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A comparison of curriculum in baccalaureate degree programs in agribusiness management[☆]

Michael Boland*, Erika Lehman, Jeri Stroade

*Department of Agricultural Economics, Kansas State University,
342 Waters Hall, Manhattan, KS 66506, USA*

Abstract

This research categorizes required and elective courses for 112 different 4-year baccalaureate programs in agribusiness management in the U.S. These included 50 degrees and 62 majors, options, or concentrations within degrees. Over 50% of the 50 degree programs do not require international and global dimensions of agriculture, and courses in management, marketing, or finance from the College of Business. Almost two-thirds of the 50 degree programs do not require an integrative course such as strategy. © 2001 Elsevier Science Inc. All rights reserved.

1. A review of baccalaureate degree programs in agribusiness management

Many colleges and universities in the U.S. offer education and training in agribusiness management. Typically, this training is either through the College of Agriculture and the Department of Agricultural Economics, or through the College of Business as additional option to a degree in management. There is much diversity in the types of undergraduate degree programs in agribusiness management. Some programs are offered jointly with the College of Business while others consist of an agricultural economics degree with several required courses in business.¹ Still others have formal B.S. degrees in agribusiness management.

The rationale for teaching agribusiness management within colleges of agriculture was summarized by Downey (1989) (see Note 1). Many programs integrated these business activities within agricultural economics curricula with some success, as noted by Larson

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* Corresponding author. Tel.: +1-785-532-4449; fax: +1-785-532-6925.

E-mail address: mboland@agecon.ksu.edu (M. Boland).

(1996) and Burbink, Marquardt, and Conklin (2000). However, no study has compared land grant and non-land grant universities that offer baccalaureate programs in agribusiness management.

The purpose of this study was to compare curricula and program requirements from a diverse group of colleges and universities offering agribusiness management degrees or as an area of specialization. We found 115 different 4-year baccalaureate programs in agribusiness management in the U.S. These programs include formal degrees, options, majors, and specializations. Marketing, management, and other course requirements and electives for B.S. degrees in agribusiness management are compared against similar requirements for B.S. degrees in agriculture that have a major or option in agribusiness management.

2. The need for agribusiness degree programs

2.1. Food and agribusiness managers require unique skills

Sonka and Hudson (1989) identified five factors that separate agribusiness from other industries. These were: “(1) the unique cultural, institutional, and political aspects of food, domestically and internationally; (2) the uncertainty arising from the underlying biologic basis of crop and livestock production; (3) the alternative goals and forms of political intervention across subsectors and between nations in an increasingly global industry; (4) institutional arrangements that place significant portions of the technology development process in the public sector; and (5) the differing competitive structures existing within and among the subsectors of the food and agribusiness sector”.

Managers desire undergraduate students who have skills in management as related to agriculture. More than 500 agribusiness managers responded to Schneider and Litzenberg's (1989) survey on skills needed by undergraduates in agribusiness management. The need for more training in human relations, communication, general business finance, general business management, salesmanship, agribusiness finance, international marketing, and agribusiness marketing was cited by 45% or more of the respondents. Global competition, long-range planning coordination (i.e., business strategy), information technology, communication development, integration of technical and business skills, domestic agriculture policies, changing consumer tastes and preferences, new-product development and packaging, and global food and agriculture policies were ranked 3.3 or higher on a 5-point scale (1 equaled not important and 5 equaled important). Many, but not all, of these skills can be obtained within colleges of business. At least 13 studies with similar findings have been published in *Agribusiness: An International Journal* and the *NACTA Journal*.

2.2. Management is taught within the College of Business

Management education is taught in colleges of business. The American Assembly of Collegiate Schools of Business (AACSB, 1999) publishes standards by which accreditation will be awarded to business schools. In order to “provide an understanding of perspectives that form the context for business”, degree program coverage should include: (1) ethical and

global issues; (2) the influence of political, social, legal and regulatory, environmental and technological issues; and (3) the impact of demographic diversity on organizations.

Curriculum content of programs in AACSB accredited institutions provides primary understanding of the following subject areas: (1) accounting; (2) behavioral science; (3) economics; and (4) mathematics and statistics. Basic written and oral communication skills are also pertinent attributes of the programs. Core requirements for a typical accredited program in management consist of courses in managerial economics, business finance, management concepts, operations management, business strategy, marketing, human resource management, organizational behavior, quantitative methods, and business law. In addition, a policy-type course that relates management concepts to government, society, and global environment is also required. Thus, we would expect formal agribusiness management degree programs to include similar courses with applications that address the unique aspects of food and agriculture, as noted by Sonka and Hudson (1989).

