

on our surrounding land. Consider new hedge planting or screening both for wildlife and to soften visual impacts.

- Meeting future legislation. Although this should be part of the initial planning process, once the new unit is in operation you may be able to identify ways to make further efficiencies in water recycling, reducing plant waste, material waste, pesticides, energy usage, and other impacts on your local environment.

LESSONS LEARNED

Even though we planned as carefully as we could, once the new propagation unit was in operation we felt we did make some mistakes:

- Did not allow enough time to learn how to use the new facility before it was commissioned.
- Should have included more storage space.
- Set aside insufficient funds to finish the unit in its entirety.
- Chose incorrect shade levels (75% would be more appropriate).
- In some cases relied too heavily on advice from consultants rather than knowledge from our own experience or our own research.

Advantages of In-House Propagation at Bransford Webbs Plant Company®

Karl O'Neill

Bransford Webbs Plant Company, Bransford, Worcestershire, WR6 5JB U.K.

In 2002–03, Bransford Garden Plants (now Bransford Webbs) needed to make a decision about whether to propagate in-house or buy in plugs and liners, because the old propagation unit had fallen into disrepair. The decision to propagate in-house was made for the following reasons: control of production, introduction of new lines, and to retain skills. The new unit was opened in January 2005 and consists of a 500-m² hi-tech mist unit and a 4500-m² liner unit, incorporating Eford sand-bed subirrigation.

INTRODUCTION

Bransford Nursery was established in 1963, evolving from a traditional fruit, hop, and livestock farm. The company founder, John Tooby, wanted to fully utilise the small number of glasshouses that were only productive for 3 months of the year for hop propagation, so he decided to propagate hardy nursery stock. By the mid 1960s, Bransford was seen as an innovator within the industry and had become an important producer of trees, shrubs, and roses. In the early 1980s Will Tooby became the nursery manager, and the wholesale production of nursery stock had become the core activity of the business. In 1993 the nursery became Bransford Garden Plants, and by 1996 the nursery had drastically reduced its standard A-Z range and become almost a purely promotional nursery. It merged with Webbs Nursery in 2005.

Currently, Bransford Webbs supplies more than 1 million trees, shrubs, roses, climbers, and herbaceous perennials to the garden centre market, of which about

40% is propagated in-house. The nursery now specialises in new plants and operates an extensive research and development unit. This has strengthened the company's differentiation within the industry. New lines tend to be produced in large numbers, with batches ranging from 5,000 to 30,000, which has improved efficiency in production. The speed at which these new lines can be introduced is vital to gain a foothold in the market. Therefore there is a lot of pressure on the propagation unit to produce these new lines successfully.

The old propagation unit had been in place for many years and was no more than a collection of old dilapidated glasshouses, which were used to house the mist units, together with polytunnels for liner production. The unit as a whole, especially the propagation houses, had fallen into disrepair, and renovation was not a viable option. Another major problem with the old unit was that it limited the range of crops that could be grown: grey-leaved plants such as *Lavandula* and *Leptospermum* proved difficult to grow, with poor rooting conditions and unsuitable irrigation in the liner unit.

FACTORS IN THE DECISION TO INVEST IN PROPAGATION

The idea of developing a new propagation unit had been discussed by nursery managers since the early 1990s. In 1992, plans were drawn up and planning permission was granted. These plans initially had to be put on hold because there was insufficient capital. However, after a couple of very successful trading years in 2002 and 2003, the funds finally become available, and this left Bransford with a decision to make. There were two alternatives: invest heavily (approximately £250,000) in a new propagation facility, or phase out in-house propagation totally, contract-out all plug and liner production to young plant suppliers, and become a finishing nursery. The following factors were considered:

Advantages of Propagating In-House. An in-house propagation unit, in conjunction with the research and development unit, enables close control over new introductions and helps gain exclusivity on certain lines, thus differentiating the nursery from its competitors and generating added value. Advantages include:

- Gives ability to control production quality, programming, and flexibility from propagation through to sale.
- Crop failures are identified early.
- Reduced risk of being let down by suppliers on quality and quantity.
- Keeps skills within the business and makes the nursery a more attractive proposition to prospective new employees, especially apprentices and trainees.
- Our costings showed that the cost of producing of a 9-cm liner in-house is 55p. Whereas on average, the cost of a bought-in liner is 75p.

Advantages of Buying in.

- Cost of investment in facilities and staff present a risk.
- Wider supply choice: if an individual supplier fails to meet your requirements you can look elsewhere, but with an in-house propagation unit, there has to be a return on the investment.
- Simplified production schedules.
- Specialist nurseries may have more experience with producing difficult-to-grow crops to a high quality and may have more suitable

facilities. For example, Bransford does not have the correct water type to grow a wide range of ericaceous plants.

The longer a working relationship can be built up with a supplier, the better the service becomes, priority can be gained, and supply tailored to the nursery production schedule.

If production targets are reduced or even dropped, orders can be cancelled right up until the delivery date or up to an agreed timescale with a supplier. With in-house propagation a lot of work has already been carried out, and crops may have been in production for 12 months or more including sourcing stock plants.

BRANSFORD'S NEW PROPAGATION AND LINER UNIT

Having looked at the factors listed above, Bransford Garden Plants' managers decided in 2003 to invest in a new propagation unit. A key reason was that, as a predominantly promotional nursery, new introductions are seen as the lifeblood of the business, so the control that an in-house propagation unit, incorporating research and development, gives is essential to the future of the company.

The plans drawn up in 1992 were updated after further research into propagation unit construction methods. Construction began in spring 2004 on a new hi-tech unit covered with 5000 m² of glass, incorporating a 500-m² mist unit and 4500-m² liner unit, subirrigated with Efford sand beds. Construction was completed by January 2005, at a cost of approximately £250,000. External contractors undertook the glasshouse construction and installation of heaters, boiler system, and the Tom-Tec environmental control computer system. However, the sand beds, the mist unit, and the concrete roadways were all installed by the maintenance and nursery staff at Bransford, which helped to control costs.

Currently the company still purchases up to 60% of its young plant requirements because many of the crops grown are specialist and with many others there are licensing regulations that prevent propagation. However, over the next few years we expect to increase in-house propagation to approximately 75% of our requirements as a result of access to the more sophisticated propagation facility now in place.

Acknowledgement. With thanks to all my colleagues at Bransford Garden Plants who contributed in writing this paper.