

DOES FARM MANAGEMENT INSTRUCTION PAY?

Joseph Cvancara

University of Minnesota

Adult farm management instruction by vocational agriculture instructors has received national attention in the United States. However, few investigations have concentrated on the relationship between investment in the form of management instruction and development derived from economic efficiency at the farm level.

Agricultural and industrial research is moving forward at an ever increasing pace. New techniques will continue to crowd their way into the agricultural picture as more intensive research bears fruit. Mechanization will continue to advance, and further increases in farm size may well be expected. All of this will call for more capital per farm unit and more "know-how" on the part of the farmer. It offers a real challenge to the system of agricultural education. Science has not eliminated the need for physical strength and skills but it has created a pressing necessity for more technical training and knowledge.

The major problem of farming is one of adjustment to changing conditions, most of them economic. The need for management decisions arises out of changes on the farm and environs, and the necessity of adjusting farm operations to these changes. Modern farmers must adequately arm themselves with knowledge to intelligently deal with these changes.

The assumption can be made that farmers are in the business to make a profit. Thus, it is only natural that educational priorities be assigned to factors influencing profits from farming. These can be provided most effectively by providing farm management instruction in adult education.

In spite of the obvious necessity for basing adult farmer education on factual farm records, little recognition of farm records has been given in the past. The best available estimates indicate that only three to five percent of the farm operators in the United States keep and use adequate farm business analysis data in planning their farming operations. Thus it can be reasoned that adult farmer education based on individual farm records is a wide open field and that efforts must be made to increase educational opportunities in this area of adult education in vocational agriculture.

The author recently completed a research study which attempted to measure and evaluate the contribution, if any, made by farm management instruction and business analysis.

The primary purposes of the research study were to test the degree and direction to which production units in agriculture respond to educational investment and to identify whether instruction in farm management influences various farm measures and thereby affects farm income. In addition, the cumulative or diminishing effects on increases in cash income which may be caused by farm management instruction was studied. This was possible when matched farm units were compared after one, two or three year's participation in a vocational agriculture farm business management program.

There were two separate sources of information needed to make this study. They were "output information" and "input information" which will be discussed separately.

*Journal of the American Association of
Teacher Educators in Agriculture
Volume 5, Number 1, pp.5-8
DOI: 10.5032/jaatea.1964.01005*

The output data were collected from two groups of Minnesota farm units representing 20 communities. Group A consisted of 70 farm units which participated in the Minnesota Farm Management Program during the years 1960, 1961 and 1962. These farmers had their farm business records summarized at one of the seven area farm management analysis centers in Minnesota each year for the same three-year period.

The second group, Group B, consisted of 150 farmers in Minnesota enrolled in the Minnesota Farm Management Program during the 1962 year only. They likewise had their records summarized at one of the analysis centers for the 1962 year.

Group A farm units were then paired with Group B farm units based on the 1962 records of each farm. It was then necessary to personally interview all individuals in Group B, and collect similar data on their farm businesses for the years 1960 and 1961.

Farms were paired on the basis of size, measured in work units, and on the combination of farm enterprises, both livestock and agronomic. Farms were selected within areas where soil, climate and topographical factors were similar in nature. Thirty-three pairs were obtained from the total data representing nearly one-half of the total three-year participants and one-fifth of the one-year participants.

The input sources of data were collected from records at the State Department of Education, St. Paul, Minnesota 55101. Various records and reports kept on file were used to compile information identifying schools which were used in the study. The information which was needed included the instructor's expenses, enrollment of members in farm management classes, and the percent of time devoted by the instructor to the teaching of farm management courses.

The independent variables selected for this study were those which were expected to have, because of previous studies and personal experience, high correlations with the dependent variable, cash income. The independent variables were: farm management instruction, age of operator, number of years of farm operation, formal education, work units, farm sales, total acres and tillable acres. The dependent variable refers to total cash sales minus total cash operating expenses.

RESULTS

The farmers in Group A received farm management instruction in 1960 and 1961. The differential dollar increase between 1960 and 1961 was \$1,179. Group B farmers received no instruction in 1960 and 1961 and their differential dollar increase for the same years was \$403. An average output difference in earnings of \$776 per farm unit exists between the two groups.

The statistical analysis made on the data indicates that farm management instruction was a significant factor in increasing farm profits for those farmers enrolled. The obvious question then might be: "Do increases in farm dollar output for those enrolled in farm management exceed the community's input costs of farm management instruction?" If so, "How much more income can be predicted for those farmers enrolled in a program of farm management over those farmers not enrolled under generally similar conditions?"

