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Students' Perspectives On Farming & Ranching Careers, Agricultural Education, and Beginning Farmer Assistance Programs

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Introduction

The traditional land-grant university mission is to provide instruction in agriculture and related fields. The universities developed to fulfill that mission were created in the late 1800s in an era of relatively small-scaled, homogenous farming operations. Today, land-grant universities are still called upon to provide instruction in traditional production agriculture through research, teaching, and extension activities. However, it is also expected to provide an ever-expanding breadth of programs to an increasingly diverse population and dynamic agricultural industry. As demands for research and educational opportunities change, it is important to reexamine the historic foundation of the land-grant university. Assessing the need for services related to preparing young people for careers in production agriculture is one component of this mission to consider.

This paper considers the need for the University of Nebraska's Institute of Agriculture and Natural Resources to provide production agricultural instruction and assistance through its College of Agricultural Sciences and Natural Resources (CASNR) and Cooperative Extension Division. Information on the number of students considering farming/ranching careers, the current challenges associated with farming/ranching, educational preparation, and beginning farmer assistance was obtained through a 2004 survey of CASNR students. Specific objectives are to:

- Assess young potential farmers' general outlook towards farming and ranching,
- Explore the educational needs of potential beginning farmers in areas of finance, management, marketing, decision making, and production, and
- Examine the areas of need that prospective farmers have for assistance when beginning farming/ranching.

Methods

Information regarding views toward farming and ranching careers, educational preparedness, and beginning farmer assistance programs were obtained through an electronic Internet-based survey. The survey sample was 1,189 students majoring in CASNR and enrolled in the Spring 2004 semester.

The survey instrument was self-administered on the Internet. Student respondents were contacted by e-mail and requested to complete the online survey. Respondents were prevented from completing the survey more than once. The survey included sections regarding demographics, views on farming and ranching, and features of beginning farmer programs. Question formats on the survey included multiple choice, ranking alternatives, open-ended responses, and statements where they specified their level of agreement.

Of the 1,189 e-mails sent to CASNR students, 252 useable responses to the

survey were recorded within two weeks, for an effective response rate of 21.6%.

Responses were obtained from students who were raised throughout Nebraska roughly in proportion to the geographic distribution of the state population. Table 1 provides selected demographic information about the respondents. About 44% percent of the survey respondents were female, compared to the CASNR female enrollment of 39%. The average age of the students was 21.3 years. Nearly one-third of students would be starting their fourth year of college in the Fall 2004 semester, whereas about one-fourth each would be starting their third or fifth year. The distribution of majors shown in Table 1 is similar to the overall CASNR enrollment.

Over 70% of the students surveyed considered themselves to have been raised on a farm. Of those not raised on a farm, about half claimed to have experience working on a farm. This suggests that the survey sample is familiar with farming operations and many either had or will make the decision of whether to be involved in a farming or ranching operation after their college education.

Farming & Ranching Outlook

The highly competitive, capital intensive, low-margin business that agriculture has become could be expected to deter many university students from a career in farming or ranching. Indeed, of the students surveyed in 2004, nearly half (48%) of them believed that farming and ranching offered less desirable opportunities than non-farming

opportunities. Thirty-nine percent viewed farming and non-farming opportunities as basically equal. Only 13% considered farming to offer better alternatives.

Despite a common view that production agriculture's opportunities are less attractive than non-farming opportunities, a majority of CASNR students indicated that they are interested in farming or ranching as a career after college. Thirty-five percent indicated interest in farming full-time after college and 33% reported interest in farming part-time after college. Thirty-two percent were not interested in farming or ranching.

Given that two-thirds of the student respondents were interested in farming as a career even though only 13% thought farming offered better alternatives suggests that factors other than ease of entry or economic incentives are important to CASNR students desiring to farm. Quality of life, satisfaction associated with business ownership, and other personal considerations may offset the perceived economic disadvantages of farming and ranching.

For educators, the substantial interest in production agricultural careers suggests that maintaining coursework and extension programs in farm and ranch management, marketing, agronomy and crop production, and livestock management and production will be needed to equip those planning to pursue production agriculture careers.

