

experimental grafts suggests that humidified plastic covers to aid grafting are useful in difficult conditions, especially with apples (*Malus*). The ease in which grafting can be carried out using humidified plastic tent covers should enable the popularisation of this craft with home gardeners.

More efficient and effective grafting increases the gardening and production capacities of home gardens and plant nurseries. This paper suggests that modern techniques, such as plastic caps, can enhance time-tested traditional techniques.

LITERATURE CITED

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Quality Management for Nurseries

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INTRODUCTION

Quality management systems are here to stay. Most production and manufacturing industries have been progressing down this path for some time with positive results in productivity, profitability, and customer satisfaction.

Horticulture and agriculture, being out of the manufacturing mainstream, have not been exposed to quality management systems thinking or activity until relatively recent times. The individual or combined powers of compulsion, competition, and self-interest are now quite active and many horticultural businesses have responded to the message.

There are a number of options available to the nursery industry to capitalise on this trend. These range from basic knowledge and skills training to high-powered programs tailored to a specific business enterprise. In the middle are a range of quality management systems which endeavour to cover the key activities of a business, through a step-wise process to more complex systems. The latter includes support activities which ensure that the system not only performs, but is self-improving.

It is up to individual businesses in the nursery industry to evaluate the merit of quality management systems, decide which option best suits their needs or aspirations, and then implement the preferred option.

What is Quality? There are three main reasons for implementing quality management systems: compulsion, competition, and self-interest.

Some consumers are requesting that their suppliers have certification to a recognised quality system standard. A number of horticultural businesses have been requested by their export customers to have certification to AS/NZS ISO 9002. Some governments are moving the same way. This is not strictly a compulsion, but is necessary to ensure continued business with that customer.

It is widely believed that it costs five times more to win a significant new customer than to retain an existing one and so quality assurance is the obvious choice to protect your customer base.

Another significant reason to implement a quality management system is competition. Other businesses competing in the same market are using quality system certification as a marketing tool. Similar added value schemes have been successful in the past such as pictorial labeling, pot colour, a range of pot sizes, and a variety of maturities.

Customer insistence and competition are valid factors which must be considered in formulating plans for a quality management system. Initiating a quality management system purely to keep up with the competition rarely achieves a satisfactory result. Businesses that do achieve maximum benefit do so because their motives are largely out of self-interest. The managers of these businesses realise that quality management systems can improve profitability by reducing the costs of doing business, improving productivity, and reducing both waste and down time. They implement the system with these objectives in mind and aspects such as customer insistence and competition are secondary. The motive is to consistently meet the needs and expectations of key customers in order to maximise profitability.

What are the Quality Management System Options? There is considerable confusion in the nursery industry and horticulture generally because there are so many options available. Firstly, most nurseries already have a quality management system of some description. Records of some form exist everywhere. The most common existing procedures are for water treatment, fertiliser application, bench construction, and handling sales. However, these systems are not always documented, comprehensive, or integrated.

The Nursery Industry Accreditation Scheme Australia (NIASA) is a good start in the direction of more formal quality management systems and all nurseries should be aiming for at least this target. Beyond NIASA are models or guides for quality systems that are equally applicable to all production and service businesses irrespective of what they produce. These range in order of complexity and credibility as follows:

Higher

- Quality Awards
- AS/NZS ISO 9002

Lower

- Australian Horticultural Quality Training Program
- Nursery Industry Accreditation Scheme Australia (NIASA)

But who assesses quality systems in nursery businesses to give recognition of achievement? In the case of NIASA, it is the State Technical Officers contactable through the State Association or Department of Agriculture/Primary Industries. The technical officer conducts an initial assessment and then ongoing inspections or audits to ensure continuing compliance with the NIASA guidelines. For generic quality system standards there are currently 11 accredited independent quality management system auditors who ensure continuing compliance.

Where to From Here? Nursery businesses keen to progress down the way of quality systems are recommended to firstly obtain more information. The initiation of a quality management system is a significant commitment and can take up to

2 years to implement. The Australian Horticultural Corporation (AHC) can provide advice on training, funding assistance, and consultancy services. The AHC has also developed a training package specifically designed to meet the needs of horticulture. Australian Horticultural Quality is a series of self-directed training modules which will provide the knowledge and skills required to implement quality systems. It examines the key tasks which should be included in any system and assesses the quality system options available.

The principle benefit of this training resource is that businesses will develop and implement a quality management system that is specifically tailored to their needs. Participants will develop quality management skills through activities which can be directly applied to their work places. On completion of the training, participants will have a hands-on understanding of quality management systems based on a customer focus. Participants will be able to use the knowledge and skills gained to evaluate the applicability and potential benefits of quality system certification to international or other standards.

RECOMMENDATIONS

NIASA has been generally well received and has a reasonable level of industry participation—although this level could be improved. The scheme covers the important day to day and long-term activities of a nursery business, particularly technical and hygiene-related activities. Accreditation under NIASA is a logical recommendation for all nurseries in order to improve customer satisfaction, strength of industry purpose, and ultimately profitability.

A further recommendation is to put those with more than just a passing interest in this subject in a better position to make their own decisions. While the background presented in this paper could be useful, commitment to the non-threatening self-paced Horticultural Quality Training Program would be the most logical step to build upon NIASA accreditation. This decision can be made by an industry association or any other potential facilitator who then solicits participants or individual businesses on their own behalf. Beyond this, nursery businesses will continue to see certification to the international standard AS/NZS ISO 9002 as the ultimate target.

The key tasks for progressing from here are:

- Seek and analyse further information.
- Set an achievable and realistic goal.
- Plan an implementation strategy.
- Don't look back.