

Find your weed best practices

Developing a successful program means looking at integrated approaches

By Lauren T. Daniel



Successfully producing weed-free nursery stock involves knowledge in the species you're fighting, as well as products available for control.

Controlling container weeds is a challenge for Stan Yearwood, production manager at Creekside Nursery in Hempstead, Texas. He knows damage caused by weeds reaches beyond the direct effects weeds have on container crops.

"Tough container weeds not only rob the ornamentals of any fertilizer, but they also make the whole nursery unsightly," Yearwood said. "When a customer comes in and sees a container overtaken with weeds, it affects our ability to sell the plant and ultimately weakens our profitability."

Many nursery production managers find themselves in Yearwood's position and must also contend with the ever-changing landscape of weeds. In the past two decades, many growers have shifted from field-producing woody ornamentals and perennials to container growing.

This shift has brought a rise in annual broadleaf weeds such as bittercress, oxalis, groundsel, horseweed, chickweed, eclipta and spurge. Other major offenders are liverwort

and moss.

These weed species spread easily with the wind or have exploding seed pods that can launch seeds many feet. This makes their patterns of occurrence hard to predict. Production managers are forced to remain even more diligent and proactive when it comes to weed control.

Options for control

Control options range from old-fashioned hand-weeding to the expanding market of granular and sprayable herbicides. Finding a system that meets the needs of a nursery will typically use several methods.

Todd Mervosh, Connecticut Agricultural Experiment Station weed scientist, studied problem weeds and tested herbicides such as BroadStar (flumioxazin), OH2 (oxyfluorfen and pendimethalin), Rout (oxyfluorfen and oryzalin), Ronstar (oxadiazon) and Snapshot (isoxaben and trifluralin).

"I would recommend a pre-emergence application of a herbicide as the most effective means

of control," Mervosh said. "The herbicides currently on the market offer great control, but even with 90-95 percent control, production managers still need to employ hand-weeding to maintain clean containers."

Mike Corbett, propagation and integrated pest management coordinator for Zelenka Nursery Inc. in Grand Haven, Mich., makes a BroadStar application in late fall or early spring and follows it with a second application midsummer.

"What we like about BroadStar is that it gives us a longer residual than some of the other chemicals we were using," Corbett said. "I prefer to apply it in late fall or early spring, and it carries us through until we make our second application in midsummer. With the other herbicides we were applying three times a year. But with BroadStar we are on a twice-a-year application, which has helped us cut down on operation costs because every time we touch bushes it costs money."

Herbicide success factors

With some nurseries making three to four pre-emergence applications a year, and as many as five

applications a year needed in the south, Mervosh encourages alternating herbicides. This prevents weeds from building up a tolerance to certain products.

"Rotating chemistries will help extend the life of a product, and production managers will have a more robust herbicide program," Mervosh said. "Each herbicide offers different benefits, so a grower and production manager can really meet the various needs of their operation through a rotation system."

Resistance problems

In the past three years, spurge and eclipa have become an increasing problem in Yearwood's ornamentals, which he credits to a slight tolerance to some of the older chemistries on the market. He uses OH2, Rout and BroadStar but is still looking for the right mix.

"It's one of the most challenging aspects of growing plants these days — keeping the containers clean and coming up with a good herbicide program," Yearwood said.

Corbett uses Rout and Snapshot for perennials and has found an effective one-two punch for yellow

nut sedge. He makes the first application with BroadStar and follows up a week later with a Pennant Magnum (s-metolachlor) application.

A few years ago Corbett started having trouble controlling broadleaf weeds, including bittercress, groundsel, purslane, spurge and chickweed. He's now using BroadStar for broadleaf control.

"With some of the more mature herbicides we were seeing control but also the occasional breakthrough of broadleaf weeds. It seemed that they had developed a slight tolerance," Corbett said. "I began testing BroadStar when it entered the market and it worked well for us. It is now one of the main herbicides we use here at the nursery on flowering shrubs and trees."

Labor factor

Nurseries are struggling to handle the expenses of hand-weeding.

"Between applications we spend most of our time hand-weeding," Yearwood said. "When you take into consideration the whole nursery, that is a lot of man-hours."

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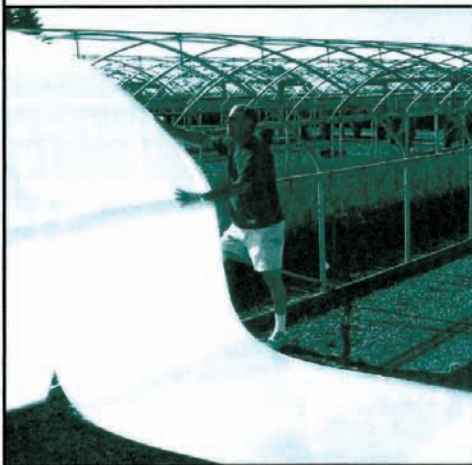
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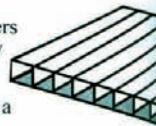
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Hines Nursery in Irvine, Calif., said labor used hand-weeding could be used for spacing, pruning or other tasks.

She has looked to herbicides to reduce hours spent hand-weeding and as a way to prepare for potential new legal restrictions on labor.

"In California, we are about to have a law passed where we won't be able to pull weeds because a person can't be bent over for a certain number of hours," MacLean said. "Because we may not be able to weed things, we are going to have to come up with other ways to take care of weeds. Products such as BroadStar, OH2 and Snapshot are some of the ways that help us."

While hand-weeding may still be the main means of weed control in smaller nurseries, Mervosh believes there has been a decrease in the amount of hand-weeding in big nurseries.

"Most of the big nurseries have had a decrease in hand-weeding because of using more effective products or applying them more effectively," Mervosh said. "A correctly applied pre-emergence herbicide can greatly reduce an operation's number of man-hours spent hand-weeding."

Sprayables vs. granulars

Mervosh sees a trend of more growers turning from granular herbicides to sprayable products. He said granular forms are still the most commonly used, but he sees more companies using spray-based products such as Gallery (isoxaben), Barricade, (proflam), and SureGuard (flumioxazin).

Mervosh warns that while sprayable forms can offer benefits such as the ability to treat larger areas at one time, they can cause leaf damage when used improperly.

◆ **For more:** Creekside Nursery, 18729 F.M. 1887, Hempstead, TX 77445; (979) 826-2461; fax (979) 826-9323; www.creeksidenursery.com. Todd Mervosh, Connecticut Agricultural Experiment Station, 153 Cook Hill Road; Windsor, CT 06095; (860) 683-4984; fax (860) 683-4987; todd.mervosh@po.state.ct.us. Zelenka Nursery Inc., 16127 Winans St., Grand Haven, MI 49417-9636; (616) 842-1367; fax (616) 842-0321; www.zelenkanursery.com. Hines Nursery, 12621 Jeffrey Road, Irvine, CA 92620-2101; (949) 559-4444; fax (949) 786-0968; www.hineshorticulture.com.

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