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PRELIMINARY RESULTS

A NEW LOOK

at the Agricultural Community
as Extension Clientele
in the West

A survey of demographics, threats, educational preferences, and resources managed by agricultural producers with annual sales of less than \$50,000 in Arizona, Colorado, and Wyoming



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Putting Knowledge to Work

UNIVERSITY
OF WYOMING

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Project Summary

The rural West has experienced dramatic demographic and economic transformations during the past several decades. The makeup of farm operators has changed significantly, and enterprises are increasingly at greater production, financial, marketing, human, and institutional risks. Given the importance of university outreach education to the future of agriculture, a better understanding of farm operators, including what they perceive to be the greatest threats to their operations, is required to effectively design risk management education.

While there is anecdotal evidence of the changing traditional farm operator profile, less attention has been devoted to identifying new cooperative extension clientele and their educational needs. In 2006, the authors of this report, in cooperation with the United States Department of Agriculture National Agricultural Statistics Service (NASS), conducted a statistically valid survey of farmers and ranchers in Arizona, Colorado, and Wyoming. The questionnaire was designed to discover the demographics, preferences for learning methodologies, perceived threats, and information demands of today's small farmers.

Empirical analyses were conducted using survey data from 2,645 farm operators. The preliminary survey results in this report can enable extension to meet the educational needs of a broader audience and be used to help develop risk management education programs and materials for target specific audiences. The end result will be twofold: a more efficient use of already scarce extension resources and an enhanced adoption rate of risk management strategies by agricultural producers.



CHAPTER 1

Introduction

The rural West has experienced dramatic demographic and economic transformations during the past several decades. The makeup of farm operators has changed significantly, and enterprises are increasingly at greater production, financial, marketing, human, and institutional risks. Although a great deal is known about agriculture's contribution to the economy, much less is known about the changing role of farm operators and the behavioral and institutional factors that promote or impede agricultural growth in the West.

University outreach education has a role to play in the economic sustainability of Western farm operations. While anecdotal evidence suggests the profile of farm operators is changing, not much attention has been devoted to actually identifying new extension clientele and their educational needs. Yet, in an attempt to determine the current needs and learning preferences of the existing extension clientele, university extension services across the West have conducted numerous needs assessments.

In 2004 and 2006, the University of Arizona conducted two such studies: one involving county extension employees and cooperators and the other targeted at all University of Arizona personnel. The first study obtained information about the

operator's perceived needs and the future direction county level extension activities should take, while the second study looked at recognition of extension and extension activities outside the College of Agricultural and Life Sciences. The first study provided important insight into critical issues facing extension clientele, while the subsequent study highlighted the disconnect between actual extension activities and the university administration's perception of extension activities. Neither touched upon the possibility of new extension clientele.

The University of Wyoming also conducted a thorough needs assessment in 2004 through a series of focus groups and a written survey to learn where extension and research should focus their efforts. This study included university personnel and statewide extension clientele. Also in 2004, the University of Idaho completed a comprehensive study of Idaho residents to determine the current critical issues and client preferences for receiving information and training. This study randomly sampled Idaho residents, including individuals who were not familiar with extension. In a more recent study, the University of Nevada College of Extension completed a comprehensive needs assessment. Researchers surveyed a total of 2,486 producers statewide with a 20 percent response rate—572 returned question-

naires. This assessment provided excellent insight into Nevada's critical agricultural issues.

Each of the above studies resulted in a list of critical issues facing the residents in each state and helped determine, to some degree, the relevance of extension and extension activities. However, the studies either tended to cover a broad range of topics and audiences or they dealt with the internal structure of extension and outreach activities. This prompted researchers and educators from the University of Arizona, Colorado State University, and the University of Wyoming to develop the Rural Family Ventures Survey, a tri-state study that took a closer look at the more traditional extension audience (agriculture producers) and clearly identified the changing characteristics of this group.

The principal objectives of this report are: to assist in the discovery of new extension clientele in the West, to identify the risk factors that lead to their vulnerability, and to identify effective methods for delivering outreach education. The empirical analyses were conducted in 2006 using a farm level data survey of 2,645 farm operators in the states of Arizona, Colorado, and Wyoming. The authors of this report worked in cooperation with the United States Department of Agriculture National Agricultural Statistics Service (NASS).

According to the 2002 Census of Agriculture, there are 48,085 farmers and ranchers in the states of Arizona, Colorado, and Wyoming. Farms having less than 180 acres account for almost 55 percent of all farms, and farms with sales of less than \$50,000 account for 78 percent of all farms. (NASS, 2002)

The survey's target population was farm operations with annual sales of less than \$50,000. To ensure a representative sample from each state, surveys were

allocated based on the overall small farm population in each state. The total response rate was 53.6 percent with a total of 2,645 surveys completed. Data were collected on small operator's demographics, sources of risk, information sources and preferences, resource management, and income status. This enabled researchers to empirically examine and identify new clientele with respect to their socioeconomic status.

This report summarizes information from all those who responded to the survey, including some who do not fit the profile of a respondent with less than \$50,000 in annual agricultural sales. Preliminary findings suggest that new clientele comprise farm operators who have never received information from Cooperative Extension, those who are at financial and production risks, and operators whose farm income accounts for more than 50 percent of total household income. Results show there is disconnect between what farmers perceive to be their educational needs and what extension educators are actually teaching. Also, researchers found that most Western states producers prefer to receive outreach educational materials by mail, rather than by attending traditional workshops or browsing Web media.

The changing demographic of small farm operators is currently the subject of concern both in the U.S. and around the world. Clear identification of new clientele and more effective methods of delivering outreach education will not only enhance the effectiveness of current extension programs but will help in the development of well-targeted new programs. Policy results derived from this report may have a significant impact on outreach educators in the Western U.S. and similar agricultural regions.

The Census of Agriculture is a leading source of statistics – and the only source of consistent and



CHAPTER 2

Agriculture in the West

comparable data – regarding agricultural production at county, state, and national levels. Since 1982, the census has been taken on a five-year cycle. The census was conducted by the U.S. Department of Commerce until 1997 when responsibility of the survey was transferred to NASS.

For this report, a farm is defined as “any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year.” Federal farm program payments are regarded as sales for the purpose of definitional eligibility.

A broad view of the demographic characteristics of farms and farm operators in the states of Arizona, Colorado, and Wyoming can be found in the Census of Agriculture, which provides the total number of farms; farms by size, in terms of both acreage and annual sales; operator gender; operator age; and operator race and ethnicity. Census data also identifies operator residency and days worked off-farm. The characteristics of farms and farm operators identified in this chapter will serve as a baseline for analysis of the survey data presented in subsequent chapters of this report.

Farms

Table 2.1 Census Data: Total Number of Farms

State	2002	1997
Arizona	7,294	8,507
Colorado	31,369	30,197
Wyoming	9,422	9,443
Total for 3 States	48,085	48,147

Table 2.2 Census Data: Number of Farms by Farm Size (Acres)

	2002	1997
1 to 9 Acres		
Arizona	2,331	2,484
Colorado	2,813	3,046
Wyoming	477	421
10 to 49 Acres		
Arizona	1,900	1,885
Colorado	7,474	6,253
Wyoming	1,536	1,207
50 to 179 Acres		
Arizona	1,115	1,356
Colorado	6,956	6,253
Wyoming	1,748	1,631

Table 2.3 Census Data: Farms with Annual Sales Less than \$50,000

State	2002	1997
Arizona	5,795 (79%)	6,680 (79%)
Colorado	25,260 (81%)	22,835 (76%)
Wyoming	6,617 (70%)	6,377 (68%)
Total for 3 States	37,672 (78%)	35,892 (75%)

Percentages are for all farms.

Figure 2.1 Census Data: Farm Type

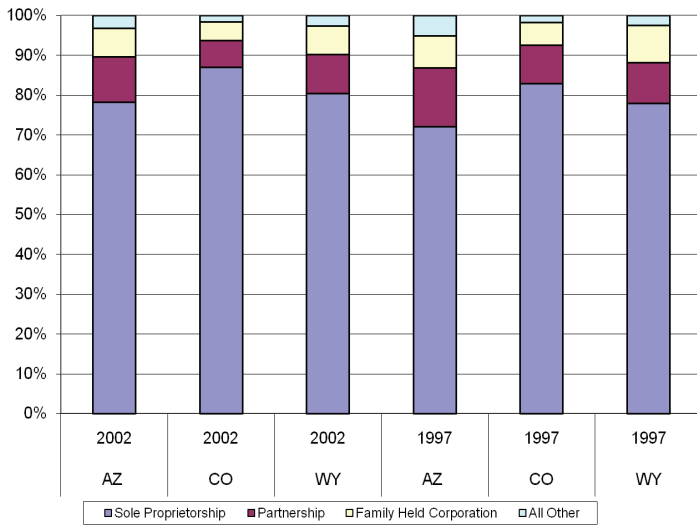
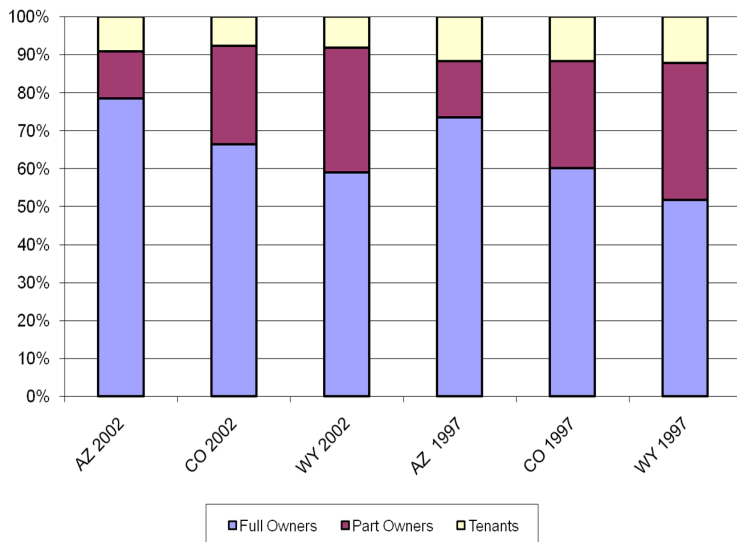


Figure 2.2 Census Data: Farm Ownership



In 2002, Arizona, Colorado, and Wyoming had a total of 48,085 farms, down from 48,147 farms in 1997 (Table 2.1). While farm size varied significantly, 35 percent of the farms were smaller than 50 acres in 2002. The number of Arizona and Colorado farms in the “one to nine acre” category declined from 1997 to 2002, but the number of Wyoming farms in the same category increased. The number of “10 to 49 acre” farms increased in all three states. Arizona’s farm numbers declined for all other categories; however, in Colorado and Wyoming, the number of “50 to 179 acre” farms increased, while farm numbers declined for all other size categories. Average farm size by number of acres increased by approximately 450 acres in Arizona, decreased in Colorado, and remained constant in Wyoming (Table 2.2).

Furthermore, in 2002, there were 37,772 farms in Arizona, Colorado, and Wyoming with annual gross sales of less than \$50,000. These farms accounted for 78 percent of all farms in the three states, which was a 3 percent increase from 1997, according to the Census of Agriculture (Table 2.3).

Census data show the number of farms with annual agricultural sales of less than \$2,500 significantly increased from 1997 to 2002 in Colorado and Wyoming and remained unchanged in Arizona. The same data indicate the number of farms in all other “value of sales” classifications decreased in the three states—with one exception. There was a slight increase in the number of Colorado farms having annual sales in the \$2,500 to \$4,999 range.

Farm Ownership

Census data from 2002 and 1997 (Figure 2.1) indicate the number of sole-proprietor farms in Colorado and Wyoming increased during the five-year period. The number of partnerships and family-held corporations operating farms decreased in all three states. Furthermore, the number of acres controlled by family-held corporations decreased by more than 3.2 million acres from 1997 to 2002. Non-family held corporation numbers declined in Arizona and Colorado but increased slightly in Wyoming from

1997 to 2002. Other types of farming organizations (cooperatives, institutions, etc.) decreased in Arizona and Wyoming but increased in Colorado.

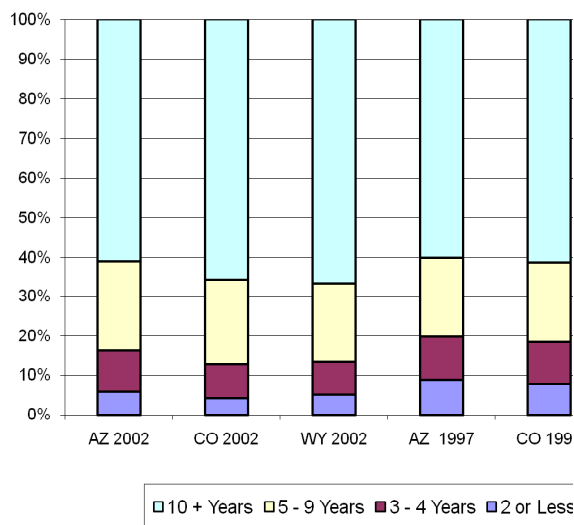
As shown in Figure 2.2, most farm operators own their farms. In 2002, Arizona had the highest percentage of farms with full operator ownership at 78 percent; two-thirds of Colorado’s farms were operator owned; and 59 percent of Wyoming farms were operator owned. This was an increase of 5 to 7 percent from the 1997 census data. The percentage of farms partially owned or rented by operators declined from 1997 to 2002.

Farm Residency

A large percentage of farm operators claim their primary residences as “on farm.” The number of farm operators in the three states who claimed primary residence on a farm increased by 13.6 percent from 1997 to 2002; however, there was a small decrease in such farm operators in Arizona.

Most farm operators in Arizona, Colorado, and Wyoming have lived on their present farms 10 or more years, with 18 years being the average in 2002. This was an increase of about six months from the 1997 census. Arizona farm operators claimed a shorter residency on their present farms (16.5 years) than farm operators in Colorado (18.6 years) and Wyoming (18.8 years). From 1997 to 2002, census data show a significant decrease in the number of farm operators living on their present farms for four years or less. Conversely, the number

Figure 2.3 Census Data: Years on Present Farm



of farm operators living on their farms for 10 years or more significantly increased during the same time period (Figure 2.3).

Farm Operator Age

As seen in Figure 2.4, the average age of farm operators in Arizona and Wyoming declined from 1997 to 2002, while the average age of Colorado farm operators increased during those years. Census data for the three states show that of those people aged 34 years and younger, fewer are becoming farm operators. During the same period, there was a 10-percent increase in the number of farm operators in the 45 to 54, 55 to 59, and 60 to 64 years of age categories.

Figure 2.4 Census Data: Age of Farm Operators

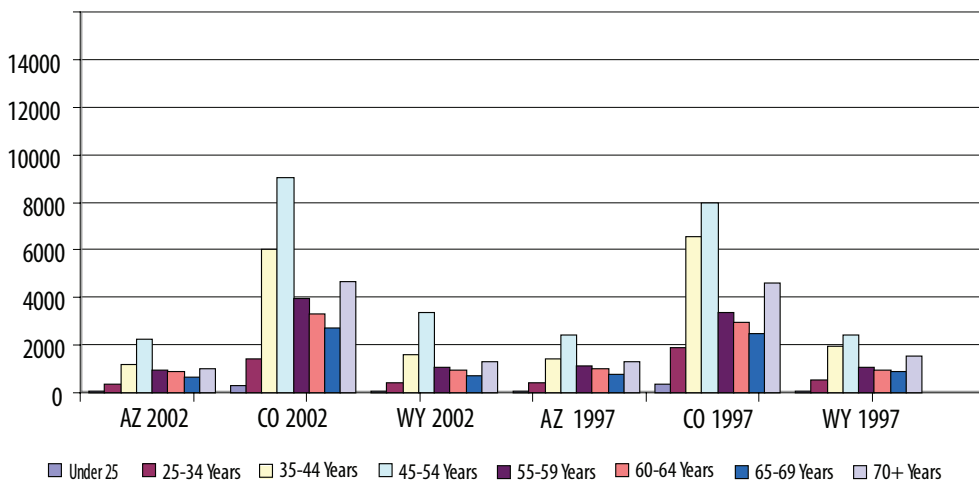


Figure 2.5 Census Data: Gender of Farm Operators

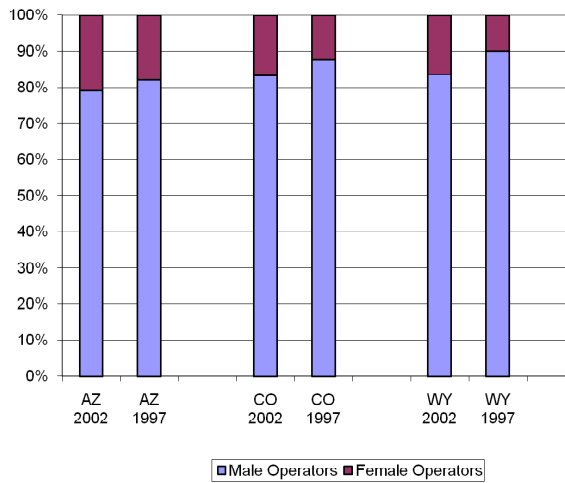


Figure 2.6 Census Data: Days Worked Off-Farm

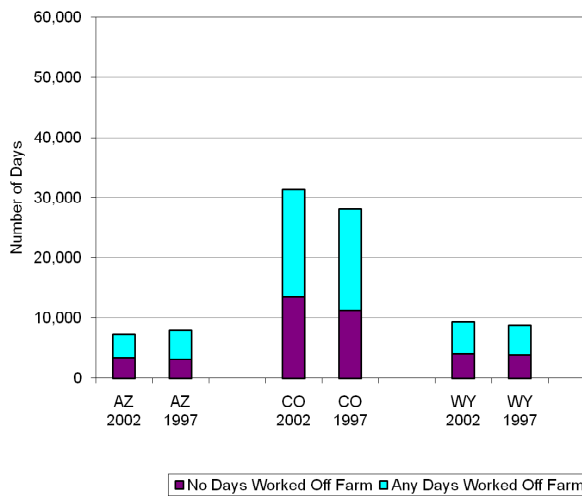
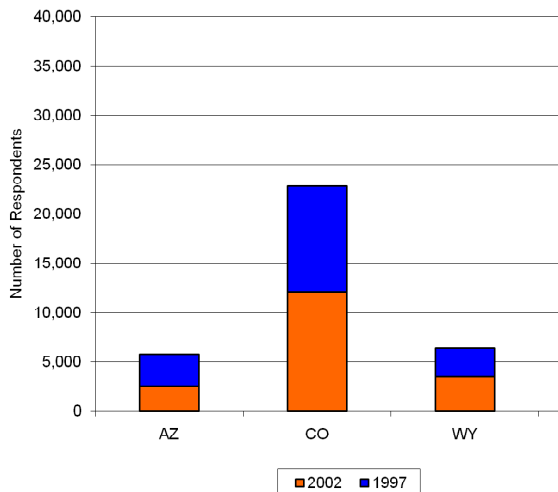


Figure 2.7 Census Data: Operators Working 200+ Days Off-Farm



Farm Operator Gender

The number of female farm operators in Colorado and Wyoming increased significantly from 1997 to 2002, while the number of female farm operators in Arizona remained statistically constant for the same period. The number of male farm operators in the three states decreased approximately 5 percent (5.06 percent) between 1997 and 2002 (Figure 2.5).

Off-Farm Employment

Both the number of farm operators working any time off-farm and not working off-farm at all increased from 1997 to 2002. As Figure 2.6 illustrates, farm operators not working off-farm accounted for 38 percent of all farm operators in 1997 and 44 percent of farm operators in 2002. The most significant increase in farm operators working off-farm was in the category of “200 or more days worked off-farm.” There was an almost 8 percent increase in the number of farm operators who worked 200 or more days off-farm (Figure 2.7). Arizona was the exception to this trend, with a decreased number of farm operators working any days (and all sub-categories) off-farm.

Summary

From 1997 to 2002, Census of Agriculture data show several demographic changes in the farm and ranch population. Although the total number of all farms in Arizona, Colorado, and Wyoming was relatively unchanged during the five-year period, there was significant growth in the number of small farms. In addition, 78 percent of all farms have annual gross sales of less than \$50,000. Most operators have off-farm employment, with a growing number working off-farm 200 or more days per year. Most farm operators own and live on their own farms and operate them as sole proprietorships. These farms and ranches are increasingly being operated by females. And while the average age of farm operators in Arizona and Wyoming declined from 1997 to 2002, the average age of Colorado farm operators increased during the same period.



CHAPTER 3

Survey Design and Sampling Procedure

In an attempt to provide information to Western land-grant universities, educators and researchers from the University of Arizona, Colorado State University, and the University of Wyoming developed and distributed Rural Family Ventures, a seven-part survey, to farm operators in the three states. The survey specifically targeted operations with annual sales of less than \$50,000.

The survey sections included:

- **Reasons for Involvement.** These survey questions were designed to show why an individual chose a particular operation, the level of commitment to the business and the property, thoughts about risk, and general characterizations of the operator.
- **Information Preferences.** In an attempt to provide insight as to where and how operators obtain information, this section focused on dissemination possibilities. Five questions revolved around Cooperative Extension, including 4-H programming.
- **Resource Management.** Three subsections fell into this overall category. The first subsection pertained to topics such as acres managed, water sources, chemical use, conservation, and niche markets such as organic, natural or free-range, and other specialty products. The second subsection pertained to crop enterprises and irrigation, and the third solicited information about animal enterprises, feed sources, and grazing strategies.

Survey: Instrument

- **Income Issues.** Respondents were asked about marketing techniques, financing, and the financial contribution of the operation to total household income. Other questions revolved around business structure, Schedule F income tax forms, operation size, and other sources of farm income.
- **Demographics.** Survey responses in this section indicated how rural operators consider their property and whether or not a primary residence is on the property. A series of questions asked for specific demographic information about the two primary operators for the agricultural operation, including current ZIP code and previous work experience.

