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## AGRICULTURAL ECONOMICS UNDERGRADUATE AND GRADUATE CURRICULA: ARE WE COMPETITIVE?

F. W. Williams

I am pleased to have this opportunity to address a timely subject that is more often discussed than acted upon—curriculum—whether in agricultural economics or other majors. The subject is always timely, but perhaps more so during this time of financial crisis in U.S. agriculture. We would indeed be naive, as would our clientele, to blame the current situation in agriculture on past weaknesses in agricultural economics instruction. We would be equally naive if we did not pause to examine our teaching programs with the hope of alleviating future crises with increased economic literacy among our clientele and within our profession.

Progress may, or may not, be made by simply evaluating and modifying curricula. It is encouraging, though, to see what I interpret as increased sensitivity to curriculum content throughout our profession as well as in colleges of agriculture. My invitation to discuss curricula here today is evidence of this emphasis. A teaching workshop emphasizing curriculum development was held for two and a half days preceding the American Agricultural Economics Association meeting in Reno last summer. Whether or not this emphasis leads to desirable change, it at least suggests that we think what we teach is as important as how well we teach.

### THE CURRICULUM

In keeping with the adage, "He who discusses with me must define with me," what do we mean by curriculum? There is, and should be, no such thing as *the* curriculum. A curriculum is not a thing but an evolutionary, dynamic process unique to the needs of individual institutions and their students. It is a process by which faculties create learning experiences for students and provide the mental discipline and motivation for life-long learning. We expect that this process will pro-

vide to students the basic concepts and methodologies on which they may build a career.

Both undergraduate and graduate learning experiences are traditionally oriented to a set of courses, some required, some elective, all designed and controlled by faculty. Vested interests and their protection are equally traditional since the teaching faculty controls the curriculum. Therefore, most initiatives for major curriculum revision do not originate with faculty but result from administrative or clientele pressures.

It is the nature of college and university faculties that courses and course content become closely identified with particular instructors and their personalities. Curricula and component courses are not proprietary, but curriculum committees are generally reluctant to insist on changes that might be desperately needed for fear of offending colleagues.

National debate continues on the virtues of core curricula. Should there be a specified set of courses required for undergraduates at the university level, college level, and departmental level? Should not all curricula place more emphasis on the arts, humanities, and foreign languages to produce educated rather than trained graduates? Are curricula relevant to current problems of society? Such debate is healthy and should be a part of every curriculum decision.

### THE COMPETITIVE MODEL

In keeping with the expectations for agricultural economics presentations, a model will be basic to my comments. Part of my charge in preparing this paper was to address the competitiveness of agricultural economics curricula, presumably those offered predominantly by land-grant universities in the South. This begs the question: with whom are we competing, for what, and why?

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Having spent my career in teaching and research in marketing, I could not resist the temptation to cast my remarks into a competitive marketing model. Though there clearly is much overlap, let's consider undergraduates first and then turn to graduate programs.

It can be argued that our output of graduates faces an imperfectly competitive market—specifically, monopolistic competition. The demand schedule for our graduates has a slight negative slope allowing some measure of product differentiation. It follows that curriculum design could provide opportunities for premium pricing strategies *vis-à-vis* our competitors. Agricultural economics graduates enter employment markets in competition with both land-grant and non-land-grant general business and economics graduates, majors in other agricultural sciences, and a host of majors in arts and sciences. In the interests of effective recruitment and retention, maintenance of the institutional resource base, and pure professional ego, we want our graduates to compete favorably in the marketplace. What, then, should be our output policies and marketing strategies?

## PRODUCTION AND MARKETING

Corollary with input-output analysis, inputs to undergraduate programs are high school graduates and transfer students, and the recruitment pools for both are shrinking. Decreasing enrollments in recent years in colleges of agriculture and in most agricultural economics departments suggest scarcity in input quantity and perhaps also in quality as we strive to maintain numbers. The challenge of faculties is to transform these inputs, over which we have less than optimal quality control, into finished products demanded at competitive or premium prices in the marketplace. An important measure of our success is the value added, in terms of lifetime earning potential, during the production process.

Within this input-output context, what are our production goals? In serving the self-interests of cash flow, efficient use of fixed inputs, and other budgetary priorities, we have attempted to maximize units of output. This level of output has been produced, generally, with little or no regard for market demand and has led to intermittent and localized market saturation.

We turn next to product design in which curriculum content plays a major, but not singular, role. Neither theory nor practice

would suggest production of a homogeneous product, but how differentiated should it be as compared to the output of our competitors and among agricultural economics graduates? This question brings us to the debate about whether our graduates should be generalists or specialists and whether they should be marketed as agricultural economics or agribusiness majors or specialists in finance, marketing, production economics, or resource economics.

