

## Utilizing Insect Traps and IPM in Plant Propagation

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### INTRODUCTION

Integrated pest management, IPM, is being accepted by more and more nursery professionals, as another tool in daily nursery practices. The cost of various chemicals, liability of worker exposure, environmental concerns, and other considerations, have led nursery professionals to seek more economical alternatives of insect or other vector control and elimination.

Mention the term IPM and people look at you like you are speaking a foreign language. These various procedures offer safer and less toxic ways to deal with vectors of infestation and disease. The use of insect traps will allow the nursery operator or propagator to make more accurate determination of what insect is causing damage to a particular crop or plant. This further helps to determine which product or course of action to follow to effect either reduction or elimination of a given pest.

Let's examine several ways that traps can be utilized in the nursery by the propagator. First, there is the issue of a chemical control agent. Simply applying insecticide every other Tuesday, does not guarantee elimination of an insect problem. As we have seen, timing the application of a product with either insect emergence or the presence of an insect, is a better method of control. Using a trap to locate the vector or the numbers, or even the sexes present, will determine your course of action. If you are using biological control methods, the trapping information will help to better target the release of parasitic or predatory insects to help control an insect outbreak.

As an example, I have several residential garden clients who have rose gardens and ornamental crab apples, in their landscapes. Setting out Japanese beetle traps before adult emergence will help to determine the density of that particular population. In 2 cases, I have reduced the amount of insecticide applied, due to effective trapping. I have for several years, used the Trece<sup>TM</sup> Japanese beetle trap, which combines a pheromone and scent lure on the top of the trap jar. In the severest case, I was collecting upwards of 80 adults a day from a 1500 ft<sup>2</sup> garden. This was over a period of about 45 days. In this case, I used about 2 pints of Dursban<sup>TM</sup> insecticide, which was applied to the plants that showed the worst feeding damage. Before using traps in combination with dusts, the amount of insecticide would have been five times greater.

This brings up another point. You can use traps in your stock blocks or display beds to help monitor the presence of insects. This becomes crucial when plants are coming into fruit or when cuttings will be ready for processing. Leaves and stems that are chewed up or damaged by egg laying are not suitable for cutting production. Once you have trained a crew or grower what to look for, they can walk the blocks with a sprayer for spot treatments. They can even collect the insects out of the traps to determine a population count. This further helps to keep costs under control which of course makes the bottom line look good as well. Insect traps will work around the clock. When you go home at night, many insects emerge from hiding to begin feeding.

The well known pest of rhododendrons, the black vine weevil, is almost impossible to spot during the daytime. Trapping for these nocturnal pests helps the nursery operator to "see" what's going on when no one is at the shop. Many beetles, moths, and wasps are not out during the daytime. We know that they are in the nursery or greenhouse by the evidence of the damage they leave behind.

Traps will also help you to see other things around your nursery as well. An example would be the presence of whitefly on yellow sticky traps, but not on plants in the greenhouse or containers. Do you have weeds growing along or in the gravel or soil of your production area? Left to multiply, the weeds and the whitefly will soon be everywhere. You can also set out traps along common hedge rows, or in tree stands adjacent to your operation. Woody plants like box elder, silver maple, honeysuckle, and others attract certain pests, which if not detected could move into your property and cause damage.

Consult with your agriculture extension agent or nursery inspector to determine what insects are likely to be found in your area. Then you can make the right choice in the type of trap you will need. These traps generally come with lures which are either sex pheromones or scent-based. The type of insect you are dealing with, will dictate the type of attractant that you will be using. You must also take into account the placement of the trap. This is crucial in attracting the greatest number of insects. They may be placed either in front of or behind crops. In some cases, the traps must be among the plants or even below them, subterranean, in order to catch insects.

Insect traps in most cases are not stand alone products. They are, however, an integral part of a nursery operator's tool kit to control and eliminate insect pests. When used effectively, they will help you to gain better control over not only insect vectors, but also operating costs, environmental concerns, and promote a better quality product for your operation. Which of course, will provide you with a successful and profitable business.

The horticulture industry is competitive, like any other business. By using all the tools at your disposal, you will be able to compete with all the other propagators who are in the same arena as you are.