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Characteristics of Master's Programs in Agribusiness Management

ABSTRACT: This study describes and compares agribusiness master's programs in North America. These programs include the master of business administration (MBA) and master in (or "of") agribusiness (MAB) degrees. Accredited MBA programs with an agribusiness emphasis are required to have a clear required core of courses in finance, management, marketing management, and human behavior. Additional required courses in policy, agricultural marketing, production or managerial economics, and quantitative methods are also frequently required. MAB programs have more diversity regarding the four core subjects with a greater percentage of the courses taught within departments of agricultural economics. Evaluation of agribusiness master's programs in agricultural economics departments is difficult without any formal evaluation criteria.

Agribusiness master's programs in North America are offered through colleges of business and through colleges of agriculture (i.e., agricultural economics departments). A potential student investigating the choice of a master in agribusiness may be confused by the various degree names (MBA, MS, MAB, etc.) and the types of program (distance learning, executive, correspondence, traditional, etc.). Human resource managers who evaluate students from various master's programs

may also question the difference between programs. Similarly, managers who authorize financial support for employees to pursue an advanced degree are also likely to have questions when faced with a myriad of programs.

This study describes and compares agribusiness master's programs in North America. These programs include the master of business administration (MBA) and master in (or "of") agribusiness (MAB) degrees. First, we describe the evolution of master's programs in agribusiness over the past 20 years. Next, we examine the subject requirements in each of these programs and compare the various programs against the National Agribusiness Education Commission's recommendations. Finally, we compare and contrast the various programs.

THE NEED FOR AGRIBUSINESS DEGREE PROGRAMS

History

Traditional MBA programs date back to the early part of the 20th century in the United States. Today, there are now over 1250 MBA programs offered. These programs have differed considerably in response to increasing emphasis on serving niche markets. As more universities and colleges of business have begun to offer the MBA, it has adapted to local needs, strengths, and conditions (Falcon, 1999).

One adaptation of MBA programs is the strong need for agribusiness management education. The University of Santa Clara began offering the first agribusiness MBA degree in 1972. Throughout the 1980s the role of agribusiness programs within agricultural economics graduate programs was debated. *Agribusiness: An International Journal* devoted an entire issue (May 1989) to agribusiness education in the United States and Australia (French and Litzenberg, 1989).

Agribusiness education is still in its infancy as far as academic programs are concerned.¹ French and Erven (1985) discussed the demand for agribusiness programs and identified two market segments of students: specialist training and generalist training. The specialist (i.e., agricultural scientist who receives a graduate degree in agribusiness) was more likely to be employed in a niche market at the farm gate while the generalist was more likely to be employed in a position that is not directly located at the farm gate (e.g., marketing management).

Emerging Trends

Sonka (1989) discussed three emerging trends in agribusiness programs: 1) maintaining economics as the predominant role in a liberal arts training; 2) developing options within agricultural economics programs that encompass management as a broader activity and allow students to take business courses; and 3) continuing past practices and require teaching within agricultural economics

programs to be strictly economics-focused. Sonka argued that the second option was clearly the best approach for agribusiness but also required faculty to develop scholarship standards.

Akridge, Dobson, and Holschuh (1994) suggested that a niche might exist for “quality, highly differentiated master’s degree in agricultural economics emphasizing agribusiness.” Boland and Daniel (1999) found that market research analysts and price analysts have differing expectations on education and training with respect to MS degrees in agricultural economics, which suggests that niche opportunities may exist for graduate programs.

STRUCTURE OF AGRIBUSINESS MASTER’S PROGRAMS

Type of Degree

No survey of programs has been done since Hambley and Marquardt (1990) who defined seven classifications for agribusiness master’s programs. These were: 1) traditional MS degrees in agricultural economics that do not have a formal specialization, but enable students to take several agribusiness courses; 2) agribusiness programs within agricultural economics departments without required courses within the college of business; 3) agribusiness programs in agricultural economics that require college of business courses; 4) joint bachelor of science (BS) degree in agriculture and master of business administration programs that allow a student to complete a BS degree and then an MBA; 5) agribusiness MBA programs that require agricultural courses; 6) agribusiness MBA programs without required college of agriculture courses; and 7) traditional MBA programs that do not require formal agricultural courses, but allow students to design advisor-specific courses with an agribusiness focus.

Type of Format

The format in which MBA programs are offered has changed in recent years. Initially, MBA programs were full-time, two year programs. In fact, some still maintain this format. However, more than half of MBA students throughout the world pursue their MBA degrees through part-time study. According to the *Merlin Falcon MBA Guide*, “part-time and distance learning MBA’s now form the fastest growing sector of the MBA market.”