For the two-thirds of students interested in farming as a career, the largest proportion planned to begin 5-10 years after completing college (Figure 1). The

next largest group already had begun farming operations and planned to continue after college. This implies that programs designed for beginning farmer assistance and extended education should be targeted to 27-32 year olds and current students to reach the largest groups interested in beginning farming operations. This may suggest a bimodal need for support and assistance. Students returning to a farm or ranch operation directly after college will likely have assistance with technical and management issues from family members involved in the family operation. However, they are most likely to need additional financial support and incentives from beginning farmer programs. For those returning to the farm 5-10 years after college, assistance with new production technologies, management skills, and land locating services may be relatively more important because they may have

less connection to existing farming operations. Further, their need for financial assistance may not be as great if they have accumulated wealth from working for 5-10 years.

Successfully launching a farming and ranching career is often dependent on the level of assistance received from family and non-family partners involved in the operation. These partners may provide capital, machinery, land, livestock, and/or labor to enable the beginning farmer/rancher to become established. It does not appear that availability of assistance would limit most CASNR students from beginning a farming/ranching career if they had an interest in doing so (Figure 2). Nearly 80% of student respondents would have assistance from family members and 40% would have assistance from non-family members.

Figure 1

If Interested In Farming/Ranching As A Career, When Do You Plan To Begin?

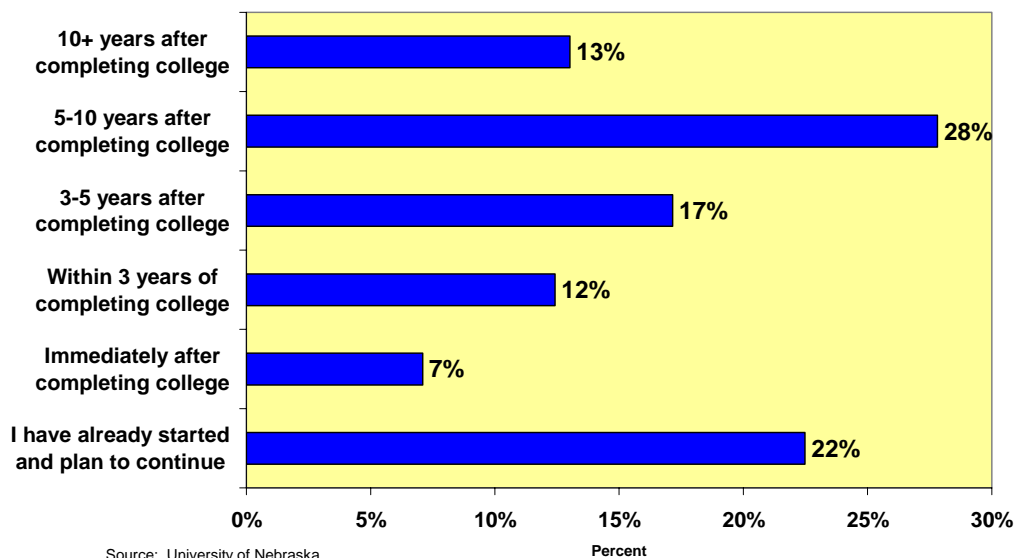


Table 1. Selected Demographic Characteristics

Variable	Number
Number	252
Gender, percent female	44.4
Age, average (in years)	21.3
Raised on a farm	72.5
Not raised on a farm, but worked on farm, percent	49.3
Year In School, percent	
Freshman (Year 1)	0.8
Sophomore (Year 2)	16
Junior (Year 3)	25.4
Senior (Year 4)	31.1
Year 5 or more	26.6
Academic Major*, percent	
Agribusiness	23.5
Agricultural Economics	16.7
Agricultural Education	4.4
Agricultural Journalism	1.2
Agronomy	4.8
Animal Science	14.7
Biochemistry	5.2
Diversified Agricultural Studies	8.4
Food Science and Technology	5.2
Grazing Livestock Systems	2.0
Horticulture	4.0
Mechanized System Management	9.2
Veterinary and Biomedical Sciences	5.6
Environmental Soil Science	0.4
Environmental Studies	2.0
Fisheries and Wildlife	5.2
Natural Resources and Environmental Economics	1.2
Water Science	0.4
Pre-Veterinary Medicine	4.4
Pre-Forestry	0.4
Agricultural Engineering	0.4
Other	1.6

* Totals more than 100% due to double-majors.

