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**A Summary of Masters Degree Research in Agribusiness and
Food Business Management, 1980 to 2002**

National Food and Agribusiness Management Education Commission

Working Paper #6

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Other NFAMEC Working Papers include

Working Paper #1: A Summary of Undergraduate Curriculum in Agribusiness Management Degrees

Working Paper #2: A Summary of Doctoral Research in Agribusiness Management, Food Business, and Industrial Organization, 1951 to 2002

Working Paper #3: Graduate Courses in Agribusiness Management

Working paper #4: Capstone Courses in Undergraduate Agribusiness Degrees

Working Paper #5: A Summary of Extension Programs in Agribusiness Management and Food Business

A Summary of Masters Degree Research in Agribusiness and Food Business Management, 1980 to 2002

Abstract

Masters student research in agribusiness management and food business management has become an important component of many departments of agricultural economics research output especially at universities such as Purdue, Missouri, Illinois, and Cornell. This trend is especially evident since 1995. Faculty are needed to supervise the masters students engaged in agribusiness management and food business management research.

A Summary of Masters Degree Research in Agribusiness and Food Business Management, 1980 to 2002

The 1989 National Agribusiness Education Commission (NAEC) conducted a comprehensive look at the role of agribusiness in agricultural economics programs in the United States.¹ The 2003 National Food and Agribusiness Management Education Commission was charged with undertaking a similar task. One measure of research is the choice of a master's thesis topic. Presumably, students choose to work with faculty that have expertise in their area of interest. Thus, one measure of graduate programs that have expertise in agribusiness management is the choice of master's thesis research by graduate students. In this paper, we look at master's thesis topics over time. In particular, we segment topics into 14 different subject categories and compare these over the 1980 to 2002 time period. Three categories are likely to be highly correlated with whether a department has expertise in doctoral training of agribusiness management faculty. These categories are agribusiness management, food business, and industrial organization.

Description of the Data

An extensive list of masters degree programs that provide students with training and education in agribusiness management was identified. From the original list of 61 programs that offer higher-level education in agribusiness management, we targeted 47 programs to include in our study focusing only on the land-grant universities or programs that have a history of publishing agricultural research over time. We then mailed letters to department heads of those 47 programs explaining the study and requesting they provide a list of

¹ Downey, W.D., ed. 1989. *Agribusiness Education in Transition: Strategies for Change*. Report of the National Agribusiness Education Commission, Lincoln Institute of Land Policy, Cambridge, MA.

graduate students in their departments from 1980 to 2002. Follow-up phone calls and emails were made to graduate coordinators. Of the 47 programs originally contacted, we received information either by electronic or postal mail from 30 programs, which comprise the data for this research. Nine programs indicated that their program was very small with few graduates. Several other programs indicated that they were primarily a doctoral program. The list of programs with data are in Attachment A.

The resulting data set has 4,964 graduated masters students since 1980. Due to the high volume of graduates in masters degree programs and the amount of time it would take the responding departments to gather that much information, we chose to limit our data to the 1980 to 2002 time period. Our sample had 4,964 masters theses. Another 1,026 non-thesis were reported to us but were not used in this study.

Classification of Masters Research Categories

Attachment B has the subjects for the masters research categories that were used to segment the theses. Categories that best fit the masters theses titles were assigned based on the American Agricultural Economics Association's (AAEA) classifications that are used for doctoral research and dissertation titles and published in the *American Journal of Agricultural Economics*. In addition to AAEA's 12 subject categories, two additional categories were created and titled Agribusiness Management and Food Business. Agribusiness Management is typically "lumped" with marketing or finance in studies of graduate programs.²

² For example see Figure 2 in Heiman, A., J. Miranowski, D. Zilberman, and J. Alix. "The Increasing Role of Agribusiness in Agricultural Economics." 2002. *Journal of Agribusiness* 20:1-30.