It should also be noted that colleges of business distinguish between a full-time MBA, part-time MBA, and executive MBA. A full-time MBA is offered to students who are enrolled full time with completion expected in 18 to 24 months. A part-time MBA is offered to students who are enrolled through evening or weekend courses and are likely to be working full time with completion expected in 33 to 36 months.

Table 1. National Agribusiness Education Commission's Model Master's Program in Agribusiness Management

<i>Curriculum</i>	<i>Semester Hours</i>
Common Body of Business Knowledge	
Concepts, processes and institutions involved in the production or marketing of goods or services or both, and the financing of the business enterprise or other forms of organizations.	
Economic and legal environment as it pertains to profit or nonprofit organizations, or both, along with ethical considerations and special and political influences as they affect such organizations.	
Concepts and applications of accounting, quantitative methods, and management information systems as they affect the overall management of agribusiness organizations.	
Minimum requirement	20
Agribusiness Management	
Policies and regulations affecting agriculture.	
International businesses.	
Risk management.	
Strategic management.	
Applications of theory and techniques of agribusiness-firm management to problems and issues of production, marketing, finance, information, technology, and environment.	
Minimum requirement	12
Management Electives	
Minimum requirement	13
Total minimum requirement	45

Source: Table 5 (page 24) in Downey et al.

Professionals who work full time may pursue an executive MBA through a lock-step program that minimizes interruption of student careers and personal responsibilities (Executive MBA Council). Courses are offered in alternative formats (e.g., intensive one- or two-week time increments) and completion is expected within three years. A minimum years of experience is required (generally at least five but as high as 15 years depending upon the program). The courses within each of the three programs are similar, but the programs may be integrated differently to take advantage of the students' unique backgrounds. MAB programs do not have these formal distinctions at this point in time.

MASTER'S PROGRAMS

National Agribusiness Education Commission

The National Agribusiness Education Commission (Downey et al., 1989) described the courses contained in a "model master's program in agribusiness management" (Table 1). The proposed program was designed based on an MBA program with breadth in business knowledge and discussion of issues unique to the food and agribusiness industry. The 45 semester credit hours were cited as the

“minimum requirement” for such a program due to MBA course requirements. The Commission also suggested that program evaluation was important such as accreditation, peer ranking of master’s programs, and review and evaluation by panels from industry, professional societies, government agencies, and universities. The Commission indicated that courses such as finance, quantitative methods, marketing (not including price analysis), human resources, and accounting were considered part of the common body of business knowledge while policy, international business, risk, strategy, price analysis, and applications of concepts (i.e., managerial or production economics) were considered part of agribusiness management.

AACSB and MBA Programs

The recommendations of the National Agribusiness Education Commission closely follow the business accreditation standards of the American Assembly of Collegiate Schools of Business (also called AACSB—The International Association for Management Education). As of July 1999, AACSB had accredited 370 business administration and accounting programs from University of Akron to Yale University. These 370 programs reflect a diverse range of missions and expectations (AACSB). The accreditation standards for MBA programs include: 1) clear and published mission statement; 2) faculty composition and development; 3) curriculum content and evaluation; 4) instructional resources and responsibilities; 5) student selection; and 6) intellectual contributions.

The AACSB states that MBA and other general management masters programs should include instruction in four core areas: 1) financial reporting, analysis, and markets; 2) domestic and global environments of organizations; 3) creation and distribution of goods and services; and 4) human behavior in organizations. These should constitute a minimum of 18 semester credit hours, some of which may be taken at the undergraduate level. Basic skills in written and oral communication skills, quantitative analysis, and computers are also required. A minimum of 30 semester credit hours beyond the core requirements for a total minimum of 48 semester credit hours are also needed.

Much of the previously discussed literature describes “agribusiness education” as management education with respect to food and agribusiness firms. Besides new MBA programs, there recently have been several new degrees such as master in agribusiness (MAB) programs that have been established within colleges of agriculture rather than colleges of business. The college within which a program resides differs from university to university. Thus, it appears useful to describe these programs with pre-established standards such as those established by the National Agribusiness Education Commission and the American Assembly of Collegiate Schools of Business (AACSB).

