Answering questions that producers perceive as risk in order to enhance the adoption rate of new technologies
- Applied research
- Better integration of basic and applied research approaches
- Better integration of disciplines
- Communicate the importance of scholarship to the public
- Conducting innovative research with an extremely limited staff and budget
- Consumer demands, labeling, nutrition, and food safety.
- Consumer driven priorities for new products. If the consumer doesn't want to buy what we are producing then why produce it. A classic example is GMO wheat.
- Controlling urban sprawl
- Conventional mission – calves and wheat are the two biggest economic forces in Montana, but new emphases on environmental concerns, high technology, diversification, sustainability, etc. have eroded support for these base products.
- Develop technology
- Developing niche-market end-user products that can be commercially grown and developed by mainstream Ag producers/producer chains. These need to be ones that Montana will have a definite competitive advantage in.
- Developing sustainable farming practices
- Developing tools for managing land use change in fast and slow growing counties and communities including maintaining clean water sources.
- Development of affordable farming technologies that allow agricultural producers to make a living while maintaining or improving soil and water quality
- Development of processing, manufacturing infrastructure in Montana
- Educate citizens
- Educating students, citizens and communities in ways to work towards a sustaining balance of environmental, social and financial resources
- Efficiency in livestock health and feeding.
- Efficient water use
- Environmental issues
- Environmental issues
- Environmental sustainability of agriculture other land uses which rely on natural resources in Montana
- Finding Lisa Duffey a job
- Get the research findings into the hands of those who will be using it. i.e. Web site databases that provide clear, easy to use research information.
- Given the ever increasing Federal regulations effecting natural resource based industries, provide a neutral research based voice in relation to other agenda oriented "science", that specifically addresses issues being placed in the forefront of Montana N
- Impact of Endangered Species Act
- Improvement of the public's perception of agriculture and agricultural producers

- Improving the sustainability of agricultural production and improving our natural resources.
- Increased pressure on limited acres, especially on the west side of the state
- Infectious disease
- Infectious Disease
- Integration of basic biology into agricultural research
- Irrigation and drought management strategies
- Keeping non-Ag public opinion on their side in times of budget crunches
- Keeping research stations open to public visits and educational seminars.
- Land use
- Long-term experiments to study Ag sustainability and resource conservation
- Lowering input costs
- Maintain visionary unbiased programs
- Nationally competitive science (quality)
- Nationally recognized scholarship, through, research on topics, some are important to Montana
- Natural resource conservation
- Natural resource management
- Natural resources issues
- New and emerging pathogens and pests
- New developments that may be useful to the individual producer, such as the biodiesel and wind energy.
- Payment incentive initiative for clean air, water and open space from farms and ranches
- Producer driven priorities. More communication with producers to determine what their needs are.
- Production agriculture
- Production and marketing of agricultural products under GM regimes.
- Production and Processing practices that enhance profitability and environment (air, water) quality
- Production efficiency
- Quality of product
- Quality product development
- Range and noxious weed management
- Recruiting and retaining quality people
- Re-direct more emphasis on researching matters of direct importance to Montana production agriculture rather than simply where the most grant dollars can be found.
- Reduced input technologies
- Reducing losses from pathogens, weeds, and insects
- Reducing producer vulnerability to global externalities by providing alternate strategies for production
- Reducing the costs of production in agricultural operations, especially labor and fuel costs.
- Re-establish a strong and cooperative working relationship with the agricultural aspects of the Extension Service for the benefit of Montana agricultural producers, agricultural industry and the state economy. Let Research do the research and Extension d
- Regionalization
- Relevant research to the conditions and environment. I think of sawfly issues, drought resistant varieties.
- Resource stewardship
- Responsiveness to producers and progressive research that producers can apply to their operations immediately
- Restructuring to reflect changing demographics and the need to

incorporate fully environmental sciences into MAES.
- Sustainability
- Sustainability of land use (agricultural and other)
- Sustainability of our agricultural systems
- Urban horticulture
- Water
- Water is and will continue to be a primary factor limiting production. The state may have to set priorities on which crops will receive the water available for irrigation. Thus water use investigations will be a priority.
- Wildlife
- Your #31 above. (Contribute to Montana youth by developing their confidence, competence, and character…)

Category: Value Added

- Add value or additional industry base to animal Ag (cattle, sheep) businesses
- Added value for MT products
- Adding value to Ag products
- Adding value to cattle and wheat
- Adding Value to Produced Agricultural Products.
- Alternative and value added agriculture
- Commercialization of value-added products
- Developing and establishing value added segments
- Developing new products from current crops and livestock through new processing technology and breeding in new characteristics.
- Direct additional attention to developing value-added production opportunities that can involve large numbers of growers rather than small numbers associated with niche market opportunities.
- Increased Value-added for agricultural products
- Increasing the value of agricultural products produced in Montana (value - added). My expectation is that there will be more and more regionalized products produced by agriculture.
- Investigating new value added approaches to MT agricultural commodities
- Realistically discuss the myth of value added agriculture
- Research into value-added agriculture for Montana (including biotechnology).
- Value added
- Value Added Ag
- Value added agricultural commodities
- Value added product development
- Value Added Products from Livestock
- Value-added Ag products
- Value-added agriculture
- Value-added agriculture, including alternative energy sources and use of genetically modified crops that produce products such as pharmaceuticals