Figure 3.1 Rural Family Ventures Survey Timeline

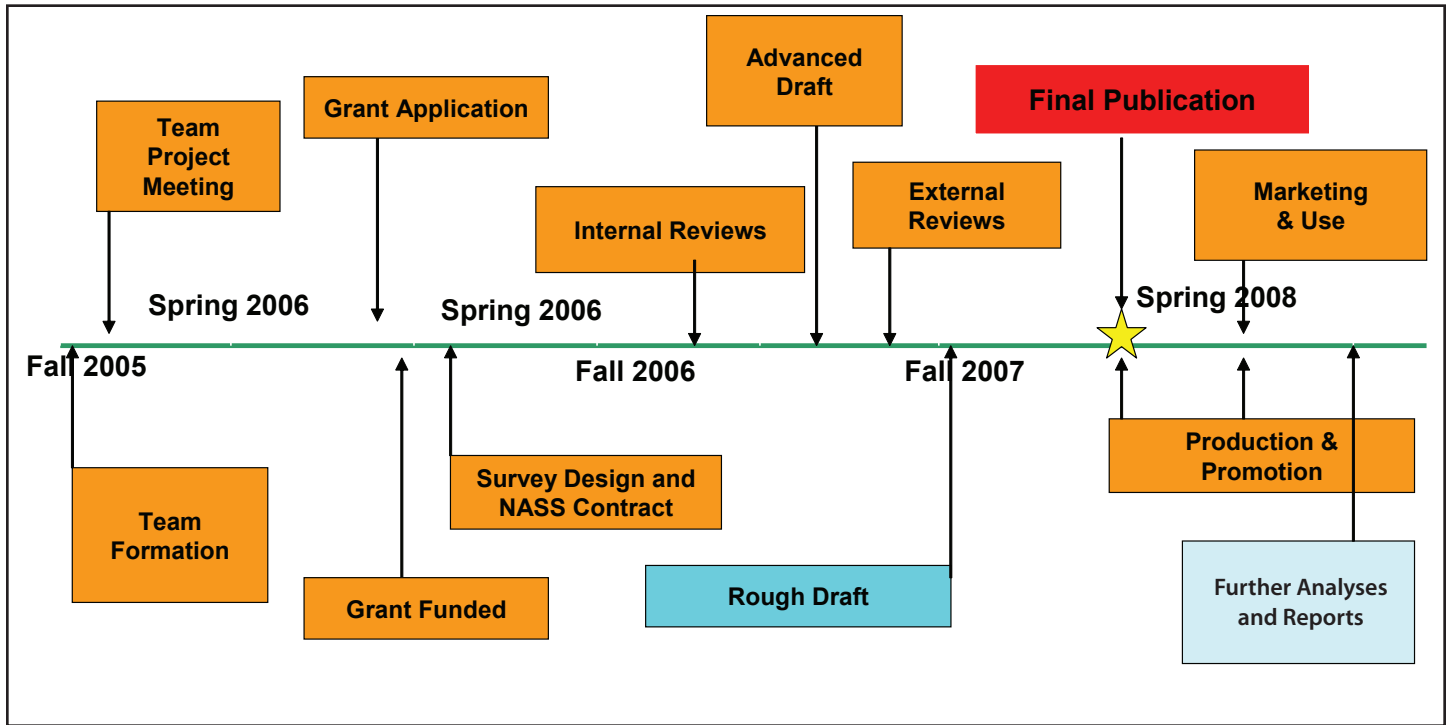
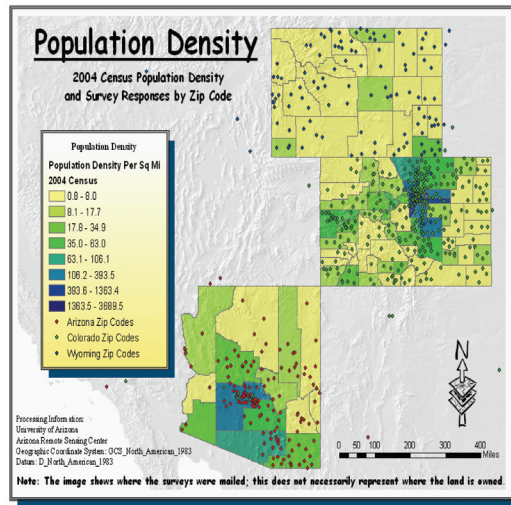


Figure 3.2 Survey: Target Population

Target Population

- Arizona, Colorado, Wyoming
- Farms with less than \$50,000 in annual sales



Survey Process

The survey design team collaborated with NASS to conduct the survey. The Colorado office, a NASS regional mailing center, managed the first and second survey mailings, in addition to the postcard follow-up mailing. The Wyoming office, a NASS regional call center, provided the telephone follow-ups, as well as the data entry for all survey returns (Figure 3.1).

To ensure a representative sample from each state, survey instruments were allocated based on population of small farm operators in each state. The sample was drawn using NASS population density information for the target population (farm operations with annual sales of less than \$50,000) (Figure 3.2).

The survey was mailed to farm operators selected from various NASS databases. A follow-up postcard was mailed one week later. A second copy of the instrument was mailed about one week after the postcard. (See appendix 1 for a copy of the com-

plete survey instrument and specific wording of questions). Finally, operators who did not return their surveys were interviewed by phone one month following the initial mailing and then about two weeks later. Multiple researchers collected responses during each one-week calling period.

Survey Response

The agreement with NASS specified a survey return rate of at least 50 percent. Table 3.1 shows the mail-out response percentage, calculated on returns received for the mailed instrument only, was 49.5 percent return. At 51.8 percent, Wyoming reported the highest rate of return by mail.

Following the survey mailing, a postcard reminder was sent to those people who had not yet returned their surveys. Non-respondents were contacted by phone in an attempt to reach the 50-percent return rate. The goal was reached in Colorado, Wyoming, and for the total. Although there was not a 50-percent return rate in Arizona, NASS statisticians noted that sufficient surveys had been completed for statistically valid analysis.

A total of 2,645 surveys were completed across the three states for a total response rate of 53.6 percent. The total rate of return included returns from both mailed instruments and telephone follow-up. The lowest total rate of return was reported by Arizona at 47.6 percent, while the highest total rate of return was reported by Wyoming at 54.9 percent.

Figure 3.3 outlines the response distribution across the three states. There was representation from urban and rural counties. In Arizona, the majority came from the state’s most populated areas and the southeastern part of the state (Figure 3.4). Colorado had a well-distributed return with concentration along the Front Range, western counties and the northeast plains (Figure 3.5). Wyoming had even distribution with slight concentration in the Big Horn basin and southeast corner of the state (Figure 3.6). All states had at least one response from each county. The images and dots show from where the returned surveys came. This does not necessarily represent where the land is owned.

Table 3.1 Survey: Response Rate

State	Surveys Mailed	Surveys Returned	Percent	Surveys and Interviews	Percent
Arizona	742	319	43.0%	353	47.6%
Colorado	3,298	1,662	50.4%	1,798	54.5%
Wyoming	899	466	51.8%	494	54.9%
Total for 3 States	4,939	2,447	49.5%	2,645	53.6%

Figure 3.3 Survey: Response Density

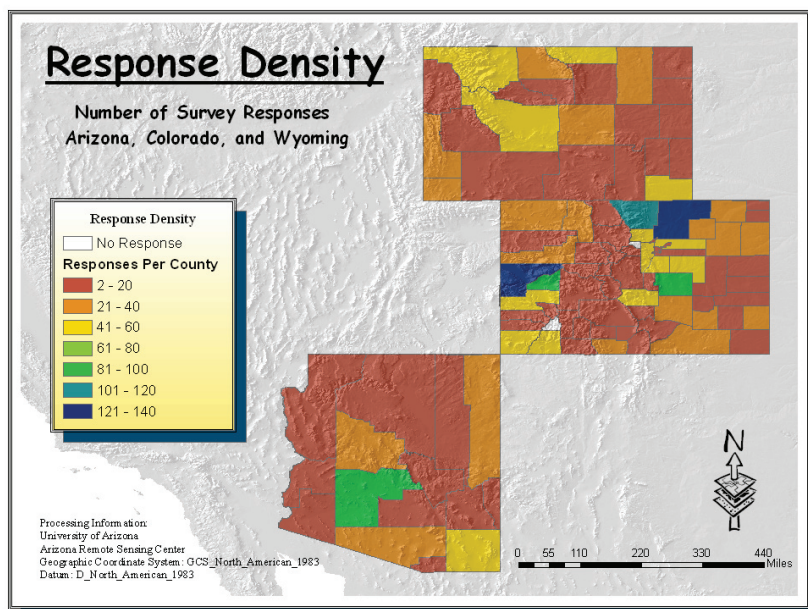


Figure 3.4 Survey: Responses in Arizona

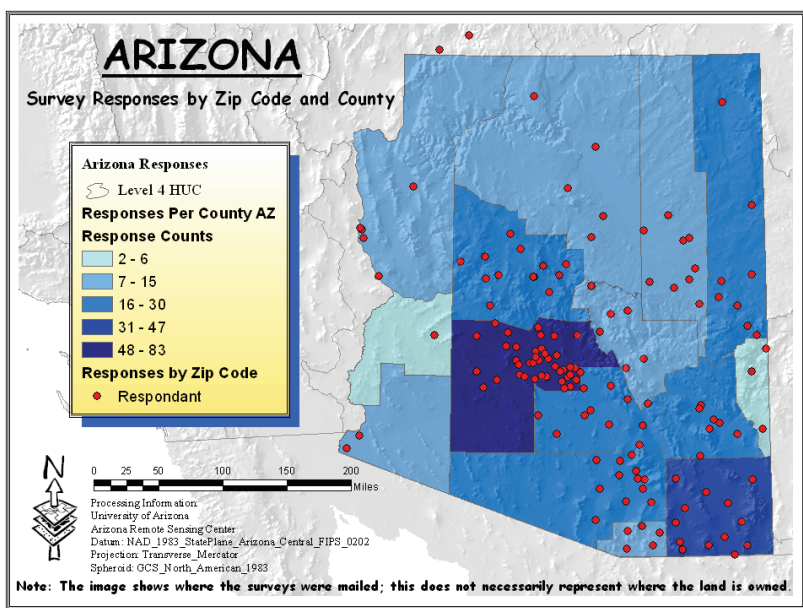
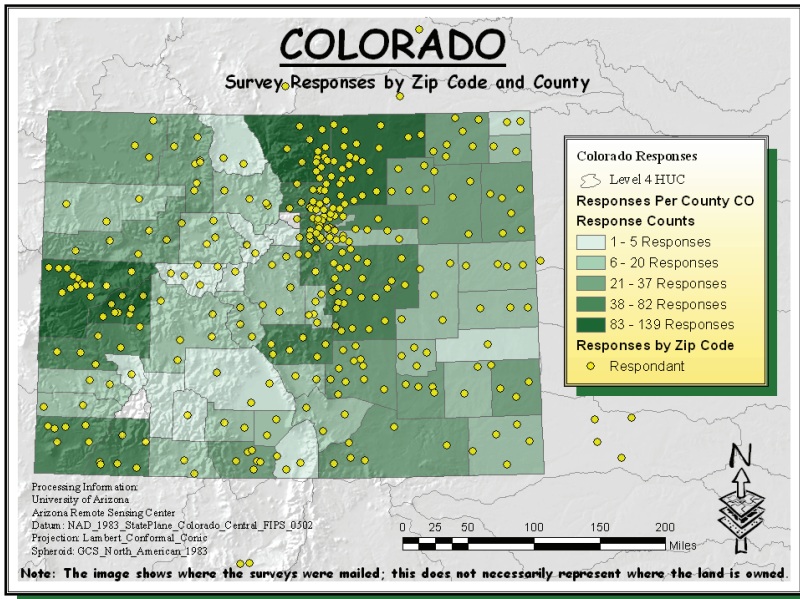


Figure 3.5 Survey: Responses in Colorado



Summary

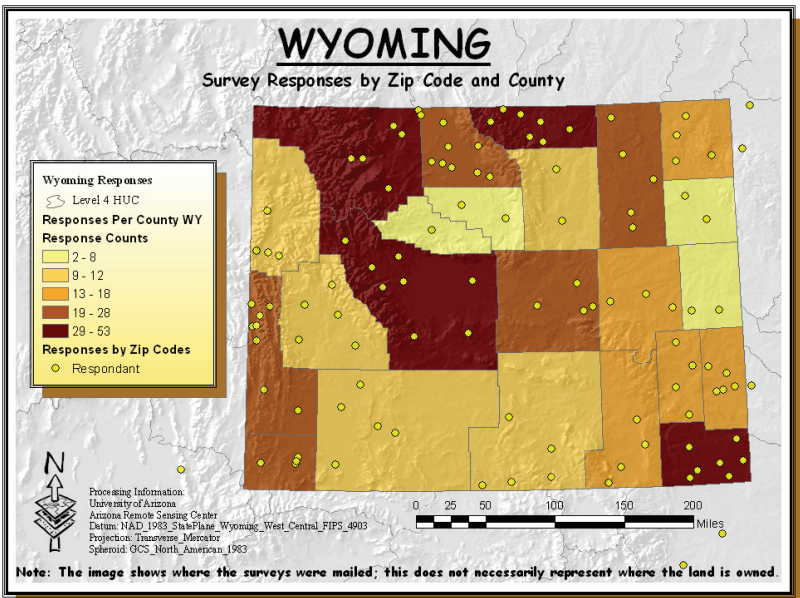
The survey instrument was designed to collect information about today’s small agricultural operators in an attempt to discover new clientele for Cooperative Extension services across the West. The questionnaire solicited information about the following topics:

- Why operators engage in a particular crop or livestock enterprise, their level of commitment to the business, and their thoughts about operational risk,
- Where and how operators obtain information,
- Land and water resource management,
- Business structure, financing and marketing strategies, and income issues, and
- Respondent demographics.

The statistically valid survey was conducted by NASS. To ensure a representative sampling, surveys were allocated based on small farm populations in each state and geographic representation. A mailed survey was followed by a postcard reminder one week later. In order to achieve a 50 percent response rate, telephone interviews were conducted by NASS approximately one month after the initial mailing.

A total of 2,645 surveys were completed across the three states for a total response rate of 53.6 percent. Survey responses equally represented the three states and were from both urban and rural counties.

Figure 3.6 Survey: Responses in Wyoming





CHAPTER 4

Demographic Profile

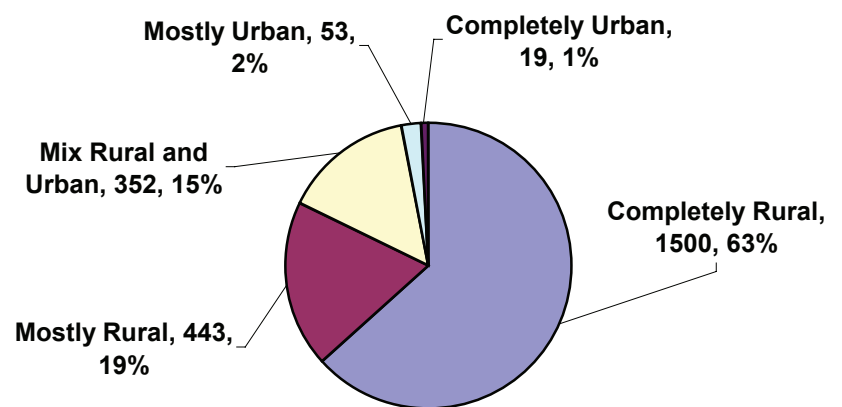
Survey analysis provides insight into the demographic characteristics of small farmers and ranchers in Arizona, Colorado, and Wyoming. To gain a better understanding of the demographic features of small producers in these states, this section of the survey questioned factors such as enterprise location; distance between the farm and the nearest metro area; whether farmers also work off-farm and the contribution of off-farm employment to household income; the number of people involved in farm operations; operator gender and distribution of operators by age, race, and educational attainment; and the number of years operators have managed the farm and lived in their local communities. This information was required for a clear identification of new extension clientele in the West.

Spatial Distribution of Farms

Western farm properties were classified as completely rural, mostly rural, mix of rural and urban, mostly urban, and completely urban. There was no fine line demarcating these five sub-categories. Survey respondents were asked to identify their property within one of the five sub-categories. Respondents self-categorized themselves based on their perception of ruralness.

The data in Figure 4.1 suggest that 63 percent of all properties identified are completely rural and only 1 percent are completely urban. In between, 19 percent are mostly rural and 2 percent are mostly urban.

Figure 4.1 Spatial Distribution of Property



In other words, 82 percent of all properties are either completely rural or mostly rural.

One of the main goals of the study was to discover the percentage of primary residences located on the farm properties (Figure 4.2). It turns out that an overwhelming majority of operators (84 percent) have primary residences on their properties. This is not surprising given the survey target population was small farmers and ranchers whose annual farm sales were less than \$50,000.

Figure 4.2 Primary Residence on Property

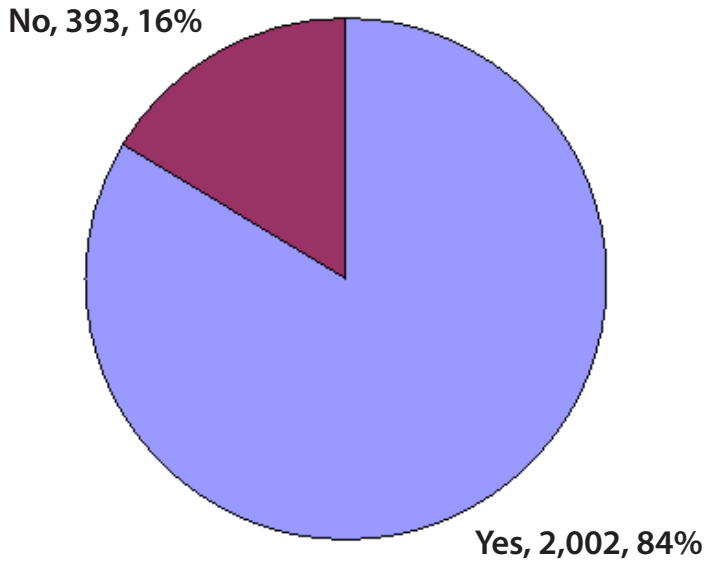


Table 4.1 Distance of Primary Residence from Property

Summary Measures	Miles
Mean	79.26
Median	15.00
Mode	1.00
Standard Deviation	220.77
Sample Variance	48,740.77
Minimum	1.00
Maximum	2,200.00
Count	340

Table 4.2 Distance of Property from Metro Area

Summary Measures	Miles
Mean	24.89
Median	12.00
Mode	10.00
Standard Deviation	37.9
Sample Variance	1,405.17
Minimum	1.00
Maximum	400.00
Count	2,297

In the remaining 16 percent of respondents who do not have their primary residence on their properties, the average distance from residence to property was 79.3 miles (Table 4.1). This would seem to indicate that these operators might utilize paid employees to manage their farm activities. But, with a median of 15 miles and a mode of 1 mile to the property, though not living on their property most respondents live nearby. It is interesting to note the maximum distance of an operator’s primary residence from the property is 2,200 miles. This respondent obviously skews the mean for the average distance of primary residence from the property.

The distance between the farm property and the nearest metro area as shown in Table 4.2 is important for a number of reasons. The shorter the distance, the greater access operators have to produce markets, financial institutions, and other necessities, in addition to a better selection of off-farm jobs. On one hand, the closer a farm property lies to a metro area, the more opportunity for economic sustainability and small farm viability. Yet on the other hand, a farm property located very near a metro area may be a more likely target for future encroachment due to increasing urbanization. In this survey, the average distance between the property and the nearest metro area was approximately 25 miles, while the median and mode distances are 12 and 10 miles, respectively (“metro area” was self-defined by respondents). These results suggest a significant percentage of small farms are in close proximity to metro areas.

Off-Farm Employment

The rural West has experienced significant demographic and economic transformation in the past several decades. Production agriculture has become more complex, and the makeup of farm operators has been altered significantly. Because of these remarkable changes, small agricultural operations in the West are increasingly at greater production, financial, marketing, legal and institutional, and human risks. Operators are gradually learning farming is now a game with new rules, new stakes, and most of all, new risks (USDA, 1997). The long-term economic sustainability and viability of these small farms are increasingly in question. The more farming households rely on farm income, the more vulnerable they become to crop failure and other income shocks.

In order to examine the vulnerability of small farms in the West, operators were asked whether they or their family members have off-farm employment, and, if they do, how far does the individual who travels the farthest commute to work. Responses in Figure 4.3 indicate that 71 percent of operator households also work off-farm. This implies that 71 percent of operator households have at least two sources of income, including farm income, and are less vulnerable to external income shocks. The remaining 29 percent of households do not have off-farm income sources and are considered more vulnerable.

From a land-grant university perspective, this finding suggests outreach education should target small farmers who do not have two or more sources of income. These producers would highly benefit from income diversification programming. Although the average distance traveled by an individual holding an off-farm job was reported as approximately 29 miles, most only traveled 10 miles. Further inspection of the data in Table 4.3 revealed that some operators in the sample have off-farm jobs but do not travel any distance at all, as indicated by the reported minimum commute of 0 miles. This may imply there are some small farms where non-farm income activities are already in practice.

Figure 4.3 Currently Hold Off-Farm Employment

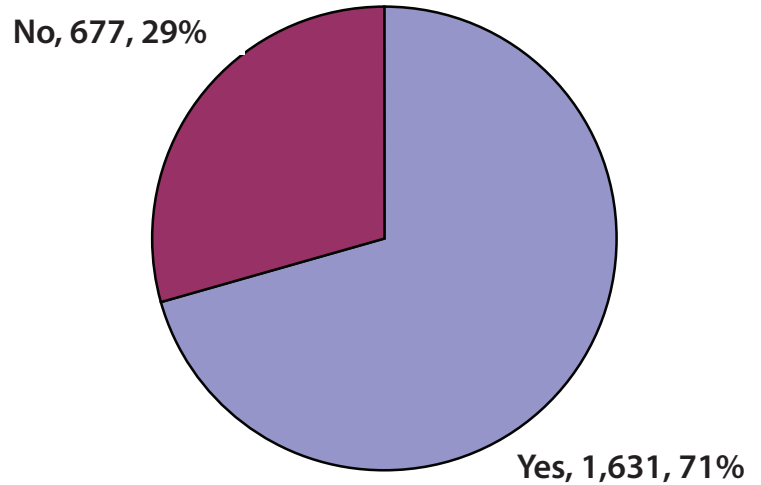


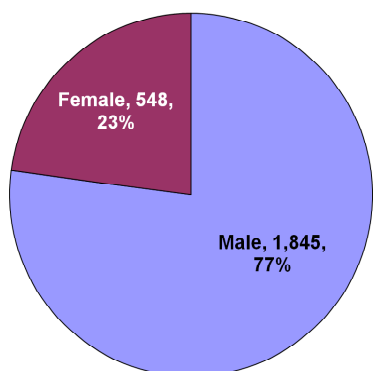
Table 4.3 Commuting Distance for Work

Summary Measures	Miles
Mean	29.11
Median	17.00
Mode	10.00
Standard Deviation	56.79
Sample Variance	3,225.28
Minimum	0.00
Maximum	861.00
Count	1,544

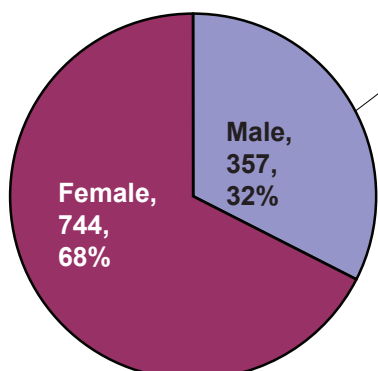
Table 4.4 Number of Operators

Summary Measures	Number of Operators
Mean	1.53
Median	1.00
Mode	1.00
Standard Deviation	0.65
Sample Variance	0.43
Minimum	1.00
Maximum	7.00
Sum	3,632.00
Count	2,379

Figure 4.4 Operator 1 - Gender

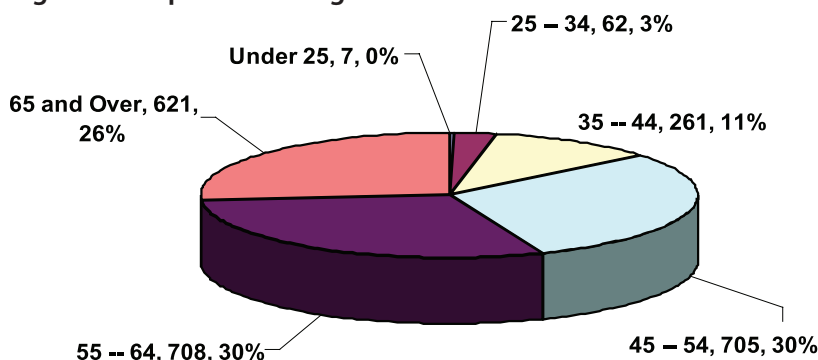


Operator 2 - Gender



According to survey results (Table 4.4), the 2,379 small farm operations in the three sample states are managed by 3,632 operators. The average number of operators involved is 1.5, while the median and mode number of operators is 1. This suggests that most of the farm operations in the West are managed by a single individual who most likely owns or leases the property. There are some farms, however, managed by as many as seven operators. So, to better understand the demographic and socioeconomic attributes of multiple farm operators, respondents were asked specific information about age, educational attainment, race, and the number of years they have lived on the property and in the community.