Agribusiness Management was defined as application of economic concepts using data on agribusinesses that resulted in research with implications for agribusiness managers. These dissertations were typically categorized in the Agricultural Product or General subject categories by AAEA. Examples of research topics in the Agribusiness Management subject category include cost functions for dairy processing, fertilizer, grain processing or similar plants where the results helped provide some guidance for managerial choice of inputs. Other examples include research on cooperative managers and directors regarding equity management and other policies, management simulation models, and optimal plant location and transportation models.

Food Business was defined similarly except that the application of economic concepts was used on food and consumer wholesalers and retailers. Examples of research topics in the Food Business subject category include optimal retail supermarket locations, store layout design, and retail cut flower and supermarket merchandising and promotion issues.

Overview of Masters Degree Programs

Figure 1 shows the 10 leading masters programs over time with theses written. Cornell University and University of Illinois were at the top with each having more than 6 percent of all graduated masters students in our data. University of Minnesota, The Ohio State University, and University of Georgia followed closely behind with 4.8 percent or more of the graduating masters students who completed a thesis and research. The top eight programs graduated nearly half of all masters students in our study over the 1980 to 2002 time period (Figure 2), while the top 20 programs account for 83 percent of all masters students during the same time period (Figure 3). The total number of masters students as well as the five

leading schools are shown in Figure 4. It is interesting to note that the number of graduates peaked in 1985 with a total of 288. The average number of students graduating in this data each year from 1980 to 2002 was 216.

Subject Categories

Figure 5 shows the subject categories in masters program research for the 1980 to 2002 time period. The number of observations for which we had complete subject category information was 4,964. Some universities reported the students who graduated with a non-thesis degree option and therefore did not have a research/thesis title to categorize. Therefore, to get a clean data sample to study research topics we chose to include only the students who completed a masters thesis. Agricultural Products was the top subject category chosen by masters students with 19.5 percent. Masters theses in the Agribusiness Management subject category accounted for 2.6 percent of all masters theses while the Food Business trailed behind with almost 1 percent. The top three subject categories, which include Agricultural Products, Agricultural Inputs, and Natural Resources, account for half of all masters theses in this study. Figure 6 shows the subject categories over time.

It is difficult to make many generalizations. However, Agricultural Products was most popular in 1985 when it peaked at 75 theses within the subject category. The subject has decreased over time and in 2002 had nearly half as many theses in the category.

Industrial organization remained similar over time at almost two percent.

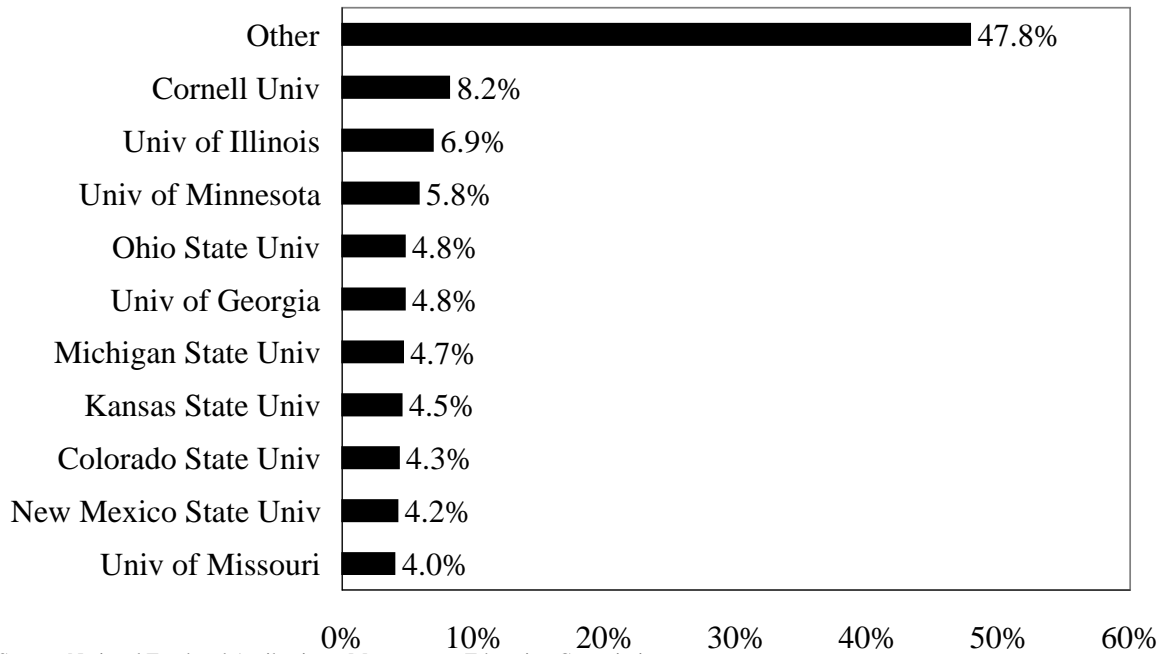
There were some similarities and some differences when compared to doctoral dissertations, which were reported in the NFAMEC *Working Paper #2: A Summary of Doctoral Research in Agribusiness Management, Food Business, and Industrial*