Category: Weeds

- Pest management, particularly weed control will continue to be a top priority. Weeds are like a cancer that is continually eating up our land acres and needs to be constantly treated. New remedies (biological preferred) are needed to deal with each of th…
- Weed control.
- Weed management

Appendix M

LEGISLATOR RESPONSES TO QUESTION 37

Question 37: Indicate what you perceive the top three agricultural research priorities should be for the Montana Agricultural Experiment Station in 2010.

Category: Biotechnology

- Bioengineering
- Bio-engineering of products and related issues
- Bio-science
- Biotech
- Biotech
- Biotech research
- Continued development of bio-engineered crops
- Developing biofuel crops that MT farmers can grow
- Genetic alteration crops
- Genetic engineering of crops
- Genetic products
- Genetically altered crops
- Genetically modified Ag products
- Genetics
- GM grain
- GMO
- GMO grain and other products of agric.
- GMO's
- More research on biotech
- Production of alternative fuels (biodiesel, ethanol, etc)
- Public acceptance of GMO
- Safety in bio. Tech.
- Using biotechnology to replace traditional herbicides and insecticides

Category: Crops

- Ag crop research
- Breed and develop high yield and higher protein dry land variety food
- Continued evaluation of crops & rotations
- Continuing work on drought resistant varieties
- Crop Enhancement
- Crop health
- Crop improvement thro traditional methods (hybrids, etc)
- Develop satellite image based soil type cropping programs
- Developing crops to best serve the area
- Development of climate "friendly" crops to diversify Montana's agriculture base
- Development of tillage practices that preserve moisture and top soil
- Grain
- Grain that grows with little H2O
- Grains
- Growing forage for hay under drought conditions
- Identifying & developing crops that are suitable to changing weather conditions
- Increasing yields for MT crops
- Keep on reviewing pulse crops
- Long-range effects of herbicides & pesticides on Ag products & water resources
- Monsanto wheat
- More efficient crop production
- New crop varieties
- New crops
- New crops that can promote economic growth for Montana
- Organic/specialty crop research – systems/varieties not heavily dependent on chemical inputs
- Pest resistant varieties/expand genetics, not narrow them
- Research that reduces chemical use through crop rotations

Category: Economics

- Be competitive
- Business compatibility
- Expanding globally
- Global competitiveness
- Help with change process that agriculture is undergoing – no longer major economic activity
- Helping Ag families adapt to changes in economy
- Improve Montana's Economy
- Profitability for Montana family farmers
- Same as above in 36 (Garnering proper funding; Researching methods to create value-added Ag industries that are based in Montana; Continue to develop drought resistant crops)
- Solution so farmers & ranchers can be competitive with third world country with new crops

Category: Funding

- Develop more private funding
- Funding
- Funding
- Funding
- Funding
- Funding!
- Money

Category: Livestock

- Animal health
- Appropriate livestock changes – i.e. Can we be anything but commodity
- Better market for Montana beef!!
- Brucellosis
- BSE
- Cattle
- Chronic wasting disease
- Food safety
- Free of MAD cow disease
- Innovative livestock uses – i.e. sheep grazing on knapweed
- Livestock
- Livestock diseases
- Mad cow
- Mad cow disease
- Reduced cost livestock production

Category: Other

- ?
- ?
- Be a separate function
- Better use of irrigation
- Communicate with adjoining Ag states on their programs
- Continued research
- Convincing the decision makers of importance of research
- Creating a "forward-looking" impression
- Develop strategies to deal with shrinking number of farms
- Develop water use and conservation techniques
- Downsize staff to make a leaner, better paid workforce
- Education
- Effects of coal bed methane on Ag
- Efficient use of water
- Enhancing organic farming techniques
- Environmental issues
- Establishing a good P.R. setup
- Focus on forest management, fuel reductions for safe & healthy forests

- Getting MT informed about what you do
- Global warming
- Having an effective delivery system to share information to users
- Helping producers
- Identifying and developing products for our area producers
- Identifying the opportunities to make profit in the business
- Improved products
- Increased production
- Information dissemination to Ag producers
- Keeping abreast of what customers want
- Keeping Ag people informed
- Keeping people in production Ag
- Land reclamation of mine sites
- Less use of chemicals & drugs
- Maintaining family farms without the horrible ways corporate farms treat animals and the environment
- Maximizing production and limiting loss & waste (water, etc.)
- More productivity – less acreage
- More research on su…
- New products
- New products
- New products
- Not sure
- Organic farming
- P.R.
- Rebuilding food processing capability – local/regional agriculture
- Research
- Research & development
- Research that supports small farmers
- Same (maintaining healthy sustainable forests, through logging, thinning, stop obliteration of USFS roads; open up grazing to help keep weeks and wild fire/grasses down; study coal methane gas water affect on agriculture land)
- Same as above (don't have enough knowledge to respond)
- SAR water mitigation for irrigation
- Search for ways to farm efficiently and still provide habitat for game birds
- Shelter belts
- Soil
- Sustainable Ag
- The toll that increasing wildlife state wide is having on farmers and ranchers
- Training Future Ag Professionals
- Training/education new generation
- Water mgmt
- Work with production Ag
- Working with DNRC to open our forest land to production