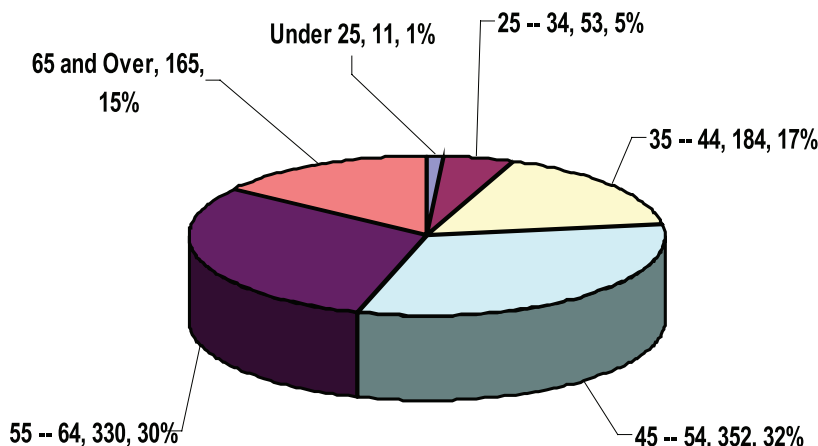
Figure 4.5 Operator 1 – Age



Gender

As survey results show, 77 percent of the first primary operators (Operator 1) are male, and the remaining 23 percent are female (Figure 4.4). On the other hand, 68 percent of the second primary operators (Operator 2) are female, and the remaining 32 percent are male. This suggests that if a farm is managed by two operators, it is mostly likely managed by a couple. It should be noted that most farms included in the sample are managed by only one operator (Operator 1), and this, in conjunction with the fact that 77 percent of primary operators are male, suggests that small-scale farming in the West is a male-dominated agricultural enterprise.

Figure 4.6 Operator 2 – Age



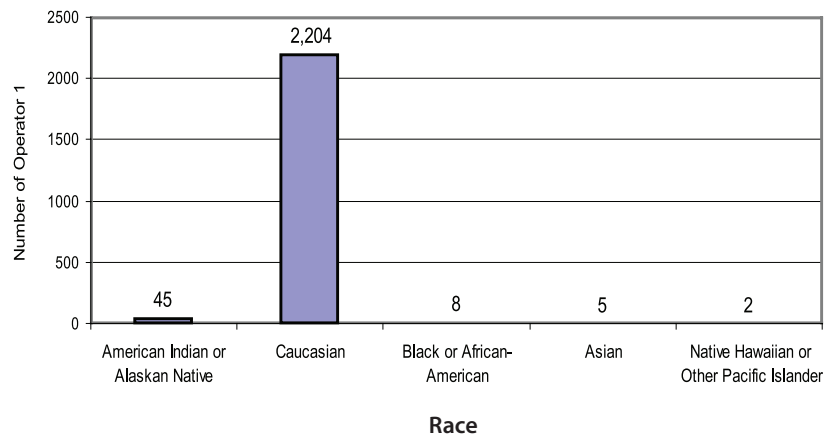
Age

An important inference can be drawn about the age distribution of farm operators in the West. More than 45 percent of both operators (Operator 1 and Operator 2) are in the age group 55 years and over (Figures 4.5 and 4.6). This observation is important for three reasons. First, these operators are most likely to retire from farm activities in the next decade or so. What will happen to their farms after they retire is uncertain. There are no guarantees that farms will not be converted to non-farm uses after these individuals retire. Second, since this is an older group of farmers, they may be less likely to be receptive to new technologies and risk management strategies such as product diversification. Finally they may be less dependent on income from their agricultural operation.

Race/Ethnicity

According to 2005 Census Bureau population estimates, 87.4 percent of the population in Arizona is white; the corresponding figures for Colorado and Wyoming are 90.3 percent and 94.8 percent, respectively. Consistent with this information, more than 90 percent of small farm operators in these states are white (Figure 4.7). In addition, when asked if the primary operator was of Spanish, Hispanic or Latino origin or background (Figure 4.8), 5 percent indicated yes.

Figure 4.7 Operator 1 – Race



Educational Background

The educational background of survey respondents is quite diverse. For Operator 1 (Figure 4.9a), over half, 52 percent, reported having a college associates degree of higher. Conversely, 41 percent reported either a trade school or high school as the highest level of education. A similar picture emerges for Operator 2 (Figure 4.9b), where 52 percent also reported to have an associate’s degree or beyond and 42 percent with a trade school or high school degree. For both operators, only a small percentage had no formal education. This diversity in educational background challenges extension educators to provide educational information that is consistent with, and relevant for, the level of formal education attained by these agricultural producers.

Figure 4.8 Operator 1 – Spanish, Hispanic, or Latino

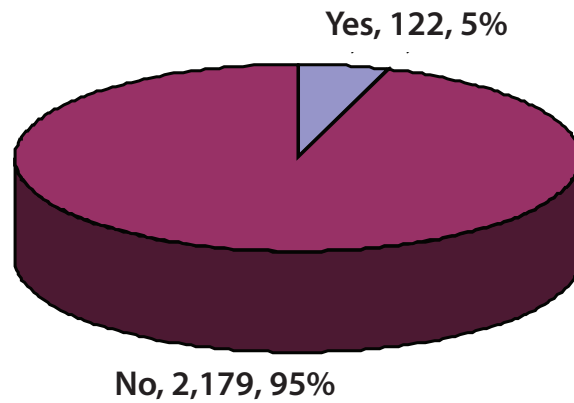


Figure 4.9a Operator 1 – Education

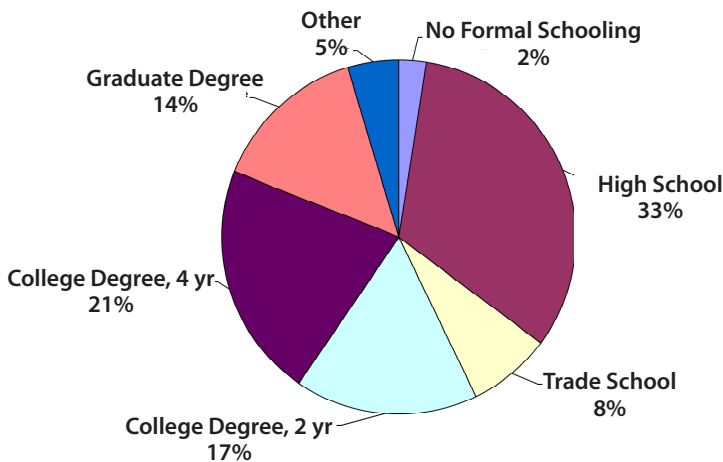


Figure 4.9b Operator 2 – Education

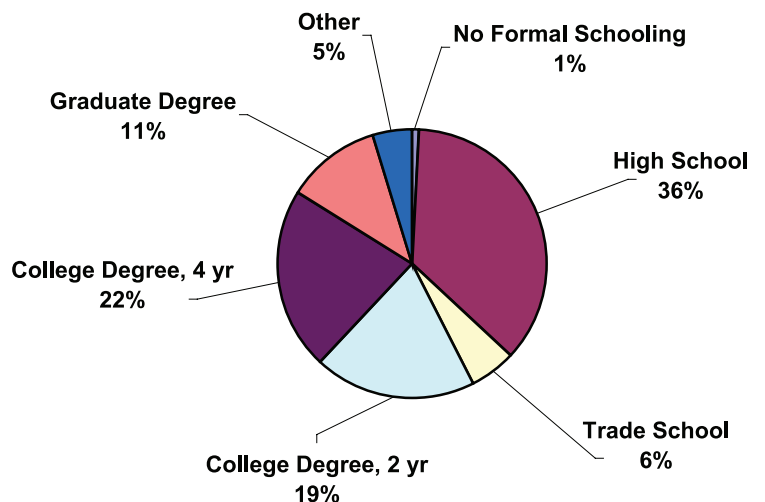


Table 4.6 Operator 1 – Tenure on Property

Summary Measures	Years
Mean	18.98
Median	14.00
Mode	0.00
Standard Deviation	16.33
Sample Variance	266.73
Minimum	0.00
Maximum	94.00
Count	2,317

Table 4.7 Operator 2 – Tenure on Property

Summary Measures	Years
Mean	16.33
Median	12.00
Mode	0.00
Standard Deviation	14.02
Sample Variance	196.51
Minimum	0.00
Maximum	80.00
Count	1,055

Table 4.8 Operator 1 – Tenure in Community

Summary Measures	Years
Mean	31.41
Median	29.00
Mode	30.00
Standard Deviation	19.99
Sample Variance	399.53
Minimum	0.00
Maximum	94.00
Count	2,304

Table 4.9 Operator 2 – Tenure in Community

Summary Measures	Years
Mean	26.77
Median	25.00
Mode	30.00
Standard Deviation	17.84
Sample Variance	318.12
Minimum	0.00
Maximum	87.00
Count	1,045

Involvement with Farm Operations and Community

The longer a farmer or rancher has managed a farming enterprise, the greater his or her ability to understand the various complexities of production agriculture. Likewise, if an operator has managed his or her property for a long time, the expectation would be that he or she would have a much better understanding of the various sources of agricultural risk and the vulnerabilities involved, as opposed to an operator who is new to a farming enterprise.

According to Table 4.6, those in the Operator 1 category have lived on their properties for an average of 19 years; however, a significant percentage have never lived on their properties. At the same time, there are farmers who have lived on their properties for 94 years. Surprising? No. This information simply shows that these operators have been life-long farmers. Similar inferences can be drawn for Operator 2 (Table 4.7).

As Tables 4.8 and 4.9 show, the survey respondents have lived a longer time in their community than on the property. An assumption would be that a farmer who has lived in his or her community for a number of years is more likely to receive ideas and suggestions on agricultural issues, including risk management decisions, from peers, as opposed to someone who is new in the area. This assumption is corroborated in chapter 9 where survey respondents were asked their preferred method of receiving information related to their agricultural operation.

Summary

From the preceding analysis, it is clear extension clientele in the West are highly heterogeneous with respect to their social and demographic attributes. A great majority of small farm operators have lived many years within their communities and on their farms and ranches. The properties tend to be about 25 miles from the nearest metro area. While some operators have off-farm jobs, they do not commute far from their homes.

Small farm operators are typically male, older than 54 years of age, and Caucasian. These operators' spouses help manage the business. About one-half of the two primary farm operators have at least a two-year college degree.



CHAPTER 5

Reasons for Involvement

It might not be easier to run an enterprise with family members, but when family enterprises work, they possess a competitive advantage no other business can match. An enterprise run by family members is often more resilient and more likely to succeed than any other business simply because of its makeup. Family members know how to sacrifice. And customers perceive family operations as being in business for the long haul.

The reasons people are involved in rural family businesses vary as much as the businesses themselves. The “Reasons for Involvement” section of the survey had four components:

- Attitude concerning the rural family enterprise,
- Perception of risks facing the enterprise,
- Characteristics of the rural family venture operator, and
- Management goals of the operator.

Attitude Concerning the Rural Family Enterprise

When asked why they engage in their particular enterprise (Figure 5.1), operators across the three states most often indicated “working close to nature” as a primary reason. This is not a surprising response from agricultural producers. Respondents

Figure 5.1 Reasons for Engaging in Rural Family Enterprises

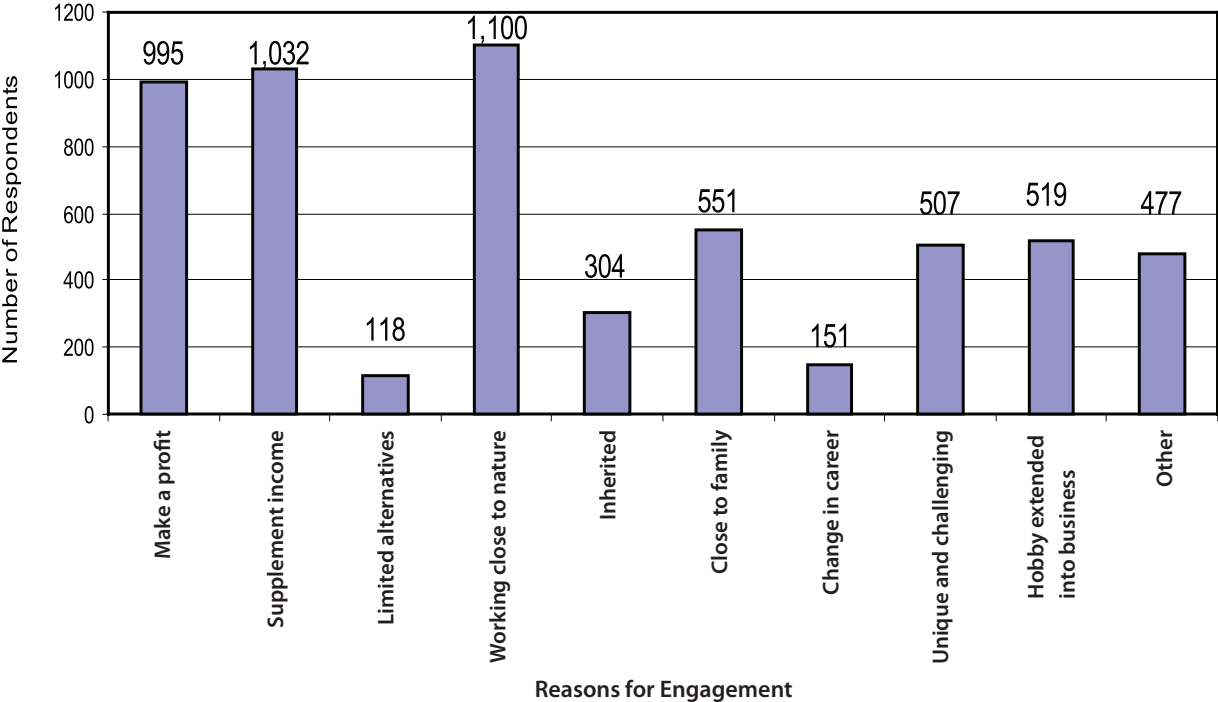
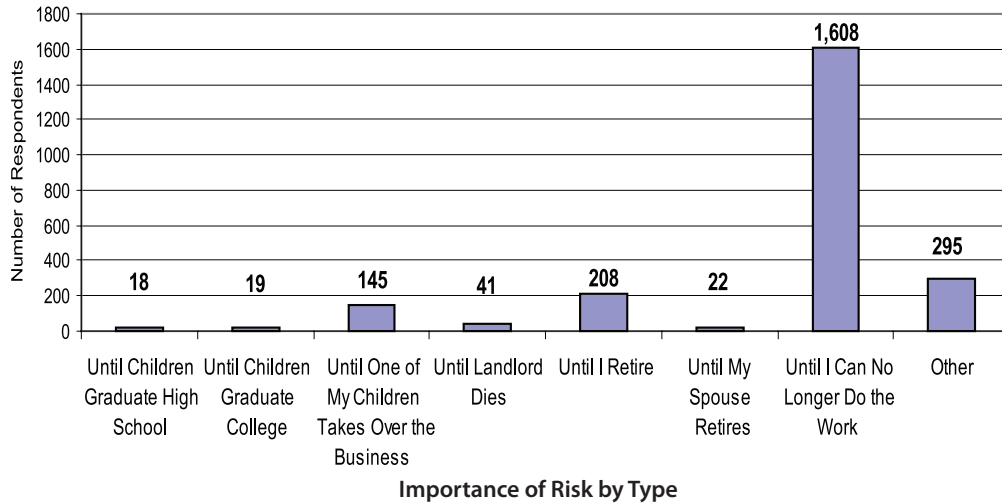


Figure 5.2 Planned Length of Property Management



also corroborated the assumption that a family business is to earn money and support the family income. Though it was hypothesized factors such as rural isolation, lifestyle changes, and inheritance would be significant reasons for owning and operating a rural family business, “limited alternatives,” “change in career,” and “inherited” were not seen by the respondents as major reasons for engaging in their family business.

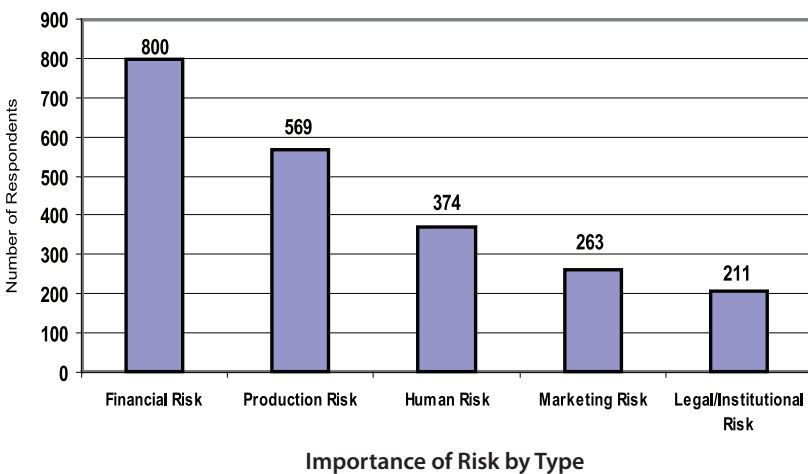
For many, living and working in a rural family business is more than just business. Some would say it is

almost like a calling. Most outsiders see family business owners as totally committed to the business, so researchers wanted to know if this held true for survey respondents or would certain developmental or lifestyle conditions lead rural operators to leave their family enterprises? The results of this survey clearly illustrate that respondents overwhelmingly expect to manage their property until they can no longer do the work (Figure 5.2).

Perceptions of Risks Facing the Enterprise

What is risk? Risk is the possibility of adversity or loss and refers to “uncertainty that matters.” Consequently, risk management involves reducing the effects of risk. It typically requires the evaluation of trade-offs between changes in risk, expected returns, entrepreneurial freedom, and other variables. Understanding risk is a starting point to help producers make good management decisions in situations where adversity and loss are possibilities. The United States Department of Agriculture has identified five primary sources of risk for agricultural operations: production, marketing, legal or institutional, finance, and human. Figure 5.3 shows the overall importance of risk by type. Respondents were also asked how important each of these sources of risk was to their operation.

Figure 5.3 Sources of Risk



Financial Risk. Financial risk has three basic components:

- The cost and availability of capital,
- The ability to meet cash flow needs in a timely manner, and
- The ability to maintain and grow equity.

A majority of survey respondents ranked financial risk as the most important source of risk in the agricultural operation (Figure 5.4).

Production Risk. The major sources of production risk are weather, pests, diseases, the interaction of technology with management decisions, genetics, agricultural efficiency, and the quality of inputs. Overall, production risk ranked as the second most important source of risk as more than 1,100 respondents ranked it either first or second (Figure 5.5).

Marketing Risk. In a rural enterprise, marketing transforms production activities into financial success. Marketing agricultural products involves information, objectivity, attitude, and skill. Marketing risk showed the greatest variation of ranking by respondents. Though the highest number of respondents (583) ranked marketing as the third-highest risk, respondents were less definite in this area than in any other (Figure 5.6).

Legal or Institutional Risk. Legal issues most commonly fall into four broad categories:

- Appropriate business structure and tax and estate planning,
- Contractual arrangements,
- Torte liability, and
- Statutory compliance.

Respondents ranked legal risk management the least important source of risk with 1,361 individuals ranking it either fourth or fifth. In addition, fewer respondents overall ranked this area as the most important source of risk in their operation (Figure 5.7).