Organization, 1951 to 2002. Ag Products was ranked third in the number of doctoral dissertations while natural resources ranked second since the 1993 time period. Agricultural inputs ranked seventh in that study.

Agribusiness Management and Food Business Management

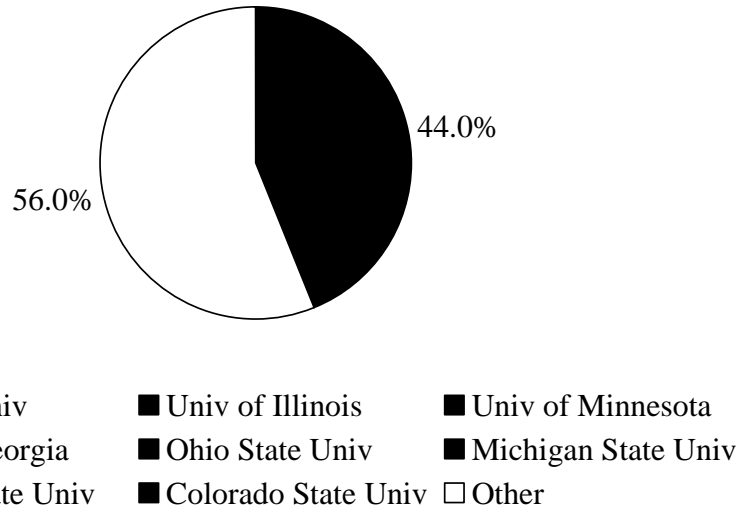
We identified 128 theses that were in the Agribusiness Management subject category and 46 that were in the Food Business category. Figure 7 shows the top eight schools in Agribusiness Management as a percentage of all Agribusiness Management theses while Figure 8 shows the top five schools in Food Business as a percentage of all Food Business theses. Agribusiness Management had a fairly constant increase in popularity as a subject category over time. The number peaked at 14 by 1999. Similar to the doctoral study, Purdue University had the largest number of theses at 22 percent with University of Missouri having the second largest number of theses in this topic at 15 percent and University of Illinois at 11 percent over this time period. The Food Business category was dominated by Cornell University, which had almost 70 percent of all masters thesis research done in this category.