Category: Value Added

- Added value
- Added value Ag
- Appropriate value added crops
- Increasing value to Ag production
- More research on value added
- New energy sources to replace oil
- Value added
- Value added
- Value added Ag products in MT
- Value added agriculture
- Value added options
- Value added processes
- Value added processing increases
- Value added production
- Value-added crops

Category: Weeds

- Biological control of noxious weeds
- Development of organic controls of crop damaging pest and weeds
- Natural weed control
- Noxious weed control
- Noxious weeds
- Toxic weed control
- Weed & pesticide control
- Weed and pest control
- Weed control
- Weed control
- Weed control
- Weed control
- Weed control is successful
- Weed management/control
- Weed problems

Appendix N

FACULTY RESPONSES TO QUESTION 38

Question 38: What do you believe will be the top three challenges for the Extension Service in 2010?

Category: Administration and Staffing

- Administration
- Attract an imaginative and competent director
- Attracting quality faculty and administrators
- Clear and responsive leadership.
- Communications among staff
- County agent competency
- County extension agents must be encouraged and allowed to increase specializations. I see having area specialist (serving more than one county) and 4-H specialist serving more than one county as a better structure than a generalist agent often having sig…
- Declining FTE's
- Dedicated personnel willing to continue a career with lower pay than similar jobs with USDA
- Extension in Montana suffered a severe blow when MSU Pres Tietz discontinued the position of VP for Extension. In a land grant institution it should have equal status with research and academics. Since that time various state departments in Helena (new Dep…
- Hiring a new director
- Hiring creative administration
- Improving professional development programs so that Ext educators have improved discipline based knowledge
- Increase quality of staff
- Inculcating into the younger Agents the sense of responsibility to their communities; this is a job that requires dedication to the people in their counties; it is not just another "job."
- Leadership quality
- Leadership stability
- Long-range strategic planning
- Maintain a quality workforce
- Maintain trained and experienced agents
- Maintaining critical mass of appropriately trained and capable individuals attuned to the problems facing agriculture and rural communities
- Maintaining positive leadership
- Meeting clients' needs w/ fewer resources
- Organizational structure may need to change from a campus-based specialist and county agent system to a system with regional specialists (several counties) and fewer county agents.
- Provide technically competent field-based faculty
- Quality of extension agents
- Quantity of quality personnel to meet the growing demands of the public
- Recruiting agents who have training in pest identification and management
- Recruiting and retaining Extension educators
- Recruiting and retaining faculty
- Recruiting and retaining qualified people
- Recruitment and retention of quality faculty
- Retain good agents; reduce turnovers
- Retaining good employees.
- Retaining visionary leaders
- Staff training
- Staffing

- Staffing with knowledgeable individuals who are willing to work in rural areas
- Structure of organization, see A
- Suggest Area Administration be again localized as in the past; State Directors do NOT have enough time to work with small groups of Agents to assist them in solving problems, etc..
- To seriously examine the faculty needs in each county in the state. Should we be clustering offices and the faculty serving the needs of several counties, just not one?
- Training of county agents to maintain competence

Category: Changing Environment

- Centralization
- Adapting our traditional Extension system to the top priority needs of Montana constituents; e.g. economic development, value-added Ag,
- Assisting counties and communities plan for growth.
- Change in needs from the community due to population changes - increasing in areas, decreasing in areas, changes in the ages and perceptions of the people using our offices.
- Change of service direction
- Changing clientele
- Changing clientele (i.e., more urban)
- Changing communication technologies.
- Changing face of agriculture (rural to urban population)
- Changing learning styles
- Changing the structure of the organization
- Changing to meet the needs of a more urban population.
- Continued change in the needs of clients due to changing priorities of our rural communities.
- Continued division between East and West portions of Montana, with east remaining more traditional and the west requiring a more diverse offering and the associated specialist support to meet the diversity of needs.
- Declining role of production agriculture in economy
- declining rural population
- Decreasing population in rural areas.
- Defining changing priorities within our communities
- Developing programs to meet contemporaneous needs
- How to help rural communities survive
- How to keep up with current technology
- Increased demand for community development services.
- Keeping agriculture in Extension
- Making difficult decisions about program direction and priority.
- Modernization
- Modernization
- Prioritize needs of communities and determine if we are putting energy and manpower to the appropriate areas.
- The changing demographics of the Montana and regional populations create more demands on a fixed or declining structure. This requires that the "traditional" offerings be maintained and "new" demands in diverse subject areas be embraced and embellished.
- Urbanization