Table 2. Master of Business Administration (MBA) Degree Programs in Agribusiness

<i>University</i>	<i>Degree Name</i>
University of Alberta	MAg/MBA degree
Auburn University	MBA in Agribusiness
University of California at Davis	MS/MBA degree
University of California at Fresno	MBA Specialization in Agribusiness
California Poly. at San Luis Obispo	MBA Specialization in Agribusiness
University of Guelph	MBA in Agriculture
University of Illinois	MS/MBA degree
Iowa State University	MBA in Agribusiness
Kansas State University	MBA option in Agribusiness
McGill University	MS/MBA degree
University of Nebraska at Lincoln	MBA Specialization in Agribusiness
University of Nevada at Reno	MBA option in Agribusiness
Purdue University	MBA in Food and Agriculture
Santa Clara University	MBA in Food and Agribusiness Management
Southern Illinois University	MS/MBA degree
Texas Tech University	MBA concentration in Agricultural Business Management
University of Wisconsin	MBA in Agribusiness

DESCRIPTION OF MASTERS PROGRAMS IN AGRIBUSINESS

Programs

Tables 2 and 3 present 25 North American universities (two universities each have two programs for a total of 27 programs) that have graduate master's degree programs in agribusiness.²We chose to focus on those programs with clearly identified programs in agribusiness and have not included MS degree programs with courses in agribusiness in order to make more distinct comparisons between curriculums.

Table 4 (MBA degrees) and Table 5 (MAB, etc. degrees) provide information on the various agribusiness degree program requirements with respect to the AACSB core curriculum. We collected the information using the most current

Table 3. Master in (or "of") Agribusiness (MAB) or Similar Degree Program

<i>University</i>	<i>Degree Name</i>
Arizona State University	MS degree in Agribusiness
University of Florida	MAB degree
Illinois State University	MS in Agribusiness
Kansas State University	MAB degree
Michigan State University	Master's Specialization in Agribusiness
Mississippi State University	MABM degree
Texas A&M University	MAB degree
Texas Tech University	MAg in Agribusiness
Utah State University	MAB degree
Washington State University	MA in Agribusiness

Table 4. MBA Core Subjects (Finance, Management^a, Marketing^b, Human Behavior^c) and Agribusiness Management Subjects in MBA Programs in Agribusiness

University	MBA Core Subjects (College of Business)				Agribusiness Management Subjects (College of Agriculture)				Either College		
	Finance	Management	Marketing	Human Behavior	Policy	International Business	Risk	Strategy		Marketing Price Analysis	Production
University of Alberta	Y ^d	Y	Y	Y	E	E	N	N	E	Y	Y
Auburn University	Y	Y	Y	Y	E	N	N	N	E	N	N
University of California at Davis	Y	Y	Y	Y	N	E	N	N	N	Y	Y
University of California at Fresno	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y
California Poly. at San Luis Obispo	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
University of Guelph	Y	Y	Y	Y	E	E	Y	Y	N	E	Y
University of Illinois	Y	Y	Y	Y	E	E	E	E	E	Y	Y
Iowa State University	Y	Y	Y	Y	N	Y	N	N	Y	Y	Y
Kansas State University (MBA)	Y	Y	Y	Y	N	N	N	E	E	E	N
McGill University	Y	Y	Y	Y	N	E	N	E	E	Y	Y
University of Nebraska at Lincoln	Y	Y	Y	Y	N	Y	N	Y	E	Y	Y
University of Nevada at Reno	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y
Purdue University	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Santa Clara University	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Southern Illinois University	Y	Y	Y	Y	Y	N	N	N	N	Y	Y
Texas Tech University (MBA)	Y	Y	Y	Y	E	N	N	N	E	Y	Y
University of Wisconsin	Y	Y	Y	Y	E	E	N	N	E	Y	Y

^aDefined as any course in general management.

^bDefined as marketing management, logistics, etc. as opposed to price analysis.

^cDefined as human resource management, organizational behavior, etc.

^dY denotes required subject, N denotes not required subject, and E denotes that the subject is an elective.

Table 5. MBA Core Subjects (Finance, Management^a, Marketing^b, Human Behavior^c, and Agribusiness Management Subjects in MAB Degree Programs in Agribusiness

University	MBA Core Subjects (College of Business)				Agribusiness Management Subjects (College of Agriculture)				Either College		
	Finance	Management	Marketing	Human Behavior	Policy	International Business	Risk	Strategy	Price Analysis	Production	Quantitative
Arizona State University	Y ^d	Y	Y	N	E	E	N	N	E	N	N
University of Florida	Y	Y	Y	Y	N	E	N	Y	Y	N	Y
Illinois State University	Y	Y	Y	N	N	Y	Y	Y	N	N	Y
Kansas State University (MAB)	Y	Y	Y	Y	Y	N	Y	Y	N	Y	Y
Michigan State University	N	N	N	N	E	N	E	E	E	Y	N
Mississippi State University	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Texas A&M University	Y	Y	Y	N	Y	N	Y	Y	N	Y	Y
Texas Tech University (MAG)	E	E	E	E	E	E	E	E	E	Y	Y
Utah State University	N	Y	N	N	E	E	N	N	E	Y	Y
Washington State University	N	N	N	N	E	N	E	N	E	Y	Y

^aDefined as any course in general management.

