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Computers on the Farm – Purchasing a System
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Computers On The Farm - Purchasing A System[1]

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Making a Decision to Buy a Computer[2]

The first step when getting ready to purchase a farm computer system is to study your management information needs. You cannot afford to collect management information that you do not use or need. Some questions that you should ask are:

- What are the most important and significant decisions that I need to make?

- What information is needed to make these decisions?

- Can a farm computer make this information collection and analysis easier?

The second step in getting ready to purchase a farm computer is to identify what computer programs (software) are available to meet your management information needs.

Step three is to determine the hardware needed to execute the software. Farm computers come in different sizes (memory units), have different storage capabilities and different add-on capabilities. The size of the business affects the volume of management information needed, and this, in turn, determines the size of hardware needed.

[1]**Credits**-Bill Brown, Allan Rahn, Sherrill Nott and Clyde Anderson, Consultation; Susan Conway, Typing.

[2]Adapted from Six Steps to Take in Making a Decision to Buy a Computer by Harlan Hughes, publ. in December 1981 issue of BEEF magazine.

Step four is to contact local hardware dealers to determine the viable hardware alternatives. Use the same criteria that you would use for any other equipment purchase-this includes dealer knowledge, quality of the service department, financial stability of the business, and in general, how you feel about doing business with the dealer.

Step five is to estimate the cost/benefit of the proposed computerized management information system. A dealer can tell you exactly what the system (hardware and software) will cost. Remember, you can take investment credit and fast depreciation on computer equipment. Don't forget to include the time required to learn to use your computer and the clerical cost of collection and processing the management information. Collecting and typing data into the computer is time consuming and boring. Consider hiring a person to be specifically responsible for processing of the management information collected.

The final step is to make the decision to set up or not to set up a computer system. Talk to others who already own farm computers. Remember, even though there is no blanket recommendation that will fit all situations, farm computers can be an effective management tool.

Software Considerations

When evaluating software, look at:

1) FUNCTIONALITY-the measure of how well the software performs the function for which you want to use it.

2) USABILITY-entering your own data will help you evaluate the usability of the software. Make some deliberate errors to see how the program reacts. Can input errors be easily corrected? Error correction ability is one measure of usability.

3) FLEXIBILITY-Once the input data has been entered, the ease of changing the output can be evaluated. How many possible output formats are available? If this software is a system of programs, do the programs have provisions for sharing or updating a group of data?

4) PERFORMANCE-Performance means speed. It was stated earlier that a small computer can do anything a large machine can do, only slower. A software package may complete the job desired, but the time consumed may be prohibitive.

5) RELIABILITY-are the answers given by the output correct? Do they agree with your data? What happens if you change the input data, does the output information change? Repeat

the program several times with the same input data, do you get the same output information?

6) SERVICABILITY-how long will you be able to use this program before it is outdated? Does the supplier have provisions for updating the program? Are extra backup copies available? Will you be notified if errors in the program are found? Are updates free after the initial purchase?

Software Standards[3]

Most computer users have at least a general idea of the standards they want incorporated into a program. Consider these when looking at software:

1) **Auto boot.** That is, insert the diskette, type a single command, and the system is automatically started.

2) **Menu driven.** Each step in the program is based on a series of choices. Execution sequence is guided by your choice from the "menu".

3) **Need an audit trail.** Both input and output should be printed, not just visible on the screen.

4) **Explanation of inputs.** "Help" screens to give the user interpretations of what the computer is asking, usually accessed by typing "H" or "HELP".

5) **Explanation of units.** Make sure the computer communicates to

[3]Adapted from Ideas for Program Standards by Harlan Hughes, publ. in November, 1981 issue of Agricultural Computing.

you in familiar units. For example, hay prices in dollars per ton, rather than cents per pound.

6) **Ending routines.** You should be able to type EXIT, STOP or QUIT at some point in the program. When exiting a particular section, control should return to a master menu.

7) **"What if" capabilities.** Can you go back through a management program, changing only one input, or must you rekey all inputs?

8) **Data stored for next session.** For involved management applications, such as ration balancing, the computer should automatically update disk files with the previous run's inputs. This way, when rerun, files would need only slight changes.

Hardware Considerations

When planning to buy a small computer for your farm business, keep in mind the following recommendations:

1) The user available internal memory capacity purchased should be at least 48K. Most computer languages will occupy 4-12K of memory. Application programs or programming languages will often use 25-35K of memory. Look carefully at your software memory requirement before purchasing less than 48K of memory. The cost of additional memory is cheap, especially

compared to the convenience it provides.

2) Buy a full size keyboard. The importance of a comfortable input terminal will be obvious after a short period of time. If a lot of numerical data will need to be entered, a numeric keypad is an important input device.

3) Buy a good quality output device that handles 80 characters on a line, preferably displaying 24 lines at a time.

4) Buy at least 300K of diskette storage, including at least one, preferably two, diskette drives. One drive will usually contain program instructions while the other drive will store program input and results.

5) Buy a printer. Your business must have records on paper; copying information from the video screen is both laborious and error prone. Choose the type of printer based on the print quality needs of your business.

Other Extension Publications

Computers on the Farm - Extension Bulletin E-1638

Computers on the Farm - What are They? Extension Bulletin E-1665

Computers on the Farm - Software Selection Extension Bulletin E-1666

System Specifications

The following is a system specification guide to use when evaluating different computer systems, possibly from different vendors. Take a copy of this form with you when you visit a computer dealer. Fill in one copy of these sheets for every computer system you are considering. You then have a standard set of information to use in comparing alternatives.

VENDOR INFORMATION

_____name

_____address

_____telephone

CURRENT SYSTEM USERS

Name	Address	Telephone
_____	_____	_____
_____	_____	_____
_____	_____	_____

LOCATION OF BACK-UP SYSTEM

_____

_____

HARDWARE SYSTEM PROPOSED

Model _____   Word Size _____

Internal Memory (Kbytes):RAM_____   ROM_____

Operating System_____   Memory size _____

Total Hardware Cost $_____

INPUT/OUTPUT	Size/Capacity/Baud Rate	Model Number
CRT	_____	_____
Keyboard	_____	_____
Diskette	_____	_____
Printer	_____	_____
Other	_____	_____

SOFTWARE	Name	Description	Cost
Operating system	_____	_____	_____
Applications programs	_____	_____	_____
	_____	_____	_____
Languages	_____	_____	_____

USER SUPPORT

Training Course Title	Cost	Length (days)
_____		
_____		

MAINTENANCE
Preventative

How often performed_____ Days of Week_____

Service Contract (YES/NO) _____ Cost $_____ Length _____

Quoted response time_____ Hours available_____

QUESTIONS FOR REFERENCE

Pleasant to deal with_____ Meets commitments_____

Good record?_____ Delivers on time_____

PRICING POLICY
Installation charge_____ Cancellation Penalty_____

Upgrades: alternatives_____

restrictions_____

Delivery guarantee_____ Performance guarantee_____

Acceptance period_____ Replacement policy_____

Total Hardware/Software System Cost $_____