Category: Communication and Education

- Communication
- Communication technologies
- Delivering focused programs compatible with Extension's mission and not becoming another "social service" agency
- Disseminating information on a wide range of topics by a limited number of staff.
- Disseminating knowledge
- Distance Learning Challenges
- Effective delivery systems
- Effective programming to meet various needs of communities
- Ensuring responsiveness of Specialists to state needs, county requests and off-campus programs in the face of increased demands and rewards for conducting research.
- Extending information on organic crop production.
- Improving academic quality
- Increasing complexity of information to convey to clientele
- Informing the population what agriculture is about
- Keeping youth interested in Agriculture
- Maintaining personal contact with clientele while utilizing electronic and digital delivery methods
- Maintaining social culture of rural Montana
- Maintaining youth interest in 4-H.
- NOT duplicate educational/training programs provided by NRCS and feed/chemical companies
- Program delivery utilizing technology
- Program planning that facilitates the identification of high priority educational programs for people of Montana
- Providing a connection between the counties and the campus.
- Targeting service to diverse populations.
- Touching a higher percentage of our constituents
- Urban public education about agriculture/natural resource management
- Your #31 above. (Contribute to Montana youth by developing their confidence, competence, and character…)
- Youth

Category: Funding

- Adequate funding
- Budget
- Budgets
- Budgets
- Costs
- Declining funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding – as counties continue to be financially strapped – Ext is not mandated
- Funding (state/federal)
- Funding adequate field staff to provide necessary services and opportunities
- Funding for professional development. Despite previous

budget constraints, current ES employees are very well trained. However, they need continual educational opportunities to stay current.
- Funding for specialist and agent positions
- Funding for training programs
- Funding of programs...tax base is dwindling to the few
- Funding sources
- Funding state
- Funding, see A
- How to adequately fund Extension
- In the east, funding due to drop in population.
- Increased use of grant funding.
- Lack of funding
- Lack of funding.
- Limited resources and diminishing appreciation of the role of Extension
- Maintaining services
- Money and technology equipment
- Provide sufficient operating capital
- Reducing administration expenditures
- State funding

Category: Other

- Client focus
- Closer ties with production Ag and horticulture is the only way extension will survive in this continuing cutting of funds. Hirer only good qualified people or leave the positions vacant.
- Competing against other sources of information
- Competing in an information society
- Competition from similar agencies in the federal & private sector
- Connecting with the greater University System
- Developing the proper mix of Ag, FCS and 4-H.
- Directing major emphasis toward enhanced electronic availability of agricultural production information that can be disseminated quickly and efficiently by faculty and other personnel not fully trained in all subject matters involved. The day is long gone…
- Economic sustainability of farms & ranches
- Economics for Agriculture.
- Economy
- Emphasis on economics in Extension educational programs
- Extending decision support systems for pest management.
- Extension service must have tight relation with research centers to develop research and extension programs
- Focus on outreach content oriented outreach education
- Helping producers remain profitable
- In 2010, there are no problems. State funding issues have been resolved through Vegas style gambling in Butte. Western Montana is now the largest National Park. Eastern Montana is enjoying the benefits of being the only place in the universe that can grow
- Increasingly wide breadth of clientele
- Issues for small land owners
- Keeping focus on issues that we can make a difference for – can't be everything to everyone all the time
- Need to regionalize programs
- Re-establish a strong and cooperative working relationship with the agricultural aspects of the Experiment Station for the benefit of Montana agricultural producers, agricultural industry and the state

economy. We should let Extension do the extending an
- Re-establish emphasis on dissemination of agricultural knowledge to the Montana clientele. While youth, family and consumer issues, and community development efforts are important and should be retained - there are other programs also serving these needs
- Sustaining importance for potential clientele
- Technology
- Trust of clientele
- Working closely with specialists in the AES
- Working with a larger portion of the University System to help clientele solve problems in a variety of subject areas
- Your #29 above. (Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship…)
- Your #32 above. (Assist Montana communities with a full range of proven economic development strategies…)

Category: Relevance and Survival

- Accountability – counties are paying majority of agent salaries, but MSU wants 100% control of agent performance. Specialists are forced to live on grants for departmental survival, but populace and agents want 100% control of specialist duties.
- Becoming relevant to commercial agriculture
- Being a viable needed source of information
- Confidence in the current system of county agents. i.e.: there are 100+ Certified Crop advisors in Montana and only one is a County Agent.
- Demonstration that county agents are necessary
- Existence
- From Saturday Night Fever, "Just Stayin' Alive"
- If don't do A&B, survival
- Maintaining its relevance and accountability to all the citizens of Montana, not just the agricultural sectors.
- Maintaining relevance
- Maintaining relevance.
- Mission
- Relevance
- Relevance
- Relevance
- Relevance
- Relevance of the ES by 2010. The ES is barely relevant now in MT, given its current antiquated structure. The ES must restructure now.
- Relevance of the ES given changing demographics and agricultural economics.
- Survival! and, have Specialist conduct additional educational workshops specifically for Agents; providing them with knowledge that is useful to their clients back in the County.
- Survival--if Extension doesn't transition (see #1, above), they will be deemed as 'less than indispensable' which won't attract scarce investment resources.