Figure 1. Leading Masters Programs with Theses Written, 1980-2002
(N=4,964)



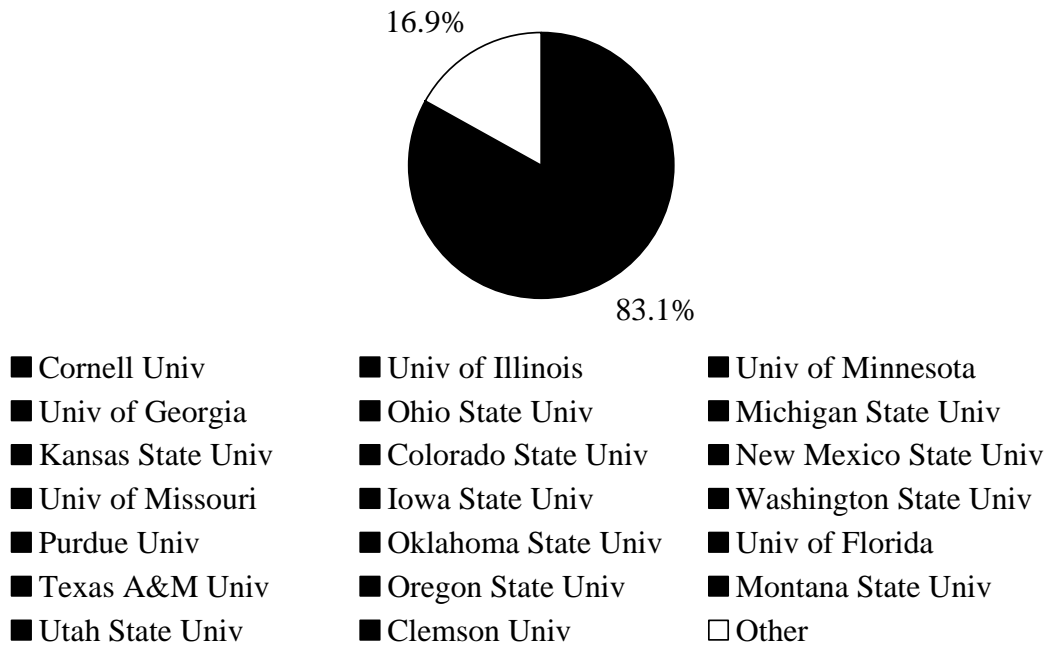
Source: National Food and Agribusiness Management Education Commission

Figure 2. Percentage of Graduates from the Top Eight Schools, 1980-2002 (N=4,964)



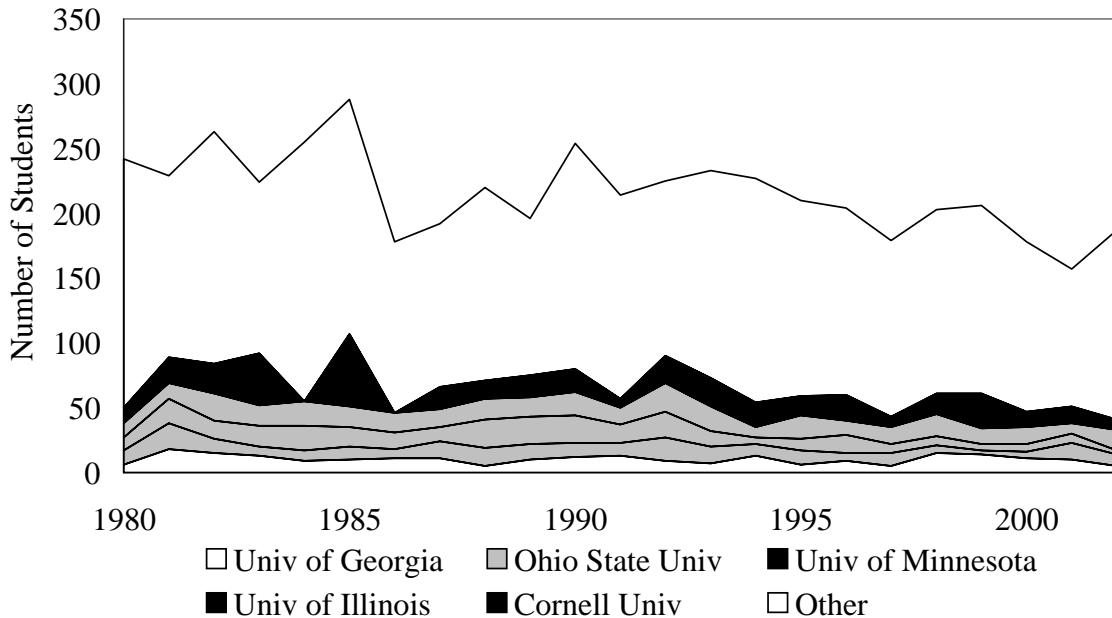
Source: National Food and Agribusiness Management Education Commission