Human Risk. People are the primary focus of human risk management. Supervising labor, interacting with family, and communicating with those

Figure 5.4 Importance of Financial Risk

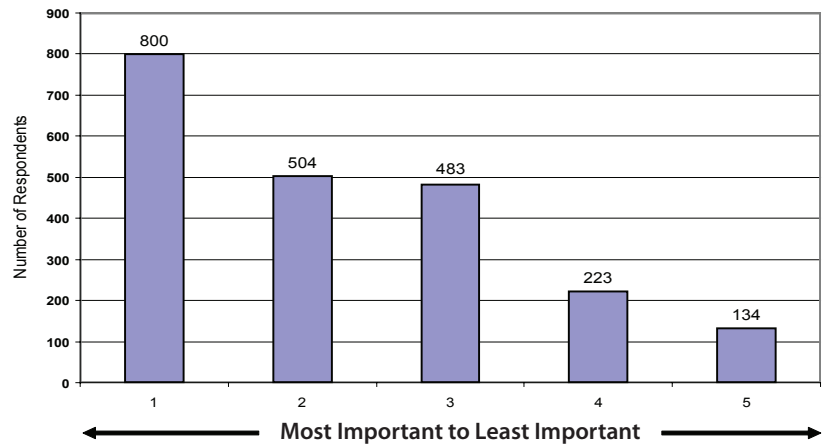


Figure 5.5 Importance of Production Risk

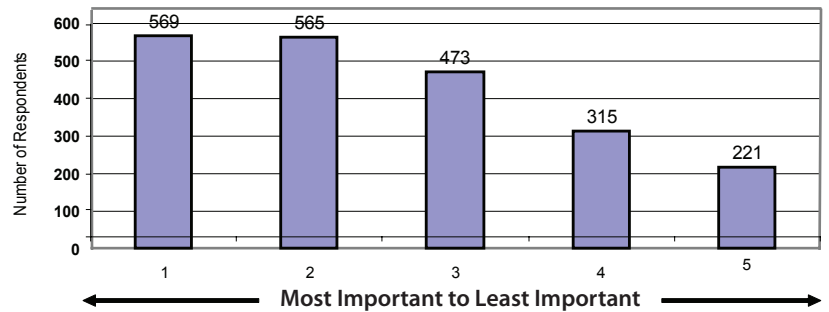


Figure 5.6 Importance of Marketing Risk

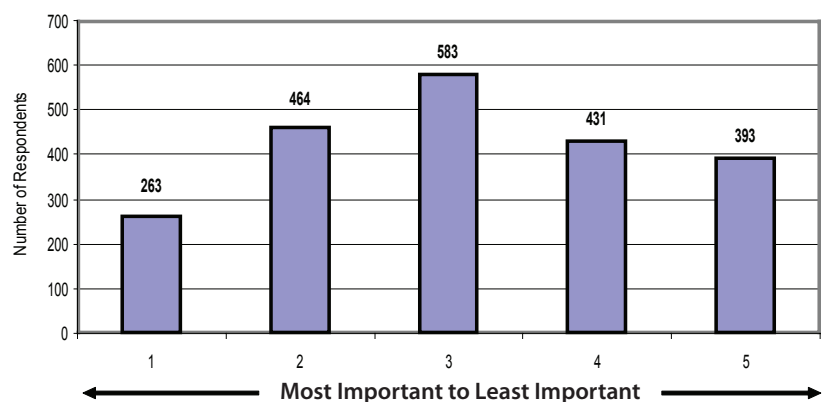


Figure 5.7 Importance of Legal or Institutional Risk

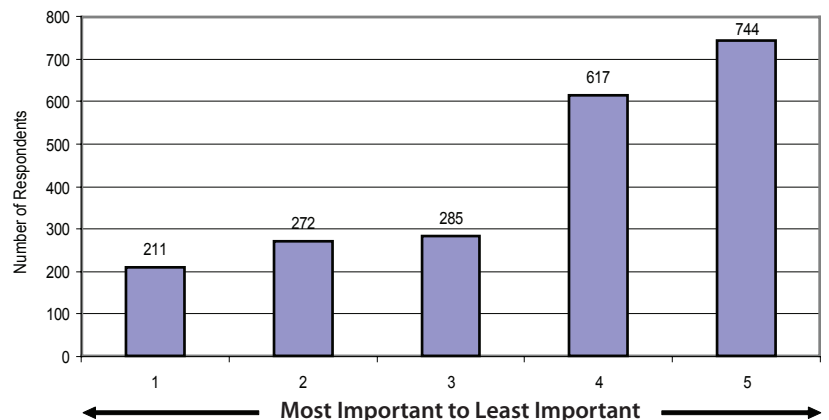
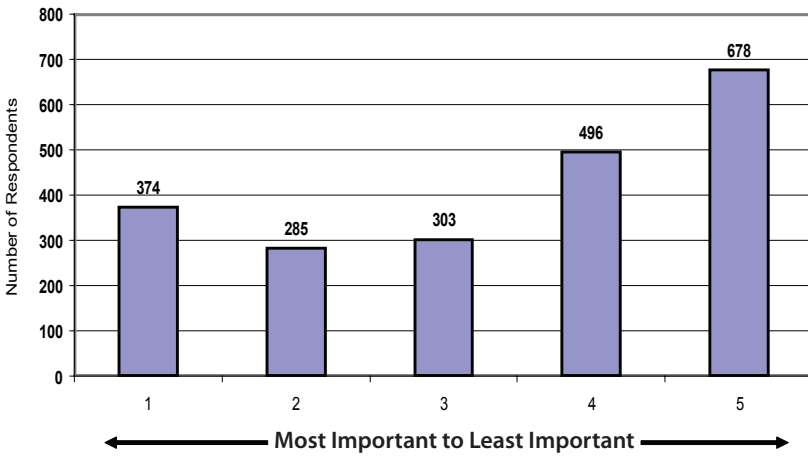


Figure 5.8 Importance of Human Risk



who support the operation are all a part of human risk management. The category of human risk also includes planning for the future and anticipating and planning for calamities. After legal risk, more respondents ranked human risk as least important to the operation. More respondents did, however, rank human risk more important than marketing or legal risk (Figure 5.8).

Characteristics of the Rural Family Venture Operator

An entrepreneur creates a new business in the face of risk and uncertainty to achieve profit and growth. He or she identifies opportunities and assembles the necessary resources to capitalize on them. Farmers and ranchers are the original entrepreneurs. According to the Canadian Farm Business Management Council (2007), successful rural family business operators have certain characteristics: high confidence, an expectation of success (will power), persistence, and the desire to achieve. They maintain personal balance, are innovative, are risk takers, and are optimistic about the future. This survey tapped those characteristics by asking respondents to indicate their agreement or disagreement with statements about rural family businesses.

Strongly Held Characteristics

Western operators appear very comfortable when handling uncertainty in the family business environment. Farming and ranching can be a risky business, meaning many factors that determine the ultimate success of the business are outside of the owner’s control. To be successful, the family business operator must accept (some might say “relish”) uncertainty and be willing to take risks.

Figure 5.9 Risk-Taking in the Midst of Uncertainty

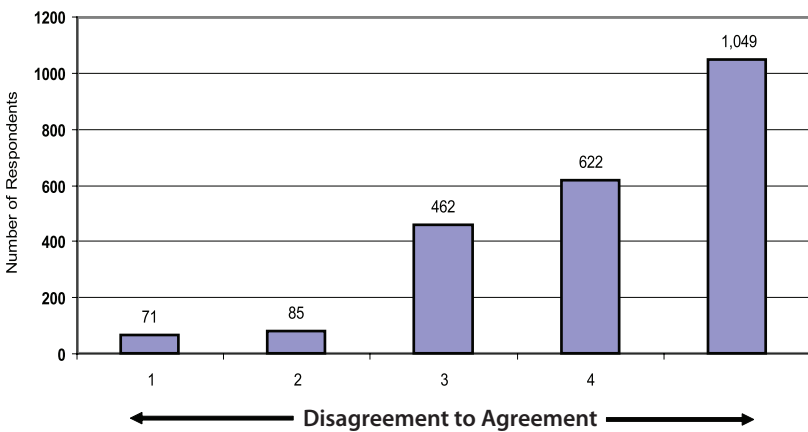
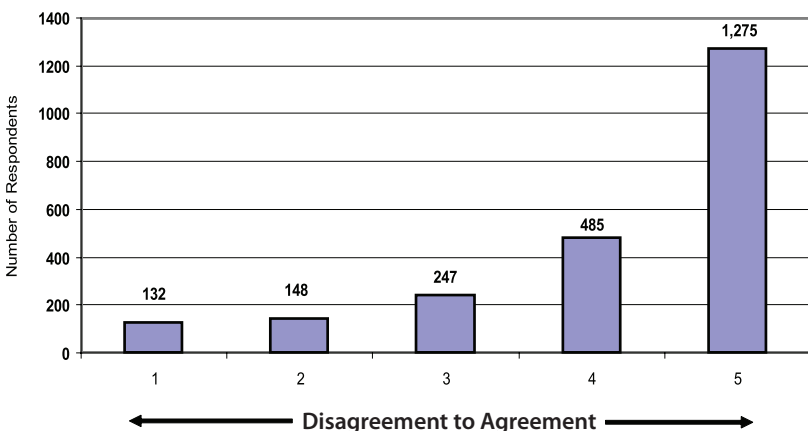


Figure 5.10 Confidence in Ability to Run a Successful Business



Survey respondents (Figure 5.10) strongly believe in their ability to create a successful business. A rural family business operator must have confidence in him- or herself and his or her ability to run a successful operation. Plenty of people may offer help and advice, but the final decision is the operator’s.

As Figure 5.11 shows, these operators consider themselves successful. A farmer or rancher in a family business is solely responsible for achieving his or her business success. The operator must have an attitude that exudes success. Without this attitude, he or she may not be inclined to put forth the effort needed to succeed.

Small-scale agricultural producers have will power, which is defined as the ability of an individual to control and direct behavior in accordance with chosen goals and values. It involves determination, resourcefulness, and responsibility for achieving personal goals. Overall, the respondents to this survey appear to believe they are achieving the goals they set for themselves and their businesses (Figure 5.12).

Moderately Held Characteristics

These operators are fairly optimistic about the future of their businesses. To be successful in a family business, one needs optimism, to have hope and a positive expectation for the business' future. Though respondents are strongly confident in their own abilities, they are somewhat less optimistic about the future of their business but still optimistic overall as illustrated in Figure 5.13.

They are mostly confident in their ability to deal with business changes (Figure 5.14). It is unusual for all plans and goals to come together as envisioned. Changes in business environment, market place, and interrelations with employees and family members require the operator to be flexible and persistent.

Figure 5.11 Possess Successful Operator Attitude

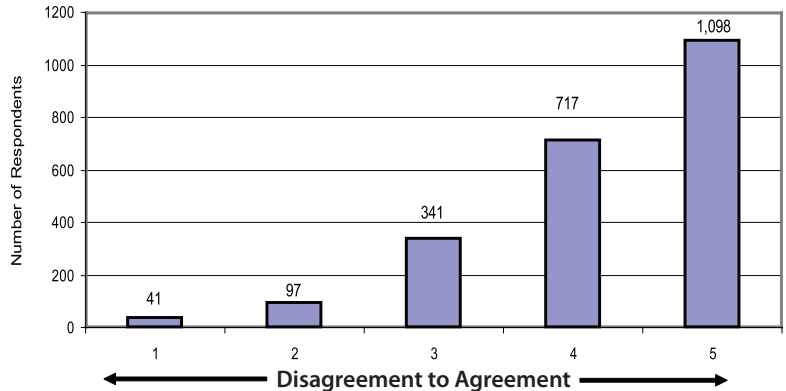


Figure 5.12 Ability to Achieve Set Goals

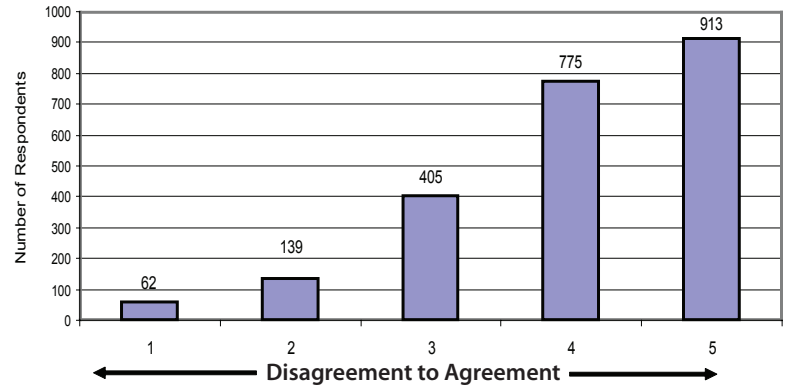


Figure 5.13 Optimism About the Future of Business

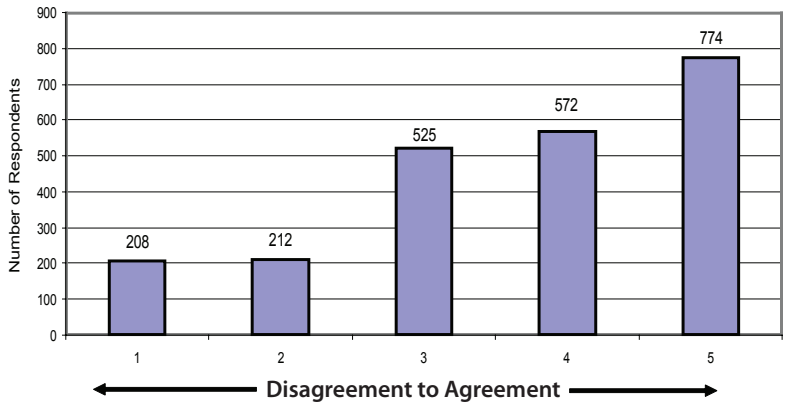


Figure 5.14 Confidence in Dealing with Business Change

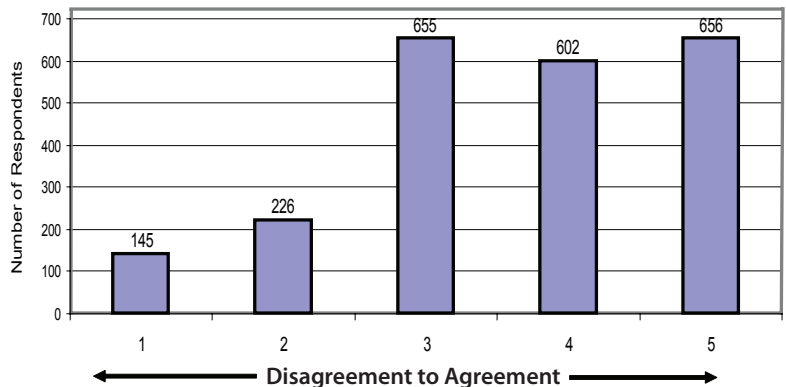


Figure 5.15 On the Cutting Edge of Technology

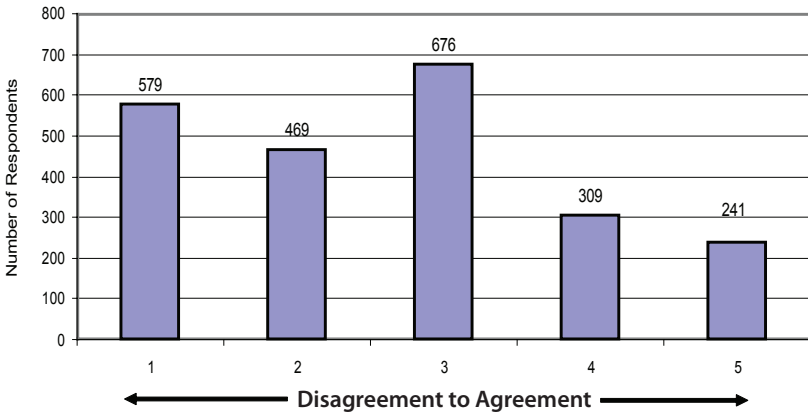


Figure 5.16 Maintaining Balance between Work and Personal Time

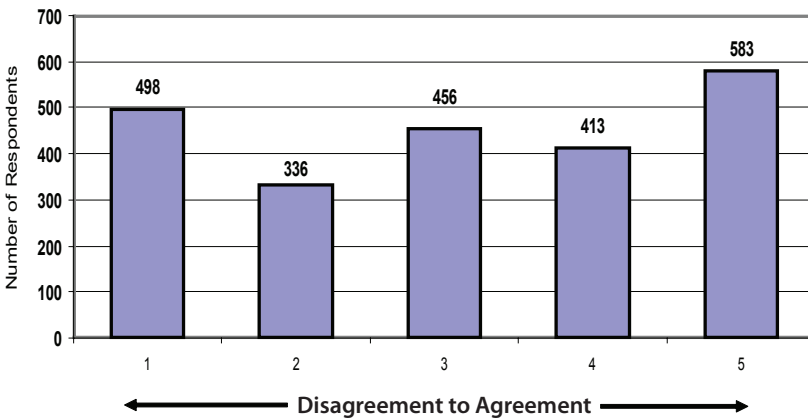
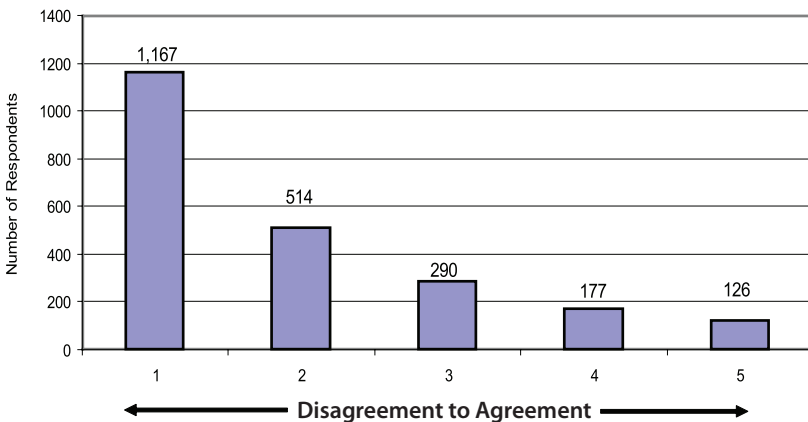


Figure 5.17 No Joy in the Work of the Business



Least Strongly Held Characteristics

As shown in Figure 5.15, survey respondents admit they are less likely to be on the cutting edge of technology. Few people outside of farming really understand how dynamic a business it is. A successful farm operator needs to be creative and innovative to successfully compete for a share of today’s marketplace. Because creativity and innovation are vital to their success, researchers hypothesized that the operators surveyed would be more technologically savvy. But, this was not the case.

Time set aside for themselves is not necessarily a priority. Farming and ranching involves an overwhelming number of tasks that must be accomplished each day. To deal with this, operators need time for themselves, as well as for the business. But respondents vary a great deal in their attitude about “me time.” There was less consistency in this characteristic than any of the others related to success (Figure 5.16).

Management Goals of the Operator

This survey also explored reasons why family business operators engage in their particular businesses. Is it to produce a high-quality product? To obtain optimum income from the business? To experience the lifestyle produced by the family business? Though most farmers and ranchers would say yes to all three, research with New Zealand farmers indicates that certain management styles influence the types of decisions made in the agricultural operation (1994). The New Zealand study identified three types of management styles:

- Dedicated Producer
- Flexible Strategist
- Resource Steward

The dedicated producer expresses a strong desire to produce the best quality product and believes there is great joy in the work of the business. This management style thrives on farm work and wants to be the best farmer possible. Western U.S. survey respondents strongly adhere to this philosophy (Figure 5.17). In addition, since a dedicated producer

is strongly committed to the business and is actively involved in the day-to-day work, he or she believes the success of the operation is dependent on personal involvement (Figure 5.18). Operators in this study also either strongly agreed or agreed with this statement, which correlates positively with previous statements regarding operator ability and optimism about the future.

On the other hand, a flexible strategist disagrees with the statement, “Today’s ranchers and farmers are at the mercy of outside forces, so the best you can do is to adjust to the situation.” They believe they have control over the direction of their business and have little patience with those who blame external forces for lack of business success (Figure 5.19). Interestingly, the majority of respondents in this study strongly agreed or agreed with this statement. This contradicts an earlier statement in which respondents believed success in the business was driven by their own ability rather than relying on others.

The differences between flexible strategists and dedicated producers become most apparent when flexible strategists talk about finding a balance in their lives. While dedicated producers are focused almost exclusively on business, flexible strategists seek to balance business and family life by putting a moderate effort into the business and taking time for family and personal activities. Though the majority of respondents in this study either disagreed or strongly disagreed with the statement that business tasks must come before family or personal time, a sizable number agreed or strongly agreed with it (Figure 5.20). The variance of response to this statement correlates with a previous survey question that asked about time for self and leisure activities.

Finally, the resource steward is sensitive to the environment because it provides the quality of life he or she enjoys. The majority of respondents either agreed or strongly agreed that “Ranchers and farmers today must be sensitive to the environment by reducing the use of agricultural chemicals on their land.” (Figure 5.21). This correlates with the

Figure 5.18 Success Dependent on Personal Involvement

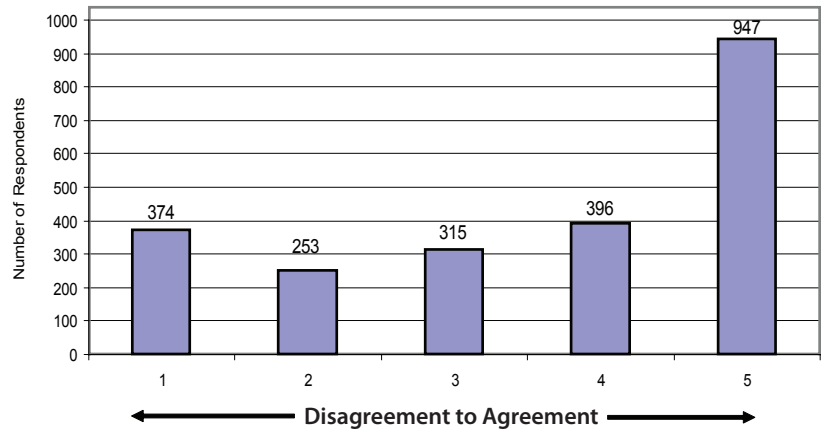


Figure 5.19 At the Mercy of Outside Forces

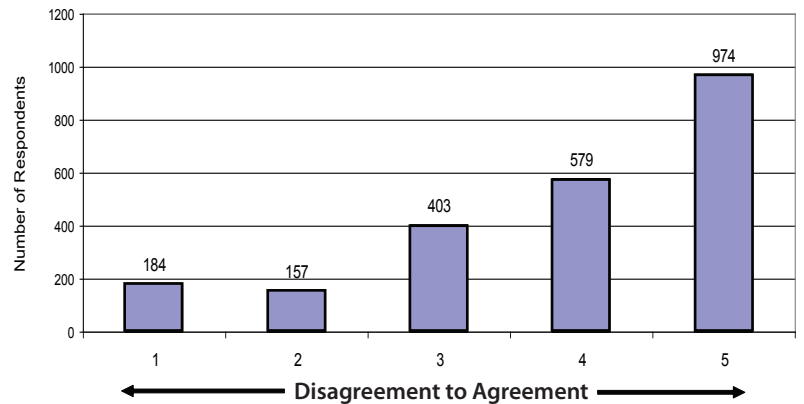


Figure 5.20 Business Tasks Come Before Family

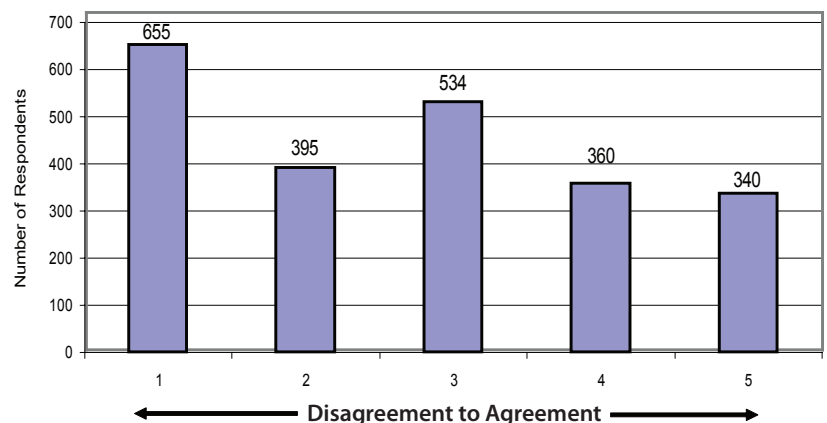
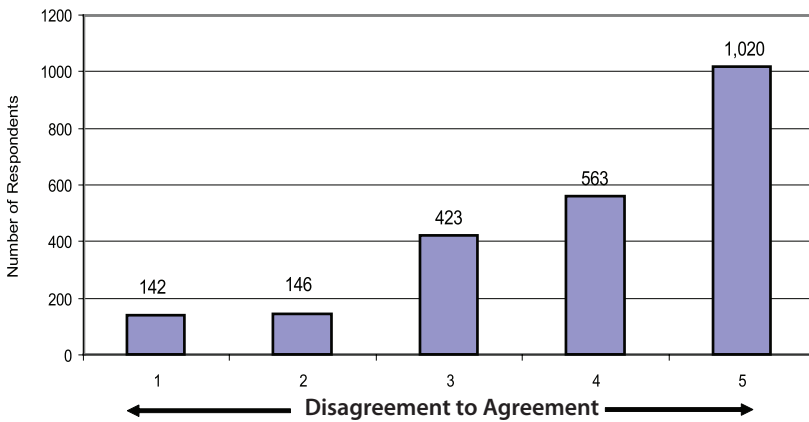


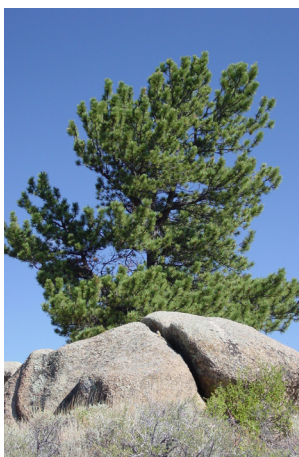
Figure 5.21 Environmentally Sensitive

response given regarding reasons for involvement in their business: “Working close to nature is rewarding.”

