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Indeed participants were presented information on present and potential uses of computers for farm management that were not even dreamed of a short time ago. The world of on-farm computers and microcomputers is evolving at an ever faster rate. A person considering buying a microcomputer may almost feel as if they need a microcomputer to aid in the decision making process when choosing from the vast array of available computer hardware and software.

Conference participants were presented with the most up-to-date information on computers in agriculture from program speakers and vendors and dealers of computers and computer programs, who were part of a trade show held in conjunction with the conference.

Probably the most exciting dimension of the two-day conference was the "hands on" experience participants were given. After gleaning much new information on what role computers will play in farm management, farmers and agribusinessmen were able to sit down at a microcomputer and put their new found knowledge to work. This valuable experience further enabled dairymen in determining how to best utilize a computerized management system on their particular farm.

Over 90 microcomputers were set-up in laboratories for the hands on sessions. Everyone was given the opportunity to participate in two hands on sessions. A menu of five subject areas was offered, including, Spreadsheets, Data Bases, Ration Balancing, Herd Management, and Milking Equipment Sizing.

What role computers will play in the future of Pennsylvania agriculture was a subject addressed by G. Art Hussey. Hussey has just been appointed director of the Northeast Computer Institute which will be headquarted at Penn State University.

Hussey said only one percent of farmers in Pennsylvania presently have on farm computers. By 1986-87 he estimates that over 50 percent of the farmers in Pennsylvania will have an on farm computer.

"The tremendous technological advances made in recent years in the computer industry places the computer on the threshold of having a significant impact on even greater productivity for American agriculture.

"For all the giant strides made by the computer industry in increased cost performance brought about by micro electronic technology, the computer is at about the same stage of adoption as the automobile was in the early 1900's. At that time many people predicted that the automobile would not be a success because everybody had to have special training in order to make use of the car," said Hussey.

"What we see in the future is this," he said, "just as cars evolved from cantankerous, unreliable forms of transportation in the early 1900's into modern easy to operate vehicles, we expect a parallel development with computers. As we move into the 1990's toward the year 2000, the computer will become as familiar to our ag producers as the automobile and pickup truck are today. It may not look the same and its functions may be quite a bit different, but it certainly will be a work horse for modern agriculture."

Hussey used the term primitive to describe current support systems for on farm computers. He said in the near future the support system will become more sophisticated and there will be a greater network communication system.

Penn State Extension will play a large role in this support and network system, he said. The plans have already been layed for Extension's role. The goal of the planned system of computers is to be able to give 96 percent of Pennsylvania residents access to the computer network with a local phone call. To accomplish this Extension is asking the legislators for funding to put a microcomputer in each county Extension office, and one microcomputer at each Penn State experimental station-research farm.

Hussey presented a schedule of the necessary funding to put one computer in each county office, the cost is estimated to be $1,246,550. He said, the estimate is very accurate and includes cost of the computers, installation, training and software.

Hussey urged listeners to encourage their county commisioners to seek funding for the county computers. Express the need for this one time funding that would create a vital management support system that requires one time.

The Role of Computers on Dairy Farms

In what capacity can computers aid farmers to be more efficient managers? Some of the many possibilities were outlined by Terry R. Smith, assistant professor and dairy Extension specialist at Ohio State University.

"Probably the one single management deficiency that costs dairymen the most in lost income is the lack of a good record keeping system," said Smith. "The primary purpose of dairy records is to provide dairymen with detailed information on individual cows as well as on the entire herd."

An on farm computer makes this information available to the farm manager on a day-to-day basis. This is especially useful in large herds where daily individual attention is needed and dairymen tend to manage by exception. That is those cows that require individual attention on a particular day are pointed out by the computer.

Smith said, "On-farm computers are not likely to save labor and management time on a farm. However, the day-to-day managerial control of the farm operation will likely improve."

Heinrichs and others stressed that a farmer considering buying a microcomputer must determine what functions they want the computer to perform. Then when they begin to look for a computer system they should first look for software programs that will perform those desired functions.

Heinrichs said, "The term software describes all instructions and programs that make the computer function in a determined manner. Software not only performs the tasks dictated by the user, it also controls all system peripherals such as printers and disk drives. Essentially, software makes the computer operate and function.