Source: University of Nebraska

Challenges To Beginning Farming/Ranching Careers

Figure 3 reports the respondents' ranking of several factors they perceive to be the biggest hurdles to beginning

farming/ranching. Cost of land or land rental rates was viewed as the greatest impediment to beginning farming, followed by the lack of profitability, high input prices, and availability of land to rent or purchase. Other factors such

as availability of credit, management and marketing ability, and family assistance tended to rank low as problems associated with beginning farming.

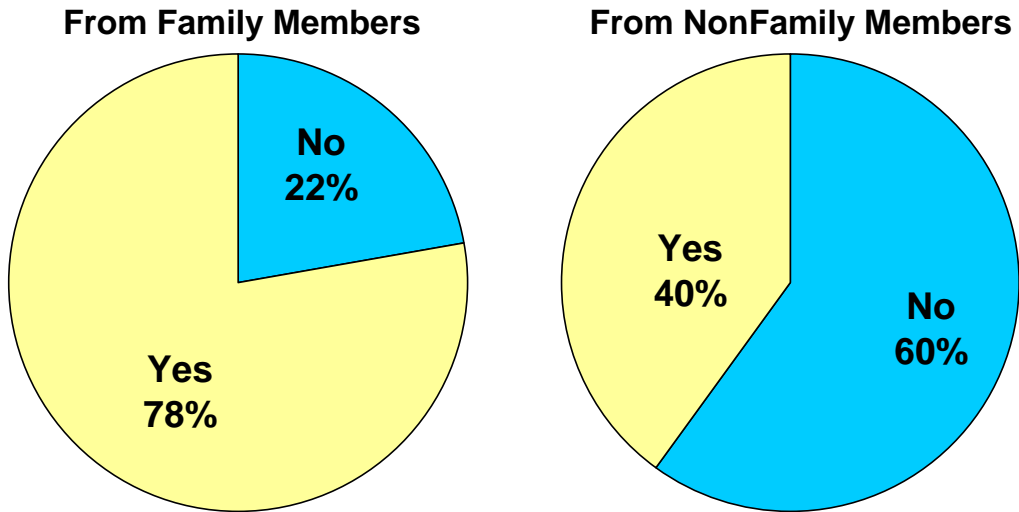
These responses carry important implications for beginning farmer assistance programs. The cost of inputs (e.g., land, seed, fertilizer, etc.) and overall profitability of the agricultural sector (i.e., low margins) are not likely to be substantially influenced by beginning farmer programs. Low livestock and grain prices were not ranked as big hurdles to beginning farming/ranching likely due to the relatively high price levels in 2004 when the survey was administered. Areas where assistance can be provided, such as education and credit availability, may be ranked lower in Figure 3 because existing programs have adequately addressed these issues. However, these results suggest that programs that can assist beginning farmers in locating available land to purchase or rent may continue to fill an important role. Even though ability to make good management and marketing decisions was ranked low, the need for educational programs in these areas may still serve an important need. Possibly, the current

availability and use of education in these areas is adequate, or the relatively inexperienced student survey respondents lack any experience in making farm/ranch management and marketing decisions.

One challenge often cited by prospective farmers and ranchers is the cost of land and the willingness of landowners to sell or rent land to beginning farmers. Results in Figure 3 confirm that prospective farmers view the cost of land as the biggest hurdle to begin farming. The willingness of landowners to sell or rent to beginning farmers was ranked much lower however. Apparently, though, landowner willingness to sell or rent to beginning farmers is quite variable. Twenty-six percent of the respondents indicated that landowners would either be somewhat or very willing to sell or rent to them whereas 27% indicated landowners would be somewhat or very unwilling to sell or rent to them (Figure 4). The respondents observing landowner willingness to sell or rent to beginning farmers may likely be including willingness of family members to sell or rent land to younger generations.