Summary

Results from the study’s first section, “Reasons for Involvement,” suggest a possible profile of survey respondents. Western operators are engaged in their particular family business to support their lifestyle and their family, to utilize their skills and knowledge, and to make money. They believe financial risk is their greatest challenge, followed by the production risks associated with their commodity or product. This concurs with an Economic Research Service report that indicated profitability is associated with farm size. The average operating profit margin and average rates of return on assets and equity are negative for small farms, but positive for large-scale and nonfamily farms (2007).

Overall, these operators are confident in their ability to manage their family businesses and achieve their goals. Although they are somewhat less confident with regard to changes in the business environment, they appear optimistic about their abilities and the future of agriculture. They appear less comfortable in balancing work and family demands, but they enjoy what they do and strive for quality in the family business. For the most part, Western small farm operators do not envision themselves doing anything else.



CHAPTER 6

Income

By definition, a farm is “any place from which \$1,000 or more of agricultural products were produced or sold, or normally would have been sold during a particular year.” Federal farm program payments are regarded as sales for definitional purposes.

To enhance Cooperative Extension’s ability to meet the educational needs of today’s farmers and ranchers, it is critical to know income and financial management information, the size of the operation, and the importance of farm income as a part of total household income. It is also helpful to know the farm enterprises, employees, sources of capital, and marketing strategies.

Business Type

Business operators generally choose an organizational structure that matches their business practices with financial, legal, estate planning, and/or other needs. As expected for small farm businesses, more than 80 percent of survey respondents in Figure 6.1 reported they conduct business as sole proprietors. Partnerships were the second-most widely used business type, while other business types (limited liability entities, corporations, etc.) accounted for a small percentage of business structures used by respondents.

Business Income

The Internal Revenue Service provides schedule F for use with Form 1040 to report farming enterprise revenues, expenses, and profits. More than three-

Figure 6.1 Business Type in 2005

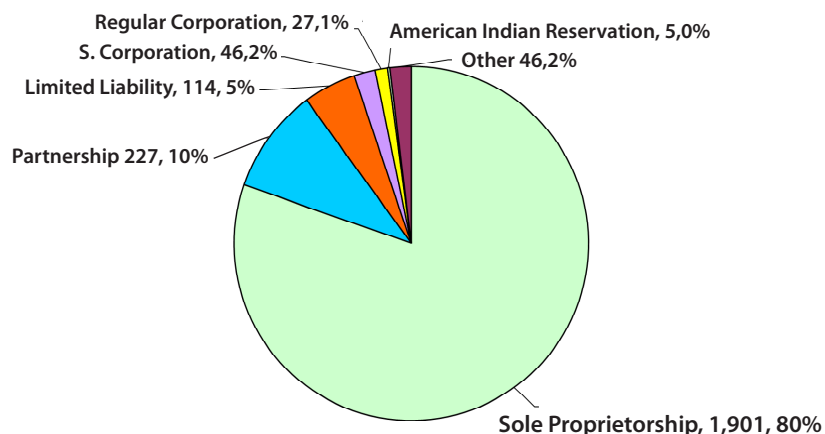


Figure 6.2 Schedule F in 2005

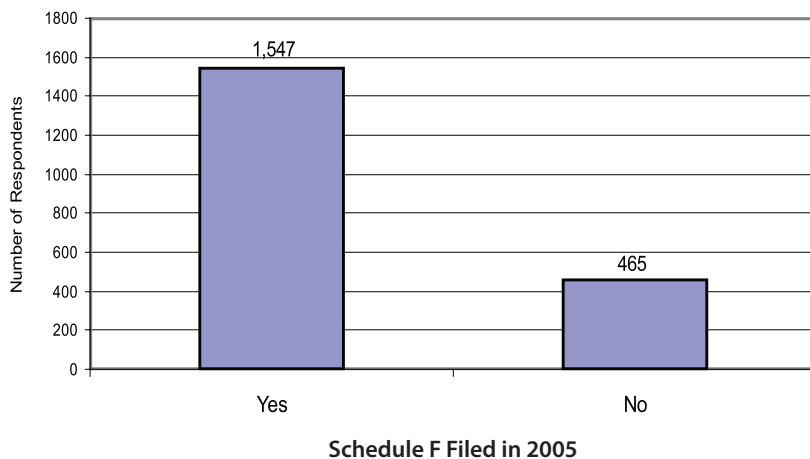
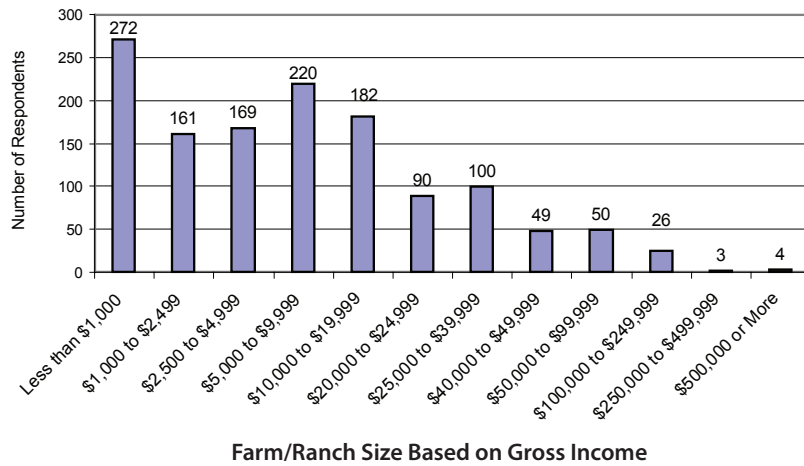


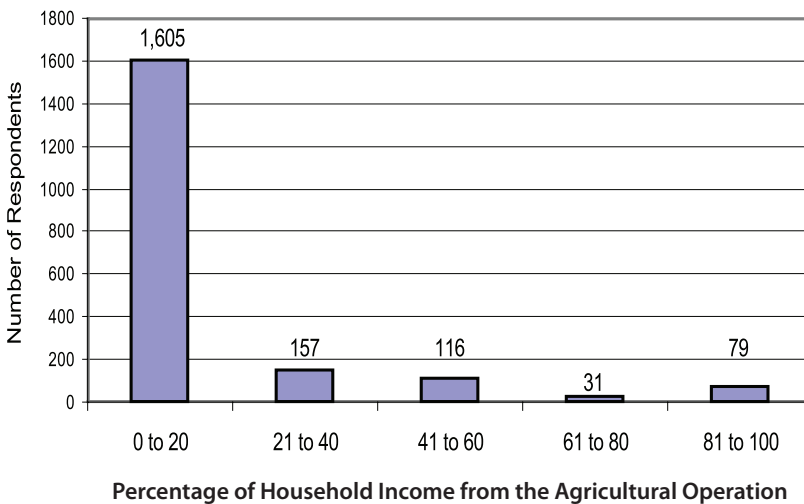
Figure 6.3 Farm/Ranch Size Based on Gross Income



quarters of the people responding to the survey indicated they filed a Schedule F in 2005 (Figure 6.2). The balance either reported agricultural incomes and expenses on another tax form (such as Schedule C), reported income on the first page of their Form 1040 and expenses on Schedule A, or did not report any agriculturally related income and expenses.

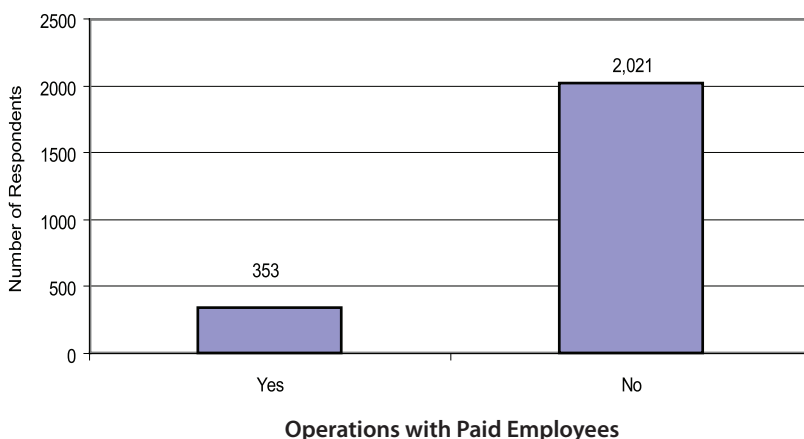
There were 1,243 respondents within the targeted population. Figure 6.3 indicates that two-thirds of the respondents (822) reported having gross farm and ranch sales of less than \$10,000 in 2005. Within this group of farm operators, the greatest number of respondents (272 or 22 percent) indicated less than \$1,000 of agricultural sales in 2005. The second greatest number of responses fell in the \$5,000 to \$9,999 range. Although the survey was targeted to agricultural producers with gross agricultural sales of less than \$50,000, 83 survey respondents indicated gross agricultural sales greater than \$50,000.

Figure 6.4 Percent of Household Income from Agriculture



Many full-time farmers and ranchers receive a large portion of their total household income from agricultural sales (Figure 6.4). Conversely, it would be expected that smaller operations would receive little of their household income from farming and ranching enterprises. Survey results show that 81 percent of respondents have less than 20 percent of their household incomes generated from agricultural sales. Only 4 percent of the respondents indicated that 81 to 100 percent of their household incomes come from the agricultural operation.

Figure 6.5 Paid Employees (Including Family Members)



Employees

Hired employees, including paid family members, are particularly critical to agricultural enterprises. Yet, smaller operations generally do not have paid employees. Most survey respondents, about 85 percent of the 2,374 responses, indicated they did not have paid employees or family members in 2005 (Figure 6.5). Given the target population for the survey and the fact that two-thirds of the respondents indicated total gross sales of less than \$10,000 per year, such a response was expected. Of the 353

survey respondents who indicated they had paid employees in 2005, 314 respondents indicated they collectively employed 853 people. The most common number of employees reported was one, while the average was 2.72 paid employees (Table 6.1).

Enterprises

Farming and ranching operations in Arizona, Colorado, and Wyoming have a variety of enterprises. The three primary animal and crop income sources reported by respondents accounted for 54 percent of all responses, or 84 percent of all responses excluding “other” (Table 6.2). Respondents were asked to identify only one commodity and 2,269 individuals indicated a commodity. Almost one-third of the respondents (31 percent) indicated that beef cattle was their primary source of agricultural income. Hay farming accounted for another 400 responses (18 percent), and sheep and goat production accounted for 5.5 percent of all responses.

Eight-hundred twenty respondents marked the “other” category, indicating the primary source of income for their operations in 2005 was not from one of the listed categories. Figure 6.6 shows the other primary sources of agricultural income listed by respondents.

Given the current interest in organic, all natural, and chemical-free products, survey recipients were asked whether they produced any of these types of products or others that might represent a specialty market. A total of 2,384 individuals responded to this question. Eighty-eight percent do not produce for any specialty market. Two-hundred ninety-two, or 12 percent, responded they currently produce a specialty product (Figure 6.7).

Table 6.1 Number of Employees

Summary Measures	Employees
Mean	2.72
Median	2.00
Mode	1.00
Standard Deviation	3.48
Sample Variance	12.12
Minimum	1.00
Maximum	25.00
Sum	853.00
Count	314

Table 6.2 Primary Sources of Income

2005 Sources	Respondents
Cattle, beef	698
Hay farming	400
Sheep and goat production	125
Grain and oilseed farming	52
Aquaculture and other animal production	28
Other crop farming	27
Specialty products	27
Hog and pig production	20
Tourism and recreation	20
Hunting	13
Vegetables and melon farming	13
Cattle, feedlots	10
Dairy cattle and milk production	9
Greenhouse, nursery, floriculture	7
Other	820

Figure 6.6 Other Primary Sources of Income

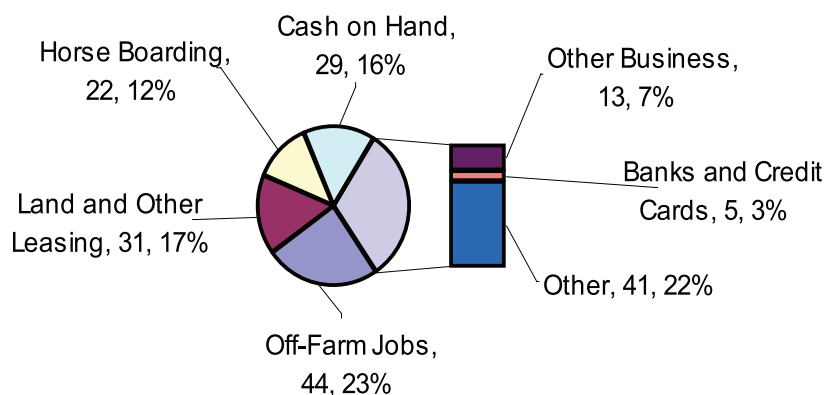


Figure 6.7 Operators Producing for Specialty Markets

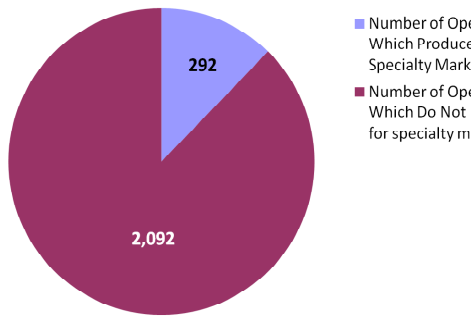


Figure 6.8 Sources of Financing

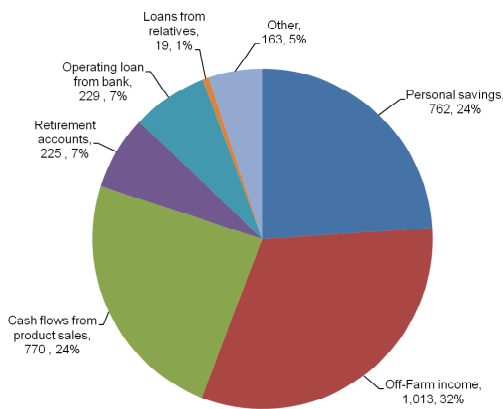
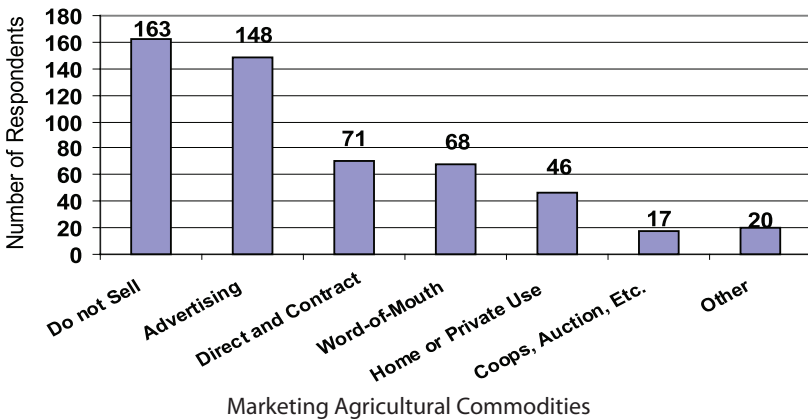


Figure 6.9 Marketing Methods



Financing

Agricultural businesses generally require some type of financing, especially if sales occur annually or irregularly. A large number of the smaller operations targeted by this survey (Figure 6.8) reported off-farm jobs provided that financing (33 percent of reported responses). Following off-farm income were personal savings and cash flows from product

sales. Financing provided by bank loans, retirement accounts and loans from relatives accounted for about 14 percent. The category of other financing included responses evenly split between off-farm income (for instance, some respondents listed Social Security though most put some version of “personal account” or “off-farm job”) and cash flows that came from the property (such as horse boarding fees, stud fees, hunting lease fees, hay sales and mineral income). Two responses specifically named a credit card. Eleven of the respondents who listed other income named the Conservation Reserve Program as the financing source.

Marketing

Oftentimes, people who operate a small agriculturally related business do not understand they are a part of agriculture. Consequently, only a few survey respondents answered the question pertaining to how they market their agricultural commodities, products, and services. Additionally, a large number of survey respondents reported they do not sell any agricultural commodities, products, or services. Of those who reported using marketing strategies, advertising accounted for 40 percent of the methods used, and direct sales, contracts, and word-of-mouth accounted for another 38 percent (Figure 6.9).

Summary

Many small agricultural operators do not see themselves as part of the agricultural community. Of those who do understand they are involved in agriculture, a large majority operate as a sole proprietorship. Two-thirds of the operators have less than \$10,000 in annual agricultural sales, and their revenues and expenses are reported on a Schedule F form. Generally, the income generated by these smaller farming and ranching operations accounts for less than 20 percent of total household income, at least for more than 80 percent of the operations.

Beef cattle, hay farming, and sheep and goats are the three most prevalent enterprises on the smaller operations surveyed; however, enterprise type for small operations is just as diverse as for larger operations. Paid employees, including family members, are not typical for small operations in the survey area.



CHAPTER 7

Resource Management

Across most of the United States, rural resource management is becoming increasingly important. When individuals unfamiliar with land management purchase rural properties, vulnerable rural lands may be mismanaged. The resource management section of the survey focused on three major areas of investigation: proper land and enterprise management, water management, and on-farm chemical application.

Maintaining and managing live surface water, aquifers, conservation reserve, and irrigation water supplies are critical issues across most, if not all, the Western states. Western municipalities are expanding. Because much of this area is quite arid, the demand for water is increasing with the growing populations. One of the few remaining water sources substantial enough to be of interest to municipalities is commercial agriculture water. As a result, the use and management of irrigation water, in addition to natural rivers and streams originating on or flowing across agricultural lands, are coming under the increasing scrutiny of urbanites and policy makers alike.

A better understanding of how rural property owners currently manage these resources is necessary. The practices of smaller-scale agricultural operators, who may not have a good understanding or who may lack the financial resources for proper management of critical water supplies, is of particular interest.

Agricultural chemicals represent one of the largest threats to both rural and urban water supplies. In areas where chemicals are often applied to large tracts of agricultural land, the threat is much greater, especially where there might be associated surface water. The threat increases when well-meaning rural property managers apply seemingly safe chemicals in a manner inconsistent with their labeling.

Land

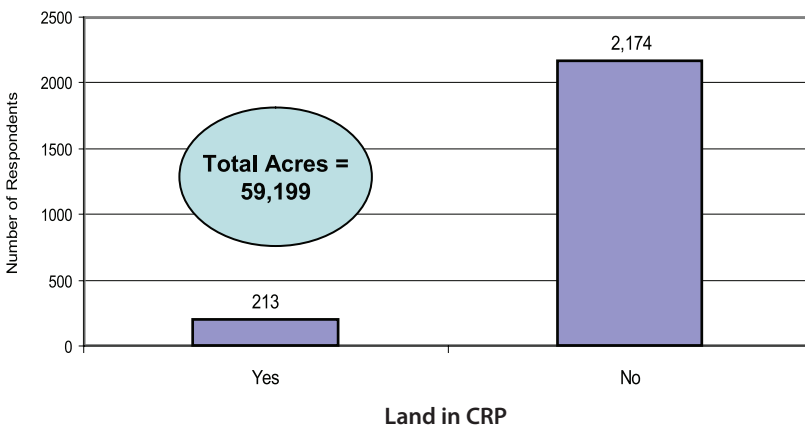
As reported by NASS, farm size varies across the three states surveyed; however, existing statistics do not break out owned and leased lands for operators reporting under \$50,000 in agricultural sales. The first line of inquiry under resource management was to discover the full extent of lands managed, including both acres owned and acres leased, and the land management practices used. Together, these responses allow a better understanding of not only the total number of acres managed, but also the type of control rural property managers have over rural lands in their care.

Table 7.1 shows that the average number of acres of owned land reported was 264.5 acres across 2,370 respondents. Values ranged from 0 to 40,000 acres, with a mode of 40 acres. In total, 96 percent of respondents reported owning at least one acre of land. Acres of leased land reported ranged from zero to 785,000 with an average of 803 acres leased. A total of 631 respondents, or 27 percent, reported leasing

Table 7.1 Owned and Leased Land

	Acres of Land Owned	Acres of Land Leased	Total Acres
Mean	264.5	803.0	1,032.3
Median	50	0	80
Mode	40	0	40
Standard Deviation	1,163.6	16,833.3	16,608.6
Sample Variance	1,353,921.8	283,360,337.6	275,846,039.5
Minimum	0	0	0
Maximum	40,000	785,000	785,800
Sum	626,964	1,899,150	2,526,114
Count	2,370	2,365	2,447

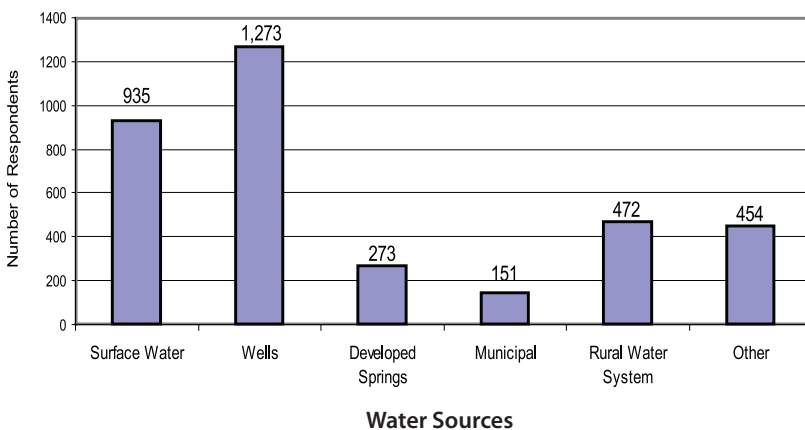
Figure 7.1 Land in Conservation Reserve Program



at least one acre of land. In total, 2,447 operators reported managing from 0 to 785,800 acres (both owned and leased) across the three states. The average number of acres under management was 1,032.3 acres, with a mode of 40 acres. Total acres managed across all states for all types of land totaled more than 2.5 million acres. This represents around 3 percent of the more than 99.8 million acres in farms across the three states.