^bDefined as marketing management, logistics, etc. as opposed to price analysis.

^cDefined as human resource management, organizational behavior, etc.

^dY denotes required subject, N denotes not required subject, and E denotes that the subject is an elective.

graduate degree catalogs (as of May 1999) and other information (course syllabi, etc.) from each university. If there were questions, we also spoke with graduate program coordinators.

Classification of Curriculum for Comparison

Courses in financial reporting, analysis, and markets were considered to be finance for our categorization. MBA programs require accounting as an entrance requirement; thus we have not included it as a separate category. However, we have included it as a category for the MAB programs (Table 7). Distribution of goods and services is considered to be marketing management as opposed to price analysis offered in many agricultural economics departments. Human behavior in organizations, organizational behavior, or leadership courses are defined as human resources management.

Policy is considered to be agricultural or trade policy. International business is defined as a global food organization or marketing course although in some programs trade is considered an international course. Whenever possible, trade was separated from global food organization courses using the course descriptions. Risk management is considered to be a course broader than commodity price analysis. Marketing in food and agriculture is considered a traditional agricultural marketing course that includes price analysis and organization of the food system but is different from marketing management.

Production includes microeconomics, production economics, or managerial economics. Quantitative methods include required courses in econometrics, linear programming, statistics, and/or management science.

In Tables 4 and 5, a “Y” is used to denote that the course is required, “N” is used to denote that the course is not required, and “E” denotes that the course is an elective. It should be noted that, in some cases, an “E” really is a “Y” because departments may not offer enough classes to ensure that there are enough electives to complete the degree. In other cases, it appears that some courses that are in the catalog have not been taught in recent years. However, given the difficulty in making these distinctions, we chose to use the defined program of study as listed in the graduate school catalog.

Finally, classifications used in this article assume that there are discrete points separating various programs. However, all of these programs most likely lie along a spectrum from no business component to a full agribusiness MBA program. In the following section we discuss the MBA programs. Table 6 (MBA programs) and Table 7 (MAB degree programs) have information on internship, thesis, whether prior work or professional experience is required for admittance, and overall number of credit hours.

Table 6. Internship, Thesis, Professional Experience Requirements, and Total Semester Credit Hours in MBA Degree Programs in Agribusiness

<i>University</i>	<i>Internship</i>	<i>Thesis</i>	<i>Professional Experience</i>	<i>Total Credit Hours</i>
University of Alberta	N ^a	N	N	48 (S) ^b
Auburn University	N	N	N	60 (S)
University of California at Davis	N	N	N	82 (T)
University of California at Fresno	Must do one or other	N	N	45 (S)
California Poly. at San Luis Obispo	Y	N	N	96 (T)
University of Guelph	n.a. ^c	Y	Y	51 (S)
University of Illinois	Y	N	N	48 (S)
Iowa State University	N	N	N	48 (S)
Kansas State University (MBA)	N	N	N	51 (S)
McGill University	N	Y	N	90 (T)
University of Nebraska at Lincoln	N	N	N	48 (S)
University of Nevada at Reno	N	N	Y	51 (S)
Purdue University	n.a.	N	Y	48 (S)
Santa Clara University	N	N	Y	72 (T)
Southern Illinois University	N	Y	N	48 (S)
Texas Tech University (MBA)	N	N	N	48 (S)
University of Wisconsin	N	N	N	48 (S)

^aY denotes that the course is required while N denotes that the course is not required.

^bS denotes semester credit hours while T denotes trimester credit hours.

^cNot applicable due to its executive nature.

Master in Business Administration Degree Programs

There are 17 MBA programs in agribusiness or programs with options or courses in agribusiness (Table 2). All of the programs have been accredited by the AACSB except Guelph, which has been accredited by Ontario Council of Graduate Studies. Of the 17 programs, 12 are solely MBA programs and five are

Table 7. Accounting, Internship, Thesis, Professional Experience Requirements, and Total Semester Credit Hours in MAB Degree Programs in Agribusiness

<i>University</i>	<i>Accounting^a</i>	<i>Internship</i>	<i>Thesis</i>	<i>Professional Experience</i>	<i>Total Credit Hours</i>
Arizona State University	N ^b	N	Y	N	30 (S) ^c
University of Florida	Y	Y	N	N	33 (S)
Illinois State University	N	N	N	N	39 (S)
Kansas State University (MAB)	Y	n.a. ^d	Y	Y	33 (S)
Michigan State University	N	N	N	N	15 (S)
Mississippi State University	Y	N	N	N	32 (S)
Texas A&M University	Y	N	N	N	39 (S)
Texas Tech University (MAG)	N	N	N	N	36 (S)
Utah State University	Y	N	N	N	36 (S)
Washington State University	N	N	N	N	21 (S)

^aDenotes whether accounting is required as a prerequisite for entering the program.

