

Major investment paying off at Bells

Investment in new glass, hi-tech equipment and a highly efficient roll in, roll out benching system – enabling two crops to be grown simultaneously – is paying dividends for Bell Brothers, near Boston.



Caption: Family team work (from left) Jonathan, Bernard and Robert Bell. While Bernard remains closely involved in the business, his two sons, Jonathan and Robert, are now in charge of production and sales respectively.

The Bell family has been closely connected with farming at Benington, near Boston in Lincolnshire, for over a century. At the beginning of the 60's Bernard Bell set up Bell Brothers Nurseries and began growing tomato and brassica plants at the West End Nursery site before moving into module vegetable plant production in the early eighties. Some twenty five years ago he made the switch to bedding production. The nursery currently has 9 acres in production, at three sites near Boston. This years production will exceed 10 million quality plants for the home and garden market.

Major investment

The Bell family has made major investment in hi-tech equipment and new glass. The most recent glasshouse, a modern-design 4,000m² Venlo style Cambridge glasshouse, was erected in 1999.



Caption: The end of the glasshouse is mechanically raised and the benches rolled outside during the day

The block has a roll in, roll out benching system, which enables half of the benches to be pushed outside during the day and back inside at night. In effect this enables two crops to be grown at the same time.

The system is easy to operate. The end of the glasshouse is mechanically raised and it takes just a few minutes to wheel out each row. At the end of the day a tractor is used to push the benches back inside.

“The roll in, roll out system is very effective as it nearly doubles production in that area,” says Neil Chambers, Technical Manager. “It enables us to start earlier with some varieties. Then, once the plants get to the stage where we need to slow down their growth and harden them up, we simply push these benches outside during the day. In this way we reduce the use of growth regulators as the weather does the work for us.”



Caption: The benches are rolled back inside at night with the help of a tractor.

The glasshouse environment is control with the help of a Van Vliet environmental computer, Bells being one of the first nurseries to use the Synopta operating system. The block features modern thermal screens and a hot water oil-fired heating system with fans to boost air circulation. Sodium lighting – which achieves an average light level at bench height of 4700 lux – has been installed by Gavita Lighting to extend the growing season.

In January 2002 the newly installed lighting was used to produce the nursery's first hydrangea crop.

“This isn't an easy crop to grow,” says Neil Chambers. “Production costs are high as the hydrangeas need supplement lighting and careful and constant monitoring of EC and pH levels. You don't need many problems before experiencing large losses. However, it you get it right it can be a rewarding crop to grow.

“Working with Horti-feeds Direct we used a general background feed in the compost together with a liquid potash feed. Each colour is treated differently – there is no such thing as a blue variety – we use aluminium sulphate to turn the flowers blue. In general the pink varieties are the easier to grow as they like more alkaline compost, while acidity is a feature of blue and white varieties.”

The new glasshouse is also fitted with modern containerised ebb and flow benches and a Dento automatic gantry watering system. This irrigation system provides two options, overhead watering for young plants, and a drop leg to flood

benches for pot plant production – where over-heading irrigation can produce rot and spoil flowers.



Caption: The new venlo-style Cambridge glasshouse is fitted with supplementary lighting, thermal screening and the environmental computer controlled system.

“The system is very water efficient,” says Jonathan Bell, production director. “Plugs at the base of the ebb and flow beds can be adjusted to alter speed water drains out so we end up wasting very little. To improve efficiency further, we are now looking at ways of recycling the water.

“ We still use hand watering in some of the older blocks. There is definitely a place for gantry and automated watering as hand watering is laborious. However, watering by hand can be very efficient and effective - it’s a skilled job which needs a trained eye and is a useful way of getting to see the whole crop.”

Large scale propagation in-house

Bell Brothers Nurseries still produces 50 per cent of their own plugs – the remainder being supplied by Florensis, S&G, Florema and BallColegrave.

“It is more cost-effective to produce some lines on the nursery,” says Neil. “You also then have total control over the plug and don’t have to rely on them being delivered when you want them.”

The nursery uses three seeding systems supplied by Visser. The majority of seed is sown using a Speed routine drum seeder, while a Granette 2000 needle seeder is used for dahlias and marigolds. Tiny Lobelia seeds are sown using a Granudine 24 lobelia – where the seed opening remains open for just 0.3 seconds.

The nursery has a dedicated germination room, which is kept at a constant 22°C with floor and water heating, and at humidity of 97 per cent.

Two years ago the nursery invested in a Tuinbouw Technisch Atelier TTA Transplanter Rpe, which now handles 30 per cent of pricking out. Some lines are still manually pricked out. Further improvements to the potting lines are planned for the near future.

Quality product

Operating to high production, H&S and environmental standards, last year the nursery was accredited to the British Ornamental Plant Producers Association (BOPP) scheme.

Bell Brothers Nurseries is also a member of Myriad Horticulture – a local co-operative formed four years ago with the objective of opening up the multiple sector markets for small Lincolnshire based growers. The co-operative currently has nine members.

Adding value

The nursery has an intensive cropping programme. In January and February alongside hydrangeas Bells produce primroses and pansies, switching to bedding production in March. From June to August the focus shifts to perennials before a two-month period devoted to cyclamen, pansy and primrose production. In November Poinsettia sales begin.

Keeping abreast of the latest sales trends, Bells produce 6, 10, 12, 24 and 30-pack, as well as strip bedding, an expanding range of baskets and vegetable plants - including eight varieties of tomatoes, peppers, cucumbers, melon and sweetcorn.

“While the market for strip bedding is static, our main production of bedding is now 6-packs,” says Robert Bell, sales director. “In general the market is looking for a bigger plant so our pot range is moving from 9cm to 12cm. Instant colour is also key as it adds value.

“Garden centres are looking for something unique – an unusual variety or packaging, they want to offer something more than the DIY stores.

“Responding to market demand, we are now offering single colour packs of bedding, as well as colour co-ordinated mixes for species such as nicotiana and petunia. Each year we aim to add dozens of new lines to our portfolio.”



Caption: Neil Chambers with an example of the Bells' bespoke barcoded packaging - supplied by Floramedia.

From strength to strength

The Bell family are now currently extending the production area with an additional glasshouse. Building work for the new block commenced in September and the whole project is due to be completed by December. An additional 4,000 square meters of glass 5.1m high equipped as before with ebb and flood benching, thermal screens and gantry irrigation. The additional area will be utilised for some new crops exclusive to Bell Brothers Nurseries.

“With a 40-acre site, there is plenty of room for expansion,” says Robert Bell. “To maximise production efficiency we are installing another roll in, roll out benching system. We are in the fortunate position of having the orders to accommodate the additional production.”