Investigation into how these rural properties are managed shows that only 213 of the 2,387 individuals who responded indicated they had land enrolled in the Conservation Reserve Program (CRP) (Figure 7.1). The majority of respondents, 2,174 or 91 percent, reported no CRP acreage. The 182 operators who indicated the number of acres enrolled reported a total of 59,199 acres. On average, operators reported 325.3 acres. Reported acreages ranged from only one acre to 20,000 acres, with a mode of 160 acres.

Figure 7.2 Water Sources in Property Managed



Water

A second line of questioning attempted to discover the extent of water resources associated with the rural properties managed. While state statistics do provide information on rural water resources, such data provide few insights about the lands managed by smaller operators. Survey questions in this section focused on sources of water on all lands managed (owned and leased), surface water on neighboring properties, and irrigation practices used for pasture management.

As Figure 7.2 reveals, across all lands managed, 1,273 respondents reported wells as the most common source of water. Surface water was the second most often reported source, with 935 properties reporting. Rural water systems and developed springs were water sources for 745 respondents. Only 151 operators had access to municipal water supplies, and 454 respondents reported utilizing water supplies other than those listed. Alternative sources included dirt tanks, irrigation systems, hauled water, rain water, river water, ponds, runoff, creeks, pipelines, snowmelt, and “the good old Lord.”

A total of 1,158 individuals reported surface water on properties adjacent to their own (Figure 7.3). This number represents just under 50 percent of the 2,382 individuals who responded. Respondents were also asked if they irrigated any pasture on their property and, if so, how many acres. Of the 2,386 operators who responded to this question, 42 percent (1,009) indicated they irrigate some pasture. The majority of operators, 1,377 or 58 percent indicated they did not currently irrigate any pasture (Figure 7.4).

Table 7.2 shows that 928 land managers provided an estimate of pasture acres irrigated. A total of 50,542 irrigated acres were reported with an average of 54.5 acres per land owner. Responses ranged from one to 2,000 pasture acres under irrigation with a mode of 10 acres.

Figure 7.3 Surface Water on Bordering Property

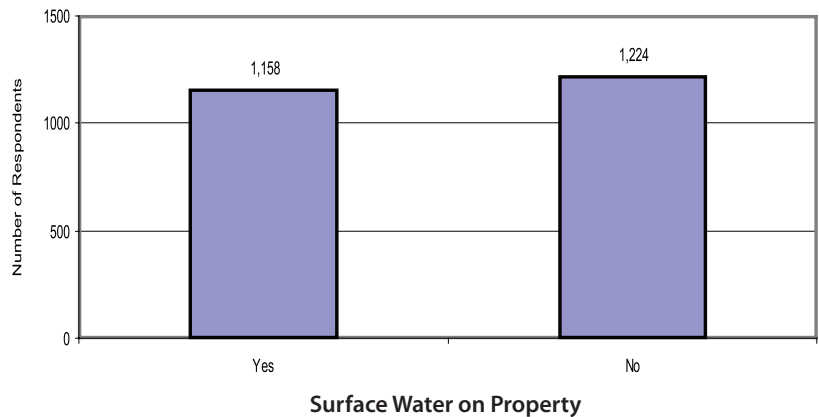


Figure 7.4 Irrigated Pasture Acres

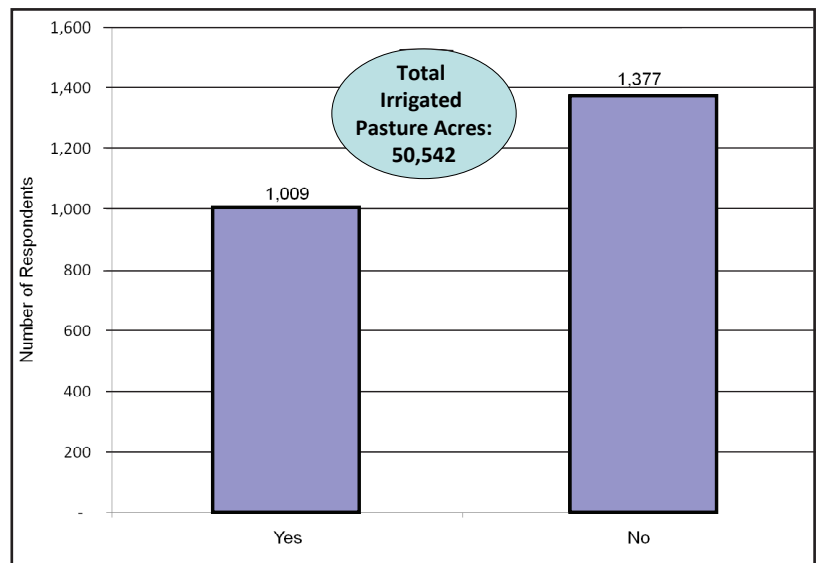


Table 7.2. Number of Irrigated Pasture Acres Reported

Summary Measures	Number of Acres
Mean	54.5
Median	20
Mode	10
Standard Deviation	136.5
Sample Variance	18,643.5
Minimum	1
Maximum	2,000
Sum	50,542
Count	928

Figure 7.5 Use of Chemicals for Weed Control

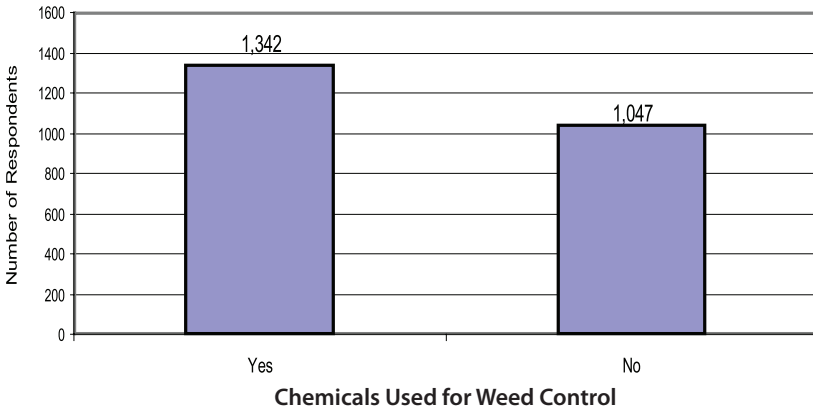
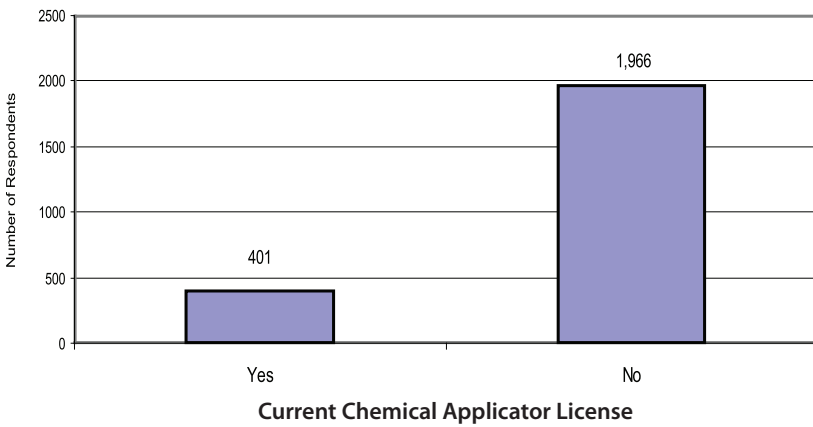


Figure 7.6 Current Chemical Applicator Licenses



Survey results show that wells are the most common source of water on rural properties across all three states. Surface water is the second most common source, and it was reported as existing on just under half of the neighboring rural properties. Forty-two percent of respondents reported using some type of irrigation on pastures under their management, resulting in more than 50,000 acres of irrigated lands. Proper management of rural wells, surface water, and irrigation are important issues for smaller rural property owners in Arizona, Colorado, and Wyoming.

Chemicals

A third set of questions asked rural landowners about on-farm chemical management. Given the threat chemical mismanagement represents to rural water sources, it is essential to gain a better understanding of how these materials are currently handled. If a large number of land owners are using agricultural chemicals without adequate training, Cooperative Extension could provide education to directly reduce the incidence of mismanagement.

A total of 56 percent of the 2,389 individuals who responded reported using chemicals to control weeds on their properties (Figure 7.5). Conversely, 44 percent reported no chemicals were used for weed control. Using the most commonly reported rural property size (40 acres), 1,342 individuals spreading agricultural chemicals would impact at least 53,680 acres.

Chemical applicator licenses are generally required to obtain and apply agricultural chemicals in all three states. In total, 1,966 or 83 percent of the 2,367 respondents as shown in Figure 7.6 indicated they do not hold a current license. Only 17 percent, 401 individuals, said they held a current applicator license. Of those who use chemicals for weed control, 344 respondents (14 percent) hold a license, while 985 (40 percent) reported using chemicals without a license.

These results show a large percentage of rural property owners use agricultural chemicals to manage their properties. Estimated acreages managed by these owners is substantial. In addition, while many operators reported holding chemical applicator licenses, a large percentage of those who reported using chemicals also reported not having a license. Perhaps this would not be as large a concern if the property owner were controlling dandelions or thistles on a lawn, but the extent of chemical use across the property was not assessed by this study and may be of interest in future survey efforts.

Summary

Proper resource management is increasingly important across most of the United States. Increasing urbanization and ownership of rural properties by individuals unfamiliar with land management places vulnerable rural lands at risk for mismanagement.

The resource management section of the survey investigated three major areas of interest: land and enterprise management, water management, and on-farm chemical application.

Results show rural property owners across Arizona, Colorado, and Wyoming typically own 40 acres. Most do not lease additional land. These operators do not often enroll in the Conservation Reserve Program and do not produce products for specialty markets.

Wells are the most common source of water reported on rural properties. Surface water comes in second, and it was reported as existing on just under half of the neighboring rural properties. Less than half of the property managers use some type of irrigation on their pastures, but a large percentage use agricultural chemicals. Of those who use chemicals, a large percentage of respondents indicated they did not hold an applicator license.

The implications of these results are far reaching. When individuals who are unaware of the risk to surface water supplies apply agricultural chemicals, everyone is affected. The consequences of misapplication and the threats posed downstream by surface water contamination are potentially enormous. Although this group does not manage a large percentage of agricultural lands, the number of acres they control is not inconsequential. Given the increasing significance of water resources across the West, improved understanding of proper management techniques would likely benefit rural property owners and Western urbanites alike.



CHAPTER 8

Crops and Livestock Production

In the 2002 Census of Agriculture, a total of 22,797 farms across Arizona, Colorado, and Wyoming reported harvested cropland, constituting a total of 6.533 million acres. Farms reporting one to 49 acres of harvested cropland totaled 10,204, representing 45 percent of farms across the three-state region. Furthermore, 21,431 farms reported cattle and calves for a total of 4.794 million head of cattle. From this, a total 4,982 farms (or 23 percent of all farms) reported having only one to nine head of cattle, and 57 percent (12,228 farms) reported one to 49 head of cattle (NASS, 2002). This means that more than 50 percent of agricultural operators across the three states had fewer than 50 head of cattle.

According to these statistics, smaller operations constitute a sizable portion of Western enterprises involved in crop and livestock production. Using the current census data, it is not possible to determine the scale or type of agricultural enterprises for operators reporting under \$50,000 in agricultural sales. It seems likely, though, that smaller operators might engage in more diverse animal and crop enterprises than larger operators. Or they may manage those enterprise activities in a manner unlike commercial operators. So, to better understand the scale and scope of smaller agricultural enterprises and how they might be better managed, respondents were asked a series of questions about cropping and livestock practices.

Cropping Activities

Crop production was reported by 53 percent of all survey respondents (1,350 responses). As expected, total crop acreages and the acres of any particular crop were small. Total alfalfa and hay accounted for 55,896 acres, or 62 percent of crop acreage. The typical alfalfa producer reported about 60 acres, and the typical non-alfalfa hay producer reported about 51 acres.

Small enterprises in Arizona, Colorado, and Wyoming raise a variety of other crops, including corn, grain sorghum, small grains, dry beans, fruits, and vegetables. A few farm operators reported producing alfalfa seed, barley, beets, cotton, cut flowers, garlic, grapes, grass (typically for hay or pasture),

Figure 8.1 Irrigated Crop Acres

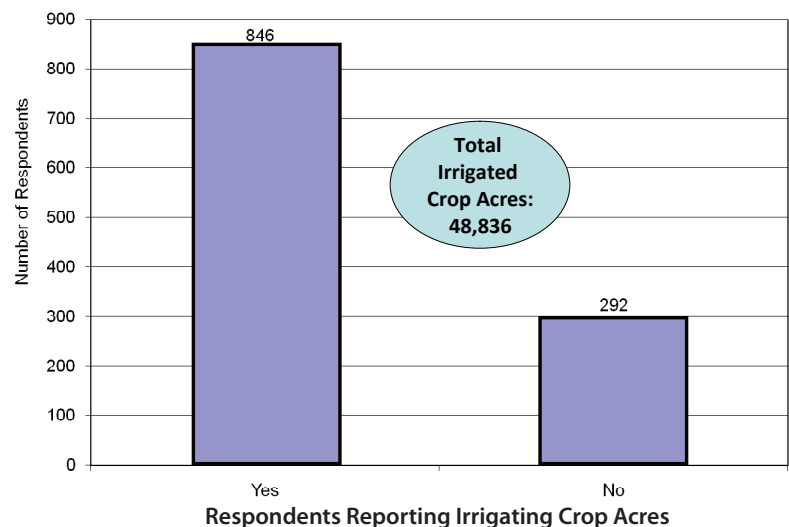


Figure 8.2 Respondents with Animals

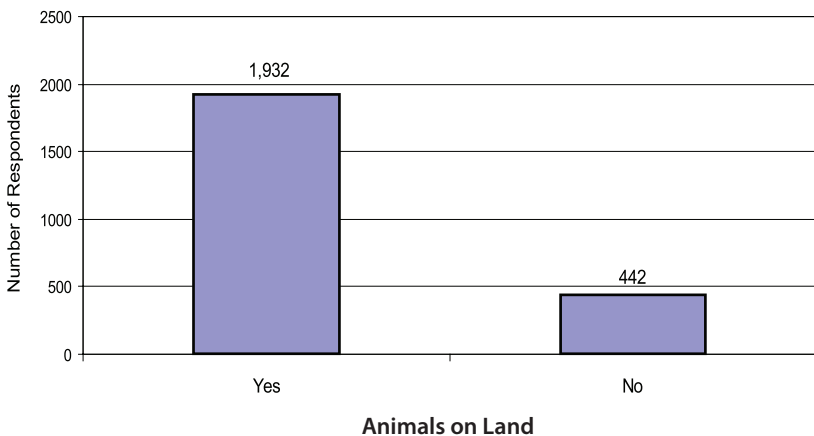
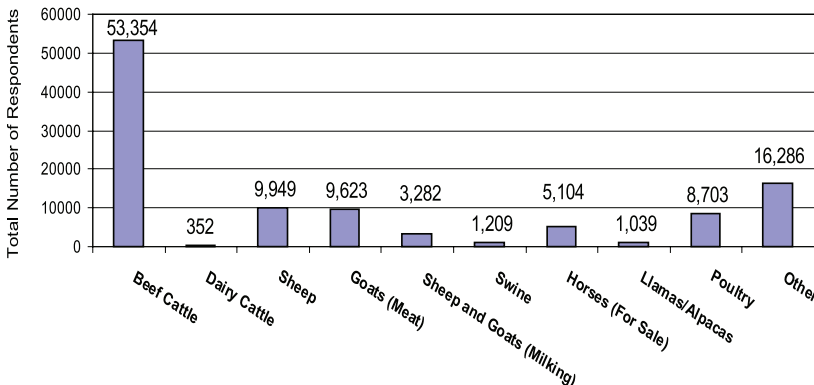


Figure 8.3 Classes of Animals on Acreages



herbs, lemons, navel oranges, oat hay, pecans, pumpkins, pinto beans, pistachios, sod, soybeans, sunflowers, and trees (conifer/evergreen and Christmas).

Irrigation is a typical risk management practice for Western farmers and ranchers. The results in Figure 8.1 show that most small farmers in this three-state study have irrigated crop acres. Of the 1,138 respondents who reported raising crops, 74 percent (846 respondents) used irrigation. Total irrigated crops acres reported was 48,836 acres with an average of 68 acres of irrigated crop production.

Livestock Activities

A significant number of Western operators own livestock and other farm animals. The survey provided a list of typical animals and a space to write in the number of head managed for each category. In Figure 8.2, 81 percent of the sampled population have livestock (1,932 of 2,374 respondents).

Cattle

Among small producers in all three states, beef cattle are by far the most popular species of livestock. Of the 1,932 farms reporting, there were a total of 53,354 beef cattle (Figure 8.3). If the nine commercial-sized herds (500 or more head) are excluded from analysis, the average size herd is 38.7 head.

Horses

On farms and ranches, horses are very popular animals because they can be used for pleasure or generating farm income. Survey responses on horse ownership included those “for sale” and an “other” category. Respondents reported as “other” those horses kept for pleasure, racing, stud, outfitting, roping and rodeo, teaching, work, and boarding, in addition to miniature and wild horses as well.

The 562 respondents who indicated they produced horses to sell had these characteristics: the average herd size was 9.1 per respondent, with a median of five and a mode of two. The maximum number of horses reported was 150 and a minimum of one. The total number of horses for sale was 5,089. Of those who kept horses with no intention of selling them, the median was four, the mode was two, and the average was 12.6 with a minimum of one and maximum of 75. The 409 respondents who did not intend to sell their horses accounted for 2,335 horses. The largest horse herd owners had significant numbers for ranch recreation enterprises or boarded horses, but most were horses for pleasure.

When horses reported as “other” were combined with horses reported “for sale,” a total of 7,424 horses made them the fifth most popular animal after cattle, sheep, goats, and poultry. Given the popularity of horses, a future survey could expand upon the types of horses listed as possible responses.

Other Livestock

Small farmers have a variety of “other” animals used to generate income, for pleasure, or simply for visual appeal. Bees, buffalo, burros, chickens, donkeys, elk, gamecocks, geese, goats, mules, rabbits, roping/rodeo/Corrientes steers, and yaks were listed by

multiple respondents. Responses that occurred only once included emus, puppies, turkeys, ostriches, and trout (of which the respondent had 10,000, which inflates the number of “other” animals reported to 16,286).

Grazing Habits

The level of grazing management is of particular interest to educators because poor pasture management has implications for watershed management, rangeland sustainability, and animal health. On average, respondents grazed livestock for 7.5 months per year (Table 8.1). Furthermore, 64 percent of respondents said grazing animals consumed most or all of the available forage (Figure 8.4). Such aggressive grazing practices force graziers to provide supplemental feed for at least a portion of the year. Some survey respondents reported that their pasture hadn’t been grazed recently due to prevailing drought conditions, that the animals were fed, or that he or she didn’t know the grazing frequency, typically because the pasture was leased to someone else.

Survey data in Figure 8.5, suggest that respondents are likely to have some sort of grazing system in place. Sixty-four percent of operators reported making an effort to rotate animals through at least two pastures, and an average of four pastures, each year. Given that the average number of acres managed (owned and leased) was 1,032, with a mean of four pastures, the average size of each pasture is 258 acres. In addition to owned pasture, a small portion of respondents (8.2 percent or 155 of 1,884 respondents) make use of public land grazing permits from the Bureau of Land Management or the U.S. Forest Service. In this situation, efforts to educate operators about proper public land use would be of little value; however, other results seem to indicate that efforts to educate managers on wise and sustainable grazing practices would be of greater value.

The follow-up question for the 8.2 percent of respondents who used public grazing was to indicate the number of AUMs (animal unit months) which

Table 8.1 Grazing Time (Months Per Year)

Summary Measures	Months
Mean	7.50
Median	7.00
Mode	12.00
Standard Deviation	3.95
Sample Variance	15.57
Minimum	0.00
Maximum	12.00
Count	1,841

Figure 8.4 Amount of Pasture Eaten by Livestock

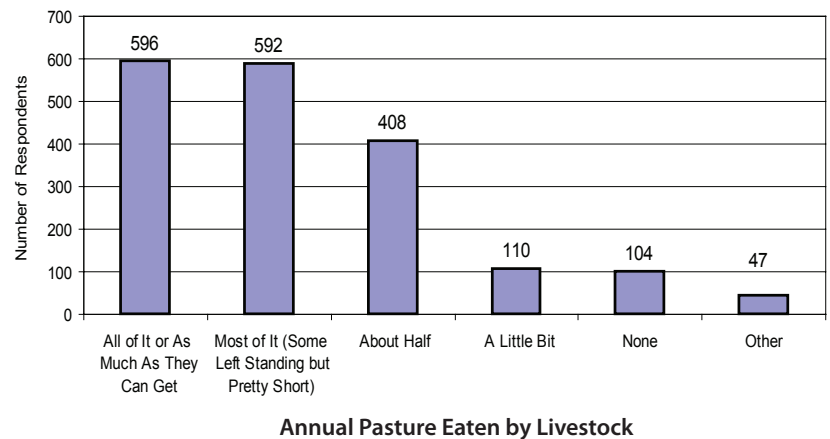


Figure 8.5 Grazing Management System

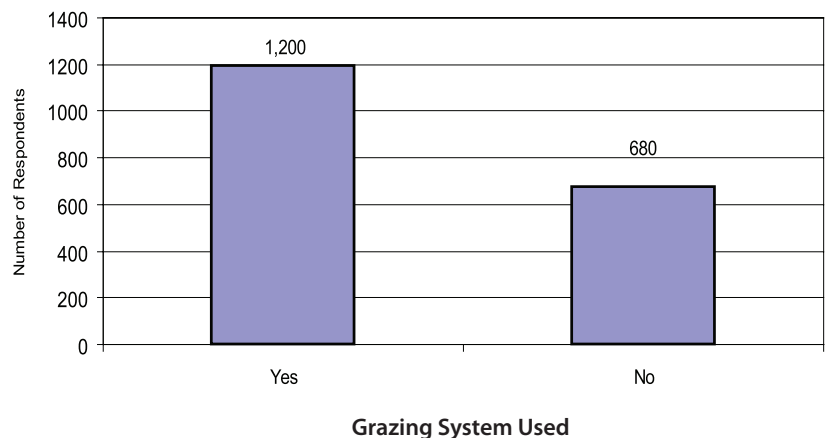
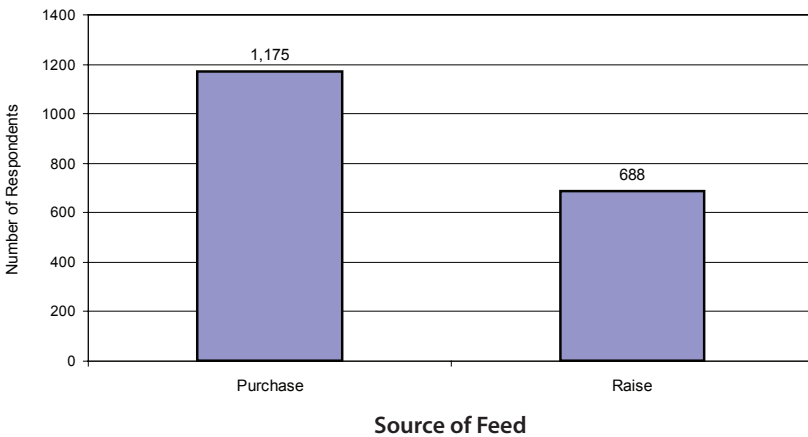


Table 8.2 AUMs of Grazing Rights Held

Summary Measures	AUMs, Annually
Mean	446.89
Median	43.00
Mode	6.00
Standard Deviation	2,277.05
Sample Variance	5,184,968.67
Minimum	1.00
Maximum	23,000.00
Count	113

Figure 8.6 Feed Production on Property



were available. An AUM is the amount of forage required by one animal unit (AU) for one month. One animal unit is defined as a 1,000 lb. (450 kg) beef cow with or without a nursing calf with a daily requirement of 26 lb. (11.8 kg) of dry matter forage. Therefore, one AUM is equal to 780 lb. (355 kg) of dry matter forage (30 days x daily forage requirement).