3. Description of baccalaureate undergraduate agribusiness management programs

3.1. Programs

An extensive list of baccalaureate degree programs that provide students with training and education in agribusiness management was identified in March 2001. We used a U.S. Department of Agriculture Higher Education Programs database that had information on 1862, 1890, and 1994 land grant universities and non-land grant universities that offer baccalaureate programs in agricultural and forestry sciences. In addition, we did an extensive search of public and private colleges and universities by state to identify other programs. Consequently, we identified 115 programs with degrees or majors in agribusiness management.² We obtained programs of study, course catalogs, and other information on 112 of these programs. In many cases, these publications were available using the Internet. If these were not available on the Internet, then electronic and postal mail was used to obtain the necessary information. These are listed in the Appendix (information was not available for the other three programs).³

Information on each program was used to determine which were required or elective courses within the curriculum. Required courses were defined as being required for each degree while electives were courses that students could choose for an area of concentration or emphasis. Electives were considered electives in the degree curriculum rather than general electives across any subject category. Where possible, textbook choice, syllabi, and course description were used to help categorize the courses. Approximately 60% of the courses were identified using textbook and syllabi information.

Of these 112 programs, 50 offered formal degrees in agribusiness management. There were 34 B.S. or B.A. degrees in agribusiness or agricultural business; 7 B.S. degrees in agribusiness or food management; 6 B.S. degrees in agricultural or food business management or marketing; and 2 B.A. programs in business administration. These 50 programs were defined as B.S. degrees in agribusiness management (BSABM). There were six programs that have BSABM degrees offered jointly with the College of Business.

The remaining 62 programs offered degrees in various areas with agribusiness majors, options, or specializations within another degree. A B.S. degree in agriculture comprised 42 of these programs. Seven programs had B.S. degrees in agricultural and/or applied economics. Six degrees had the words agricultural, food, and/or resource economics in their degree title. There were also B.S. degrees in agricultural science; agricultural, food, and life sciences; applied economics and business management; environmental and business economics; and managerial economics. These 62 degrees were defined as B.S. degrees in agriculture with an agribusiness major or concentration in agribusiness (BSA).

4. Classification of courses

For purposes of comparison, the courses were separated into three categories: marketing, management, and others. Marketing courses included agricultural marketing, agribusiness or food marketing, futures, price analysis, international agricultural marketing, cooperatives, sales or selling, business marketing, and marketing management. Management courses included agribusiness management, farm management, agricultural finance, strategy, business management, business finance, human resource management, and international business management. Finally, other courses that were examined included agricultural policy, production or managerial economics, agricultural law, and business law.⁴

4.1. Marketing courses

An agricultural marketing course was defined as a broad survey of agricultural marketing. Agribusiness or food marketing was defined as agricultural marketing with an emphasis on food distribution and management. Price analysis courses focus on how prices were derived with some statistical or regression analysis used in the course, which differentiated these from broad descriptive futures markets courses. International agricultural marketing included courses in international trade or global food marketing. Business marketing was defined as an introductory course in the College of Business on marketing principles while marketing management was an advanced marketing class that required business marketing as a prerequisite and focused on the management function of marketing.

Table 1 contains the percentage of BSABM and BSA in which these courses were required or elective. Agricultural marketing, business marketing, and food or agribusiness marketing were required by 67%, 55%, and 45% of the BSABM, respectively. With respect to BSA, the same courses were required by 87%, 33%, and 38%, respectively. Further analysis found that only four of the 112 programs did not require some type of agricultural, agribusiness or food marketing course and those four required business marketing. Marketing management was required by 20% of the BSABM compared to only 2% of the BSA.

Futures marketing and price analysis were required by 18% and 37%, respectively, for the BSABM, compared to 20% and 32% of the BSA. Twenty-nine percent of the BSA, had as a requirement or an elective a course in cooperatives and 47% of BSABM. A course in selling or sales was a required or elective course in 47% and 23% of BSABM and BSA, respectively. The percentage of BSABM and BSA that had a required or elective course in international agricultural marketing was 53% and 40%, respectively.

