ENTENSION NEEDS TO KEEP MANAGERS
OF COMMERCIAL AGRICULTURE UP-TO-DATE

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Since its inception, Extension has been involved in constant self-study activities which have often resulted in modifications in program, structure and performance. Innumerable pilot projects have been proposed, many have been tried, and some have been woven into the basic fabric of the traditional Extension program. New technology and sociological changes in rural America have generated forces of change to which Extension needs to adapt to survive as a contributing agency supported by public funds drawn from private taxpayers who also happen to be voters. The arrival of the seventies does not herald a sudden crises, we and our predecessors have been through this before, but the tempo increases at a rate related to that of the so-called knowledge explosion we hear so much about.

Management is very much involved with these changes. Hence,

"Without the combination of time, change, and the inability of perfect prediction, there would be no need for management, or perhaps more accurately, the need for management would arise only as the firm was initially established"[3].

Keeping managers of commercial agriculture up-to-date means helping people (a) recognize farm planning and marketing problems, (b) formulate expectations, (c) acquire relevant and efficient data, and (d) arrive at decisions appropriate to their personal and family goals. We now have more complex problems, more varied data, and more sophisticated decision-making tools at our disposal than before and can confidently look forward to more refinements and innovations from the mass of current research. This has important implications for Extension staffing which will be explored later.

THE COMMERCIAL AGRICULTURE CLIENTELE

We are indebted to the planners of this program for their explicit recognition of commercial agriculture. As the number of Americans living on farms declines, we have a tendency to slip into the assumption that farmers are becoming obsolete, or to wonder whether corporate giants will absorb farmers (and agricultural Extension) into an oligopolistic monster which will eventually strangle our population bycornering the food supply.

The backbone of American agriculture is the family farm large enough to provide a decent level of living for a family and achieve fairly high efficiency of resource use. A great deal of evidence exists to show that this is an expanding clientele. Between 1960 and 1969, 228,000 farms were added to the ranks of those grossing over $20,000 per year [1]. Tolly estimates that over seventy percent of the farms in existence by 1984 will be in this category, and that they will number from one and one-half to twice as many as existed in 1964 [5]. This does not imply that Extension does not have an important responsibility to low-income, low-resource and part-time farmers. We must recognize that their needs, often different from those of commercial farmers, must also be served by any broadly based program in rural America. But it is intended to be clear that commercial farmers are a growing number of people to whom Extension has a commitment of long standing and substantial importance.

MAJOR EXTENSION NEEDS

There are a number of major issues germane to Extension staffing, programming, and performance which contribute toward keeping farm managers up to date: (1) staff size, competence, and location, (2) interdisciplinary planning and presentation of programs, (3) involvement in research programs, (4) adoption of computer technology, (5) interaction with professional management, and (6) proximity to actual management situations and problems.

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GREATER INVOLVEMENT IN RESEARCH PROGRAMS

Research-extension programs should be even more closely coordinated with field situations in the future to keep commercial farmers aware of the applications they can make in their situations. Much of the field testing activities formerly conducted by experiment station personnel has already been converted to joint administration with Extension staff. An adequate number of farmers are willing to supply the land and non-professional inputs required for field testing crop, livestock and management practices. Such multiple use of these projects leads to more than cost savings; they also contribute to a reduction in lag time between the discovery and application stages for new developments. Confidence in the competence of field staff in Extension by research is an absolute prerequisite for this activity, but is no problem when Extension employment standards are adequate.

There are other important research implications for Extension workers. Models developed for research situations often have obvious field utility and researchers have been frustrated and disgusted that more field application has not been achieved by Extension workers. In the area of computer software, Candler, Boehlje and Saathoff have identified some serious gaps between adequate research and Extension models and argued that additional planning and programming are necessary to extend excellent research tools to make them adequate for Extension use [2]. Whether such efforts are labeled as "applied research" or "Extension Programming" or something else is, of course, inconsequential. But it must be done if farmers are to benefit as they should from the research being done in the 1970's.

Extension workers will also need to allocate adequate time to the development and planning process which precedes most research and the progress report sessions researchers hold from time to time. A suggestion, or question, while a project is in progress is far more effective than the most eloquent ex post critical analysis of why a project was not practical for the Extension clientele.

No attempt is made to delineate rules for determining when the applied phases of a research activity should be conducted under the leadership of Extension staff. This must be worked out for each project consistent with the interests and competence and time available with emphasis on the point that it needs to be determined and understood, lest this necessary step be overlooked.

ADOPTION OF COMPUTER TECHNOLOGY

Professor Faris noted earlier [4] that the eventual
impact of the computer on agriculture will be in one respect "analogous to specialized farm machinery in the effect that it will have on costs" and in terms of impact "as important a role in agriculture as hybrid corn."