Appendix O

LEGISLATOR RESPONSES TO QUESTION 38

Question 38: What do you believe will be the top three challenges for the Extension Service in 2010?

Category: Administration and staffing

- Employment of qualified/dedicated personnel
- Having adequate staff
- Having qualified personnel
- Increasing # of extension agents
- Keeping quality staff/programs
- Keeping staff w/ low wages
- Manpower
- Personnel
- Qualified teachers
- Retaining qualified personnel
- Staff
- Staff size & availability
- Upgrading the management skills of the people in command
- Workforce

Category: Changing environment

- Adapting to challenges of more urban population
- Adapting to change
- Adapting to changing demands of MT population
- Adjusting to meet the need and wants of a changing youth without giving up current values
- Appropriate services for changing population
- Becoming more adaptable to community needs – particularly in the economic dev. Area
- Change focus from production Ag to Home Ec
- Changing programs to meet local needs
- Cohabitation with urban sprawl into rural areas
- Continued support of Ag based families as economics of Ag continues to change, as it always will
- Helping Ag people stay in agriculture
- Keeping Ag a competitive force in the world economy
- Keeping families on the farm &/or ranch
- Reworking mission
- Smaller base of clientele

Category: Communication and education

- A more effective system to share information with users
- Communication
- Communication
- Communication
- Communication & technology
- Communication with ranchers & urban development
- Continue adult education opportunities in various communities
- Continue support for 4H
- Continued outreach – I think Ag Extension can always do more
- Continuing the education and involvement of young people in Ag-related work
- Continuing to attract youth
- Convincing non-Ag people importance of Ag issues
- Create learning programs and teaching methods that will give understanding of the economic system
- Educating the local communities

- Education
- Education of 4H
- Education of producers
- Education/information dissemination to Ag producers
- Expand & promote public outreach to, in turn, increase the level of public awareness
- Get information to the producers
- Improve Information Dissemination
- Improve information on what we eat so as to debunk fads & rumors
- Introduce our youth to technologies of our modern world
- Keeping Ag people informed
- Keeping young people interested in agriculture
- Keeping youth involved
- Maintaining good communication with Ag families
- More help with compliance with federal & state laws
- More technical assistance
- Outreach to suburban families
- P.R.
- Provide up to date information to residents in regard to farming, gardening, science and technology
- Public relations
- Public relations

Category: Funding

- Adequate funding
- Adequate funding
- Adequate state funding
- Expansion
- Facilities
- Focusing resources w/ priorities
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding
- Funding sources
- Funding sources
- Funding!
- Grow Program on Limited Resources
- Local funding & support
- Maintain legislative support
- Maintaining adequate funding
- Maintaining and increasing funding
- Money
- Program expansion
- Resources
- State funding support
- Stretching limited funding dollars

Category: Other

- ?
- ?
- ?
- ?
- ???
- Competitive w/ global economy for resources
- Control of plant parasites
- Control of undesirable weeds
- Dealing with the high production costs on family farms vs. corporations taking over many farms. Lg. corporations can maximize the Govt Farm Welfare bill of $190 Billion
- Drought
- Genetically altered crops

- Helping Ag pop. be technology proficient and overcome livestock ID challenges
- Helping to sustain Ag in Montana
- Increased food production economically
- Insect control – perhaps biological
- Keeping genetically altered crop out of Montana
- Loss of family farms – urban growth
- Not sure
- Noxious weed control
- Price
- Products for world wide markets
- Quality
- Quantity
- Radical environmentalists
- Research
- Unknown
- Urban interface/wildfires
- Value added crops
- Value added projects
- Weeds
- Weeds – knapweed, etc.
- Working with production Ag

Category: Relevance and survival

- Accountability to the public
- Becoming far more visible
- Being proactive in communities
- Convincing the legislature of the importance of the service
- Elevating extension's necessity
- Encourage use of extension
- Existence
- I'm not sure the Extension Service can survive in its present structure
- Impacting communities
- Keeping "proper" diversification
- Keeping Extension Service
- Maintaining usefulness
- Maintaining usefulness within the College of Ag
- Making sure local people know your mission
- Making their services more acceptable to general public
- More visible in the communities
- Motivating people
- Need more
- Not becoming obsolete
- Providing services that are in demand in high tech – internet world
- Providing services to both rural & urban populations
- Public use of extension program
- Relevance
- Relevance
- Relevance – providing the right information
- Responsiveness – being able to have practical information
- The need for office
- Time to serve Ag clientele
- To be really useful
- To exist
- Vision consistent w/ University

Appendix P

FACULTY COMMENTS AND OTHER RESPONSES

Question 2: What do you believe are the key concepts that should be included in the mission statement for agricultural components of the Montana land grant institution?

