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EDUCATIONAL PROGRAMS FOR COMMERCIAL AGRICULTURE AND AGRIBUSINESS*

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Selected problems and opportunities inherent in educational work with large Agricultural and Agribusiness firms are examined in this paper. The problems arise largely because of the increasing size and complexity of today's large firms; the nature of their requests for assistance; and existing means of teaching the personnel of those firms. The opportunities lie in helping solve their problems in a manner which retains University contact with this important audience without disrupting academic budgets and faculty relationships.

The major purpose of the paper is to analyze some alternative educational techniques for serving audiences of large commercial farmers. We first review selected characteristics of large commercial Agribusiness firms which affect educational work designed for them. Then some possible consequences of ignoring the large agricultural clientele are discussed and finally some educational delivery systems are analyzed. It is hoped that the argument will illustrate that the final selection of a delivery system is probably not as important as the fact that a selection is made.

The perspective is primarily an Extension farm management point of view. Although somewhat myopic, this viewpoint is not intended to minimize the importance of other areas of specialization. The alternative educational delivery systems discussed are not limited to farm management subject matter. Indeed, some of the more cumbersome requests to Extension come from integrated Agribusinesses, and coping with them forces a rediscovery of the complementarity between "Marketing" and "Production" in Economics as well as the necessity of interdisciplinary work. Cooperation between Research and Extension is also increasingly necessary to meet the challenges presented by commercial agriculture.[1]

The semantic problem is acute when one speaks of working with large Agriculturists. "Commercial" or "large" agriculture in this paper refers in a general way to firms (or personnel thereof) having gross incomes of generally $100,000 or more. This paper concentrates on the large firms because the emerging problems of educational work with commercial agriculture are more visible at the upper end of the income spectrum.

A more important distinction than income however, is the nature of assistance which will be furnished to these firms. Their problems, and hence their requests, tend to be very specific. Much of the philosophical difficulty for Extension education with this group is due to the increasing service aspect of these requests [5]. Of course, an element of service in educational programs is nothing new. Soil testing or record keeping programs for farmers are examples of traditional University service-oriented programs which were designed to supplement educational programs. However, present day requests such as a feasibility study for an integrated production-marketing firm require different kinds and amounts of faculty input than most traditional service-oriented educational work. Yet such work offers a potentially fruitful source of funds, and a vector for accomplishing other academic goals, such as training graduate students and providing current

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[1] "The real uniqueness of the extension specialist . . . is the power of applied research [6, p. 147]."

examples for teaching. Thus, appropriate vehicles need to be implemented which will both satisfy some felt needs of commercial agriculturists and maintain an educational role with this group.

The hope remains, as always, that the service rendered will sugar-coat the educational boluses which one thrusts at this audience.

PROBLEMS OF WORKING WITH LARGE FIRMS

Standard farm management educational tools were sharpened on the problems of farm owner-operators who were both decision maker and action taker. Perhaps in some cases, there may have been absentee owners present. At most there were two audiences; points of contact were easily established, and decisions and actions were closely related. Not so now [2, 3].

Magnitude of Business

The structure of commercial agriculture has undergone rapid changes over the last decade [4, 7]. The most obvious characteristic has been a shift toward larger production units which account for an increasing proportion of the nation's farm output. We may even confront firms big enough to be classified as oligopolists in certain locales and time periods. For these, and other market oriented firms, traditional farm management packages aimed toward lowering production costs may have little value.

There are high economic stakes on large farms. Therefore, such farmers are dissatisfied with institutional lags in finding answers to pressing questions. This lag problem is aggravated by the scope of large operations which requires more time for Extension workers to take stock of the situation before giving advice, or beginning an analysis.

Operations of some large farmers may be dispersed over a wide geographic area. When a farming venture extends over more than one county or over a state line, there are problems in providing unified contacts through present structures.