"When buying software, due to the wide variation in current programs, it is improtant to use caution when selecting your software," said Heinrichs. "Keep in mind the following items when selecting your software:

1. Is it compatible with your hardware?
2. Do you have a trial period?
3. Does the vendor or manufacturer have a warranty period?
4. Is there detailed documentation available?
5. Is the program user-friendly?
6. Will your software vendor provide assistance to you?
7. Can you modify the program to suit your needs?
8. Will the company send you updated versions or allow you to purchase them for a reduced cost?"

Jud Heinrichs, conference coordinator, and Larry Muller, program assistant, stand among 25 microcomputers used in one of the "hands on" sessions.

The trade show included displays of microcomputers, computerized feeders and milking systems and systems that put it all together.

Two sessions on software for spreadsheet programs stirred alot of interest. Graham E. Bell, area farm management specialist, and John E. Brockett, professor of agricultural economics extension, spoke on the use of electronic spreadsheets for financial and cash flow analysis.

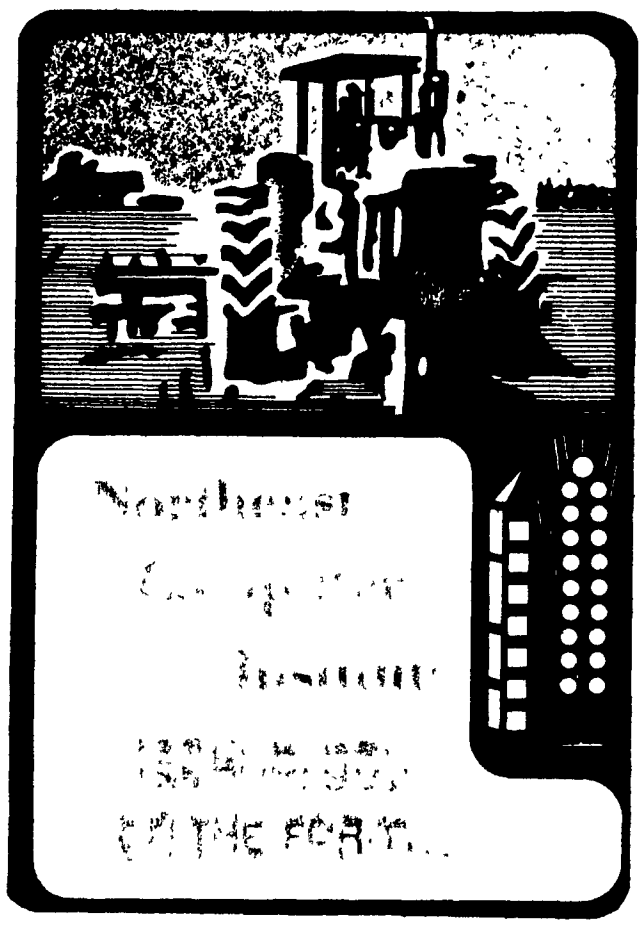
On a large screen in the auditorium, Bell demonstrated VISICALC, a software package by VisiCorp.

"It is a program that allows you to accomplish on the screen chores that you would normally do with a pencil and calculator," said Bell. "The difference is that once you have constructed an initial format, you add, delete, or change figures, and within seconds, press another couple of buttons and your account, tax return, cash flow, or whatever else you specify is recalculated and neatly typed."

Brockett presented information on spreadsheet programs he has developed for management. Many of these programs are available presently from the Penn State Extension.

Other speakers at the conference included, Penn State's, Richard Adams on ration balancing and evaluation programs; William Heald on future role of computers in Pennsylvania DHI, Larry Muller, on dairy management programs, and Tom Mincemoyer on data base programs.

Each conference participant was given a copy of the conference proceedings which includes a listing of software currently available. The listing was developed by Heinrichs and includes programs for crop production, dairy herd management, equipment management, farm business management, and feeding programs.



New computer language simplifies chemistry

WASHINGTON — A headache can be soothed by QVR bOV1. That's plain aspirin in a new language for chemistry.

Its inventor, U.S. Department of Agriculture chemist William J. Wiswesser, said the language simplifies and adapts familiar chemical formulas for the computer age.

Wiswesser, who works at the USDA's Agricultural Research Service Weed Science Research Laboratory, Frederick, Md., foresees no end to the burgeoning number of new chemicals — now reaching some 360,000 a year.

Only computers and a simplified system of chemical characters, he said, will be able to keep track of the new formulas as well as the six million chemical compounds already known.

His AWLN, short for Advanced Wiswesser Line Notation, addresses this chemical proliferation by using sets of letters, numbers and punctuation marks to designate each individual chemical compound.

To Wiswesser, the key to

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