Figure 2

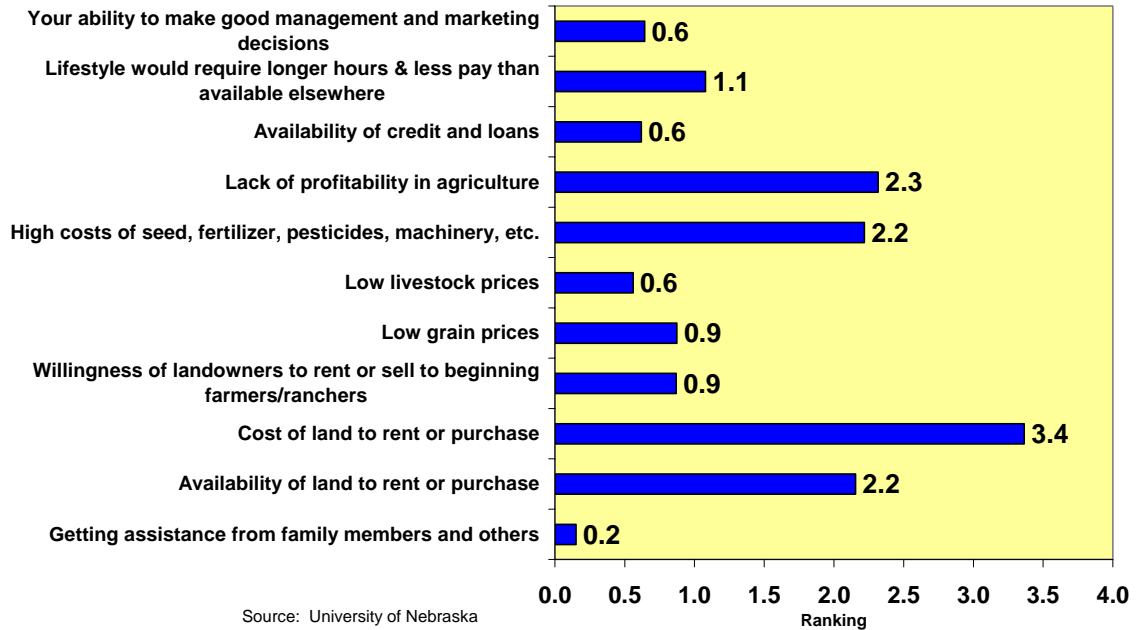
Would You Have Assistance If You Were To Pursue Farming/Ranching As A Career?



Source: University of Nebraska

Figure 3

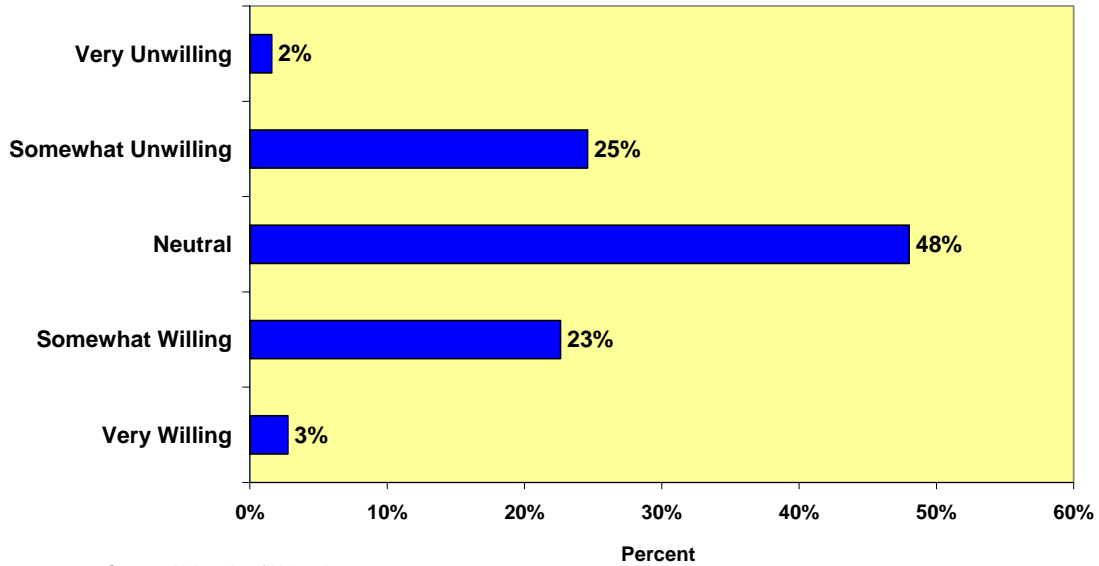
What Do You Perceive To Be The Biggest Hurdles To Beginning Farming/Ranching?



Source: University of Nebraska

Figure 4

How Would You Describe Landowner's Willingness To Rent Or Sell Land To Beginning Farmers/Ranchers?