The responses are reported in Table 8.2. Responses ranged from 1 to 23,000, with an average of 447, median of 43 and mode of 6. This indicates typically small permits. With the low number of responses to this question (only 113 of the 1,932 that raised livestock and of the 155 who indicated they used public lands), this may indicate that the AUM number could not be easily remembered or calculated.

Feeding Habits

The primary source of animal feed reported in Figure 8.6 was purchased feed. Analysis of the survey data indicated that 63 percent of respondents bought feed while the remaining 37 percent raised their own feed. Of those who purchased animal feed, most bought it from a local grower. Other sources included auctions, co-ops, neighbors and family, commodity brokers, and Wal-Mart. (The Wal-Mart response was by only one respondent.) The most common write-in response was a co-op or elevator, although “feed store” was an alternative offered.

Summary

Operators with smaller acreages and/or smaller herd sizes constitute a sizable percentage of the total number of operators across Arizona, Colorado, and Wyoming. Not much is known, however, about their specific management practices, including how they manage native pastures, the crops they raise, the species and number of livestock they select, and where they obtain animal feed. For this reason, a section of the survey focused on crop and livestock production practices.

Respondents typically own livestock and other animals. Just over half of the animal producers indicated they own beef cattle, and the average herd size is 39 head. About 20 percent indicated owning horses; however, survey data did not clearly indicate the purpose of those horses. Respondents tend to be irrigated crop producers, with a majority of the acres in alfalfa or hay production. Approximately one-third of livestock owners raise their own feed, while the other two-thirds purchase most of their feed within a short distance of the farm. Respondents also tend to heavily graze their own property. They reported typically grazing pastures 7.5 months a year and leave none or almost none of the forage. Their pastures have a 50/50 chance of being managed with a pasture management system. If they have a grazing management plan, respondents are likely to have a four-pasture rotation. Very few have public land leases to supplement production from their own land.



CHAPTER 9

Information for Agriculturalists

In 1914, the Smith-Lever Act launched extension education “to aid the diffusion among the people of the United States useful and practical information on the subjects relating to agriculture and home economics and to encourage the application of the same.” Over the years, extension has continually adapted to the changing landscape of agriculture to ensure its mission is met. One of the principles involved in the execution of the land-grant mission is the transfer of knowledge from universities to individual producers. In the early years of extension, this transfer occurred primarily through direct personal contact.

While workshops and individual meetings are still used by extension, other delivery methods have kept pace with emerging communication technologies and increased time constraints of both producers and extension personnel. Changing educational methodologies have included the addition of public radio broadcasts in the 1930s, television segments in the 1950s, satellite feeds in the 1980s, and the Internet in the 1990s. The newest development is eXtension (www.extension.org), a Web site that contains a wealth of information from Cooperative Extension Services. Through this site, producers have fact sheets, research reports, and specific information on current agricultural issues right at their fingertips.

Given the many advances in delivery mechanisms, this study made an attempt to assess how producers actually prefer to receive information. In the following section, researchers looked at the information dissemination preferences of small farms and ranches and the role extension plays in the producer’s acquisition of knowledge.

Information Preferences

When seeking information relevant to their agricultural operations, survey respondents reported they primarily prefer to get their information from “peer/support groups or networks.” (Figure 9.1). Next, participants were asked to select their top three preferred sources of information. After their peers, producers look to Internet Web sites, trade magazines, and Cooperative Extension for more information. In contrast, the least preferred in-

Figure 9.1 Preferred Sources of Information

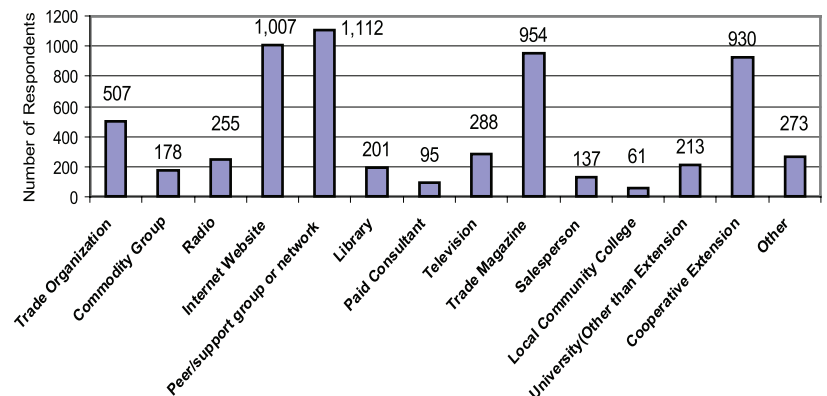


Figure 9.2 Improvement of Information Sources

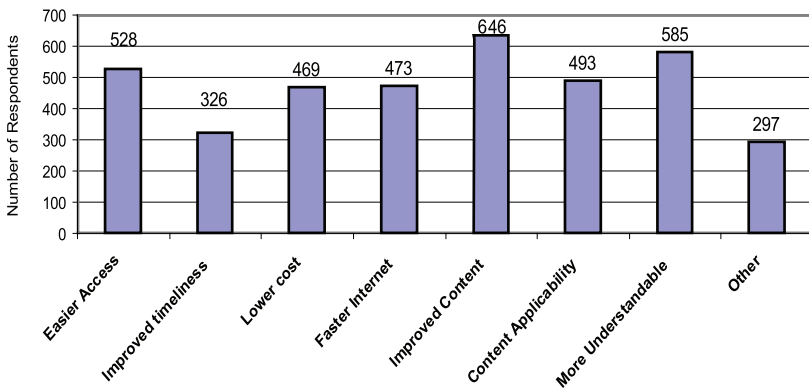


Figure 9.3 Preferred Form for Information

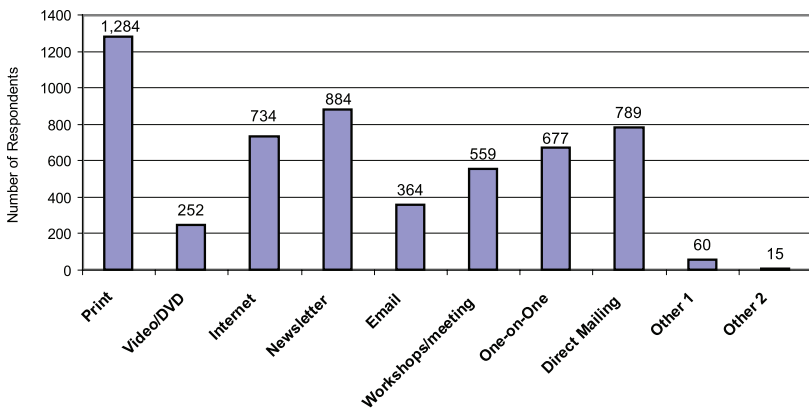
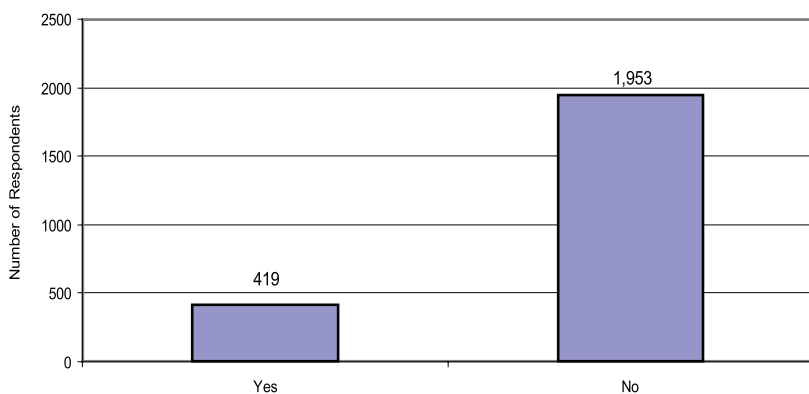


Figure 9.4 Participation in Extension Programs, Except 4-H



formation sources were commodity groups, paid consultants, and local community colleges. While some of the categories overlap, communication with another individual was clearly important in obtaining information.

It was also important to know how these delivery systems and the quality of information could be enhanced. Survey respondents noted they needed improved content and more understandable information (Figure 9.2). The survey also allowed researchers to investigate how small producers' prefer to receive information. Figure 9.3 shows the overwhelming selection was print (1,284) followed by newsletters (884) and direct mailings (789). (Respondents were allowed to indicate their top three choices). E-mail and video/DVD ranked last, aside from the two write-in categories. Producers noted a strong preference for printed materials, including newsletters and direct mailings, over the other options.

Information from Universities

As extension seeks to determine methods for useful and practical information dissemination for this audience, it is necessary to determine who is actually using extension expertise and programming. Most survey respondents (1,830) indicated they had received information from Cooperative Extension, but when asked if they had participated in an extension program other than 4-H activities in the last 12 months, more than 80 percent of the respondents reported they had not participated in any extension programs in the last year (Figure 9.4).

4-H is the primary youth development program conducted by Cooperative Extension Systems across the country. When asked if any immediate family members had participated in 4-H during the last two years, the overwhelming response as illustrated in Figure 9.5 was no. Since the average respondent's age was more than 55 years old, this was not surprising. They would most likely not have immediate family members of the 4-H participating age.

While extension is a primary outreach division of all land-grant universities, many other universities have teaching colleges that reach the same audiences as extension. Veterinary hospitals, plant and animal diagnostic labs, and equine centers also play a role in the dissemination of research and education. Most survey respondents (1,887 of 2,293 responses) reported they had not used any non-extension services at the state university (Figure 9.6). This indicates that, when respondents receive information from a university, it most likely comes from extension.

The survey questionnaire also attempted to collect additional information about other university services used by respondents. The top three categories of services used included veterinary/equine and diagnostic labs, general university information, and classes and workshops. Other topics mentioned were bee labs, livestock breeding information, weed control and identification, soil testing, hay testing, and sheep information.

Summary

The results of this section suggest that, given the many advances in delivery mechanisms, the personal, or one-on-one, connections are still highly valued by producers as a means of acquiring new information. Print is the preferred form in which to receive information. And while extension still plays an important part in the producer's acquisition of knowledge, some results suggest that educational content can be improved and the information can be made more understandable for producers.

Figure 9.5 Participation in 4-H

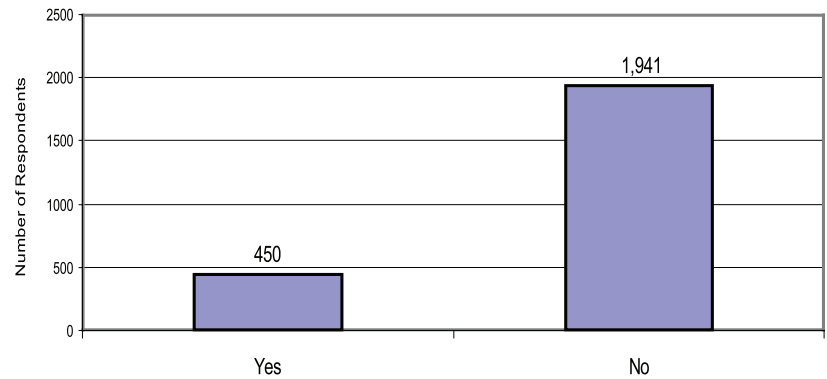
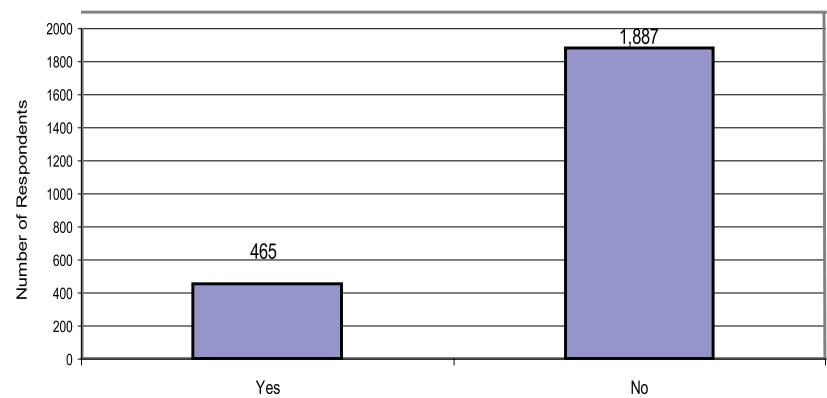


Figure 9.6 Use of University Services (not extension)





CHAPTER 10

Conclusions and Policy Implications

The rural West has experienced dramatic demographic and economic transformations during the past decade. Although a great deal is known about agriculture's contribution to the economy, much less is known about the changing makeup of farm operators and the behavioral and institutional factors that promote or impede the growth of agriculture in the West.

In 1914, Congress passed the Smith-Lever Act, establishing the Cooperative Extension Service as the primary educational outreach branch of land-grant universities. Since that time, extension has had to continually adapt to the changing landscape of agriculture to ensure its mission is met.

Given the importance of university outreach education to the future of agriculture, a better understanding of farm operators, including what they perceive to be the greatest threats to their operations, is required to effectively design risk management education. Anecdotal evidence and Census of Agriculture data show that the profile of a traditional farm operator is changing. However, more in depth information is necessary to answer the following questions:

- Who are today's farmers and ranchers?
- What are their preferences for learning?
- What do they perceive as the greatest threats to their operations?

- What information do they believe would be helpful to them as they manage their agricultural enterprises?

Today's Farmers and Ranchers

The Census of Agriculture defines a farm as "any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year." Federal farm program payments are regarded as sales for the purpose of definitional eligibility.

According to the 2002 Census of Agriculture, there were 48,085 farms in Arizona, Colorado, and Wyoming. A total of 22,797 farms across the three states reported harvested cropland, which constituted a total of 6.533 million acres. Furthermore, 21,431 farms reported cattle and calves for a total of 4.794 million head of cattle.

Farms reporting one to 49 acres of harvested cropland totaled 10,204, or 45 percent of farms across the three-state region. As for animal producers, 4,982 farms (23 percent) reported one to nine head of cattle, and 12,228 (57 percent) have fewer than 50 head of cattle (NASS, 2002).

A comparison of census data for 1997 and 2002 shows several demographic shifts in Arizona, Colorado, and Wyoming farm and ranch populations. While the overall number of farms in the three states stayed consistent during that time, there was significant growth in the number of small farms.

Data show that 78 percent of all farms have annual gross sales of less than \$50,000. Most farm operators own and live on their own properties and operate them as sole proprietorships. Most farm operators have off-farm employment, many working off-farm 200 or more days per year. The average age of farm operators in Arizona and Wyoming declined from 1997 to 2002, while the average age of farm operators in Colorado increased during the same period.

Clearly, smaller operations constitute a sizable portion of those involved in crop and livestock production across the three states. And while the current census data does not provide details about the type or scale of smaller agricultural enterprises, it seems likely that smaller operators might engage in a wider diversity of animal and crop enterprises than larger operators. Smaller operators also may manage those enterprise activities in a manner unlike commercial operators.

From this hypothesis, researchers and educators from the three-state area designed and sent out their 2006 Rural Family Ventures Survey, focusing on smaller operator demographics, sources of risk, information sources and preferred methods for receiving new information, resource management, and income status.

The findings in this report are preliminary. This report summarizes information from all those who responded to the survey, including some who do not fit the profile of a respondent with less than \$50,000 in annual agricultural sales. Farmers in this study are highly heterogeneous with respect to their social and demographic attributes. A potential new clientele has been identified as those operators who have never received information from Cooperative Extension, those who are at financial or production risk, and those whose farm income accounts for more than 50 percent of household income. However, the survey results also identified a gap between what respondents believe they need in the

way of helpful information and educator curriculum. Following is a summary of the makeup of today's farmers and ranchers:

Demographics

The majority of small farm operators have lived many years within their communities and on their farms and ranches. The properties tend to be about 25 miles from the nearest metro area. While some operators have off-farm jobs, they do not commute far from their homes.

Small farm operators are typically male, older than 54 years of age, and caucasian. Survey data suggest the spouses of such farm and ranch operators help manage the business. About one-half of the two primary operators on the farm have at least a two-year college degree.

Attitudes

Smaller operators are engaged in their particular family businesses to support their lifestyles and their families, to utilize their skills and knowledge, and to make money. They perceive financial risk to be their greatest challenge, followed by risks associated with the production of their commodity or product.

Overall, Western producers are confident in their abilities to manage their family businesses and to achieve their goals; however, they are somewhat less confident in dealing with changes in the business environment. They appear optimistic about the future of the business, but they are not very comfortable balancing work and family demands. These individuals enjoy what they do and strive for quality in the family business. For the most part, they do not envision themselves doing anything else.

Operational

Many respondents from small agricultural operations do not see themselves as farm and ranch operators. Of those who believe they are involved in agriculture, a large majority operate as a sole proprietorship. For more than 80 percent of the operators surveyed, the income generated on-farm accounts

for less than 20 percent of total household income. Paid employees, including family members, are not typical for small operations in Arizona, Colorado, and Wyoming.

These rural property owners typically own 40 acres and do not lease additional land. Wells are the most common source of water, but surface water on or bordering such properties is also typical. Less than half of these property owners use some type of irrigation on their pastures. Many of the operators surveyed use agricultural chemicals, but only about 56 percent reported holding chemical applicator licenses.

Beef cattle, hay farming, and sheep and goats are the three most prevalent enterprises on these operations. Small producers in the survey area typically own livestock and other animals. Just over half of the animal owners have beef cattle, with an average herd size of 39 head. About 20 percent of the operators who own animals indicated they own horses; however, survey data do not clearly indicate a purpose.

Respondents also tend to heavily graze their own property. They reported typically grazing pastures 7.5 months a year and leave none or almost none of the forage. Their pastures have a 50/50 chance of being managed with a pasture management system. If they have a grazing management plan, respondents are likely to have a 4-pasture rotation. Very few have public land leases to supplement production from their own land.

The small acreage managers who reported crop production tend to be irrigated crop producers, with a majority of the acres in alfalfa or hay production. The typical alfalfa producer grows about 60 acres, and the typical hay (not pure alfalfa) producer grows about 51 acres. Small operators usually do not participate in government programs such as the Conservation Reserve Program.

Education

Small farmers and ranchers highly value personal or one-on-one interaction as a means of acquiring new information. Peer/support groups or networks are the most preferred mode of one-on-one interaction. Additionally, information is preferred in print format whether it comes from Internet Web sites, trade magazines, or Cooperative Extension. Small producers are not likely to belong to commodity groups, to pay consultants, or to seek agriculturally related information from community colleges. The overwhelming preference for print media was followed by two other forms of printed information: newsletters and direct mailings. E-mail and video/DVD ranked last, aside from the two write-in categories.

Extension plays an important part in a producer's acquisition of knowledge. A large majority of smaller producers reported receiving information from extension but not participating in an extension program in the last 12 months. Understandably, given the average age of producers, most small farm families have not had any family members participate in 4-H for at least two years.

The Extension Connection

While the Cooperative Extension Service is primarily responsible for the diffusion of knowledge outside traditional, for-credit education programs, other university departments also play a role in the dissemination of research and education. Survey data suggest, however, that if the respondents receive information from a university, it most likely comes from extension.

From this study comes a better understanding of Western producers' educational needs and the threats facing their operations. Researchers are cautiously optimistic that the end result may be two-fold: a more efficient use of extension resources and an enhanced adoption of risk management strategies by agricultural producers across the three states. University and extension administrators across the West may want to revisit the relationship extension has with its clientele. Survey responses to questions

pertaining to the value of extension as a source of information have implications for extension's ability to fulfill its mission and for the long-term sustainability of small farms and ranches. Unfortunately, it is difficult to predict how Cooperative Extension may respond to meet the educational and informational needs of today's small operators.

Future Efforts

This report is intended to present a first look at the descriptive statistics derived from the survey responses. Further investigation will likely reveal additional insights into underlying factors only briefly outlined herein. These analyses will provide new insights into the changing makeup of small farm operators, who are the subject of concern both in the U.S. and across the globe, and will aid in the identification of new extension clientele and their learning preferences.

At this point, the research team intends to conduct additional surveys by contacting traditional extension clientele and current survey respondents who expressed a willingness to participate in additional research. Further analysis of existing data sets will help to clarify the implications for extension education and the sustainability of small-scale agricultural business activities.

Future team efforts may also include:

- Further analysis to address unanswered and emerging questions. For example:
 - ◆ What is the correlation of "proximity to a metro area" to income levels, levels of educational attainment, enterprise selection, off-property employment, etc.?
 - ◆ Are there learning preference differences amongst geographic locations? Are the differences in perceived risks dependent upon geographic location?
 - ◆ How do respondents understand the differences between extension, 4-H, and other university services? Also, do they realize


that some information in trade publications is actually based upon work completed by extension professionals?

