

## The Future—Computer Applications

**Brian Collins**

D4 Data, P.O.Box 26, Ringwood, Victoria, 3136

### INTRODUCTION

In my view, the future will see the use of computer systems within nurseries extending beyond the administrative functions to cover production and operational functions. The question facing nursery managers will change from “What can computers be used for?” to “What should computers be used for?” Table 1 lists some typical computer applications.

**Table 1.** Typical computer applications.

Market	Function	Application
Horizontal market software	Word processing	Price lists, correspondence, stock lists, instructions
	Spread sheets	Budgets, production schedules, cash flow projections
	Data bases	Mailing lists, plant lists, sales prospects
	Accounting	Accounts receivable, general ledger, cash book bank reconciliation, accounts payable, payroll, finished goods stock
	Project management	Major landscape developments
	Point of sale	Retail stock, management communications, customer stock lists, purchasing, supplier stock lists
Vertical market software	Production stock	Future stock availability, order fulfillment
	Planning, scheduling	Cost efficiency, quality control
	Production costing	Inventory reduction, profitable pricing, market specialisation

In the future businesses will move down through the table (Table 1) of applications. Applications at the lower end of the Table 1 have quite different characteristics from those at the top.

The applications can be broadly categorized as horizontal market software and vertical market software.

Horizontal market software is developed as single products designed to meet the needs of all industries. The software is often sold through retail stores, the price is relatively low, and training can be obtained from a wide variety of institutions.

Vertical market software is developed by small specialist firms selling direct to the end user. The software is designed to meet the specific needs of a single industry. The cost of the software is much higher. Training is often only available from the developer.

Other changes occur as we move down the table: the users become increasingly dependent upon the computer system, the computers are generally larger with multiple terminals, and the installation requires a greater commitment from all staff to ensure the efficient operation of the system.

One of the keys to business success, in general, is to differentiate the products and services offered by the business from competitors products and services. The applications at the lower end of the table must therefore be capable of adapting to the unique characteristics of the business.

The applications will often require "tailor made" modifications to suit each individual user's needs. The software must be capable of continued modification as the business changes in response to new market opportunities. At the top of the table the business must adapt to the software; at the lower end of the table the software must adapt to the business.

Applications at the lower end can achieve much greater returns for the user. These applications can identify the profitable operations within a business and the software itself will often make new customer services possible and open new market opportunities. By achieving more efficient operations these applications have the potential to release large amounts of working capital.

## MAKING INVESTMENT DECISIONS

Making decisions about new computer applications can often appear daunting. As with all investment decisions, a methodical and detailed analysis of the advantages and disadvantages is required.

Table 2 lists some of the possible advantages and disadvantages that could flow from a particular installation.

**Table 2.** Advantages and disadvantages of computer systems.

### Advantages of computer systems

Advantage	Typical application
Provide new skills	Word processing
Volume processing	Invoicing
Improved management decisions	Credit control
Detailed interrogation of data	Sales analysis
Reduced operating expenses	Order processing
Reduced capital investment	Stock, debtors
Smaller stock range	Detailed costing
Communication	Product stock lists

**Table 2 (Continued).** Advantages and disadvantages of computer systems.Disadvantages of computer systems

New skills to be learned  
 Investment of time and money  
 New expenses  
 Less social contact  
 Increased vulnerability

In the long run, the only reason to install a computer is to increase the profitability of your business.

Table 3 can be used to determine the initial economic evaluation of a computer system.

**Table 3.** Economic evaluation chart for proposed computer installation.

## Capital costs:

- A. Total cost of equipment and installation
- B. Total cost of staff training
- C. Total cost of all software and installation
- D. Cost of entering initial data
- E.  $(A+B+C+D)$

## Capital savings:

- F. Reduction in stock value
- G. Reduction in total value of debtors
- H.  $(E-F-G)$  Proceed if negative
- J.  $(H/100)$

## New Revenue:

- K. Increase in weekly sales
- L. % profit on sales
- M.  $(K*L/100)$

## Expense savings:

- N. Number of man hours saved each week
- P. Hourly total cost of labour
- R.  $(N*P)$
- S. Other weekly cost savings
- T.  $(M+R+S)$

## New expenses:

- U. Cost of software maintenance per week
- V.  $(T-U-J)$  weekly savings, proceed if positive

## **FUTURE CHANGES IN COMPUTER TECHNOLOGY**

The following is a list of some of the recent technological developments that should find useful applications within horticulture over the coming decade.

- Increasing use of communications between computer systems, both suppliers with customers and customers with suppliers.
- New techniques for data collection and data entry, including bar code scanners, voice recognition, touch screens, and hand-write tablets.
- Application of problem-solving software for plant identification, disease diagnosis, and for the selection of plants for specific environments.
- Integration of computer technology with video disks to aid plant identification, disease diagnosis, and plant selection by end users.

## **SUMMARY**

The horticulture industry has been rather slow to accept computer technology to date. This has been in part due to the lack of applications specifically designed to meet the needs of the industry and in part to a natural conservatism within the industry. The future will see a much wider acceptance as new applications and new technology are adapted to the needs of the industry.

Banks and airlines would not be competitive today without their extensive use of computer systems. In a few years time the same may well be said of plant nurseries.