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Computer Decision Aids for Farm Management

Purdue University Cooperative Extension Service
A farmer can custom-hire help for many of his farm operations. So why not hire help in making important decisions? The farm management staff of Purdue University's Agricultural Economics Department has combined research, extension and farmer experience to develop several computerized budgeting tools. By "hiring" a computer to do the calculations, you can study a problem in greater detail, more accurately and in less time than you could with hand budgets.

HOW DOES THE COMPUTER WORK?

In many of the major farm management decision areas, Purdue specialists have cooperated to determine and compile important facts about the "real world." They then built "models" of farm problems, using numbers and computer instructions to represent the situations. When you feed the computer information about your farm, it uses the model farm operation to calculate specific results for your situation and prints a summary report.

WHAT QUESTIONS DO THE DECISION AIDS ANSWER?

Listed on the other side are Purdue's present computer decision aids for farm management. They help answer such questions as these: How much machinery do I need? What kind? How much land should I have? Is renting profitable? Should I expand livestock? Can I quit my town job to farm full time? Which feed is cheapest? What will a loan or land contract cost?

HOW DO I PROCEED?

Contact your county Extension agent, area Extension management agent or one of the Purdue specialists listed on the back. He will discuss your particular situation with you and help you enter the appropriate farm data onto an "input form." (Present farm records plus other careful estimates will provide the necessary information. But remember, the better your records, the more reliable the computer decision aids.)

A few county Extension offices are equipped with computer terminals. This means the agent can simply call the computer by phone, feed it your input data and in minutes receive a print-out of results. In offices where terminals are not available, your input form will be mailed to Purdue and results returned in about a week.

Your Extension agent will help you analyze the computer report and the management decisions involved. If you want to change some of the farm data, he can incorporate those changes on the input form and have the computer re-figure the results.

WHAT DOES THIS SERVICE COST?

Very little, considering that many farm management decisions involve thousands of dollars. The only charges are for the phone call and computer time, and usually are ten dollars or less, depending on the program.

CAN I USE DECISION AIDS FOR BROADER FARM PLANNING QUESTIONS?

Each year workshops are held at Purdue and elsewhere in the state that deal with new farm technology, practices and likely future developments. Usually lasting three days, these sessions provide access to more detailed computer models for farm planning. See your Extension agent or write us for a schedule of workshops.
WHAT SPECIFIC FARM MANAGEMENT COMPUTER DECISION AIDS ARE AVAILABLE?

The following models have been successfully used by many Indiana farmers and are available through computer terminals and by mail. Others will be added to the library from time to time. Check with your Extension agent periodically for a revised list of programs.

Farm Business and Financial Management provides total farm budgets and five-year average plans for the present farm organization and several alternative plans. You supply costs and product prices for each enterprise, an initial balance sheet, overhead costs and expected changes in investment. Results for each alternative include an income statement, profitability analysis, debt servicing information, a projected balance sheet and financial ratios. Farmers have found the results especially useful in loan applications. This model is used in farm planning workshops and by computer terminal.

Automatic Crop Budgets use farm data to solve the problem of how much corn, soybeans and wheat to have in the crop plan to maximize profits, considering government programs. You supply expected prices, costs, planting and harvesting rates and working time. The computer projects bottlenecks at peak work periods and indicates the value of additional amounts of land, labor and machinery. The computer terminal version features simplified data input, while the Top Farmer Crops workshops use more details and cover most production aspects of these crops.

Corn Harvest Simulator evaluates the long-term performance of a harvesting system and marketing strategy. Planting information and weather records are used to analyze yields, profit potential and performance of the harvesting and marketing system for individual years. The simulator tests the effect on corn profits produced by changes in the production system or the marketing options.

Swine Farm Growth Model (Top Farmer) is a simulation model of the hog farrowing and/or finishing business developed to help you decide upon sound growth and investment strategies. Recommended plans are based on information about your resources, expectations of the future, management ability, risk preference and standard of living. Results include an annual farm plan, financial statement and a capital investment listing for each of the next five years. Currently available only in workshops.

Least-Cost Ration Formulation uses various ration ingredients with nutrient contents and prices to calculate a least-cost balanced ration. Separate versions are adapted for various sex and weight categories for swine, dairy, poultry, beef, horses and other animals.

Loan or Land Contract Analysis models show the relationships between down payment, amount of loan or contract, interest rate, payback period and amount of payments. Decreasing, level and increasing payment plans are included.

Feeder Ration Selection picks the best of up to eight alternatives for which you supply beginning and ending weights plus prices, feed and feedlot requirements. The model calculates the best plan and break-even prices for other plans given your feed, feedlot and capital available.

WHERE CAN I FIND OUT MORE ABOUT COMPUTER DECISION AIDS?

Contact your county Extension office or write to:
R. J. Rades or G. A. Harrison, Agricultural Economics Department, Krannert Building, Purdue University, West Lafayette, Indiana, 47907.