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Don't confuse pests with beneficials, or it could cost you

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To spray or not to spray... that is the question.

Before this question can be answered, another more fundamental question should be asked. What exactly is the pest (or perhaps not a pest) that you are seeing? Many are often so quick to kill anything with six or eight legs, not understanding that many of these multi-legged creatures are beneficial and may control unwanted pests. So how do you know if it's friend or foe? Take the time to identify them. You may be saving a friend, time and money all at once.

Tools for ID

Identification can be accomplished by either seeing the creature itself or possibly by the damage it causes. If the critter is present, that makes the identification processes a lot easier. Sometimes just snapping a photo and e-mailing it to your county extension agent can make short work of identification. One tool that is excellent for snapping photos close up is the IPM Scope from Spectrum Technologies.

To make the identification yourself, you will need a few tools. The first is some form of magnification, like a loupe. A grower should never be without this tool. The minimum magnification should be 10X but no more than 30X. A loupe runs about \$7-\$20 depending on quality. Loupes will allow you to see the basic structures on insects and mites. Keep a sealable plastic bag or container handy to collect samples. Reference materials are also needed to help compare images to your sample. There are many books and Web sites available to help. The internet is full of excellent resources, though it may be a bit overwhelming. To find a Web site that is regional to you, try searching for "nursery pests" and your state. This will bring up local extension and university websites that will be more specific to your specific regional problems.

What to look for

When looking at the specimen, take note of how many legs it has, shape of the antennae, number of wings, size and other physical characteristics such as markings and coloration. This information is key to identifying the insect. Color can often be very helpful, but some pests such as aphids may change color depending on their host plant. Some insects of the same species can have different color forms.

Sometimes the pest itself may not be so obvious, but the damage will be. Chewing damage can be done by caterpillars, weevils, grasshoppers and leaf-feeding beetles. But if the new growth is deformed, it may be a symptom of piercing-sucking insects like aphids. Thrips also can cause new growth deformities, but they have more of a rasping mouth part.

So is it a good guy or bad guy? If a positive ID can't be made, take a moment and look at what is going on. If you see high numbers present, there is a good chance it is a plant feeder. Predators and parasites don't usually hang out in high numbers. Of course there are always exceptions, but in

Identification:

When asking for help with identification you should be able to provide the following information:

- Location
- Crop
- Numbers of the pest (a large group or just one or two)
- Type of damage (chewing, deformed leaves, discoloration)



Beneficials, like ladybird beetles, are rarely seen in large groups, contrary to insect pests.



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general plant feeders appear in high numbers and are generally sedentary. Think about aphids, spider mites, scales and whiteflies in their immature stage. You probably see them in high numbers, just sitting and feeding on your crops. On the other hand think about ladybird beetles, parasitic wasps and predatory mites. You typically see them alone, or in low numbers, but moving around quickly looking for their next meal.

Good vs bad

Why is it so important to identify insects and mites? A small percent of what you may actually see are pests. Most are just harmless creatures passing by, or even beneficials there to help stomp out pests. Another important reason to make a proper ID is to determine if the pest is dead. This is a common mistake that can be made easily with scale insects. From a quick glance it's hard to tell if scales are alive or dead. Often in the nursery setting, tiny parasitic wasps will show up and parasitize scales, and leave tiny holes when exiting that can't be seen with the naked eye. Investigating without some kind of magnification will lead to more pesticides being applied than necessary, adding extra expenses and wasting time. Edema is another good example where looking closely is important. This physiological problem can often be mistaken as a scale problem but is caused by roots absorbing water faster than is lost through transpiration. Edema causes cells to swell up and often can resemble scale insects.

Why is all this so important? With pesticide resistance becoming more of a concern each day, it's important for the nursery industry to preserve the pesticides we do have. Spraying when only necessary will ensure that products now available will keep working when we really need them. Also by scouting to see if beneficials are present, you may be able to save yourself time and money by not having to spray. Take the time to ID before spraying.

By: [Suzanne Wainwright-Evans](#)



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