Table 1

Percentage of required and elective courses in marketing for 50 B.S. degrees in agribusiness management (BSABM) and 62 B.S. degrees in agriculture (BSA)

Courses	BSABM requirement (BSA requirement)	BSABM elective (BSA elective)
Agricultural marketing ^a	67 (87)	4 (3)
Agribusiness or food marketing ^a	45 (38)	8 (12)
Futures marketing	18 (20)	29 (28)
Price analysis	37 (32)	20 (23)
International agricultural marketing ^b	35 (28)	18 (12)
Cooperatives	12 (9)	35 (20)
Sales	25 (8)	22 (15)
Business marketing ^c	55 (33)	12 (5)
Marketing management ^d	18 (2)	16 (15)

^a Agricultural marketing was defined as a broad survey course in agricultural marketing while food marketing was defined as a course in food distribution or marketing with some emphasis on marketing management.

^b Included trade or international food marketing but did not include agricultural development.

^c Defined as an introductory survey course in business marketing.

^d Defined as a course in marketing management that required a business marketing course as a prerequisite.

With the exception of one program, all 112 BSA and BSABM taught an agricultural marketing or food and agribusiness marketing course. In addition, almost half of both programs taught a separate course in futures marketing. Sales was more likely to be required in BSABM, but only 28 of the BSA and BSABM taught sales within the College of Agriculture. The remainder were taught within colleges of business.

4.2. Management courses

Agribusiness management, business management, and farm management were required by 77%, 55%, and 34% of the BSABM (Table 2). These percentages were 72%, 28%, and 55% for BSA. The percentage of degree programs that required agricultural finance was 79% and 68% for BSABM and BSA, respectively. However, 47% of the BSABM required a course from the College of Business compared to only 15% of the BSA.

Business strategy was a required or elective course by 39% of the BSABM compared to 17% of the BSA. Similarly, human resource management was a required or elective course by 57% of the BSABM relative to 33% of the BSA. Finally, 43% of the BSABM had required or elective courses in international business management. Only 13% of the BSA had such a required or elective course.

4.3. Other courses

A course in agricultural policy was required by 57% of both BSABM and BSA (Table 3). Production or managerial economics was a required or elective course for 51% and 30% of the BSABM and BSA, respectively.⁵ Agricultural or business law was a required course for 34% and 38% of BSABM compared to 25% and 35% of BSA.

Table 2

Percentage of required and elective courses in management for 50 B.S. degrees in agribusiness management (BSABM) and 62 B.S. degrees in agriculture (BSA)

Courses	BSABM requirement (BSA requirement)	BSABM elective (BSA elective)
Agribusiness management	77 (72)	17 (8)
Farm management	34 (55)	47 (17)
Agricultural finance	79 (68)	15 (12)
Strategy	27 (15)	12 (2)
Business management	55 (28)	10 (5)
Business finance	47 (15)	18 (13)
Human resource management	35 (25)	22 (8)
International business management	18 (5)	25 (8)

Table 3

Percentage of required and elective courses in non-marketing or non-management for 50 B.S. degrees in agribusiness management (BSABM) and 62 B.S. degrees in agriculture (BSA)

Courses	BSABM requirement (BSA requirement)	BSABM elective (BSA elective)
Agricultural policy	57 (57)	30 (18)
Production or managerial economics	30 (27)	21 (3)
Agricultural law	34 (25)	30 (15)
Business law	38 (35)	9 (5)

5. Comparison of BSABM and BSA programs

5.1. Agricultural, business, and agribusiness or food marketing courses

A broad survey course in agricultural marketing was taught by 90% of the BSA programs (87% required it) relative to 71% of the BSABM programs (67% required it). Likewise, business marketing was a required course for 55% of the BSABM programs relative to 33% of the BSA programs. There were no significant differences between programs that taught a required or elective course in futures marketing, price analysis, and food and agribusiness marketing. These results suggest that some BSABM have likely substituted a business marketing course for an agricultural marketing course. In addition, marketing management was a required (elective) course for 18% (18) of the BSABM compared to only 2% (17) of BSA programs. This course had a prerequisite of business marketing. Thus, to improve agribusiness management student's skills in business marketing, BSABM required more business marketing courses.

5.2. Management courses

Almost twice as many BSABM required a management course relative to BSA. A course in agribusiness management was required by over 70% of BSA and BSABM. However, more than half of the BSA programs required farm management compared to 34% of the BSABM. This suggests that BSABM may have substituted a business management course

for a farm management course. BSABM were three times as likely to require business finance compared to BSA programs (47% to 15%). This result suggests that business finance has likely replaced an agricultural economics elective within BSABM.