^bY denotes that the course is required while N denotes that the course is not required.

^cS denotes semester credit hours while T denotes trimester credit hours.

^dNot applicable due to its executive nature.

joint MBA/MS programs (University of California at Davis has both an MBA and a joint MS/MBA). At least six of these programs are new since the Hambley and Marquardt study. As would be expected given the AACSB guidelines, the four core subjects are taught within each program (Table 4).

Table 4 illustrates differences among the agribusiness management courses in these programs. Seven MBA programs require policy (five consider it an elective) while four programs require an international business course (six consider it an elective). Only three require risk management while fourteen do not. Four programs require strategy while ten programs do not. Food and agricultural marketing is required in six programs while eight consider it an elective. However, it appears that many of these programs use marketing as a required course given either its use as a prerequisite or the lack of enough electives in the program. Nearly all the programs require production and quantitative methods.

Internships are not required in these MBA programs (Table 6). Three programs required a thesis. The most surprising observation is that only four programs require professional experience prior to entering the MBA program. Three require at least one year (Guelph, Nevada, Santa Clara) while Purdue requires five years.

In comparing the required courses among the different MBA programs, agricultural policy and marketing are two topics that have historically been identified as strengths of the agricultural economics discipline and major areas of research. It is not surprising that these two courses are frequently taught within colleges of agriculture. These topics were cited by Robbins (1988) as important subjects that could be taught by agricultural economists in agribusiness graduate programs. Thus it was encouraging to see that these courses were either required or offered as an elective by most MBA programs.

The lack of required courses in risk management and strategy was somewhat surprising. Risk management (other than price analysis) is a relatively new topic. An effective strategy course, due to its integrative nature, requires faculty who have a broad background in business management. Many programs within colleges of agriculture may not have that expertise within their existing faculty. Santa Clara has developed a niche degree in biotechnology, food safety, and supply chain management. The curricula at Purdue University and Santa Clara University most closely resemble the National Agribusiness Education Commission's model MBA program.

Master in (of) Agribusiness Programs

The National Agribusiness Education Commission reported that "few master's programs in agricultural economics departments require management courses found in traditional MBA programs. Such variation and lack of definition are unfortunate and confuse prospective students, potential employers, and the

academic community at large” (Downey et al.). Hambley and Marquardt (1990) found that little business management was actually required within existing master’s programs in agricultural economics and agribusiness. It appears that these two critiques continue to be valid for a number of non-MBA degrees that are labeled as agribusiness.

The number of these programs has increased since Hambley and Marquardt’s study. Ten such degrees are identified in Table 3. There are three MS or MA degrees in agribusiness (Arizona State University, Illinois State University, Washington State University). The University of Florida, Kansas State University, Texas A&M University, and Utah State University have MAB programs. Mississippi State University has a Master of Agribusiness Management. Michigan State University allows graduate students who take certain courses in agricultural economics to receive a “Master’s Specialization in Agribusiness.” Texas Tech University has a Master of Agriculture degree that is an agribusiness degree.

Relative to the MBA programs, these ten degrees are much more diverse with respect to required courses (Table 5). Several programs note that the program of study would be set with the guidance of the graduate coordinator for these programs. Only three programs (Florida, Kansas State, Mississippi State) require courses in the four MBA core areas. Three others require finance, management, and marketing but lack the human behavior requirement.

Five programs require strategy, four require risk, three require policy, and two require international business.³ Only Mississippi State University requires all four courses. Surprisingly, given the fact that these degrees are offered within agricultural economics or economics departments, only 60 percent require both production and quantitative methods.

Similar to the MBA programs, the overwhelming majority of programs do not require an internship or thesis (Table 7). In practice, we suspect students who desire funding through graduate assistantships will likely choose a thesis option. Only Kansas State requires professional experience (two years). The number of required credits in these programs was about 37 percent or 18.5 semester credit hours less than the MBA programs, which suggests that there may not be as much breadth in the degree relative to AACSB criteria, though this would be difficult to ascertain without detailed study of course syllabi. Somewhat surprisingly, only half of the non-MBA programs required accounting or had a prerequisite of accounting within their program.

The program at Mississippi State University most closely resembles the Commission’s recommendations which is not surprising given that the degree is closely coordinated with the college of business (Phillips, Couvillion, Daugherty, and Burckel, 1992). Kansas State and Texas A&M have similar programs as the Commission’s recommendations but require fewer courses taught in colleges of business.