- Further investigation of the preferred sources of information and openness to technology.
- Expanding the survey to states beyond the initial study area of Arizona, Colorado, and Wyoming.
- Conducting focus groups to test survey results and to enhance researchers' understanding of survey responses.
- Conducting a survey of commercial agricultural producers. Not only would such work lead to a better understanding of the educational needs of commercial-sized operators, but would also allow for comparisons between groups.
- Further investigate findings and relationships between this study, NASS data, and other published data sources. Additional inferences could be drawn about the total farm and ranch population and particular subsets of the agricultural community as extension clientele.




Appendix 1

Survey Instrument




Agricultural Resource Economics
Cooperative Extension



Colorado State University
Cooperative Extension

Planting Knowledge on World



UNIVERSITY OF WYOMING


We invite you to participate in a research project about enterprises and land use being conducted by Cooperative Extension Services in the Inter-Mountain states of Arizona, Colorado and Wyoming. As someone who has reported on past surveys earning agricultural income, we hope to learn from you an alternative enterprise in the West and how to provide better educational offerings. The project, titled "Defining New Rural Clientele for Extension in the West," is sponsored by the Western Center for R Management Education.


We believe that agricultural operations like yours are an important part of development trends in the West. The population in the West has grown dramatically in recent years, and there is a large variety in how it is used, and by whom. As part of the land grant university mission to share information with those we need it, we are trying to understand why and how people are using rural land, and how best to deliver answers to the questions they may have. Knowing this information will help us improve our services help people make the most of their resources.


Your answers will be kept completely confidential and will only be released as summaries in which you cannot be identified. We estimate it will take about 30 minutes to complete the survey. Your participation is voluntary. However, you can help us very much by sharing your perspective. If you prefer not to answer a specific question, please omit it and move on. There are no known risks associated with your participation in this project. It is not possible to identify all potential risks in an experimental protocol; the researchers have taken reasonable safeguards to minimize any known and potential, but unknown. If you have any questions about your rights as a volunteer in this research, you may contact Janell McKinnon, Colorado State University Human Research Administrator, at 970-491-1655.

Return the survey in the enclosed stamped envelope. A summary of the results will be available at www.RuralFamilyVentures.org after June 2006.

Your time is much appreciated. Thank you. If you have any questions or comments, please contact us. Sincerely,


 Trent Teegerstrom,
 Research Specialist
 University of Arizona
 520-621-6245
 tteegers@ag.arizona.edu


 Jeffrey E. Tranel,
 ABM Economist
 Colorado State University
 719-549-2949
 jtranel@colostate.edu


 John P. Hewlett,
 Fam & Ranch Management Sp
 University of Wyoming
 307-756-2166
 hewlett@uwyo.edu

Cooperative Extension programs are available to all without discrimination.

Defining New Rural Clientele for Extension in the West

The Cooperative Extension Services of Arizona, Colorado, and Wyoming are conducting this survey to identify alternative enterprises in the West and to provide better educational offerings. Please complete the survey if you operate rural land in one of these states. Thank you.

SECTION 1 - Reasons for Involvement

1. Why are you engaged in your particular rural family agricultural operation (mark all that apply):

a. To make a profit	100
b. To supplement family income	100
c. I had limited alternatives for employment and business opportunities	100
d. Working close to nature is rewarding	100
e. I inherited the operation	100
f. My operation keeps me close to my family	100
g. I wanted a change in career direction	100
h. I like to be involved in unique and challenging work	100
i. My "hobby" expanded into a business	100
j. Other (specify)	100

2. How long do you expect to manage your property? (mark only one)

a. Until children graduate high school	100
b. Until children graduate college	100
c. Until one of my children "takes over" the business	100
d. Until a natural disaster or sells the land	100
e. Until I retire	100
f. Until my spouse retires	100
g. Until I can no longer do the work	100
h. Other (specify)	100

3. The United States Department of Agriculture has identified five primary sources of risk for agricultural operations: production, marketing, legal or institutional risk, human, and human. Please rank the five risks in terms of their importance to your operation (1 being the most important or critical to your operation and 5 being the least important)

a) Production Risk	100
b) Marketing Risk	100
c) Financial Risk	100
d) Legal or Institutional Risk	100
e) Human Risk	100

Page 1

primary operators associated with this operation? (mark all)

Operator 2

<input type="checkbox"/> Farm/Ranch Employee ⁹⁰
<input type="checkbox"/> Farm/Ranch Owner ⁹¹
<input type="checkbox"/> Small Business Owner ⁹²
<input type="checkbox"/> Large Company Owner ⁹³
<input type="checkbox"/> Large Company Employee ⁹⁴
<input type="checkbox"/> Financial/Accounting ⁹⁵
<input type="checkbox"/> Management ⁹⁶
<input type="checkbox"/> K-12 Education ⁹⁷
<input type="checkbox"/> Higher Education ⁹⁸
<input type="checkbox"/> Government ⁹⁹
<input type="checkbox"/> Legal ⁹⁹
<input type="checkbox"/> Doctor/Nurse ⁹⁹
<input type="checkbox"/> Other Health Care ⁹⁹
<input type="checkbox"/> Artist/Travel ⁹⁹
<input type="checkbox"/> Fine Arts ⁹⁹
<input type="checkbox"/> Other ⁹⁹

including this survey, are confidential.

In this survey, would you be willing to be contacted by us in your state to verify the findings of the survey?

Date _____

Page 2



UNIVERSITY
OF WYOMING

We invite you to participate in a research project about enterprises and land use being conducted by the Cooperative Extension Services in the Inter-Mountain states of Arizona, Colorado and Wyoming. As someone who has reported on past surveys earning agricultural income, we hope to learn from you about alternative enterprises in the West and how to provide better educational offerings. The project, titled "Defining New Rural Clientele for Extension in the West," is sponsored by the Western Center for Risk Management Education.

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Your answers will be kept completely confidential and will only be released as summaries in which you cannot be identified. We estimate it will take about 30 minutes to complete the survey. Your participation is voluntary. However, you can help us very much by sharing your perspective. If you prefer not to respond to a specific question, please omit it and move on. There are no known risks associated with your participation in this project. It is not possible to identify all potential risks in an experimental procedure, but the researchers have taken reasonable safeguards to minimize any known and potential, but unknown risks. If you have any questions about your rights as a volunteer in this research, you may contact Janell Meldrem, Colorado State University Human Research Administrator, at 970-491-1655.

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SECTION I - Reasons for Involvement

1. Why are you engaged in your particular rural family agricultural operation (mark all that apply):

- a. To make a profit
- b. To supplement family income
- c. I had limited alternatives for employment and business opportunities
- d. Working close to nature is rewarding
- e. I inherited the operation
- f. My operation keeps me closer to my family
- g. I wanted a change in career direction
- h. I like to be involved in unique and challenging work
- i. My "hobby" expanded into a business
- j. Other (specify) _____

1101
1102
1103
1104
1105
1106
1107
1108
1109
1110

2. How long do you expect to manage your property? (mark only one)

- a. Until children graduate high school
- b. Until children graduate college
- c. Until one of my children "takes over" the business
- d. Until a landlord dies or sells the land
- e. Until I retire
- f. Until my spouse retires
- g. Until I can no longer do the work
- h. Other (specify) _____

1201
1202
1203
1204
1205
1206
1207
1208

3. The United States Department of Agriculture has identified five primary sources of risk for agricultural operations: production, marketing, legal or institutional, finance, and human. Please rank the five risks in terms of their importance to your operation (1 being the most important or critical to your operation and 5 being the least important)

- a) Production Risk
- b) Marketing Risk
- c) Financial Risk
- d) Legal or Institutional Risk
- e) Human Risk

1301
1302
1303
1304
1305

4. Please circle the answer that best indicates your agreement/disagreement with each statement about rural family businesses. (1 meaning greatest disagreement and 5 meaning greatest agreement)

	Disagree					Agree				
a) I am comfortable with the way I handle uncertainty in my business environment	1	2	3	4	5	1401				
b) Success in my business is driven by my own abilities as an individual rather than relying on others to help me succeed	1	2	3	4	5	1402				
c) I have little time for myself or any leisure activities	1	2	3	4	5	1403				
d) I am optimistic about the future of my business	1	2	3	4	5	1404				
e) I consider myself successful	1	2	3	4	5	1405				
f) I am achieving most of my goals	1	2	3	4	5	1406				
g) I am always one of the first in my industry to try new technologies or production strategies	1	2	3	4	5	1407				
h) I am confident in my ability to deal with the changes that are taking place in the business environment	1	2	3	4	5	1408				
i) The work of the business needs to be done but there's no great joy in it	1	2	3	4	5	1409				
j) Business tasks must come before family/personal time	1	2	3	4	5	1410				
k) This business will fail if I am not able to do the work	1	2	3	4	5	1411				
l) Today's ranchers and farmers are at the mercy of outside forces so the best you can do is to adjust to the situation	1	2	3	4	5	1412				
m) Ranchers and farmers today must be sensitive to the environment by reducing the use of agricultural chemicals on their land	1	2	3	4	5	1413				

SECTION II - Information Preferences

1. When seeking information relevant to your agricultural operation, what are your most preferred sources? (mark 3 choices)

a) Trade organization	2101	h) Television	2108
b) Commodity group	2102	i) Trade magazine	2109
c) Radio	2103	j) Salesperson	2110
d) Internet web sites	2104	k) Local community college	2111
e) Peer/support group or network	2105	l) University (other than Extension)	2112
f) Library	2106	m) Cooperative Extension	2113
g) Paid consultant	2107	n) Other (specify) _____	2114

2. Of the information sources you use, please indicate how they could be improved. (mark all that apply)

a) Easier access	2201	e) Improved content	2205
b) Improved timeliness	2202	f) Content applicability	2206
c) Lower cost	2203	g) More understandable	2207
d) Faster internet	2204	h) Other (specify) _____	2208

3. In what form do you prefer to receive information? (mark top 3 choices)

a) Print	2301	f) Workshop/meeting/field day	2306
b) Video/DVD	2302	g) One on one	2307
c) Internet	2303	h) Direct mailing	2308
d) Newsletter	2304	i) Other (specify) _____	2309
e) e-Mail	2305	j) Other (specify) _____	2310

4. Have you ever received information from Cooperative Extension?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	2401
<input type="checkbox"/> Yes	<input type="checkbox"/> No	2501
<input type="checkbox"/> Yes	<input type="checkbox"/> No	2601
<input type="checkbox"/> Yes	<input type="checkbox"/> No	2701

5. Has anyone from the operation participated in a Cooperative Extension program (except 4-H) in the last 12 months?

6. Have any immediate family members participated in 4-H in the last two years?

7. Have any operators used any University services besides Cooperative Extension?

8. If you indicated Yes on question 7, please list those University services you have used.

_____ 2801 _____ 2802 _____ 2803

SECTION III – Resource Management

1. How many acres of owned land do you manage?	3101
2. How many acres of leased land do you manage?	3201

3. What are the sources of water on the land (owned + leased) you manage? (mark all that apply)

a) Surface water	3301	d) Municipal	3304
b) Wells	3302	e) Rural water system	3305
c) Developed springs	3303	f) Other (specify) _____	3306

4. Is there a river, stream, pond, or other surface waterway on/bordering the property you manage?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	3401
<input type="checkbox"/> Yes	<input type="checkbox"/> No	3501
<input type="checkbox"/> Yes	<input type="checkbox"/> No	3601

5. Do you use chemicals to control weeds on your property?

6. Do you have a current chemical applicators license?

7. Do you produce any commodities sold as organic, certified organic, all natural, chemical free, free range, or some other term indicating a specialty market?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	3701
------------------------------	-----------------------------	------

8. Do you have any land enrolled in the Conservation Reserve Program?

Yes No If yes, how many acres

3801

9. Do you irrigate any pasture on your property?

Yes No If yes, how many acres

3901

*If you grew any crops or cut hay on your land in 2005, complete Section IV.
Please skip to Section V if you do not have were not involved in crop and hay production.*

Section IV. Complete this section if you grew any crops or cut hay on your land in 2005.

Please skip this section if you do not have crops.

1. What crops do you grow annually? (Enter acres for all applicable crops)

	Acres		Acres
a) Alfalfa & alfalfa mixtures Hay	4101	g) Soybeans	4107
b) Mixed/other Hay	4102	h) Dry Beans	4108
c) Corn	4103	i) Fruits	4109
d) Sorghum (grain)	4104	j) Vegetables	4110
e) Small Grains	4105	k) Other	4111
f) Sunflowers	4106	l) Other	4112

2. Do you irrigate any of your crops?

Yes ⁴²⁰¹ No ⁴²⁰² If yes, how many acres

4203

Section V. Complete this section if you had any animals on your land in 2005.

Please skip this section if you do not have animals.

1. How many head of livestock do you currently raise/own each year (annual peak numbers)?

	Number		Number
a) Beef cattle	5101	f) Swine	5106
b) Dairy cattle	5102	g) Horses (for sale)	5107
c) Sheep	5103	h) Llamas/Alpacas	5108
d) Goats (meat)	5104	i) Poultry	5109
e) Sheep and Goats (milking)	5105	j) Other	5110

2. How many months per year do you usually graze animals on your pasture? 5201

3. Do you use a grazing management system to rotate animals through two or more pastures?
 Yes ⁵³⁰¹ No ⁵³⁰² If yes, how many pastures 5303

4. Do you have any grazing rights for public lands, such as BLM, forest service, etc?
 Yes ⁵⁴⁰¹ No ⁵⁴⁰² If yes, how many animal unit months (aums) 5403

5. How much of your annual pasture production do your grazing animals typically eat? (mark one)

a) All of it or as much as they can get	5501
b) Most of it (some left standing but pretty short)	5502
c) About half	5503
d) A little bit (most of what grew in a given year remains standing after grazing)	5504
e) None	5505
f) Other (specify) _____	5506

6. Do you purchase or raise most of the feed for the animals on your property?
 Purchase, where do you purchase your feed (mark all that apply) ⁵⁶⁰¹

<input type="checkbox"/> Local grower ⁵⁶⁰²
<input type="checkbox"/> Feed store ⁵⁶⁰³
<input type="checkbox"/> Bulk delivery ⁵⁶⁰⁴
<input type="checkbox"/> Other (specify) _____ ⁵⁶⁰⁵

Raise ⁵⁶⁰⁹

SECTION VI – Income Issues

1. What business type best describes your operation in 2005? (mark one)

a) Sole proprietorship	6101	e) S Corporation	6106
b) Partnership	6102	f) Regular Corporation	6107
c) Limited Liability Entity – LLC, LLP, LLLP, other	6103	g) Other (trust, grazing association, etc.)	6108
d) American Indian Reservation	6104		

2. Did you file a I.R.S. Form 1040 Schedule F in 2005? Yes No 6201

3. What size was your farm/ranch based on gross farm income in 2005, according to the schedule F? (mark one)

a) Less than \$1,000	6301	g) \$25,000 to \$39,999	6307
b) \$1,000 to \$2,499	6302	h) \$40,000 to \$49,999	6308
c) \$2,500 to \$4,999	6303	i) \$50,000 to \$99,999	6309
d) \$5,000 to \$9,999	6304	j) \$100,000 to \$249,999	6310
e) \$10,000 to \$19,999	6305	k) \$250,000 to \$499,999	6311
f) \$20,000 to \$24,999	6306	l) \$500,000 or more	6312

4. What percent of your household income comes from the agricultural operation?

6401

5. Did you have paid employees (including family members) in 2005?
 Yes ⁶⁵⁰¹ No ⁶⁵⁰² If yes, how many employees

6503

6. What was your primary source of income for this operation in 2005? (mark one)

a) Grain & oilseed farming	6601	i) Cattle feedlots	6609
b) Vegetable & melon farming	6602	j) Dairy cattle & milk production ...	6610
c) Greenhouse, nursery, floriculture	6603	k) Hog & pig production	6611
d) Hay farming	6604	l) Sheep & goat production	6612
e) Other crop farming	6605	m) Aquaculture & other animal production	6613
f) Tourism & recreation	6606	n) Specialty products	6614
g) Hunting & fishing	6607	o) Other (specify) _____	6815
h) Beef cattle	6608		

7. How was this operation financed in 2005? (mark all that apply)

a) Personal savings	6701	e) Operating loan from bank	6705
b) Off-farm income	6702	f) Loans from relatives	6706
c) Cash flows from product sales	6703	g) Other (specify) _____	6707
d) Retirement accounts	6704		

8. How do you market your commodities, products, and services? (mark all that apply)

a) On-farm direct sales	6801	e) Other direct sales	6805
b) Roadside stands	6802	f) Auctions	6806
c) Other direct sales	6803	g) Brokers/traders	6807
d) Internet/web-based	6804	h) Other (specify) _____	6808

SECTION VII - Demographics

1. How rural is most of the property managed by this operation? (mark only one)

Completely Rural	Mostly Rural	Mix of Rural & Urban	Mostly Urban	Completely Urban
7101	7102	7103	7104	7105

2. What is the zip code of the primary residence

7201

3. Is the primary residence located on the property?
 Yes ⁷³⁰¹ No ⁷³⁰² If no, how far apart are they? (miles)
4. How far is the property (headquarters) from the nearest "metro area?" (miles)
5. If you or members of your family currently hold an off-property job, how far does the individual who travels farthest commute to work? (miles)
6. Operators are those persons responsible for the day-to-day management decisions for "this operation."
 How many operators are associated with this "operation?"
7. Please complete the following questions for up to two primary operators associated with this operation.

7303
7401
7501
7601

	Operator 1	Operator 2
a) Gender	<input type="checkbox"/> Male ⁷⁷⁰¹ <input type="checkbox"/> Female ⁷⁷⁰²	<input type="checkbox"/> Male ⁷⁷⁰³ <input type="checkbox"/> Female ⁷⁷⁰⁴
b) Age as of January 1, 2006	<input type="checkbox"/> Under 25 ¹ <input type="checkbox"/> 45 - 54 ⁴ ⁷⁷¹⁰ <input type="checkbox"/> 25 - 34 ² <input type="checkbox"/> 55 - 64 ⁵ <input type="checkbox"/> 35 - 44 ³ <input type="checkbox"/> 65 & Over ⁶	<input type="checkbox"/> Under 25 ¹ <input type="checkbox"/> 45 - 54 ⁴ ⁷⁷²⁰ <input type="checkbox"/> 25 - 34 ² <input type="checkbox"/> 55 - 64 ⁵ <input type="checkbox"/> 35 - 44 ³ <input type="checkbox"/> 65 & Over ⁶
c) Of Spanish, Hispanic, or Latino origin or background	<input type="checkbox"/> Yes ⁷⁷³¹ <input type="checkbox"/> No ⁷⁷³²	<input type="checkbox"/> Yes ⁷⁷³³ <input type="checkbox"/> No ⁷⁷³⁴
d) Race (mark all that apply)	<input type="checkbox"/> American Indian or Alaskan Native ¹ ⁷⁷⁴⁰ <input type="checkbox"/> Caucasian ² <input type="checkbox"/> Black or African-American ³ <input type="checkbox"/> Asian ⁴ <input type="checkbox"/> Native Hawaiian or Other Pacific Islander ⁵	<input type="checkbox"/> American Indian or Alaskan Native ¹ ⁷⁷⁵⁰ <input type="checkbox"/> Caucasian ² <input type="checkbox"/> Black or African-American ³ <input type="checkbox"/> Asian ⁴ <input type="checkbox"/> Native Hawaiian or Other Pacific Islander ⁵
e) Highest level of education	<input type="checkbox"/> No Formal Schooling ¹ ⁷⁷⁶⁰ <input type="checkbox"/> High School ² <input type="checkbox"/> Trade School ³ <input type="checkbox"/> College Degree, 2 yr ⁴ <input type="checkbox"/> College Degree, 4 yr ⁵ <input type="checkbox"/> Graduate Degree ⁶ <input type="checkbox"/> Other _____ ⁷	<input type="checkbox"/> No Formal Schooling ¹ ⁷⁷⁷⁰ <input type="checkbox"/> High School ² <input type="checkbox"/> Trade School ³ <input type="checkbox"/> College Degree, 2 yr ⁴ <input type="checkbox"/> College Degree, 4 yr ⁵ <input type="checkbox"/> Graduate Degree ⁶ <input type="checkbox"/> Other _____ ⁷
f) How long have you lived on the property (years)?	⁷⁷⁸¹	⁷⁷⁸²
g) How long have you lived in the community (years)?	⁷⁷⁹⁰	⁷⁷⁹¹

8. Please indicate the previous work experiences for up to two primary operators associated with this operation? (mark all that apply)

Operator 1	Operator 2
<input type="checkbox"/> Farm/Ranch Employee ⁷⁸⁰¹	<input type="checkbox"/> Farm/Ranch Employee ⁷⁸²¹
<input type="checkbox"/> Farm/Ranch Owner ⁷⁸⁰²	<input type="checkbox"/> Farm/Ranch Owner ⁷⁸²²
<input type="checkbox"/> Small Business Owner ⁷⁸⁰³	<input type="checkbox"/> Small Business Owner ⁷⁸²³
<input type="checkbox"/> Large Company Owner ⁷⁸⁰⁴	<input type="checkbox"/> Large Company Owner ⁷⁸²⁴
<input type="checkbox"/> Large Company Employee ⁷⁸⁰⁵	<input type="checkbox"/> Large Company Employee ⁷⁸²⁵
<input type="checkbox"/> Financial /Accounting ⁷⁸⁰⁶	<input type="checkbox"/> Financial /Accounting ⁷⁸²⁶
<input type="checkbox"/> Management ⁷⁸⁰⁷	<input type="checkbox"/> Management ⁷⁸²⁷
<input type="checkbox"/> K-12 Education ⁷⁸⁰⁸	<input type="checkbox"/> K-12 Education ⁷⁸²⁸
<input type="checkbox"/> Higher Education ⁷⁸⁰⁹	<input type="checkbox"/> Higher Education ⁷⁸²⁹
<input type="checkbox"/> Government ⁷⁸¹⁰	<input type="checkbox"/> Government ⁷⁸³⁰
<input type="checkbox"/> Legal ⁷⁸¹¹	<input type="checkbox"/> Legal ⁷⁸³¹
<input type="checkbox"/> Doctor/Nurse ⁷⁸¹²	<input type="checkbox"/> Doctor/Nurse ⁷⁸³²
<input type="checkbox"/> Other Health Care ⁷⁸¹³	<input type="checkbox"/> Other Health Care ⁷⁸³³
<input type="checkbox"/> Airline/Travel ⁷⁸¹⁴	<input type="checkbox"/> Airline/Travel ⁷⁸³⁴
<input type="checkbox"/> Fine Arts ⁷⁸¹⁵	<input type="checkbox"/> Fine Arts ⁷⁸³⁵
<input type="checkbox"/> Other _____ ⁷⁸¹⁶	<input type="checkbox"/> Other _____ ⁷⁸³⁶

*Thank you for completing this survey.
Your answers are confidential.*

Producer input is crucial to interpreting the data from this survey. Would you be willing to be contacted by the principal investigator from the land grant university in your state to verify the findings of the survey?

If yes, please sign and date below. Thank you.

Signature _____ Date _____

9999

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