

# Mathematics and Electronics Come to Farm

Linear programming (applying arithmetic to farm management) and Pennstac, the electronic computer built by engineers at the Pennsylvania State University, are helping State farmers answer problems in planning and livestock feeding.

Use of these new methods in farm management has been put to work by farmers John Gehman and Dave McClure in Montgomery County. Plans for the two farms were developed by farm and home planning students working with the Agricultural Extension Service in Montgomery County, reports R. James Becker, Extension Farm Management Specialist.

This farm and home planning group applied tested management methods reviewed their operations, and presented assistance requests to County Agent Marion Deppen.

Deppen immediately wondered whether linear programming and Pennstac would be useful to Gehman and McClure — both dairy farmers.

Here's where linear programming was put into action;

With cooperation of the farm families, information was gathered on farm and family resources, their experiences, and alternative enterprises.

Then Pennstac entered the picture. The above information was properly set up in mathematical form and 'fed' to Pennstac. Plans were developed from the Pennstac solutions, and discussed with the families.

The usefulness of the plans and planning tools was quickly released. The families were able to apply whole plans, and elements of the plans.

Both families have moved rapidly toward extensive barn renovations, dairy herd increases, and adjustments to auxiliary operations.

As County Agent Deppen points out, the new tools of linear programming and Pennstac have meant planned progress for them.

By systematic selection, a combination of enterprises is selected for maximum net income from land, labor, ma-

chinery, buildings, and livestock.

In this way, returns from expansion are contraction of the dairy enterprise may be compared with, let us say, poultry, beef cattle, or sheep.

To review some basic information, the McClures wanted to expand their herd, but they wanted to do it efficiently.

Some of the land they operated was rented and this influenced their actions.

Profits from their broiler enterprise varied.

The children, however, were now old enough to be more helpful with the broilers.

## Dr. Clarkson

### Local Vet Named To State Post

Harrisburg — Dr. Paul V. Clarkson, Lancaster, has been appointed by State Secretary of Agriculture William L. Henning as chief of the brucellosis division of the Bureau of Animal Industry.

Dr. Clarkson has been chief district veterinarian for the Bureau of Animal Industry in Lancaster and Lebanon Counties since 1953. He also was in charge of livestock inspections at Union Stockyards in Lancaster.

In his new post, he will be in charge of the brucellosis control program in Pennsylvania. This includes recertification of counties each third year as brucellosis-free, administering the programs of milk ring test units and supervising the calfhood vaccination program.

In announcing the appointment, Secretary Henning said, "Dr. Clarkson is well qualified for this position through his long experience in animal disease eradication work.

All these items were considered in the planning.

Gehman raised two major questions, both arising from his own experiences.

First, he wanted to know how profits from buying grain and roughage would compare with raising all grain and roughage for the herd.

Second, he wondered what change, if any, he should make in his turkey project. His questions, also, were covered in the planning.

So this is the way the mathematical system, linear programming, has been adapted to farm management. Pennstac efficiently and quickly handles the large, complex problems requiring great numbers of calculations Pennstac has many of

the characteristics of the more famous Univac.

Meanwhile, researchers at Penn State are putting linear programming and Pennstac to work on problems of formulation. Studies by R. F. Hutton, R. H. McAlexander, and others are helping feed mill operators prepare high quality dairy and poultry feeds with necessary nutrients at the least cost.

Since only the largest millers have machines like Pennstac, Dr. Hutton and associates have worked out calculating devices and methods suited to the usual office equipment. This will extend the usefulness of linear programming to small millers as well as to farmers.

Dr. Clarkson worked as a stockyards veterinarian, field supervisor in area bovine tuberculosis testing and principal veterinarian in charge of tuberculosis testing for the Bureau of Animal Industry from 1922 to 1936.

He then worked for a Philadelphia dairy for a year before starting 15 years of work as meat and milk inspector for the Lancaster Board of Health.

Dr. Clarkson succeeds Dr. Clarence M. Stevens who has returned to private practice.

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## USDA Dried Eggs Buying Limited

The USDA announced last week that future purchases of dried whole eggs will be limited to 500,000 lbs per week. Further notice.

The week ending the USDA bought 829,000 lbs of dried egg solids, (equivalent to 82,972 cases of eggs), bringing to 9,000,000 lbs. the amount purchased since the beginning of surplus removal program April 24.

## SERVE VARIETY MEAT

For a low cost diet a variety meat, such as sweetbreads, brains, kidneys, or tongue, is a good choice. Penn State extension summer education specialist says because variety meat is not so well-known as cuts of meat, they are in demand and may be priced at one-half less than the price of economic cuts.

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