Traditional MS Degree in Agricultural Economics with Options or Fields in Agribusiness

Virtually every MS degree in agricultural economics provides an option, field, or specialization in agribusiness. Students are required to take a core sequence of courses in agricultural economics (theory and quantitative methods) and then have several electives to use for a specialty area. Most allow students to take business courses as electives or in some cases, departments offer agribusiness courses. These business courses are typically finance, management, organizational behavior, strategy, or marketing management. However, in general, these programs are not integrated curriculums like some of the MBA or MAB programs. While offering a great deal of flexibility to enable students to explore courses within the college of business, these programs probably should not be viewed as substitutes for integrated MBA's or MAB programs. Rather, traditional MS programs with an emphasis or specialization in agribusiness are still more theoretical and less applied. Students graduating these programs are, in general, more prepared to pursue a Ph.D. than those in MAB programs which are considered professional or terminal degree programs.

Agribusiness Masters Degrees Offered through Distance Learning

Several MBA programs (e.g., Santa Clara University) offer flexible schedules (weekend and evening courses) for students within commuting distance. However, as noted by the Farm Foundation report, agribusiness professionals are typically located in rural or geographically distant locations from almost all universities and most desire a degree that is tailored to agriculture. Braithwaite, Howard, and Laidlaw (1991) found that many Canadian graduates were interested in a master's program in agribusiness that would be offered via distance learning. The National Research Council reported that distance learning will become more important in college of agriculture programs in the future.

The U.S. Department of Agriculture has encouraged such programs by providing competitive grants to Kansas State University (Agricultural Telecommunications Program) and Purdue University (Fund for Rural America) to develop agribusiness master's degrees using distance learning. Currently there are three North American programs that offer degrees via distance learning (University of Guelph, Kansas State University, Purdue University).⁴The curriculum for these programs has already been discussed but there are other features that make these programs unique.

An executive program is one in which a professional obtains a master's degree through a lock-step program that minimizes interruption of the student's professional and personal responsibilities (Executive MBA Council). The programs at Guelph, Kansas State, and Purdue meet this criteria although Purdue is the only program that uses the "executive" label. The three programs use the Internet and

chat rooms to encourage on-line discussion though the degree of interactivity. However, the use of synchronous and asynchronous audio and video differs by program. All three programs require two or more years to complete and require students to be on campus at various times. Guelph has a one-week residency in the second year. Kansas State requires two week-long residencies in each of two years. Purdue requires students to be on campus five weeks in the first year and four weeks in the second year (two of those weeks are spent internationally).

Master's Degrees Offered Outside North America

There are graduate agribusiness degree programs outside North America. For example, Wageningen Agricultural University in the Netherlands has an International MBA in Food Industry and Agribusiness. Royal Agricultural College in the United Kingdom recently began an International MBA in Food and Agribusiness. There are one-year MS programs in The United Kingdom at Newcastle University (MS in International Agricultural and Food Marketing), University of Reading (MS in Food Economics and Marketing), and University of London's Wye College (MS in Food Industry Management and Marketing or MS in International Food Marketing). ESSEC in France offers a MBA Program in International Agri-Food Management. Curtin University in Australia offers a Graduate Diploma in Agribusiness while University of New England offers a Graduate Diploma in Business Studies. Finally, the University of Buenos Aires recently began an MBA in Food and Agriculture. Similar MS and graduate diploma programs exist in other countries as well.

COMPARISON OF MBA AND MAB PROGRAMS

There appears to be some distinct differences between MBA and MAB programs.

Thesis Requirement vs. Additional Courses

The National Agribusiness Education Commission did not include a thesis requirement in its model program. The requirement of a thesis may have appeal to some students or employers but not others. This is not surprising given the applied nature of MBA programs relative to MS programs. However, many MAB programs are considered a hybrid of MS and MBA programs which makes the thesis issue important. Thesis expectations may vary by individual faculty and even by department.

Thesis topics may not exactly resemble the traditional thesis format (introduction, literature review, methodology, data description, results, implications) but may take on the appearance of thesis research in other disciplines such as engineering or management where graduate students frequently enter industry careers rather than academia. For example, students may pursue research that is

directly related to their occupations such as an extensive study of different precision agriculture technologies, benefit/cost of repetitive risk management options, etc. Some MS degree programs already allow such topics to constitute a thesis. This may mean changes in the intellectual property rights for theses which could resemble engineering programs. For example, Kansas State University's MAB program allows confidentiality of proprietary information in the MAB thesis. The ability to supervise a company-related thesis can lead to new applications for faculty. Furthermore, the ability to apply learned concepts directly to the student's business increases the relevance of the management degree.