As a general rule, I don't think we should try to produce specialists at the undergraduate level. Leave that to graduate schools. We must, though, be sensitive to the needs of employers. Many instances can be cited in which agribusiness firms have hired general business majors when we think a better case might be built for their hiring agricultural economists. The terms *agribusiness* and *agricultural business management* in current usage define too narrowly what agricultural economics is about. Surely, though, an *agribusiness* major would need the foundation provided in accounting, economic theory, marketing, management, and finance. Use of the term *agribusiness* in some programs may be more a matter of semantics rather than of substance. A recent national survey by Carman and Pick, however, finds important differences between agricultural economics and agricultural business curricula. The authors note that 55 percent of the undergraduate enrollment in our profession is in programs labeled in some way as agricultural business. Nevertheless, the value of semantic connotations should not be underestimated. Successful marketing often places a higher priority on image than on content. In our recruitment efforts at Georgia, many prospective students inquire about a program in agribusiness rather than about agricultural economics, although we have no agribusiness major.

Let me share another Georgia experience. Our College of Agriculture recently completed an intensive, year-long planning exercise called *Agrivision: Georgia's Challenge for the Future* in which program projections were made for the next ten years. All teaching, research, and extension faculty were involved as well as farmers, bankers, agribusiness executives—the leadership of Georgia agriculture. A single theme pervaded every discussion of our teaching program: provide all College of Agriculture students more training in economics, accounting, finance, market-

ing, and management. As a result, we are establishing a standardized 25-quarter hour agribusiness option for all non-agricultural economics majors. In addition to generating more student contact hours in agricultural economics instruction, we expect this option to be beneficial in recruitment, retention, and job placement of students.

Returning to the theme of product design, successful merchandising requires consistency in product quality and incentive for repeat purchases. Employers must have confidence that graduates will perform as represented, and they will employ future graduates only if their expectations are met. Consistency suggests a core of required courses that all students take to assure a minimum level of competence regardless of options or electives available for further specialization. Curriculum flexibility is essential, however, to avoid "stamping every graduate out of the same mold" and to provide each student an opportunity to pursue special interests.

Successful marketing strategy also requires product design and targeting to existing and potential market demand. It is incumbent on faculty to know the market for which students are being prepared. Surveys of alumni and employers, such as those by Broder and Deprey (1983, 1985), Nippo, and Woods provide excellent market analyses on which curriculum decisions could be based. Product design of consumer goods changes constantly to meet changing tastes and preferences. So must the design of our graduates change to meet changing employer needs.

The profession seems to have done a fairly good job of changing the design of graduates, though often too slowly and reluctantly to meet changes in market demand. Most programs have, over the past decade, increased requirements in mathematics, statistics, and computer science (Carman and Pick). Development of communications skills seems to be our weakest area. In a study by Broder and Houston, employers reported that communications skills are the most important trait sought in professional recruits and is the skill found most lacking. Our product image is not enhanced by turning out well-trained economists with marginal literacy.

### COMPARATIVE ADVANTAGE

The most marketable characteristic of agricultural economics graduates is probably their unique combination of technical agri-

culture and business training. This trait alone differentiates most of our graduates from those of general business and those in other agricultural majors. The optimum balance between technical agriculture and business-oriented courses seems to be increasingly tenuous. Fewer of our majors have farm backgrounds (Beck et al.). Many lack the fundamental vocabulary and facts of farm life to avoid classroom embarrassment. Carman and Pick found that agricultural business programs placed more emphasis on agricultural courses than did agricultural economics programs.

Students sometimes feel that they are professionally stigmatized by the image of agriculture, which places them at a disadvantage in the job market. Some faculties apparently share this feeling as evidenced by changes in names of departments and even of colleges to de-emphasize the agriculture label. We should be sensitive to professional image in an increasingly urban society. De-emphasis of agriculture in agricultural economics, however, simply weakens what I view as a great comparative advantage, both for us as professionals and for our graduates in job markets. Marketing strategy would dictate exploiting an important trait that differentiates our output from that of our competitors.

A second marketable characteristic of graduates from agricultural economics programs is the applied orientation of their education. Much is said about basic versus applied research, little about basic versus applied teaching. The acknowledged mission of our colleagues in general economics is to teach theory with little emphasis on application. Agricultural economics programs have, consciously and to their credit, placed greater emphasis on applications of theory to the problems of society. The balance of emphasis has been heavily weighted to micro- with perhaps too much neglect of macro-economic applications (Carman and Pick). The applied nature of our programs, however, should be exploited as a marketing strength to enhance both recruitment and job placement.

A third characteristic affecting the potential marketability of agricultural economics graduates, emphasis on international education, appears to be generally negative. Ed Schuh, in his article "Revitalizing Land Grant Universities" published in *Choices*, stated:

Some 25 percent of our GNP now comes from international trade. The international capital market now drives our

economy. . . . Our overall economic performance is determined in large part by our ability to compete in the international economy. But this ability is determined in no small part by our knowledge about the rest of the world. That knowledge is extremely limited . . . . We do not understand, nor do we address, the very large economic dislocations associated with opening our economy to the international economy.

His statement seems to describe not only most land-grant institutions, but also most agricultural economics programs.

Few departments, to my knowledge, have a genuine commitment to international economic education. Commitment requires more than a course or two in foreign trade or participation of faculty in foreign economic development contracts. Students, both undergraduate and graduate, need expanded learning experiences which place greater emphasis on economic, cultural, and institutional interdependencies in the world community. These experiences are not likely to originate in classrooms but through cooperative work-study programs with multi-national firms and governmental agencies, study abroad, and international student and faculty exchange programs. The Peace Corps, viewed as a two-year internship, may well be the best avenue for gaining international experience.