Figure 3. Percentage of Graduates from the Top 20 Schools, 1980-2002
(N=4,964)



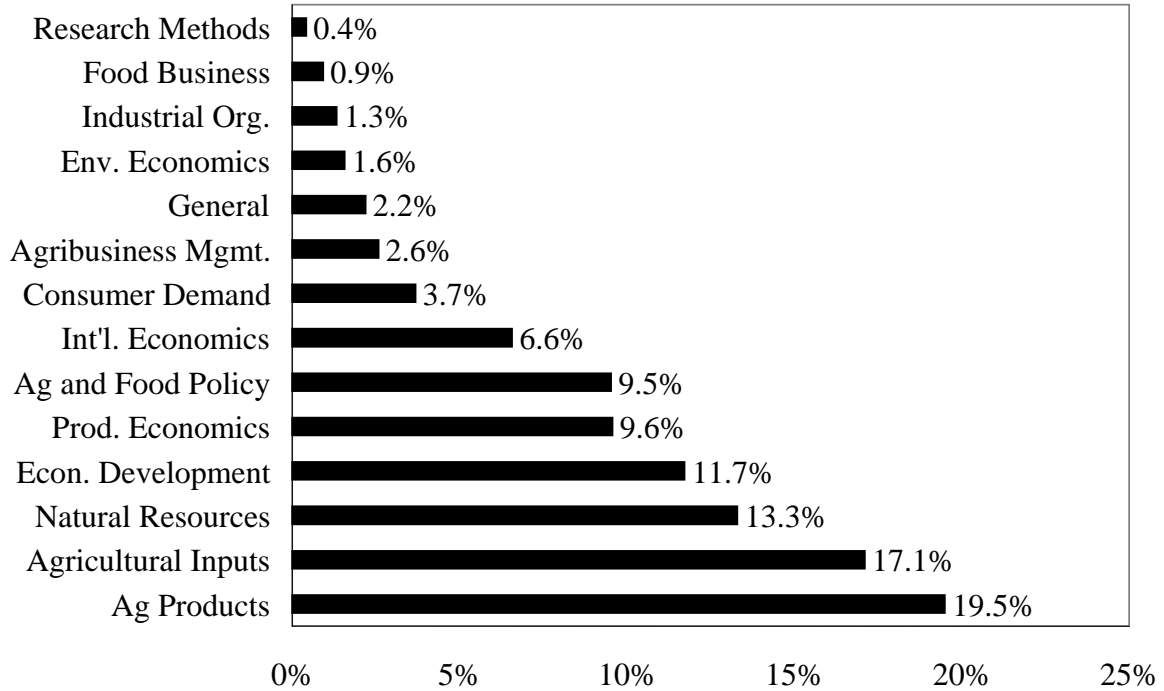
Source: National Food and Agribusiness Management Education Commission

Figure 4. Leading Masters Programs with Theses Written over Time, 1980-2002



Source: National Food and Agribusiness Management Education Commission

Figure 5. Subject Categories in Masters Programs, 1980-2002 (N=4,964)