In order to show the microeconomic aspects at the farm level, input costs per farm unit in the 20 communities were calculated. There was an average instructional input cost for Group A farmers of \$115 and \$102 for 1960 and 1961 for a combined total of \$217. The combined input costs were then subtracted from the \$776 average per farm dollar increase between 1960 and 1961 leaving a net increase of \$559.* This \$559 represents the increased dollar output minus the input cost realized by Group A farmers over Group B farmers receiving no instruction between 1960 and 1961.

If an adult farm management instructor had 50 farmers enrolled in an active instructional program in farm management, this program could be valued at 50 times \$559 or \$27,950. Therefore, a full time instructor in adult education in agriculture is a worthwhile investment in a community when considering the financial as well as the social and civic contributions made to the communities and to the farm families.

Proceeding one step further, the Group A farmers averaged \$838 increase per farm unit over input costs of instruction between 1961 and 1962 or after three years of farm management instruction.

The Group B farmers were enrolled in management classes in 1962. After just one year of instruction their dollar increase over the input costs of instruction over the previous year was \$1,548 per farm unit. This surpassed the Group A additional increase for the 1962 year by \$710. This seems to indicate that Group B farm units had the potential of increasing farm income. It also shows that increased efficiency of improvements made in farm income may be subject to the diminishing return effect.

The fact that income increased during this three-year period is incidental, since income may fluctuate upward or downward due to conditions beyond the control of the farm operator. It is important that there was a significantly higher average dollar increase in income for those farm units where farm operators participated in an instructional program of farm management.

Implications and Recommendations

The conclusions on the predictive variables are based on the findings made on the analyses of the samples used in this study. The paucity of research in this area and its importance to agriculture should provoke similar studies. There should be other research on similar groups using other predictive variables and criteria. It is also necessary to determine whether the relationship between the independent variates and criterion as found in the original samples continues to hold for similar samples.

There should be follow-up studies to determine the conditions affecting the principle of diminishing returns associated with an instructional input. The fact that this study considered only the three-year period from 1960 to 1962 limits its usefulness in determining the beneficial effects of programs of farm management instruction extending over longer periods of time. When more farmers have kept continuous farm records for eight or ten years better evaluations of the effects of long time instructional programs in farm management can be made.

*Note: 1959 records for Group A were not used. Therefore previous information prior to December 31, 1960 attributable to the first year of instruction is unknown.

At present a farm management program of instruction of at least three years' duration would appear to be a practical way to organize adult education in agriculture in a community. This would enable a full-time instructor to enroll a beginning class in farm management each year. For example, a community of 600 farm units may have 60 farm operators enrolled in three separate classes of 20 each. Even if a new class of 20 farmers is enrolled each year, it would take over 25 years to provide farm management instruction to every farmer in the community. During this period there would be a continuous replacement of farmers because of retirement or transfer. At the end of the 25-year period it would be conceivable that all prior farm operators enrolled would have been replaced.

More intensive college training for those planning to teach adult farmers in management is recommended to provide well qualified graduates who would promote continuity in community adult farm management instruction.

Adult instruction in management for farmers should be made available to all farm communities. For example, if only 60 farm units received instruction with an average increase in cash income of \$500 per farm unit, the 60 farmers would have increased their income by \$30,000 because of this instruction.

What does \$30,000 mean to a community? In communities in which agriculture is the economic base, good schools cannot be conducted without good agricultural income.

In rural areas, small town businesses are dependent on the farmer for much of their income. If small towns are unable to support needed public and community services which are competitive to those offered by larger municipalities they lose much of their ability to attract agricultural trade.

Lower incomes and declining property values shrink the tax base necessary to support public services. This tax income originates from the wealth generated within a community. Adult agricultural education is a principal means of maintaining and increasing income.

It is an accepted fact that income thus generated is multiplied manyfold during the course of community business transactions resulting in a broadened tax base. This increased tax capacity allows rural communities to expand public and community facilities and services. This has the effect of not only building the affluence of the community but also of reducing the tax burden of each community member. Thus the farmer who participates in the adult management program is not the sole beneficiary of his increased income.

This type of instructional program is in complete harmony with the community school philosophy. It is practical, profitable and philosophically sound. That it was not initiated many years ago is in some ways a reflection on the leadership in agricultural education. It can be expected to expand as more schools become aware of it and as the supply of qualified instructors increases. Here indeed is an educational investment that yields high returns.