- Bracketed the first five responses and wrote "same"
- Generate new relevant/applicable knowledge, not just new knowledge per se
- Identify new Ag production opportunities for economic growth
- Lead the way for innovative concepts
- Only work on Montana issues
- Provide accurate, unbiased scientific information concerning Montana's land resources
- Respond to new unique local needs as they arise in the agricultural community.
- Solve agricultural problems in state's specific geographical and climate environments

Question 3: What do you believe the administrative structure of the Montana land grant system should be?

- Bracketed the fifth response and wrote "this might work too"

Question 10: Regionalization of agricultural education and research programs in Montana will be required due to limited state resources.

- "I don't know what is meant by this" written next to question.

Question 29: Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship at a level that provides for continual production and a desirable quality of life.

- Added "not always about production & net returns" next to question

Question 39: Funding for addressing the challenges you identified above will:

- All of the above
- Find creative new funding sources.
- Grant funding for education of specific constituent groups
- Grants
- Hard choices
- Hard to tell
- More efficient state and university management
- Most of the challenges do not require funding but rather some hard decisions by administrators.
- Outside special project grants
- Require income generation through selected areas of operation
- Will require tightly integrated teaching, research, and extension responsibilities on and off campus

Question 41: Please rank the following as your first, second, and third most common sources for information about Montana agriculture and current issues in agriculture. Other responses included:

- Educational meetings
- Extension publications
- Market conditions = websites; policy = personal involvement
- MSU email newsletters

- MSU Extension and AES publications
- My County Extension Agent
- North Dakota Extension news releases
- Professional journals and newsletters
- Scientific Journals
- Workshops/seminars

Question 42: Please indicate which of the following Extension Service publications you received on a regular basis. Other responses included:

- Choose not to participate as I am with the extension service
- County
- Crop Health Report
- Electronic news release. these also appear in some newspapers
- Fertilizer Facts
- NA
- None
- None

Question 43: Please indicate which of the following College of Agriculture/Montana Agricultural Experiment Station publications you receive on a regular basis. Other responses included:

- Fertilizer Facts
- News releases in newspapers
- None
- None
- None

Question 47: Please indicate your field of study.

- Ag & Public Ad
- Ag Business
- Ag Business and Ag Education
- Ag economics
- Ag Ed/Mech Agriculture
- Ag Education
- Ag Production and plant physiology
- Agriculture. Marketing
- Agricultural economics
- Agricultural economics
- Agricultural Economics and Economics
- Agricultural Education
- Agricultural Education
- Agriculture
- Agriculture
- Agriculture and Natural Resources
- Agriculture Education
- Agroecology
- Agronomy
- Agronomy
- Agronomy
- Agronomy - Plant Breeding
- Agronomy/Plant Genetics
- Agronomy/weed science
- Animal Science
- Animal Science
- Animal Science
- Animal Science
- Animal Science
- Animal Science
- Animal Science
- Animal Science and Ag. Economics
- Animal Science, Adult Education
- Animal Science/
- Beef cattle nutrition
- Biochemistry
- Biological Risk Assessment
- Bovine Reproductive Physiology
- Business
- Communications
- Crop science
- Crop Science
- Crop Science

- Cropping Systems
- Economics
- Economics
- Elementary Education
- Entomology
- Extension agent
- Family Economics
- Immunology
- Livestock nutrition and production
- Nutrition
- Plant & Soil Science – Agronomy
- Plant Genetics
- Plant Pathology
- Plant Pathology
- Plant Pathology
- Plant physiology
- Plant Sciences
- Range and animal science
- Range Management
- Range Management, minor in Extension
- Range Science
- Range Science
- Range/Economics
- Soil science
- Soil Science
- Soil science
- Soils and Environmental Sciences

Question 48: How many years have your worked at a land grant institution?

- 21-25 (MSU); More than 25 (total employment history)

Question 49: Indicate your faculty rank. Other responses included:

- Adjunct
- Adjunct Instructor
- Adjunct Instructor
- Adjunct Instructor
- Adjunct Instructor
- Instructor

Question 51: Indicate your political affiliation.

- No political preference
- Not an appropriate question. I vote for the candidate, not for the party.
- This is a really poorly designed survey
- Vote on the person, especially on a local level

Comment written on page 3:

- Wrote "Questions 13-35 are inane and condescending. You might as well ask if MSU should be against putting sharp objects in your eyes" at top of list of questions.

APPENDIX Q

LEGISLATOR COMMENTS AND OTHER RESPONSES

General comments.