Source: National Food and Agribusiness Management Education Commission

Figure 6. Subject Categories in Masters Programs Over Time, 1980-2002

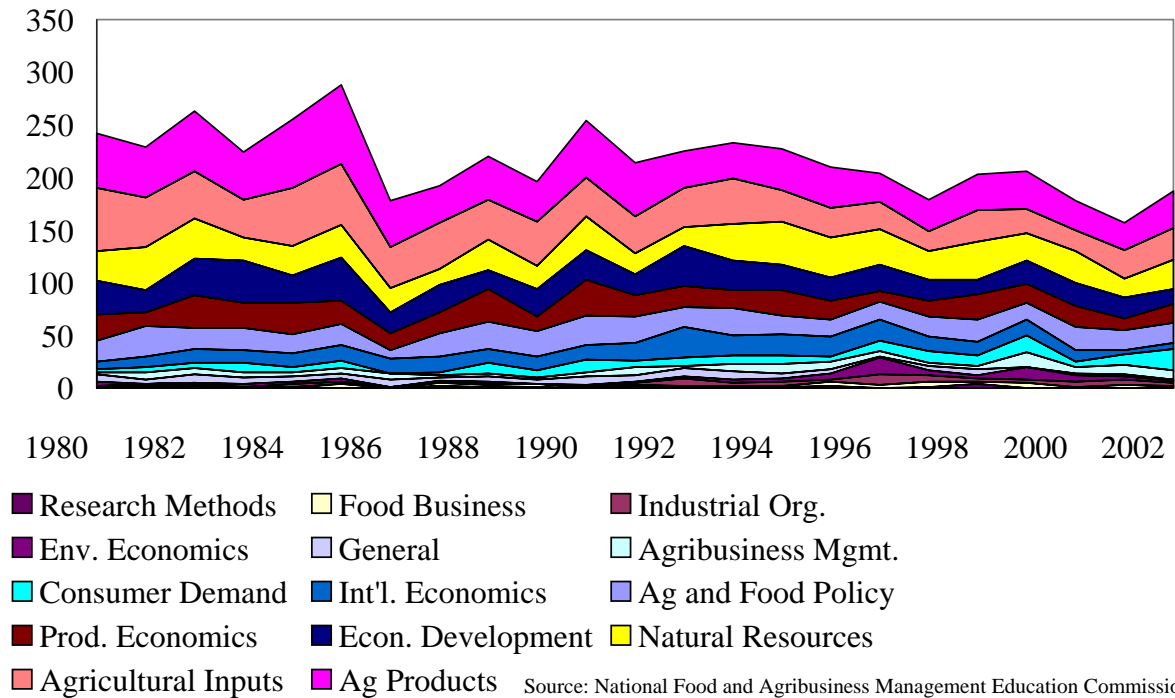
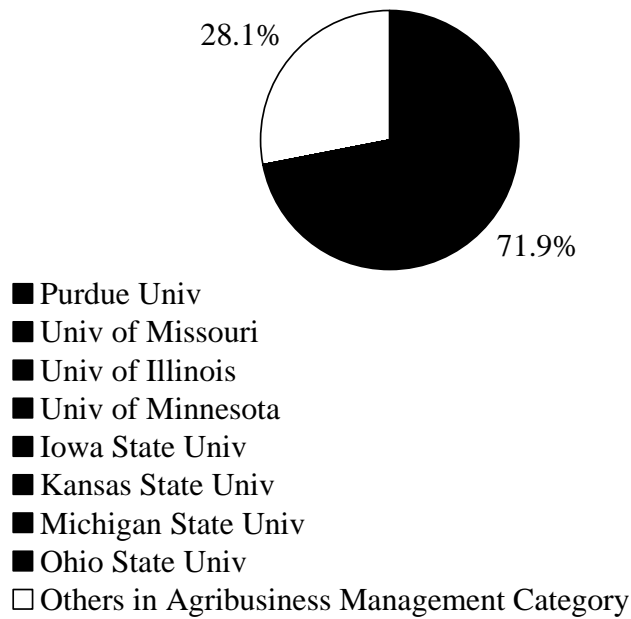
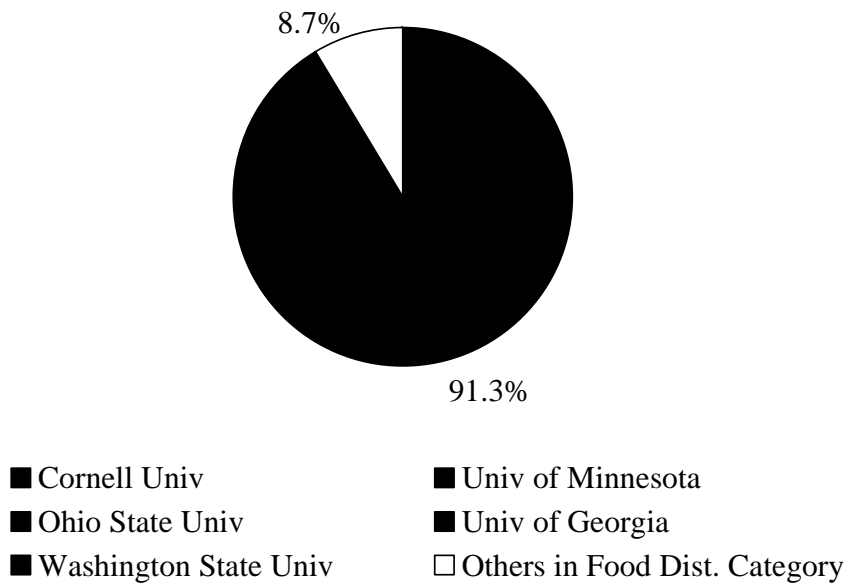