Educational Needs

The respondents to this survey were all college students with majors related to agriculture. Thus, it is interesting to consider what areas of farm and ranch operation and management these students would desire additional education in before farming and ranching. In ranking a set of eleven alternatives, marketing was ranked highest, followed by financial management and crop production (Figure 5). Crop production may have been highly ranked because few of the respondents were agronomy majors; thus, many of them would not have a significant amount of coursework in this area. Employee management, family communication, and recordkeeping ranked lowest amongst the respondents. This is interesting given the considerable interest these topics generate in

beginning farmer educational programs offered by University of Nebraska Cooperative Extension. Possibly, the respondents to this survey were discounting the importance of these areas as a result of their relative inexperience in managing a farming operation.

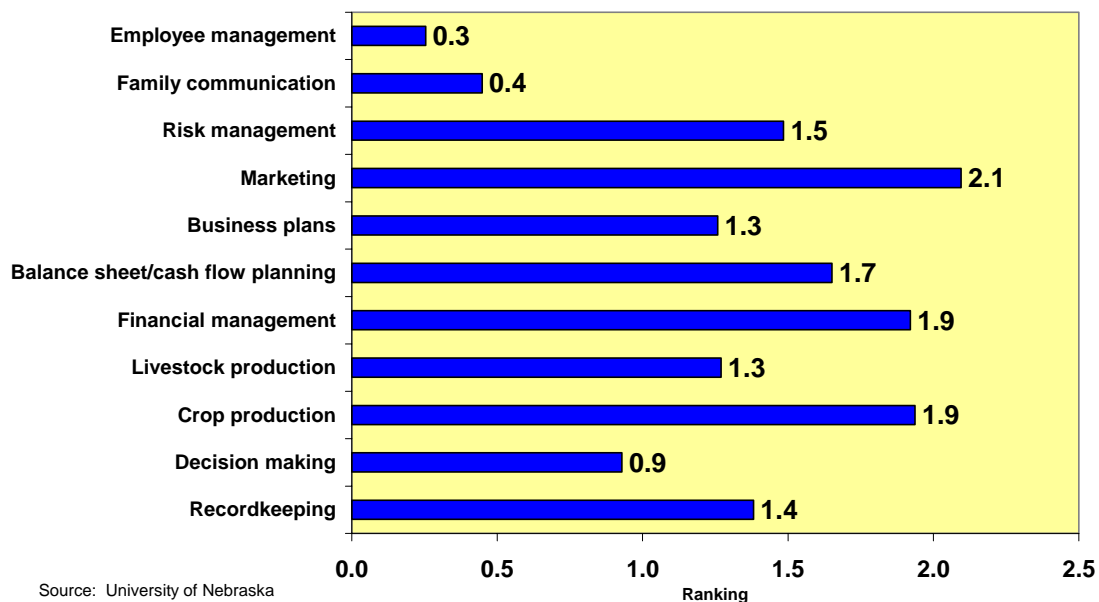
For on-campus instructors and extension educators, this implies that marketing, financial management, and crop production educational programming will continued to be valued and needed by beginning farmers. It may also suggest a lack of college coursework in these areas or a desire for additional, advanced classes in these areas. CASNR students indicated which classes they had taken, or planned to take, that would be most useful for farming/ranching careers in response to an open-ended survey question. Table 2

reports these results, aggregated by department and course (note that some responses specified subject areas, such as “animal science,” without specifying specific classes and that these are included within departments or subject areas). Although the number of times a course or subject area was cited in the survey responses is correlated with student majors (see Table 1), many of the most frequently cited classes are service courses taken by a several majors across CASNR. The 252 respondents most frequently indicated agricultural economics courses (AECN) as most

useful to farming/ranching careers, followed by animal science and agronomy. AECN 201, Farm and Ranch Management, was most often reported as the UNL course most useful to beginning farming/ranching careers, followed by AECN 325, Marketing of Agricultural Commodities. Interestingly, these are also the two areas that student respondents cited as areas where they need additional education before beginning farming/ranching careers. This suggests a need for additional advanced coursework in these areas.

Figure 5

What Farm/Ranch Management Areas Do You Feel As Though You Would Need Additional Education In Before Farming Or Ranching?