- Comments written at end of completed survey: 1. Many/most of the survey questions were worded to elicit a positive response. I would therefore question the validity of the survey results. 2. In the 2003 Legislative Session, there was not one Democrat State Representative actively engaged in agriculture. The long-range effects of Montana's largest industry not being represented could be devastating…
- I have no expertise concerning Montana's Land Grant System. *and* signature written on cover sheet of survey. Survey blank.
- I vote during the session, not by survey!!! *and* signature written on cover sheet of survey. Survey blank.
- Is this 15 minutes per page? written on cover sheet of survey
- Note included with survey said: Dear Dr. Shelhamer and Ms. Duffey, Wanted you to know in response to questions #57-60 that the materials received during the session looked attractive and I'm sure well done. The problem I had as a legislator was the time to really peruse them. Nothing can replace the personal contact with someone representing the College of Ag. Cathy Conover does an excellent job in representing the university in general but I believe that "unified" approach does not serve the College of Ag very well. With fewer legislators having an Ag background, I believe your job will become more difficulty in future sessions. My suggestion would be to make contact with the six members of the appropriation sub-committee on education. This is where most of the major decisions are made concerning funding for the university system. Best Wishes, signature

Comments on Questions 4-12

- Added "All of these answers are a given! Don't need to re-hash." Next to series of questions.

Comments on 36-38

- The problem is lack of support from the Legislature and lack of commitment from the Governor's office – coupled with a Board of Regents that follow their conservative view of government spending. If this doesn't change you are totally screwed by 2010.

Comment on 57-60

- Added "Didn't see any of these! No notice – not visible." Next to series of questions.
- Added "N.A." next to each question

Question 1: Do you believe that Montana land grant institution (College of Agriculture, Montana Agricultural Experiment Station, Extension Service) is a vital element of Montana's economy?

- Added "Concern: Is it helping?" next to question

Question 2: What do you believe are the key concepts that should be included in the mission statement for agricultural components of the Montana land grant institution?

- Apply research to grow MT's Ag industry
- Coordinate public/private funding
- Help find new ways to add value to Ag products

- Need for all points of view and facts from resource industries as well as environmental groups
- Partner w/ private sector in economic development
- Placed question mark by fifth response option
- Provide business knowledge to existing businesses at low costs.
- Provide economic benefit to Montana's ranchers & farmers
- Research which allow production of MT to be global competitive
- Support programs that keep agriculture viable
- Value added agriculture
- Work to make production Ag profitable/Don't work for Agri-business

Question 5: Environmental concerns in Montana play a role in policy decisions about agriculture.

- Added "(should this be this way) yes within reason" next to question

Question 8: Montana's agricultural industry must be more competitive in the global economy.

- Added "but not likely" next to Response of strongly agree

Question 10: Regionalization of agricultural education and research programs in Montana will be required due to limited state resources.

- Added "? Don't understand" next to question

Question 29: Ensure that Montana farmers/ranchers know how to sustain profitability and maintain land stewardship at a level that provides for continual production and a desirable quality of life.

- Added "*critical" next to question

Question 11: Agricultural research conducted by the land-grant system significantly impacts Montana's economy.

- Added "don't know" next to Response of Undecided
- Added "depends on what research and who pays for the end results" next to question

Question 27: Strengthen Montana's families and communities.

- Added "other agencies should & are working in this area – stay focused" next to question

Question 30: Help Montana individuals, families, and communities apply unbiased, research-based information to make informed decisions that establish and maintain strong and healthy families.

- Added "Not your job, other agencies do this" next to question

Question 31: Contribute to Montana youth by developing their confidence, competence, and character to become critical thinkers, active citizens, caring human beings, innately curious, self-sufficient, adaptable to change, and connected to the community.

- Added "Not your job, other agencies do this" next to question

Question 32: Assist Montana communities with a full range of proven economic development strategies to provide livable-wage jobs for adults, entry-level jobs allowing young people to develop sound work ethics, and off-farm jobs enabling farmers/ranchers to retain their operations.

- Added "Non-biased" next to question

Question 39: Funding for addressing the challenges you identified above will:

- Added "can't count on these" next to Require new federal funds
- Added "Mainly we need to adjust and change direction, not necessarily add new ones."
- Added "Refocus is necessary" next to Response of Require other activities be eliminated to fund new activities
- Additional funding methods and new methods
- Broader tax base
- Business partnership
- Combination of all of the above
- Find more grant money
- Grants & endowments
- Innovative grants
- More private sector investment; more accountability
- More public-private partnerships
- New $, more efficient, prioritization
- Prioritize activities
- Private grants
- Probably a combination of all of the above
- Public/private sources
- Require funding from state/federal sources
- Require new funding sources (including private)
- Use funds properly

Question 41: Please indicate your first, second, and third most common sources for information about Montana agriculture and its issues. Other responses included:

- Added "(some better than others!) next to response of Daily Newspapers
- Agricultural constituents
- My own small operation
- Organizations like Stockgrowers, Grain Growers
- Organizations such as WIFE
- Ag Dept
- Legislative involvement
- Legislators involved in Ag
- Legislature
- Legislature
- Lobbyists
- Visiting w/ farmers & ranchers
- I am not in agriculture
- Reside in an Ag community
- Added "self" next to response of Relative involved in Agriculture business
- Added Other legislators to Friend/Neighbor
- Other legislators

Question 43: If yes (to question 42), what is the nature of the contact you have with Extension? Other responses included:

- Extension agents
- In my job
- Workshops

Question 44: If yes (to question 42), how frequent is the contact with the Extension Service, on average?

