

Herbicide screening for container-grown hardy nursery stock (HNS)



Overview of the trial at Wyevale Container Plants Ltd



Overview of the trial at Darby Nursery Stock Ltd

Background

Recent product withdrawals due to re-registration requirements have meant that the ornamentals industry has been left with far fewer herbicides for use in container-grown production. The loss of oxadiazon (e.g. Ronstar 2G) and restrictions on 'straight' metazachlor products (e.g. Butisan S) have severely limited the options for residual weed control after potting and during the growing season. The industry has been left virtually dependent on isoxaben (Flexidor 125/500) for summer herbicide applications. Flexidor does not control grasses, groundsel and willowherb and sometimes fails to control pearlwort. Reliance on one active ingredient increases the risk of weed resistance to the chemistry.

The aim of the work this year was to build on project PO 192 (2014) to develop herbicide programmes to follow a new herbicide HDC H25 post-potting and to gain more experience with Springbok and HDC H22.

Trt. May	Trt. August	Trt. December
Untreated	Untreated	Untreated
HDC H25	Springbok	Devrinol
HDC H25	HDC H22	Devrinol
HDC H25	HDC H22 + Springbok	Devrinol
HDC H25	HDC H22 + Springbok	Sumimax
Flexidor 500 + Dual Gold	Flexidor 500 + Devrinol (plus 5 mm irrigation)	Sumimax
Flexidor 500 + Dual Gold	Flexidor 500	Devrinol

Method

The trial was set up outdoors on two commercial nurseries: Darby Nursery Stock in Norfolk and Wyevale Containers in Hereford. Species were selected in discussion with the industry so that a wide range of popular HNS species were included. A total of 41 HNS species were examined in the trial.

A randomised split plot design was used at both locations. There were two treatment factors (i) herbicide treatment (seven programmes including the untreated control) and (ii) crop species (21 at Darby Nursery Stock and 20 at Wyevale Containers). There were three replicate blocks and each plot contained five plants of each species. Treatments were applied in 1,000 L/ha of water. HDC H25 is a granular treatment and so was applied using a 'pepper shaker pot'.

The herbicide programmes consisted of seven herbicide treatments (see table opposite). Treatments were applied on three occasions; in May after potting, August and December. Phytotoxicity assessments were carried out two, six and 12 weeks after each application to determine crop safety. Weed assessments were also carried out.

Results

All the May and August herbicide applications were considered adequately safe to all species except the following where damage could still be seen 12 weeks after application (WAT):

Flexidor 500 + Dual Gold: Numerous species were slightly damaged 2 WAT. Most recovered but *Forsythia* and *Sambucus* remained susceptible with visible stunting and leaf marking.

Springbok: *Olearia* suffered tip scorch.

HDC H22: *Hydrangea* and *Olearia* were susceptible, showing stunting.

Flexidor 500 + Devrinol: *Hydrangea* and *Santolina* were susceptible with visible stunting.

Flexidor 500: *Hydrangea* and *Olearia* were susceptible, showing stunting.

Action points for growers

- HDC H25 looks particularly promising as a safe post-potting granular treatment.
- Flexidor 500 + Dual Gold can be used after potting in May, but be aware that the treatment can result in slight damage to several plant species.
- Springbok, applied at 1.6 L/ha, is a potential follow up treatment in late summer to extend the persistence of weed control. Note there are restrictions on application methods and crop handling following its use.