Beginning Farmer Assistance Programs

In addition to educational courses and programs, several federal, state, and

private agencies offer programs designed to assist beginning farmers and ranchers. Several of these are listed in Figure 6, along with the percent of CASNR students who knew that the

program/service was available. The most recognized program was Farm Service Agency's Beginning Farmer Loans. Although the University of Nebraska's Returning to the Farm program was also widely recognized, this result is somewhat biased because the students surveyed receive promotional materials for this program once a year, and several likely participated in this extension program. For the remaining programs/services, less than one in five CASNR students were aware of the program's availability.

To qualify for some beginning farmer assistance programs, potential applicants may be required to submit financial statements, participate in educational activities, or commit to providing the majority of labor and management. Potential applicant willingness to comply with these types of requirements was explored in the survey to determine whether this limited use of these services. Table 3 shows that in most cases, common requirements would not prevent beginning farmers from applying for the program. One exception to this might be a requirement to have less than \$100,000 in net worth. This net worth requirement may be at the lower end of what beginning farmers would view as acceptable. For example, for a typical equity-to-asset ratio of 0.65, \$100,000 of equity would translate to about \$154,000 in assets. With the size and scale of farm machinery and land today, one or two significant assets owned by a beginning farmer and needed in the operation would likely disqualify him/her from the program.

Some state and federal beginning farmer assistance programs, along with other foundations and centers, tend to

concentrate their efforts towards providing either low-cost credit and financing options or land locator services. From Figure 3, it appears that prospective Nebraska farmers view the cost of land to rent or purchase as a larger concern to beginning farming compared to locating land to farm. Still, the availability of land, or market access, is a significant concern to them as well. This issue was further explored by asking CASNR students to rank the most helpful methods of assisting beginning farmers. Highest ranked were low interest and long term loans and income tax credits for beginning farmers (Figure 7). Assistance in the area of market access (locator service and income tax credits to landowners who would rent to beginning farmers) was among the lower ranked methods of assistance.

Income tax credits offered to beginning farmers have the net affect of reducing their land rental rates whereas income tax credits offered to landowners who would rent to qualifying beginning farmers provide assistance in land availability, or market access. When asked to agree or disagree with the notion that income tax credits offered to beginning farmers would be more beneficial than credits to landowners, the CASNR students' reactions were mixed. While 50% either agreed or strongly agreed, 37% were neutral. This suggests that the respondents did not understand this question or could not gauge the impacts of tax credits on land cost and availability for beginning farmers. The respondents did indicate that beginning farmers would benefit from income tax credits paid to landowners though:

- 46% either agreed or strongly agreed that landowner tax credits would help

- 10% either disagreed or strongly disagreed that landowner tax

credits would help.

Table 2. Courses Taken (Or Planned To Take) That Are Most Useful For Farming/Ranching Careers

Course	Number	Course	Number	Course	Number	Course	Number
ACCT	8	ALEC 302	1	ENTO 308	3	NRES	3
ACCT 201	3					NRES 211	1
ACCT 202	3	ASCI	9	FDST	1	Total	4
Total	14	ASCI 100	7				
		ASCI 150	5	FINA	2	PHYS 141	1
AECN	17	ASCI 240	7	FINA 307	1		
AECN 141	39	ASCI 250	27	FINA 361	2	RNGE	1
AECN 201	73	ASCI 320	6	FINA 465	1	RNGE 330	1
AECN 225	5	ASCI 330	4	Total	6	RNGE 340	2
AECN 256	7	ASCI 340	1			RNGE 445	1
AECN 276	1	ASCI 341	6	Financial Mgmt	2	Total	5
AECN 301	8	ASCI 419	1				
AECN 316	6	ASCI 451	2	HORT	1	SOIL 354	1
AECN 325	47	ASCI 455	6	HORT 109	1	SOIL 366	1
AECN 367	2	ASCI 457	2	HORT 130	1	Total	2
AECN 401	4	ASCI 484	1	HORT 221	1		
AECN 425	3	ASCI 485	7	HORT 350	1	STAT 218	1
AECN 452	31	ASCI 486	1	Total	5		
Total	243	ASCI 495	1			VBMS 303	2
		Total	93	Management	3		
AGRI 103	18			Marketing	12	WATS 281	1
AGRI 151	1	BIOC 221	1				
AGRI 200	1	BIOC 321	1				
AGRI 271	1	Total	2	MATH 102	1		
AGRI 282	2			MATH 104	4		
Total	23	BIOS	5	Total	5		
		BIOS 101	2				
AGRO	10	BIOS 109	3	MNGT 361	1		
AGRO 131	8	BIOS 220	2				
AGRO 132	1	BIOS 464	1	MRKT 315	1		
AGRO 153	15	Total	13	MRKT 341	2		
AGRO 201	1			Total	3		
AGRO 204	7	Business	5				
AGRO 220	3			MSYM	1		
AGRO 240	9	CHEM	1	MSYM 109	2		
AGRO 261	1			MSYM 162	4		
AGRO 269	1	COMM	1	MSYM 232	2		
AGRO 315	5			MSYM 245	4		
AGRO 325	1	CURR 120	1	MSYM 312	5		
AGRO 340	1			MSYM 354	3		
AGRO 366	3	ECON	8	MSYM 362	1		
AGRO 369	1	ECON 211	8	MSYM 412	1		
AGRO 405	2	ECON 212	3	MSYM 416	3		
AGRO 431	1	ECON 311	3	MSYM 431	1		
AGRO 435	2	ECON 312	1	MSYM 462	2		
AGRO 495	1	Total	23	Total	29		
Total	73						