Decision-Making Stratification

There is a hierarchy of decision makers involved on most large farms [3]. It may be more difficult to establish proper audience contacts for educational work under this environment than with a farm owned and operated by a single person or family. Some of the possible parties involved with a large farm are:

1. The executive, who may have a broad business background with or without a knowledge of agricultural matters.
2. Hired managers, who are responsible for on-farm operations under policies established by the executive.
3. Foremen, who are supervisors of specific farm tasks or responsible only for certain phases of the total farm operation.
4. Farm workers, who are performing specific farm jobs.

Different persons in the hierarchy might utilize different aspects of an Extension educational program. For example, the executive may be interested in the general outlook for agriculture; the farm manager may need commodity-outlook information to guide enterprise choice and marketing decisions. The foreman may utilize information on production techniques. For the workers, machinery operation and maintenance schools may be appropriate to raise the skill levels of disadvantaged people to the requisite skill required on modern farms. Establishing the proper point of contact may be as important as the content of the educational program.

The staffing of some large farm businesses provides a related type of challenge to Extension. Some businesses, especially integrated firms, have their own research staff. In some cases, this may mean less need for Extension assistance, but it can also imply more pressure for expertise by the Extension worker. Furthermore, some large farms may be so highly specialized that some members of their staff are more up to date in a given subject matter field than the Extension worker who acts as a generalist.

Nature of Requests

Large farmers' requests for assistance tend to be very specific and frequently require a special study before recommendations can be given. The unique nature of such requests may arise from the specialized nature of the farms, the wide scope of the problem for a large business, a sense of urgency from the entrepreneur, or an insistence upon individualized, or in some cases, even confidential attention.

Some examples will illustrate the complexity of these firms and their problems. Less than four years ago, a 10,000 acre corn and soybean farm was "born" in North Florida. They began pumping about 60 large irrigation wells. As a consequence, a nearby town's water supply failed. Who among us would have thought of that problem, ex ante?

A certain large ranch pays about three-fourths of a county's total land taxes. They requested (and paid for) a ranch organization study. Is it any wonder that they weren't particularly interested in the local tax assessor having access to the final report? That study took almost a year and involved input from 12 professionals representing both Research and Extension personnel from five departments.

Consequently, the major problems in doing the study were (1) inter-departmental communication, and (2) dissolving the task force.

As a somewhat parenthetic note, entrepreneurs of large firms do not care whether a professional who works with them is Research or Extension personnel. They want answers. They can and do turn to industrial consultants, but in many cases, the requisite expertise is not present outside Colleges of Agriculture. A dual question is thus posed. To what extent are large agriculturists willing to pay for specific assistance from Universities, and what assistance will be proferred by the Universities? Interestingly enough, at least some large operators seem to prefer to pay for University cooperation. Perhaps this serves as a device to hold an expert's feet to the fire and get recommendations rather than alternatives. The latter characteristic may require some behavior modification from professionals accustomed to giving alternatives instead of answers. Whatever the motive, when they pay, they listen.

Under circumstances as described above, the Extension Service must search for effective means of conducting educational programs with large farmers. Universities are less involved than private companies in the formulation of agricultural chemicals, but more involved in basic chemical processes in research. This may suggest a subject matter emphasis (perhaps conveyed by the educational delivery systems discussed later) on teaching principles of problem-solving versus case-by-case application to specific problems by faculty members. It may be that an institutional choice will be necessary between these two approaches. Choosing the former would pass, by default, more responsibility to the individual entrepreneurs or private consultants.

IGNORE LARGE COMMERCIAL AGRICULTURE -- AN UNSATISFACTORY OPTION

A decision to ignore specific problems of large firms may be tantamount to a decision not to work with them at all. This would be the case if their problems require different educational techniques than do more traditional audiences and especially if substantial lead time is required to develop new educational approaches. Even traditional approaches like short courses are requiring greater amounts of preparation since farmers are becoming more widely-read and better informed than ever before.

An important consequence of not working with large firms would be that Extension would exert a continually dwindling influence on the production and marketing of an increasingly greater percentage of U.S. agricultural products [4, 5, 7]. Support of Extension programs would be lost from the management of these large firms. Given their political influence, this decision could have serious long-run implications, particularly as revenue sharing becomes a fact and state legislatures become more dominant in allocating funds.