The substitution of thesis credit hours (an average of 15 semester thesis credit hours are needed for an MAB program to equate with the 45 minimum MBA semester credit hours) for course credit hours in the MAB programs assumes that students are pursuing the traditional academic thesis. However, none of the MAB programs have 15 semester credit hours of a thesis requirement (three to nine semester credit hours is the range). MAB thesis credit hours appear to replace course credit hours in the MBA core subjects rather than the agribusiness management subject courses. Thus, it appears likely that MAB graduate coordinators and thesis advisors have a greater responsibility to ensure that students engage in research that also includes education and training in agribusiness management if the student desires generalist training.

As noted earlier, a specialist (i.e., agricultural scientist who receives a graduate degree in agribusiness) was more likely to be employed in a niche market at the farm gate while the generalist was more likely to be employed in positions that are not directly located at the farm gate (ex., marketing management). However, some of the MAB degrees do enable specialists to pursue independent research that complements their technical background.⁵ Given that many of the courses are taught with colleges of agriculture, faculty expertise in agribusiness management is critical in MAB degrees. Although many programs prefer work or professional experience, only five (four MBAs and one MAB) programs require it; which suggests that those programs have differentiated themselves from the other agribusiness programs that allows students to obtain degrees without work or professional experience. Thus if an MAB thesis is considered to be the integration of all economic and management concepts in lieu of MBA capstone course(s), it is important that faculty have expertise in agribusiness management to ensure this integration.

Integration of Food and Agricultural Topics

Sonka and Hudson (1989) note that there are five distinct characteristics of agribusiness which makes it different from other businesses: 1) unique cultural, institutional, and political aspects of food; 2) uncertainty arising from biological

lags in crop and livestock production; 3) forms of domestic and global political intervention; 4) institutional arrangements that influence technology development in the public sector; and 5) differing competitive structures and organizations (ex., cooperatives, etc.). One of the motivations for agribusiness programs is that traditional business programs ignore one or all of these factors.

The amount of integration of agriculture into a curriculum appears to vary widely in both MBA and MAB programs. Most of the MBA programs integrate agricultural concepts into business curriculum while MAB programs integrate business concepts into agricultural economics programs. These programs accomplish this through requiring several courses outside the respective college. However, degree of integration is a difficult concept to measure and evaluate. Thus, the perceived level of actual integration of agricultural concepts into the "business" curriculum (and vice-versa) may be another factor that differentiates the MAB and MBA agribusiness degrees.

Course Subjects

The MBA programs typically limit the number of courses taught within the college of agriculture to approximately 30 percent or less although the range is broad. The MAB programs have a significantly greater number of courses (almost 75 percent) within the college of agriculture. Only three programs (Florida, Kansas State, Mississippi State) require courses in the four MBA core subject areas with specialized courses in various agribusiness management subject topics. Other MAB degrees vary with respect to curriculum and do not appear to differ much from a traditional MS degree with courses from the college of business. Although the number of students in master's programs was not publicly available, the range appears to vary widely from Guelph's 94 students to one program whose coordinator indicated that "the degree is on the books but no one has ever taken it." Given their broad scope and limited depth in core management subjects, some MAB degrees are not substitutes for the Commission's recommended MBA degree that provides breadth in business knowledge as well as discussion of issues unique to the food and agribusiness industry.

Rankings and Evaluation

MBA programs are ranked by organizations such as *U.S. News and World Report* or *Business Week*. The ranking criteria often includes reputation (faculty, university, etc.), student placement (salary, etc.), and student selection criteria (professional experience requirements, test scores, etc.). Rankings may provide some guidance to human resource managers, applicants, and managers. Potential students may also choose a program that best fits their needs for reputation, geographic location, residency requirements, and agricultural management specialization subjects.

MAB programs are not ranked through any such formal system. Although these programs are not ranked by independent organizations, human resource managers, potential students, and managers may want to focus on incoming student qualifications criteria used by those that rank MBA programs, previous degrees, GPA's, professional experience, faculty reputation and expertise (Are the instructors seasoned and recognized national leaders in their area of expertise?), subject matter (How much "management" and "agriculture" is being taught?), residency requirements (Is the program available to professionals with full-time careers?), level of agricultural integration (Are the courses merely "repackaged traditional MS courses" or MBA courses without consideration of agricultural institutions?), and student placement.

Executive programs are more difficult to evaluate because one important criteria, student placement, is not directly relevant. However, possible alternatives might include student "satisfaction", (What did the residency, program experience, technology, etc. add to their present job?), "relevancy" of the course material, or advancement (Did the degree play a significant role in a new position or career?). Thus, reputation and student selectivity will continue to obviously play an important role in the evaluation of these programs.