Source: University of Nebraska. For course titles and descriptions, refer to the 2004-05 University of Nebraska Undergraduate Bulletin.

Table 3. Survey Respondent Willingness To Meet Typical Beginning Farmer Program Qualifications

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	%	%	%	%	%
Having To Provide The Majority Of Day-to-Day Physical Labor and Management Would Prevent Me From Applying For A Beginning Farmer Program	4	6	15	41	33
Having To Participate In A Short Financial Management Course Would Prevent Me From Applying For A Beginning Farmer Program	1	4	17	43	34
Requiring Me To Have Less Than \$100,000 Net Worth Would Prevent Me From Applying For A Beginning Farmer Program	8	20	24	27	17
Having To Submit A Balance Sheet and Cash Flow Statement Would Prevent Me From Applying For A Beginning Farmer Program	2	11	16	45	23

Source: University of Nebraska

Figure 6

Percent Of Respondents Who Have Heard Of Selected Beginning Farmer Programs

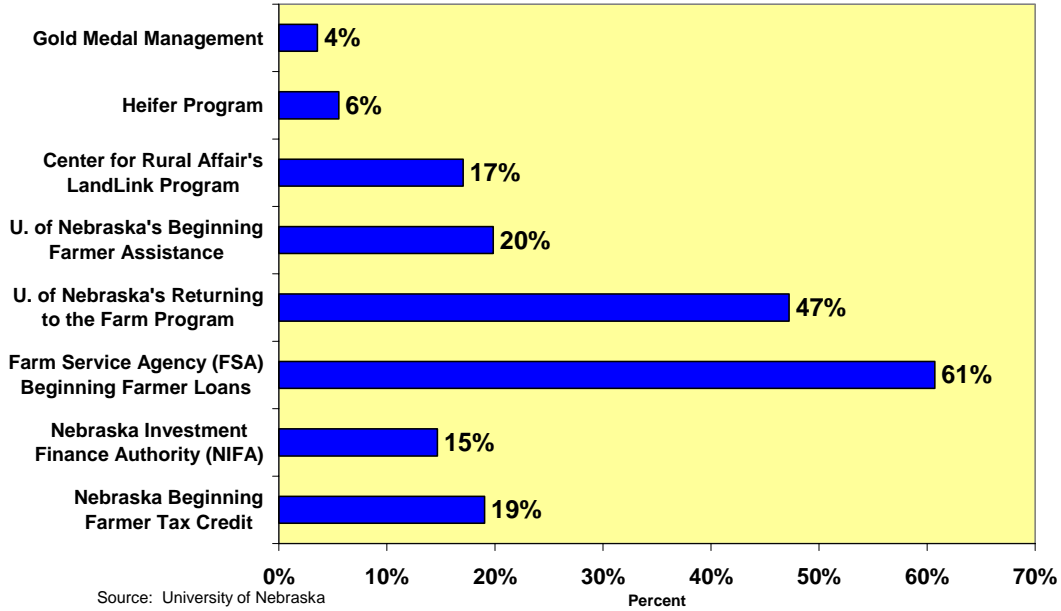
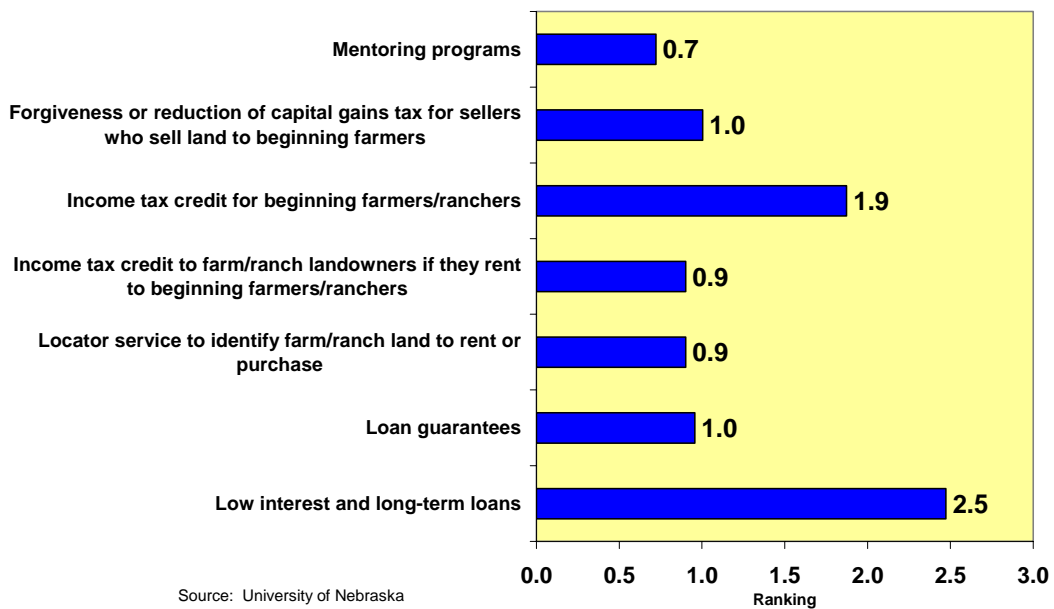


Figure 7

Ranking Of Most Helpful Methods Of Assisting Beginning Farmers/Ranchers



Conclusions

The results of the survey of CASNR students indicate that there is considerable interest in farming and ranching careers amongst a relatively well-educated group of individuals with high probabilities of successful careers either related or not related to production agriculture. Thus, it appears appropriate for the land-grant university to maintain its educational offering to prepare these students for farming, ranching, and agribusiness careers. Results suggest that current CASNR course offerings could be expanded to include advanced coursework in farm and ranch management and marketing. Further, additional extension programming in these areas will likely benefit beginning farmers and ranchers. The most appropriate target audience for these educational programs is college students and individuals 5-10 years beyond their college graduation as these correspond to the times when graduates who intend to pursue farming/ranching careers plan to get started.