Not many states presently have administrative vehicles for obtaining "grant" funds for Extension work related to specific problems of large firms. However, this potential source of funds may be lost unless specific programs are implemented.

Perhaps more importantly, Extension would lose the advantage of being on the cutting edge of change. Hildreth maintained that the managers of today's agricultural giants are "writing the textbooks of the future."[2] This seems to be so. "No one really has a very good idea of what is going on in agriculture except in particular areas or commodities" [2, p. 2]. Therefore, a decision to ignore large firms would further erode academic knowledge of the emerging specific problems of agriculture and how to deal with them. In so doing, Extension would ultimately lose the ability to help young farmers establish themselves in tomorrow's dynamic agriculture.

Two other effects might be felt. The first would involve becoming farther behind in teaching programs related to Agribusiness. Secondly, the procurement of firm-level data (already a critical problem) would be increasingly difficult.

Assuming that we wish to retain the large agricultural clientele, let us examine some educational vehicles.

ALTERNATIVE EDUCATIONAL DELIVERY SYSTEMS

Requests to the Extension Service from large commercial farmers may involve more than could be offered to all farmers through public funds and existing staff resources. Staff resources are more apt to be a critical limitation for large problems because they almost always require substantial input from more than one department.

Because of the unique nature of many large farm problems, the element of service involved, and the

[2] R. James Hildreth's discussion at a Southern Extension Farm Management Seminar entitled, "A Look at Commercial Farms of the Future," New Orleans, La., April 14-16, 1971.

need for generating more educational resources, the ensuing discussion is couched in terms of the users paying at least part of the costs of specially designed educational packages. Different institutions presently use varying amounts of public funds to support such work. Some of the more traditional approaches such as short courses are now frequently wholly financed from public sources.

It is possible to construct certain projects in which the individual farmer would pay part or all the cost. Programs to test materials and products for payment of fees and the Dairy Herd Improvement Association program provide precedent for cost-sharing.

Appropriate conditions for cost-sharing projects are:

1. When the educational material is not transferable to other farmers, i.e., when results would only fit the needs of the requesting farmers.
2. When there is a mixture of personal service and educational work inherent in the project.
3. When staff or other resources, in excess of those that can be publicly financed, are necessary to conduct the project.
4. When the development of the project by the educational institution will stimulate interest by private business in providing a needed service to farmers.
5. When the development of the project requires a specific completion time resulting in major shifting of resources.

However, if Extension does engage in cost-sharing projects, it seems appropriate to develop clear guidelines. For example, which activities shall be conducted under Extension auspices as contrasted with individual consulting? Disparities between rights of Research and Extension personnel to engage in private consulting should be avoided.

Among alternative structures under which educational and/or problem solving work may be conducted are: intensive short courses and workshops, problem-oriented task forces, commodity teams, problem-oriented institutes, and individual consulting.

Intensive Classes, Short Courses and Conferences

Large commercial farmers generally recognize a need for the latest information. In addition to the economics of specific farm enterprises, they are concerned with strategies for total farm organization, with business affairs and with the impact of general economic forces on farms. Special classes conducted on a county, area, or state basis provide a traditional vehicle for disseminating such information.

These classes may be oriented toward a general farmer audience or toward selected farmers, which may even be pre-enrolled for the classes. Attention should be given to inviting the appropriate individuals or specific audiences from a large farm to classes. Some subjects may be more oriented toward managers; others toward production workers or supervisors.

Classes may range from a single session to a series. A single topic may be pursued at a general interest level, in depth, or a series of topics may be built into a curriculum.

In addition to classes, leading farmers respond favorably to structured short courses and conferences, especially if renowned speakers are featured. These programs can be conducted on an area, state or even regional basis. Special invitations enhance participation in these programs as prestige-events.

Task Forces

Recent literature and scattered Extension experiences over time indicate the use of mission-oriented teams [1]. Regardless of the root discipline of the problem, teamwork with other specialists may be vital in order to (1) mobilize all the expertise to provide definitive answers and (2) utilize the contacts among commercial farmers normally available to various specialist groups. Such task forces are organized by drawing personnel from appropriate departments to work on a particular problem or project that cannot be satisfactorily accomplished through a single discipline.