Strategy was usually taught as a senior level course due to its integration of different management concepts. This course was twice as likely to be a required or elective course in BSABM. Thirteen courses in strategy were taught within colleges of agriculture. All BSABM that offered a strategy course taught within the College of Agriculture required students to take the course. Only one BSA allowed students to take strategy as an elective. Thus, strategy courses offered within the College of Agriculture have likely been developed to provide integrative training and education in agribusiness management. Strategy is a required course in most AACSB accredited programs.

5.3. International courses

In addition, BSABM were more likely to have a required or elective course in international agricultural marketing relative to BSA. Most programs offered courses in trade, global food policy, or a related topic and this was more likely to be taken by BSABM students. International business management courses taught within the College of Business were four times as likely to be a required or elective course for BSABM students. Courses that explore the global and international nature of management are required in AACSB accredited programs.

5.4. Courses unique to agriculture

Government policy regarding agriculture is unique and over half of the BSABM and BSA required such a course.⁶ Agricultural finance and agricultural marketing were taught within 90% (80) and 71% (87) of the BSABM (BSA), respectively. In addition, agribusiness or food marketing was taught within 53% (50) of the BSABM (BSA), respectively. Futures markets, price analysis, and international agricultural marketing were also taught by approximately half of the BSA and BSABM. These results are not surprising in that these courses have topics unique to agriculture, as suggested by Sonka and Hudson (1989), and could easily be taught by agricultural economists (Robbins, 1988).

Law as applied to agriculture is also unique and 66% of the BSABM had a course requirement or elective in this topic compared to 40% of all BSA. Business law was required by over a third of both BSABM and BSA. In aggregate, 66% of the BSABM required law compared to 60% of the BSA. This result was somewhat surprising because law is an integral part of AACSB programs. A course in cooperatives was three times as likely to be required by BSABM. This was not surprising as cooperatives are a unique form of business organization most often found in agriculture.

5.5. Comparing BSABM with AACSB requirements and Schneider and Litzenberg survey results

Exposure to global and international aspects of management are inadequate in many programs despite their importance as recognized by the AACSB and in the study by

Schneider and Litzenberg (1989). Approximately 50% (67) of all BSABM programs did not require international marketing (international business) course. Strategy is a course that integrates many management concepts. Such integration through a strategy course was highly ranked in the Schneider and Litzenberg (1989) study and is a requirement in AACSB. Yet 75% of the programs did not require such a course. Human resource management and business or agricultural law was another course that was not required by almost two-thirds of the BSABM. Approximately 50% of the BSABM did not have a business finance, management, or marketing requirement.

However, some programs do meet the AACSB criteria. These include Abilene Christian University, Arizona State University, California State Polytechnic University at Pomona, California State Polytechnic University at San Luis Obispo, Cornell University, Fort Lewis College, Illinois State University, Michigan State University, South Carolina State University, Tennessee State University, Texas A&M University, Texas Tech University, University of Nebraska at Lincoln, and University of Wisconsin at Madison. Not surprisingly, most of these programs are offered jointly with the College of Business.

Six other programs are missing one of the AACSB requirements (not including business or agricultural law). These are Alabama A&M University, Mississippi State University, University of Connecticut, University of Idaho, University of Minnesota at Crookston, and University of Nebraska at Kearney. It is interesting to note that eleven BSABM programs that have the word "management" in their degree name are missing two or more of the AACSB requirements.

5.6. Limitations of the study

Obviously the political economy of a department and university helps dictate whether colleges of agriculture offer a BSABM or BSA. The relative size of a university or college and its resource base has an impact on the number of courses that are taught within a program. In smaller programs, it may be difficult to substitute more management courses for other agricultural economics courses. In addition, some departments may not have faculty resources to teach an integrative agribusiness management course such as strategy.

6. Summary

Many formal baccalaureate degrees in agribusiness management have been developed since the National Agribusiness Education Committee released its findings in 1989. In many cases, programs have begun to respond to Sonka's (1989) call for integration of economics and management and address the needs expressed by managers in the Schneider and Litzenberg survey. But many agribusiness management programs are still missing some key components. In particular, international and global dimensions of agriculture, an integrative management course such as strategy, agricultural or business law, and human resources are missing in many programs. The agribusiness management literature has found that these are important topics for students and should be an integral part of any agribusiness management degree. Curriculum is taught by faculty resources. Limited resources, an inability to

reallocate resources, and lack of knowledge may be a limiting factor in those programs that have not adopted these topics.