Cost of land to purchase or rent was found to be the greatest barrier to entry for beginning farmers. Beginning farmer programs that can provide low-interest and long term financing and income tax credits were considered important areas where assistance can be provided. Market access to land was indicated as a moderately important issue and land locator services and tax credits to landowners who rent to beginning farmers were correspondingly classified as moderately important as well. However, they clearly were less important to potential beginning farmers than affording and financing asset purchases or rental rates.

Given that interest in production agriculture exists among potential beginners even in the face of recognized challenges, it is important that educational opportunities and assistance programs be accessible and utilized by potential beginning farmers. For CASNR, this may include featuring programs and classes that specifically are geared towards production agriculture when recruiting students with farming and ranching interests and those from rural areas. Beginning farmer assistance programs, whether they provide credit, counseling, land-locating, or other services, needs to be more highly recognized by potential users. Further, restrictions on these programs that limit participation may need to be reviewed.

The task of understanding and accessing the existing resources for potential beginning farmers can be somewhat daunting. Programs are offered by several government agencies and departments, private sector non-profit organizations, and various financial institutions. Beginning farmers would benefit from a clearinghouse that provides relevant information on beginning farm education and assistance programs. Cooperative Extension can play a vital role in distribution of this information and provide assistance in selecting and utilizing the best resources available for each unique situation.