An obvious strength of the task force approach for working with large commercial farmers is that the needed group of disciplines could be brought to bear on the particular problem. Effective work by task forces would strengthen the support given to Extension programs by large farmers. Some advocates of task forces suggest that members be relieved of responsibility in their parent department during the period of the mission. Consequently, task forces must be formed by administrators above the departmental level.

Some concerns for effective use of task forces are:

1. How to maintain on-going programs within the parent department with the reduced staff within the department?
2. How to avoid or minimize the complications from dual lines of administrative responsibility between the director of the

task force and the parent department? Safeguards may be necessary to avoid perpetuation of the task force as an entity.

3. How to provide appropriate rewards to task force members, if promotions and salary increases are routed through departmental channels when task force accomplishments may not be fully recognized?
4. How to establish early and complete communications and common understanding among specialists from various disciplines? Particularly important here may be the choice of a task-force leader.
5. How to involve non-agricultural disciplines such as finance or law? Their services may well be required. Acquiring their participation usually requires that most ubiquituous social lubricant.

Closely related to the task-force idea are inter-departmental committees charged to keep a pending problem under surveillance, and to mobilize efforts from the respective disciplines when necessary. For example, special inter-disciplinary committees relating to "Agricultural Chemicals Use," "Animal Waste," or "Land-Use Planning" might be formed. Large farmers are apt to be deeply involved in emerging problems amenable to work by special committees, and to make immediate use of committee results.

Commodity Teams

Much of the history of successful educational programs includes teamwork with production specialists. Economics specialists usually provide leadership in developing (1) budgets showing costs and returns from various enterprises, and (2) economic analyses of production practices. However, research information and judgments based on the experience and observations of technical specialists usually provide physical input-output data.

Pairing economic and production specialists provides advantages in (1) a degree of specialization in economic subject matter, (2) a greater understanding of the technical base of the given enterprise or type of farm, (3) more opportunities for follow-up, and (4) a more definable audience where commercial farmers identify themselves along commodity lines.

Problem-Oriented Institutes

Some few Universities have established special institutes to comply with the increasing number of requests which could not be adequately met by existing means. These are organizationally part of the University, yet they generally are self-contained units employing permanent personnel assigned to work in a given problem area.

Proponents claim that they combine research (usually of a short-run nature) and extension of the results to a higher degree than is usually found in a University. They can also give graduate students some research training of a slightly different nature. Extension personnel can provide input data for research, contacts for projects, and use the results of some projects in their educational work.

Detractors contend that institutes tend to become monolithic and philosophically removed from the rest of the department, and that other faculty members are not rewarded for the contribution to institute projects. Also, that some expensive resources, in the person of high-ranking professors, are required to keep projects coming in.

At any rate, it is possible to develop arrangements for payment of fees directly to the University. Such fees can be utilized at administration discretion to supplement salaries or to hire additional personnel if warranted.

Individual Consulting

Remanding requests for assistance by large firms to individuals or groups of faculty is one potential form of response. University faculty who are closely involved with a particular problem area are of obvious benefit to such firms. One question regarding the consulting alternative is how to provide appropriate expertise to individual businesses and still meet one's academic responsibilities.

There may be further questions regarding equitable access to consulting. Informal discussions among members of the Southern Extension Farm Management Committee suggest the following tendencies in the southern land-grant universities: (1) it is sometimes easier for Research personnel to receive approval for consulting than for Extension, and (2) some Business Schools allow relatively more freedom for consulting than the College of Agriculture. This potential morale problem between Extension and other professionals may become more acute if consulting-type requests increase.

There are two major ways in which individual consulting is treated. First, the individual or group of individuals keeps all fees and secondly, the university receives the fees for work done by individuals or groups.

Some strengths and weaknesses of these systems are listed in Table 1.