A recent report of the Southern Governors' Association noted that states could no longer afford "to look on geography, languages and area studies as mere luxuries" and called for a "fundamental change in attitude" by students and faculty members toward international education.

Comparative advantage and improved marketability of graduates will no doubt accrue to those departments and programs that strengthen international education.

## GRADUATE PROGRAMS

We turn now to graduate programs which appear to be much more heterogeneous than undergraduate programs. Graduate curricula are necessarily designed to meet specific degree objectives—master's with thesis, master's without thesis, and doctor's. Within each degree program, curricula vary to allow specialization in such areas as economic development, agribusiness management, marketing, resource economics, quantitative methods, finance, or production economics. The reputation of departments often relates

closely to recognized strengths in some area of graduate training. In turn, market demand for graduates relates closely to the established reputation of the department.

## Master's Programs

Traditionally, master's degree programs throughout our profession have been research oriented. One justification for requiring original research at the master's level is very rational: to prepare students, although a minority, for Ph.D. work. Whether or not the research orientation enhances the marketability of master's graduates entering the job market is debatable.

There has been a proliferation of non-research oriented master's programs in the last decade. While we do not know how many of these programs exist, Woolverton noted that there were about 60 agribusiness programs in the United States in early 1985 but did not distinguish between graduate and undergraduate programs. Graduate programs have various agribusiness or professional labels and have originated in agricultural economics departments and in both land-grant and non-land-grant business schools. Many graduate programs have been developed as a result of a perceived demand for more business-oriented graduates who could, hopefully, compete more effectively with MBA graduates. No research supports whether or not this is true.

French and Erven suggest that, despite the rapid proliferation of graduate agribusiness programs, we do not know the demand for agribusiness management education. They raise important questions about the adequacy of curricula content, the number of programs needed, and the risks of control and duplication between agricultural and business colleges.

We would probably agree on the need for a limited number of business-oriented master's programs. We would also agree that their logical location is in agricultural economics departments. If we ignore demand for such training, it surely will be met by other, perhaps less qualified, faculties. However, before we continue to increase the number of master's programs and the number of master's graduates, there is a critical need for research to better establish supply-demand relationships for our entire master's-level output. Only then may we assess our competitive position in this market.

## Ph.D. Programs

Shrimper and Huffman and Orazem have done pioneering work in analyzing the market for Ph.D.'s in agricultural economics. We have nothing empirical to add to their assessment but do offer two observations which relate to potential demand for the output of Ph.D. programs.

The first observation is that a large proportion of current Ph.D. graduates lack agricultural experience. Students attracted to graduate study in agricultural economics increasingly have non-agricultural economics undergraduate training, are from non-land-grant institutions, and have highly diverse educational backgrounds (Shrimper). Increasing numbers of Ph.D.'s with these characteristics will comprise future agricultural economics faculties. I am not critical that these graduates lacked the embryonic skills for parental selection. Note that I said agricultural experience, not farm background. Will those graduates teaching farm and ranch management relate effectively to students if they, themselves, have had no farm or ranch experience? Can one who has never visited an agricultural marketing firm effectively teach classes in agricultural marketing? Caution seems prudent in recruiting new Ph.D.'s who can communicate a functional knowledge of agriculture in agricultural economics teaching.

A second observation is that many new Ph.D.'s enter our classrooms with no teaching experience; consequently, they do not know whether they want to teach or whether they can teach effectively. The results are often well known to all of us: ineffective teachers who lack incentives for improvement. The Ph.D. must be a research degree if graduates are to progress through the academic ranks based on research productivity. However, several departments at the University of Georgia, including agricultural economics, now require all advanced Ph.D. students to

assume primary responsibility for teaching at least one course. The requirement applies to both domestic students and foreign students who have acceptable language skills and applies without regard to the source of assistantship funding. This seems to be a step in the right direction for improving the quality of teaching in our profession as well as the marketability of Ph.D. graduates.

## CONCLUSIONS

If I had been charged with developing the title of this paper, it probably would not have included "Are We Competitive?" I was unsure of the answer to this question when I started writing the paper and am less sure now after researching the relevant literature. We, as a profession, do not know the answer, and for this we can blame only ourselves. It seems ironic that we have researched most conceivable agricultural markets but have largely neglected, until recently, the markets for our own output.

We need more definitive research that better identifies the type of product our curricula should be designed to produce for future market demand. Evidence suggests that the agribusiness orientation of agricultural economics curricula will continue at an accelerated rate. Market analysis should also accelerate to determine if job markets will absorb increasing numbers of agribusiness undergraduates and master's. This is particularly critical at this time when business schools nationally are producing record numbers of BBA's and MBA's. Agribusiness graduates will face increasing competition in markets that recruit both business and agricultural economics graduates.

We have long advised our public clientele to base product production and marketing decisions on a sound program of research. Improving the competitiveness and marketability of our output suggests a parallel need for improving our program of marketing research.

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