

GROWERTALKS

Features

7/1/2018

Maximize Your Weed Control

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Weeds detract from crop quality and growth by robbing your plants of necessary resources, such as light, water and fertilizer. They're adaptive freeloaders competing to survive in the same perfect production environment we create to grow our saleable plants. Additionally, weeds divert your production crew from other critical tasks, like shipping and planting, while negatively impacting the image of your business.

Have you ever visited a nursery overtaken by weeds and wondered if the operation is struggling to keep the doors open? Avoid being that nursery by being aware of factors that can interfere with your weed management program—especially if you're using pre-emergent herbicides.

Best management practices

A good weed management strategy starts with proper selection and rotation of herbicides to ensure that the weeds most prevalent in your nursery are controlled, while being gentle on crop species. The next critical step is to apply herbicide correctly per the label use instructions at the correct rate and uniformly to each pot using properly calibrated application equipment. Thirdly, many overlooked common crop production practices, including handling of containers, can derail the effectiveness of the best possible weed-control programs.

Most pre-emergent herbicides create a thin zone of active ingredient that prohibits weed seeds from establishing on the growing media surface of your containers. This chemical barrier on the surface of the media is formed when you apply a liquid or granular pre-emergent herbicide. Without this barrier, weed seeds can land on the media and do what they do best: germinate, grow, reproduce and take over your greenhouse. Anything that disturbs the media surface after herbicide application can disturb your pre-emergent herbicide barrier.

Some of the common cultural practices that can disrupt the barrier and degrade efficacy and longevity of weed controls are irrigation, handling and spacing the containers, hand weeding and fertilization.

Proper irrigation can help set the stage for great pre-emergent herbicide activity. Before herbicide application, newly planted plants should be irrigated with 0.5 in. to 1 in. of water prior to applying your pre-emergent herbicide. This should be done after plants have been placed where they'll ultimately grow. By allowing the media to settle nicely, you reduce the amount of "nooks and crannies" that may prevent the seamless barrier on the media's surface.

This may not always be necessary with older plants, where the media has had time to settle. However, if the crop

has recently been hand weeded and the media has been disturbed, it's best to irrigate the plants before reapplication of herbicide. This will resettle the media once again and optimize the media surface for next application.

Most pre-emergent herbicide labels specify irrigating with 0.5 in. to 1 in. of water to activate the herbicide, rinse off any residue from the leaf surface and allow for absorption to the media. Follow these instructions to ensure the safest and most efficacious results. Also, overwatering during the growing season can definitely reduce the efficacy and longevity of herbicides by leaching out/breaking down active ingredients.

Take great care to protect your pre-emergent barrier from mechanical damage. Handling containers can create surface disruption, allowing opportunities for weeds. Avoid applying herbicide to the plants at the potting station or while they're on the carts being transferred to their final destination. When workers move plants around, they can easily disturb the media surface by poking their fingers in the media while grabbing the containers. This often results in weed seeds soon germinating in these sites.

Hand weeding can also break the chemical barrier. This generally isn't a problem after the first application of herbicide is made on freshly planted crops, as you're starting with a clean slate. On established crops, however, it's best to try to remove all weeds by hand before making a second application of herbicide. Even your best eagle-eyed employee can miss tiny weeds during this weeding process and these small weeds in most cases will not be affected by the next application of pre-emergent herbicide. A couple weeks after the herbicide application, these small weeds will continue to grow, eventually releasing additional seeds into the environment and adding to the weed pressure in your greenhouse.

Teach employees to be careful to remove these mature weeds by first holding down the media when removing these weeds to minimize disturbance of the chemical barrier created by pre-emergent herbicides and schedule a quality check two weeks after herbicide application to remove any weeds that weren't removed prior to application.

Fertilizer application may affect the efficacy of your weed-control program. High soluble salts (EC) or nutrient levels at the top of your growing media profile can interact with the active ingredients in some herbicides, especially at application time. Avoid excess fertilizer rates and quick green-up/soluble fertilizer applications, especially when herbicides are being applied.

Top-dress application of controlled-release fertilizer (CRF) is a common practice when the initial application of CRF has reached its longevity and the plant won't be bumped up to a larger container. Top-dressed fertilizer provides weed seeds with all the nutrition they need to grow, right in their root zone at the container surface. To avoid this, consider incorporation, dibbling or sub-dressing the CRF below the media surface when possible. Another strategy is to consider increasing the longevity of the CRF you initially apply to postpone the need or frequency of another top-dress application.

There are few things in the greenhouse that can be as frustrating as seeing your plants being overrun by weeds—they plague our operations and eat up our profits. By implementing best management practices, training our employees and taking small steps to improve how we prevent weeds, we can make our jobs easier and increase our businesses profitability. **GT**

Nelson Gonzalez and Fred Hulme work for ICL Specialty Fertilizers, a supplier of specialty products that include innovative technologies, like controlled-release and water-soluble fertilizers for horticulture, agriculture and landscapers. Pre-emergence herbicides, insecticides, fungicides and growth enhancers are available in the ornamental and landscape maintenance markets.