Table 1. STRENGTHS AND WEAKNESSES OF SELECTED EDUCATIONAL AND/OR CONSULTING DELIVERY SYSTEMS

APPROACH	STRENGTHS	WEAKNESSES
Intensive short courses and workshops	1. Employees recognizable educational approach to the problem-solving. 2. A given effort could reach large number of users. 3. Format, quality and fees controlled by the University.	1. Requires clarity and skill in subject matter definition to attract users. 2. Requires large amounts of faculty time. 3. Cost to user may approximate consultant fees if fees include charges for preparation time. 4. Does not provide a means of servicing unique problems of certain users.
Problem-oriented task forces	1. University supervision of "consulting." 2. Contact procedures can be specified. 3. Team approach yields broadly-based, reliable information. 4. Permits rotation of faculty. 5. Encourages cooperation between task force members and other faculty. 6. University receives funds, thereby relieving individual faculty of personal problem of assessing conflicts of interest.	1. Slow response to users requests. 2. Difficult to motivate staff members. 3. Normal faculty duties must be reassigned to other departmental members. 4. User may prefer other faculty members than those assigned. 5. Individuals may not be remunerated directly (or adequately, as they perceive it). 6. Interdepartmental coordination is difficult. 7. Difficult to terminate projects.
Problem-oriented Institutes	1. "Consulting" service established by University. 2. Specific contact procedure known to user public. 3. Provides interdisciplinary team approach to problem solution. 4. As integral part of University, cooperation may be enhanced between institute and other staff. 5. Assigned staff devote full time to a problem area, generating more expertise. 6. Institute receives remuneration, possible to expand expertise. 7. May provide vehicle for short-term graduate student research involvement.	1. Institute perforce specializes; some problems unserviced. 2. Permanent staffing may segment faculty from departments. Information exchange to non-users may be hampered. 3. Tendency for institute to become self-supporting, resulting in less money being diverted to general University purposes. 4. Prestige Institute members may spend inordinate amounts of time recruiting projects.
Individual consulting; fees retained by faculty member	1. No administrative overhead. 2. User contacts Specialist directly. 3. Timing only involves user and professional.	1. Conflicts of interests and time. Professional may slight University. 2. No systematic way to inform potential users of service available.

Table 1
(continuation)

APPROACH	STRENGTHS	WEAKNESSES
	4. University salaries may reflect consulting, thus enabling more competency in a given department for given University expenditure. 5. Staff members may have extra incentive to develop expertise in given fields. 6. Field contacts of consulting faculty increases relevance of their University efforts.	3. Conflicts between consulting and non-consulting faculty over sale of material and relative work loads. 4. Non-supervised consulting may lead to low quality work, unfavorable University image. 5. Difficult to route requests to interested faculty. 6. Competition between private consultant firms and University based "consultors."
Individual consulting; University receives all fees	1. Same advantages as above, plus reduction in friction between faculty. 2. Staff members more willing to share requests. 3. Closer supervision of amount and quality of work offered potential users.	1. May tempt staff to "black market" services. 2. No systematic way to inform users of services available. 3. Difficult to motivate faculty without some compensation (as per % of fee).

SUMMARY AND CONCLUSION

The problems faced by large agricultural firms create demands for Extension involvement which require large amounts of faculty time to complete; the answers may be specific to a particular firm, and time deadlines are usually more stringent than was the case when most agricultural firms were smaller. These conditions contribute to a considerable degree of service being incorporated into many educational efforts designed for large firms.

Large firms have resources and may be willing to pay for services rendered. Hence this opportunity for increased funding for future educational work should be explored. Such remuneration may, however, generate additional administrative problems.

If the service aspect is turned over to individual faculty members for consulting fees, staff morale problems may arise.

Interdisciplinary work is much more mandatory than it has traditionally been. Fashioning meaningful teamwork between disciplines requires overcoming problems in communication and, sometimes, in administration.

Yet if the problems of large agriculturists are ignored, repercussions will be felt in many areas, not the least of which is a decay in the future problem-solving expertise of faculty members. Therefore, some tough decisions need to be made as to the types of problems worthy of response, and what vehicles to employ.

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