SUMMARY

Evaluation of agribusiness master's programs is difficult because many are new. A centralized organization such as the International Food and Agribusiness Management Association could help provide evaluation through benchmarking programs similar to the Executive MBA Council's Program Study and Student Satisfaction Study. There is a distinct trade-off between the integration of food and agricultural topics vis-a-vis a strong basis in general management courses. Neither type of program with respect to curriculum or format is better than another. Rather, it is important that human resource managers, potential students, and other managers have a common basis for objective decision-making. Like any degree, it is still up to the students to apply their education to their careers. It is also important that these programs continue to produce individuals who understand the implications of their education and training in their everyday decision making.

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NOTES

1. We note that individual courses and extension programs in agribusiness have been offered for at least 50 years, and perhaps longer.
2. Note that we limited our study to graduate degrees only. Thus, we have not included certificate programs (e.g., Cornell University's Distance Education Program, Portland State's Food Industry Management Certificate, etc.). Programs that fall within Hambley and Marquardt's seventh classification (e.g., Harvard University offers two courses in agricultural marketing) are not discussed in this paper. Finally, we were not able to obtain complete information on four additional MAB programs.
3. It should be noted that credit hours in strategy vary depending upon the program. One program has one credit and an additional two credits of independent study; one program has a two credit hour course; and the remaining three are three credit hours.
4. University of London-Wye College offers degrees in agribusiness via distance learning using a correspondence format where students learn from textbooks and take examinations independently after studying the material.
5. We note that it is difficult to make generalizations with regard to French and Erven's specialist training or generalist training because the promotional materials for virtually every program suggest that incoming students and graduates have a wide range of careers.

REFERENCES

- AACSB-The International Association for Management Education. Available online July 5: <http://www.aacsb.edu>.
- Akridge, J. T., W. D. Dobson, and M. Holschuh. 1994. "Positioning Agricultural Economics Departments to Serve Agribusiness Graduate and Professional Education Markets." *American Journal of Agricultural Economics*, 76: 1193-98.
- Boland, M.A. and S. Daniel. 1999. "Training Agricultural Economists for the Private Sector —Are We Meeting Their Needs?" *Review of Agricultural Economics*, 21: 319-330.
- Braithwaite, W. M., W. H. Howard, and J. Laidlaw. 1991. "Independent Graduate Study in Agribusiness: A Survey and a Proposal." *Agribusiness: An International Journal*, 7: 231-39.
- Business Week*. 1999. "How We Kept the Data Unsullied." Available online July 12, 1999: <http://www.businessweek.com/bschools/index.html>.
- 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.
- Executive MBA Council. "Frequently Asked Questions." Available online July 21, 1999: [Http://www.emba.org/freq.html](http://www.emba.org/freq.html).
- Falcon, M. "The Merlin Falcon MBA Guide." Available online July 21, 1999: <http://www.Merlin-Falcon.co.uk/mba/mbaintro.html>.
- Farm Foundation. 1991. "Agribusiness Education in Transition: Setting Directions for Global Competitiveness." Farm Foundation study. Chicago, IL.
- French, C. E. and B. L. Erven. 1985. "Agribusiness and Professional M.S. Degree Programs in Agricultural Economics in the United States." *American Journal of Agricultural Economics*, 67: 1215-22.
- French, C. E. and K. K. Litzenberg. 1989. "Editorial." *Agribusiness: An International Journal*, 5: 205-06.

- Hambley, D.I. and R.A. Marquardt. 1990. "Status of U.S. Agribusiness Masters Programs." *Agribusiness: An International Journal*, 6: 153–62.
- National Research Council. 1996. *Colleges of Agriculture at the Land Grant Universities: Public Service and Public Policy*. National Academy of Science, Washington D.C.
- Phillips, T. D., W. C. Couvillion, Z. W. Daugherty, and D. V. Burckel. 1992. "Designing Graduate Education for Agribusiness Students." *Southern Journal of Agricultural Economics* 27: 27–31.
- Robbins, L. W. 1988. "A Positive Role for Graduate Agribusiness Programs in Agricultural Economics." *Western Journal of Agricultural Economics*, 13: 121–27.
- Sonka, S. T. 1989. "Future Priorities in Agribusiness Education: A U.S. Perspective." *Agribusiness: An International Journal*, 5: 269–79.
- Sonka, S. T., and M. A. Hudson. 1989. "Why Agribusiness Anyway?" *Agribusiness: An International Journal* 5: 305–14.
- U.S. News Online. 1999. "Business: Methodology." Available online July 8, 1999: [Http://www.usnews.com/usnews/edu/beyond/gradrank/gbbizmet.htm](http://www.usnews.com/usnews/edu/beyond/gradrank/gbbizmet.htm)..