Figure 7. Top Eight Schools in Agribusiness Management as a Percentage of All Agribusiness Management Theses, 1980-2002 (N=128)



Source: National Food and Agribusiness Management Education Commission

Figure 8. Top Five Schools in Food Business as a Percentage of all Food Business Theses, 1980-2002 (N=46)



Source: National Food and Agribusiness Management Education Commission

Discussion of the Results

One key conclusion can be found in this data. Masters thesis research in agribusiness management and food business has steadily increased since the late 1980s with several programs such as Purdue University, University of Missouri, and University of Illinois having strong representation in agribusiness management and Cornell University in food business management. Almost 35 percent of the 128 theses identified as being agribusiness management research have been written since 1999 and over half since 1995. Clearly, supervision of masters theses have become an important function for agribusiness management faculty.

Implications

Masters student research in agribusiness management and food business management has become an important component of many departments of agricultural economics research output especially at universities such as Purdue, Missouri, Illinois, and Cornell. This trend is especially evident since 1995. Faculty are needed to supervise the masters students engaged in agribusiness management and food business management research. It is likely that the number of theses will only increase in the future.

Attachment A

Masters theses from the following universities were considered in our study: Clemson University, Colorado State University, Cornell University, Iowa State University, Kansas State University, Michigan State University, Mississippi State University, Montana State University, New Mexico State University, Ohio State University, Oklahoma State University, Oregon State University, Purdue University, Rutgers University, Texas A&M University, Texas Tech University, University of Florida, University of Georgia, University of Illinois, University of Kentucky, University of Maryland, University of Massachusetts, University of Minnesota, University of Missouri, University of Nebraska, University of Nevada-Reno, University of Wisconsin, University of Maine, Utah State University, Washington State University.

Appendix B

Specialization categories

- 1 Consumer Demand
- 2 Production Economics and Supply
- 3 Agricultural Products: price analysis, subsector, models, marketing, futures
- 4 Agricultural Inputs: land, labor, finance
- 5 Natural Resources: energy, conservation, land use, water, forestry, fisheries
- 6 Environmental Economics: pollution, regulation, nonmarket valuation
- 7 Agricultural and Food Policy: regulation, taxation, welfare
- 8 Economic Development: developing economies, aid, regional, general equilibrium
- 9 International Economics: trade, integration
- 10 Industrial Organization and Market Structure
- 11 General: teaching, extension, research, methodology, professional
- 12 Research Methods: statistics, econometrics, mathematical programming
- 13 Agribusiness Management
- 14 Food Business