



Agriculture & Horticulture
DEVELOPMENT BOARD



Grower Summary

PO BOF 002

The National Cut-Flower Trials
Centre Programme for 2010-
2012

Annual 2010

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Further information

If you would like a copy of the full report, please email the HDC office (hdc@hdc.ahdb.org.uk), quoting your HDC number, alternatively contact the HDC at the address below.

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HDC is a division of the Agriculture and Horticulture Development Board.

Project Number:	PO BOF 002
Project Title:	The National Cut-Flower Trials Centre Programme for 2010-2012
Project Leader:	Lyndon Mason
Contractor:	Cut Flower Centre Ltd
Industry Representative:	Susan Lamb, Lambs Flowers
Report:	Annual Report December 2010
Previous report/(s):	None
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End Date:	31 December 2012
Project Cost:	£121,000

Headlines

- Extensive trials on 'German Asters' suggest particular promise from Krallen types, greater uniformity for UK block raised 'German Asters' compared with conventional plug propagation, and better stem quality from earlier rather than later plantings.
- New varieties of *Aster ericoides* performed well for flowering in September and growers are recommended to trial this species on a small scale.
- Several other crops, notably tunnel grown lisianthis, 'Karma' dahlias and trumpet antirrhinums offer commercial potential and will be further developed.

Background and expected deliverables

The past 20 years have seen a marked increase in *per capita* purchases of cut-flowers in the UK. Consumption has moved up from what was once a very low level by European standards, and there has been a spectacular, continuing increase in the imports of cut-flowers to the UK. Despite this, the UK's own production of cut-flowers is still limited. The production of more cut-flowers in the UK would benefit from closeness to markets, delivering freshness without air-miles, but a lack of know-how may be critical in holding back expansion and enterprise. In 2007 the Cut Flower Centre was established at Kirton, Lincolnshire, to supply this practical knowledge, moving in 2009 to Rookery Farm, Holbeach St Johns, Lincolnshire, where it is now run as a discreet unit under the control of the Centre Management Group.

The Centre delivers:

- Demonstrations, trials and problem-solving experiments relevant to UK cut-flower production, covering current crops and, especially, potential new crops for the UK
- Evaluations of promising, newer cut-flower crops on a commercial scale
- Technology transfer of the results, helping establish 'Best Practice' for the crops and cultivars promoted
- A forum to identify and facilitate further R&D projects relevant to UK cut-flower production.

The Centre also aims to assist in the commercialisation of newer crops and cultivars through providing a 'shop window' and by providing samples of cut-flowers for the wider industry.

Summary of the project and main conclusions

Trumpet antirrhinum

These striking snapdragons were new to the UK and attracted real interest from the industry. They yielded heavy stems, on the first cut (around 315 g for a bunch of six 66cm-long stems) as well as a second flush of shorter, lighter marketable stems. Initial tests indicated a vase life of up to 15 days, but the flowering stems would need to be displayed at a somewhat later stage of development than usual for the trumpet flower form to be appreciated.

Aster ericoides

The mainly double cultivars demonstrated in 2010 were new to the UK market. The industry recognised considerable potential for these autumn flowers, and three supermarkets plan to test market these cultivars in 2011. The Centre proved valuable as a resource, with numerous sample bunches being supplied as demonstrations. They grew best as a pinched crop in tunnels, although there may be potential for growing it as a single-stem crop with black-outs to restrain excessive stem extension.

'German asters'

These novel, colourful cultivars of China aster have attracted much attention in trials at the Centre, and in 2010 considerable efforts were put into a trials programme to optimise their production. The main findings are listed here.

- Trials of both the 'Krallen' and 'Gala' series confirmed earlier experience that efforts should concentrate on the 'Krallen' cultivars which produce sturdier stems than the 'Gala' series and a much more attractive flower which is very different to the commonly grown Matsumoto types. The greater weight of 'Krallen' stems appears to be a result of the substantially larger flowers rather than thicker stems or a greater growth of side-shoots. These results were obtained using conventional, Dutch-raised plug plants.
- The consistency in stem lengths, weights, flower size, etc was notable for a week 23 planted UK block raised 'Krallen' and 'Gala' crop planted in week 23. This contrasted with the greater variability resulting from the conventional Dutch plug raised crop planted earlier in the season (week 16).
- In direct comparisons of UK block-raised plants and Dutch plugs, block raised plants gave heavier plants with larger flowers from the early (week 16-17) and middle plantings

(week 18-19), while the plug plants gave heavier stems and larger flowers only from the early (week 16) planting. Block-propagated plants were more robust than plugs.

