With the increasing sophistication of personal microcomputers, it has become relatively simple to develop complex customized computer programs to meet the needs of the egg production firm. The memory storage capacity of today's microcomputer rivals that of the large business or campus-based computers of only a few years ago. "Canned" programs are readily available which can be easily adapted to handle most of the number or word manipulation requirements of any company.

Many poultrymen, with a relatively small investment of time and money, have mastered their own micros and have developed some very useful programs. The applications are limited only by the imagination of the user.

Word processing programs allow us to arrange, rearrange, sort out, list, and recall text, names, and dates. Data processing programs allow us to compute, analyze, and organize any type of number applications from budgets to cost accounting to the analysis of alternative courses of action.

Model building is a very useful tool for today's egg producing firms. It allows poultrymen an advanced look at what would happen if certain conditions existed. Models can be designed to faithfully reproduce almost any measurable flock performance characteristic. Most performance curves are predictable and can be easily calculated. Application of price information is more difficult but can be done fairly well with a little experience.

A good model building program must take into consideration all pertinent factors which may influence the outcome of the analysis. This must include egg production, egg size, mortality, feed consumption, and undergrade patterns associated with age and season.

The program must be easily modified when departures from the expected occur. Using models in your firm must be an on-going program--one that is always current and reasonably accurate. Reanalysis must be timely to correspond to the possible redirection of events.

One of the more useful programs for modeling is the "spread-sheet" program. This is a system which allows you to organize your data in a series of columns horizontally and a series of rows vertically each with its own heading. For example, columns might be headed with cost items or performance functions while rows could be listed by age or date. The unique characteristic of this program is that it allows a very rapid analysis of what would happen if changes were made in prices or performance.
During the past ten or so years, we've seen many applications of the modeling concept in the egg industry. We've listed below just a few of the ones in current use.

Replacement Program Selection--This use of modeling dates back about eight years. It is used to select programs which will maximize earnings per unit of time. It involves the comparison of performance curves resulting from various molting and selling options. Real flocks are generally not used for this analysis.

Single Flock Projections--This application is used for existing flocks and is intended to analyze the effect of varying the molting date on total income. Real hen counts and dates are used along with projections of prices. Seasonal effects on performance and price are included.

Another version of the program considers all performance factors except prices. This program is used primarily to project product availability for processing and marketing purposes.

Case Flow & Budgeting--Cash flows are required to estimate capital requirements associated with the time of the year. Seasonal fluctuations in performance, flock size, and prices are easily handled by the computer to forecast periods of surplus or deficit cash flow.

Management Comparisons--How is net income affected by small changes in performance associated with a change in management? What if cage density was reduced? What if we changed strain of chickens? How would our profits be affected by the purchase of new equipment? Computer modeling allows you to answer these questions in advance of the actual experience. Costly mistakes can be avoided. Complex relationships can be accurately interpreted.

These are but a few of many possible uses of the model building technique. Programs can be purchased which will enable you to develop your own customized analysis. University of California programs (written for larger campus-based computers) can be used as a starting point for methodology and standards. Samples of various output formats are available for the asking.

Next Issue: Computer Modeling (No. 2)
The Relative Importance of Various Performance Factors

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