

HOW TO SET UP AN INTEGRATED PEST MANAGEMENT PROGRAM

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Abstract. Integrated Pest Management programs have many benefits. Saving money, reducing pesticide usage, increased worker safety, and reduced run-off are just a few of them. Many companies today have insects and mites commercially available and will provide the tools to help set up a program. Persistence is necessary to make a program work but over time as the do's and don't are learned it will become second hand.

Why set up an Integrated Pest Management Program with beneficial insects? There are many advantages to doing this. Worker re-entry time is greatly reduced. Many of the bio-rational spray products have low REI (re-entry intervals) so that workers can get back to work quickly. An even greater advantage occurs when using beneficial insects, workers can stay on the job without interruption while beneficials are being applied. This also means less exposure to workers from chemical pesticides. Another benefit is that chemical pesticides will have less chance of building resistance by not being sprayed repeatedly. If the production area is near public housing, chemical drift can sometimes be a concern. If using beneficial insects and mites there is neither drift nor bad smell to disturb the neighboring properties.

Cost is a question that is often a concern to growers when considering setting up an IPM program. There is a misconception that IPM programs will always cost more and that growers can not spray ever again. Neither of these are true. Many growers have found that they can save money using this program. Savings occur because with a scouting program treatments are applied only where needed, thus reducing pesticide usage. Still labor is needed to release beneficials but little skill is required for this task. Nursery workers can be trained in a few hours. Time is not lost waiting for long REI's either, workers can keep pulling orders, or get back to work rapidly using these environmentally friendly products.

When setting up an integrated pest management program pre-planing must go into it. Understanding that every nursery is different and that what works at one might not work at another. There are "base" programs but they have to be specialized for each situation. Any of the suppliers of beneficial insects or bio-rational products can help design a program.

The first step is preparation. Think about the crop and its major problems, including the seasonality of problems. Background investigation must be done to insure there is a solution commercially and economically available for the problem. Next, spray logs must be checked for chemical residuals that will adversely effect beneficial insects or mites. Economic threshold is important too. This is knowing if the

crop can sustain any pests and if so at what levels before monetary loss occurs.

Most of this background information can be pulled from scouting records and spray logs. These are priceless tools in a nursery. By keeping an accurate scouting record many pest problems can be seen in patterns. This allows the grower to predict problems and provide preventative treatment before there is plant damage.

Many steps can be taken to prevent problems in the nursery. Plant selection is very important. Choosing plants that are resistant to pests and diseases is a key step. Good sanitation is also necessary.

Good sanitation practices include culling dead or stressed plants. This will keep disease from spreading and eliminate places for insect pests to breed. The removal of plant clippings will also remove places that can harbor pests. Also eliminate any standing water that may serve to spread pathogens.

Preventive maintenance includes maintaining plants health. Proving the proper level of lighting, water and nutrition will keep the plant from being stressed. Plants can be stressed by too much of a good thing, such as fertilizers. When a plant is stressed it is more susceptible to pests and pathogens.

What is scouting? Scouting is a tool. It is used to locate and monitor pest problems in nursery production. To be an effective scout you need sticky cards, hand lens, scouting log and good observation powers. There are several different forms available for keeping scouting logs. Suppliers or local county extension agents may have them available. The nursery must be walked on a regular basis and notes must be taken where and when problems are found. Population levels must be tracked of beneficial and pest insects and mites. This requires being able to identify the difference between them.

Once all the background information has been gathered and a program has been drawn up the initial release can be done. Most beneficial insects are shipped overnight to the nursery so be sure to schedule appropriately. Each biological will have a specific set of release instructions that should be available from the producer. A request can be made to receive the release directions early so preparations can be made for the day of arrival. If there are any questions be sure to ask the supplier to avoid mistakes or failures.

In the preliminary stages of running an IPM program using beneficials, difficulties may occur. Re-assessment of release rates or beneficials being used may need to be re evaluated. New pests may also show up that broad-spectrum sprays were killing before. This may lead to a release of more or different beneficial insects. If a clean-up spray is necessary be sure that it is compatible with your current release program. This information is available from most beneficial suppliers.

Working with beneficial suppliers and others that are familiar with beneficials is key to making a successful IPM program. Persistence is also necessary but the work will pay off in the end. A good program will provide you with a safer place to work, healthier plants, and reduced production costs.