- Added "Occasionally" next to question
- Added approx. to response of Monthly
- Added few times to response of Yearly
- Daily during legislative session; Monthly outside of legislative session

Question 45: If yes (to question 42), what type of information and/or publications do you receive from Extension? Other responses included:

- Education – Weeds
- Issue specific communication
- Personal contact
- Personal information needs
- Political
- Radio Program KDBM

Question 47: If yes (to question 46), what is the nature of the contact you have with the College? Other responses included:

- Legislature

Question 48: If yes (to question 46), how frequent is the contact with the College of Agriculture, on average?

- Added None

Question 49: If yes (to question 46), what type of information and/or publications do you receive from the College? Other responses included:

- Legislature
- Personal contact

Question 50: If you had a question about agriculture, who would you contact to answer it? Other responses included:

- Added "my questions are not about production – about economy or food choices for consumers" next to question
- Added Other legislators to Neighbor/Friend
- Ag constituents
- Ag dealer (products)
- County extension agent
- County extension agent
- Depends on what the nature of the question is
- Dept of Ag
- Director of Ag (State)
- Experience
- Family members (ranchers/farmers)
- Fellow legislator
- Geoff Gamble
- Legislative researcher
- Legislator
- Legislature Ag lobbyist

- Lobbyist
- NRCS
- Relative
- State Department
- Unknown – MSU?

Question 51: Please indicate your first, second, and third most common sources for information about agricultural issues during the 2003 Legislative Session. Other responses and comments included:

- Bracketed MSU leadership, MSU Department Heads, MSU Faculty and wrote "Where were these people?"
- Added "& Cathy Conover" next to Agricultural Lobbyists
- AERO
- Ag Dept
- Ag Dept/State
- Family
- Legislative researcher
- Montana Stockgrowers
- MSU lobbyists
- People in the business

Question 52: Please indicate if you had contact with the MSU agricultural land-grant system leadership during the session. Other responses and comments included:

- Added "Kathy Conover" next to Response of Director of University Relations
- Ag Dept
- Cathy Conover
- Cathy Conover
- Dir. Peck
- Ext. Agents
- Lobbyist (univ.)
- MSU lobbyists
- None
- None
- None
- Several – don't remember their specific titles
- Unknown
- Very little contact

Question 54: If yes, (to question 53) overall how were you influenced?

- Added "50/50" next to question

Question 57: How would you rate the materials provided by the Agricultural Experiment Station during the session?

- Added "This must have all been done for sub-committee" next to question

Question 59: How would your rate the presentations provided by the Agricultural Experiment Station during the session?

- Added "none" next to question

Question 63: What is your occupation? Other responses included:

- Added "until retirement" next to response of Agriculture
- Added Chemist to response of Professional
- Ag in the past years
- Architectural designer
- Legislator
- Nonprofit
- Non-profit admin
- Real estate broker

- Retired
- Retired
- Retired
- Retired
- Retired
- Retired
- Retired
- Retired - Legislator - Farmer
- Retired Ag/Dentist
- Retired teacher
- Tradesmen/small business owner
- Human services

Question 65: What is the population of your legislative district?

- 15,000
- Added "Currently all House Districts have approx 8,000 and all Senate Districts have approx 16,000" next to question
- Each legislative district is 9,000 people or so
- They all have roughly the same population

Question 67: How many years of Montana Legislative experience to you have?

- Added "as a legislator, but several as lobbying" next to question

Question 69: What is your highest level of education?

- Added + graduate studies to response of College graduate
- Business

Question 70: If you attended college, please indicate your field of study.

- Ag
- Ag Econ
- Ag education
- Agriculture – Business
- Biology
- Biology/Chem – teaching
- BS – General Science
- BS animal science, MS ruminant nutrition
- BS Business Admin & Accounting
- Bus Admin
- Business
- Business administration
- Chemistry
- Chemistry
- Dentistry
- Education
- Education
- Education
- Education
- Education
- Education
- Education
- Education
- Education
- Education
- Education
- Engineering
- Engineering
- Engineering
- Environmental studies
- Finance
- General
- History – Law school
- History/Political Science
- History/Political Science
- International Relations
- Interpersonal communication
- Law
- Liberal arts
- Math
- Mathematics
- Mathematics
- Microbiology – then law
- Music
- Nursing – RN

- Oral and maxillofacial surgery
- Physical education
- Poli Sci
- Political science
- Psychology & Education
- Range Science
- Social work
- Social work/education
- Spanish, French, English
- Technical college
- Vocational education

Question 71: Were you a member of FFA?

- Added Husband was