- Blocks established equally well when 'planted' by placing on the soil surface, rather than by digging in.
- A range of planting dates (week 17 to 23) was tested to establish the earliest practical planting date for block and plug plants in tunnels. For plug-raised plants later planting produced lighter stems with smaller flowers, while stem length was greatest from the middle (week 18-20) planting dates. In contrast, in block-raised plants later planting led to thinner, lighter stems with fewer side-shoots and smaller flowers. In most cases late planting (say in weeks 20 to 22) led to poorer quality stems, whereas early or middle plantings (weeks 17 to 19) were satisfactory. Both block and plug plants performed well in many plantings, though the former will have the advantage of reducing transport costs and making delayed deliveries less likely.
- Early plantings can produce vigorous growth and excessively long stems, so a growth retardant treatment was tested. Plug-raised cultivars were planted in week 16, 18 and 20 and were treated with 3 or 6g/L of 'B-Nine SG'. The higher rate of retardant resulted in only a small reduction in stem length (not more than 10%) in all cultivars but only following planting in week 16, treatments of later plantings being ineffective. Growth retardants will be further investigated in 2011 with a view to using earlier and more frequent applications.
- Demonstration plantings of cultivars from the 'Standby', 'Benary Princess' and 'Matador' series showed that, while a limited market might exist for this wider range of shades, none matched the flower quality of the 'Krallen' series.

'Karma' dahlia cultivars

Following interest in supplying dahlia as a cut-flower, a demonstration of 18 'Karma' dahlia cultivars (bred for improved vase life) was undertaken at the Centre. Although the cultivars grew vigorously, especially under protection, and the blooms were striking, vase life tests were disappointing, failing to make the minimum of 11 days shelf-/vase-life necessary for a commercial proposition. Further research is planned.

Lisianthus (*Eustoma*)

Cut-flowers of lisianthus have now achieved considerable popularity in the UK, and the possibility of growing a short summer spot crop in Spanish tunnels was tested. Plug plants were planted in weeks 18, 19 and 20, and cropping started in week 30, with high-quality

blooms, good stem strength and no pest and disease problems. Since the weather in 2010 had been ideal for growing lisianthus, the trial should be repeated in 2011 before any definite conclusions are drawn. The 2011 trials will also look at the effect of spacing because at 64 plants/m² the 2010 CFC crop was spaced wider than the industry norm for glasshouse crops.

Phlox

Plots established in a tunnel 2009 were grown-on and provided a useful resource to flower packers for demonstration to supermarket buyers.

Sunflowers

Sunflowers were included in the Centre's trials for the first time in 2010. Although already a well-established crop in the UK, their size means that harvesting and handling require significant resources. To facilitate handling, and perhaps mechanical harvesting, it was planned to investigate new dwarf cultivars as well as the use of plant growth regulators on standard cultivars. Unfortunately extremely dry weather followed sowing, resulting in poor germination and establishment, followed by wet, windy weather that adversely affected establishment and growth. The trial will be repeated in 2011.

Ornamental brassicas

For economic success ornamental brassicas need to be grown on as low-cost a basis as practical, which is likely to involve direct-drilling. Direct-drilling and traditional plug planting were carried out on a commercial nursery with a more appropriate soil type than at the CFC. The direct-drilled crop performed well, and as a result management at the nursery intends to direct-drill all its ornamental brassicas in future. A range of 15 new lines was also evaluated; some had potential as novelties or as alternatives to 'Crane' cultivars, and will be tested again in 2011.

Hardy foliage plants

A wide range of hardy foliage plants was planted outside in 2010 and their performance will be reported in the 2011 report.

Financial benefits

The project identified a number of crops having definite potential for further exploitation and commercialisation in the UK. It is estimated that two or three new products would help to maintain a significant number of larger or medium-sized businesses.

Action points for growers

- The trials on 'German asters' have provided a deal of know-how and growers might consider trial plantings using the basic information supplied from trials detailed in the main report as a starting point.
- Of the other promising lines tested, new cultivars of *Aster ericoides* for flowering in September attracted considerable interest, and are recommended for testing by growers on a small scale.
- Some other crops were promising, but as further work is required it is recommended that growers look for developments with these products in future trials at the Cut Flower Centre. These crops include, lisianthus (which performed well in Spanish tunnels but needs to be confirmed in another year), 'Karma' dahlias (which are superb producers but have post-harvest quality issues that need resolving), and 'Trumpet' antirrhinums (which need market testing to establish acceptance by buyers).
- Work on phlox, ornamental brassicas and sunflowers is continuing and growers should look for updates on these products as work progresses in 2011.