

GROWERTALKS

Paul's Pointers

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Is Something Bugging You?

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I love observing the development of a crop from the time it's started through the time it flowers and is sold. The thrill of knowing I played a role in this cycle is very rewarding to me. However, I don't find it so rewarding when I find a crop is being attacked by insects, mites or slugs/snails.

It sure seems like growing plants in nurseries or inside greenhouses is nearly synonymous with the presence of various pests at some point during production. Even though outbreaks of pests can be anticipated, it often catches growers by surprise and seems like infestations often occurs just as the plants are ready to be sold.

Scouting & preventative programs

Even though we all know what scouting is or have a good idea of what scouting entails, you probably aren't surprised to learn that most growers either don't have scouting programs in place at all or will admit they don't regularly and thoroughly scout their crops.

With or without scouting programs, many growers implement preventative management strategies to either prevent pests from occurring or to keep their populations low. These programs may work at times, but preventative strategies often don't provide the level of control necessary to prevent crop injury unless they're managed and implemented properly.

I often find the growers with the most extensive preventive programs are the ones who scout their crops the least. Routine applications of insecticides and/or miticides may be effective at times, but may only provide a psychological peace of mind and allow growers to tell themselves they have everything under control.

Unfortunately, preventative programs by themselves often aren't enough (without properly scouting crops), not to mention regular and frequent applications can be costly especially if they aren't effective and primarily only provide psychological gratification.

Getting dialed in

It should go without saying that scouting should be the foundation of any pest management program. And the expression, "An ounce of prevention is worth a pound of cure" definitely applies here as well. As important as these are, scouting and preventative programs are often not enough. Here are other factors that greatly influence the efficacy of pest management programs:

- Contact equals kill! Going through the motions of spraying isn't enough. Most pesticides need to come into direct contact with the pests they're targeting to successfully control them.
- Apply the appropriate volume. Many growers use less volume than is necessary to get good coverage and obtain a high level of contact and control. There are numerous types of sprayers out there with various outputs, but with high pressure (300 pounds per sq. in. [psi]) large droplet spray equipment, I typically aim to apply 2 quarts of spray solution per 100 sq. ft. of area being treated.
- Proper pesticides. Today's pesticides are very specific in many instances and only target a select number of pests. Several growers either apply the wrong products or have false expectations of what pests certain pesticides control. Read the product labels and understand what pests each pesticide controls.
- Effective rates. Many growers simply apply the wrong application rates. Rates below the labeled recommendations are usually ineffective and can lead to pesticide resistance. This can also occur when applying higher than labeled rates. I tend to apply mid-labeled rates for purely preventative applications and rates at or more towards the highest labeled recommendations when I'm trying to control moderate to high pest populations.
- Frequency of application. It's often beneficial or necessary to apply more than one application to control many greenhouse and nursery pests. Sorry—pest control is seldomly one and done.
- Application interval. Purely preventative applications can be a little loosey-goosey depending on the target pests, pesticide used and personal preferences. I've seen preventative programs being applied monthly, biweekly and even weekly. However, curative applications will need to be applied more diligently. Again, the interval will vary by situation and pesticide use.

At the very least, consider the time of year and the life cycle of the pest. All pests develop more rapidly with warmer temperatures. For example, spider mites can take up to 20 days to develop from egg to adult under cool conditions to as few as five days with warmer temperatures. Therefore, it's necessary to apply miticides more frequently (perhaps making applications every three to five days) to break the lifecycles. Longer application intervals in warm growing conditions could allow complete generations to develop from egg to adult without being exposed to miticides, making it difficult for growers to reduce their populations.

Fun fact on this: Female two-spotted spider mites can produce approximately 100 eggs each. With this egg-laying ability, their populations can increase 70-fold in as little as six days during the summer. Now can you see how long application intervals could be ineffective?

Scouting is both important and necessary. It'll help you to identify pest problems, determine their populations, decide when to implement management strategies and evaluate how effective these applications have been. Preventative programs can be very effective, but do NOT replace the need or value of good scouting practices.

The tips I shared above regarding spray coverage, application volume and application intervals are essential considerations to improve the efficacy of your control strategies. Pests are always a potential threat to your crops, but with good management practices, they don't have to bug you. **GT**

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