He did not make a commitment regarding how long it may take for this effect to be realized—this may be both wise and prudent. We have repeatedly underestimated the difficulty in terms of both time and cost involved in achieving practical and extensive application of the computer to farmer's problems, while simultaneously we have grossly underestimated what can and eventually will be done. The more we attempt to do in this area, the more we realize we need to know about systems design, programming and the precision of our data.

The hardware becoming available now has to be a major breakthrough for Extension Remote terminals, large capacity core and disk storage, conversational programming, voice response and portable data capturing devices are items we have said were needed to be practical. They are all available now, but the software and data is a long ways from being ready, and we do not have our own staffs well informed on what can be done and what is necessary to complete the task. We should be making major capital investment in programs and data right now in every area of agricultural research-extension to tie together the multitude of quantitative data and known decision rules in agricultural production and marketing.

Several laudable efforts are in progress, but they lack comprehensive integrated planning and are far more limited in scope and breadth than either the problems or the computer systems justify. Data banks will need to contain soil characteristics and test results, weather data, crop varietal information, machinery performance and cost information, pesticide information, enterprise budgets, and costs as part of an adequate data base. Linkage of simulation, Linear Programming, and other decision tools will also be required of an adequate system. A great number of small "quickie" programs can also be written to provide better answers to day-to-day questions farmers need to ask and Extension needs to be able to answer.

INTERACTION WITH PROFESSIONAL MANAGEMENT

Although we can all cite instances where Extension workers have worked with other public and commercial professionals to mutual advantage, we can undoubtedly capitalize on more opportunities to further extend off-campus education to more of our potential clientele. Educational material can be effectively used in meetings conducted by trained people who serve in agricultural commerce, and a growing proportion of these persons will have professional training as our college baccalaureate classes grow in numbers.

Present, and possible examples, include agricultural credit representatives and accountants working with farm records, lawyers and IRS personnel in taxes, nutritionist-salesmen on ration formulation, etc. Where these people are not trained to adequate expertise, Extension has a responsibility for continuing education for these groups as well as farmers. This opportunity extends beyond teaching facts and techniques. Computer programs and other technological innovations developed by research and adapted and tested by Extension will often be useful in the selling-consulting situation if the right professionals have been brought up-to-date and given access to them. This subset of our Extension clientele has not received attention commensurate with the impact they have on the decisions commercial farmers make.

The potential for both helping and obtaining help from professionals justifies some specific investigation and program planning. As direct Extension contact with farmers shifts more to area specialists, state staff will add emphasis to the professional groups. In management, some organizations presently exist such as the Society of Farm Managers and Rural Appraisers, but in many states the membership is far from complete. For these organizations to be a major vehicle carrying the management updating load for professionals, Extension workers have a just concern for motivating these people to become members and for the organizations to be constructively active.

PROXIMITY TO ACTUAL MANAGEMENT SITUATIONS AND PROBLEMS

If Extension is to really keep commercial farmers up to date, it must be working on approaches to anticipated problems whenever possible while applying solutions to current problems. This means that Extension cannot fully perform its role when it relies on farmers to "tell us where it hurts" as a diagnostic tool for purposes of consulting on research, or for planning future Extension field programs. In other words, Extension staff needs to be so intimately involved in a limited number of representative farm businesses that emerging and potential problems can be recognized with sufficient lead time to think through and work out timely educational programs to deal with problems as they develop.

While this level of involvement in individual businesses is necessary to Extension's job performance, it must be practiced judiciously. There will be those who understandably question whether this level of "service" can be justified for the individual farmer,
especially when only a tiny minority can be so treated. This on-farm contact cannot be often justi-
fied as a service to the recipient; it is a joint product with the primary objective of obtaining in-service training and data the Extension worker cannot obtain in any other more economical manner. Denied this type of contact with representative farms, Extension would be in jeopardy of confinement to the back-
waters of the management stream.

**SUMMARY**

In pointing out some of the issues that appear to be pivotal in the evolution of Extension programs geared to the American commercial farmer in the next couple of decades, most of the examples were taken from Extension Farm Management situations but are applicable to most Extension work with commercial farmers. Changes in staffing, structure and techniques are underway in some states but additional adjustments are necessary to place qualified staff sufficiently close to the commercial farmer to keep him adequately informed. Increased use of the classroom in workshop situations will be necessary to stretch limited personnel over the increasing number of commercial farmers to be served, and Extension staff must utilize both mechanical and professional resources which have either not been available or have been underutilized in the past.

**REFERENCES**