Notes

1. College of Agriculture is defined as colleges that encompass agricultural and other applied sciences.
2. It should also be noted that food marketing majors exist within several colleges of business (e.g., St. Joseph's University, Western Michigan University). However, these were not included in the 114 programs. There are programs that have B.S. degrees in other areas of management such as environment or resources (e.g., University of Alaska, University of California, University of Rhode Island) but these are not included in our data because of the focus on agribusiness management. Universities with only one or two courses in agribusiness management and no agricultural science courses (e.g., Tabor College) were not used in our data. Another 32 public and private universities taught a course in agricultural economics but did not have a formal program and were not included in the data.
3. The three universities from which we could not obtain information that had B.S. degrees in agribusiness management or B.S. degree in agriculture were Langston University, Lincoln University, and University of Louisiana Monroe.
4. Other courses were offered by both programs such as advanced agricultural finance, logistics or transportation and risk management. Because these were offered by less than five programs we did not choose to include them in our discussion. Courses in quantitative methods differed significantly across programs from econometrics to computer courses in quantitative tools. Given this variability, we chose not to categorize these courses. Calculus was required by almost 80% of both programs. Carnevale (1999) noted that calculus has replaced Latin as a means of teaching high-level reasoning.
5. Many BSA require other theoretical economics courses in lieu of production economics. Thus, this percentage should not be construed to infer that BSABM require more economic theory courses relative to BSA.
6. Policy may be a course that becomes more international in focus as the importance of trade continues to develop and could resemble an international marketing course in the future. However, the overwhelming majority of existing policy courses emphasize a historical view of agricultural policy with little emphasis on trade or international marketing.

Appendix

The 50 universities with a B.S. degree in agricultural management were Abilene Christian University, Alcorn State University, Arizona State University, Berea College, California State Polytechnic University at Pomona, California State Polytechnic University at San Luis

Obispo, California State University at Chico, Colorado State University, Dickinson State University, Eastern Oregon University, Florida A&M University, Fort Lewis College, Iowa State University, Kansas State University, Louisiana State University, Louisiana Tech University, Michigan State University, Mississippi State University, Montana State University, Murray State University, Nicholls State University, North Carolina A&T State University, North Carolina State University, North Dakota State University, Oklahoma State University, Oregon State University, Pennsylvania State University, South Carolina State University, Southeast Missouri State University, Southern Arkansas University, Southern Illinois University at Carbondale, Southwest Missouri State University, Southwest State University, Tarleton University, Tennessee State University, Texas A&M University, Texas A&M University at Commerce, Texas Tech University, University of Delaware, University of Minnesota at Crookston, University of Minnesota, University of Missouri, University of Nebraska at Kearney, University of Nebraska at Lincoln, University of Wisconsin at Madison, University of Wisconsin at River Falls, University of Wyoming, Utah State University, Washington State University, and West Virginia University.

The 62 universities with a B.S. degree in agriculture were Alabama A&M University, Arkansas State University, Arkansas Tech, Auburn University, Austin Peay State University, Brigham Young University, California State University at Fresno, Cameron University, Central Missouri State University, Clemson University, Cornell University, Delaware State University, Eastern Kentucky University, Fort Hays State University, Fort Valley State University, Illinois State University, McNeese State University, Middle Tennessee State University, Morehead State University, New Mexico State University, Northwest Missouri State University, Northwest Oklahoma State University, Ohio State University, Oklahoma Panhandle State University, Prairie View A&M University, Purdue University, Rutgers University, Sam Houston State University, Southwest Texas State University, South Dakota State University, Stephen F. Austin State University, Sul Ross State University, Tennessee Technological University, Texas A&M at Kingsville, Truman State University, University of Arizona, University of Arkansas, University of Arkansas at Monticello, University of California at Davis, University of Connecticut, University of Florida, University of Georgia, University of Guam, University of Hawaii, University of Idaho, University of Illinois, University of Kentucky, University of Maine, University of Maryland, University of Maryland Eastern Shore, University of Massachusetts, University of Nebraska, University of Nevada, University of Southwestern Louisiana, University of Tennessee, University of Tennessee at Martin, University of Wisconsin at Platteville, Virginia Polytechnic Institute and State University, Virginia State University, West Texas A&M University, Western Illinois University, and Western Kentucky University.

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