

Establishing a Scouting Program - Step by Step

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What is scouting?

Scouting/monitoring is the regular and systematic inspection of crops and other detection tools (sticky cards, etc.) to identify insect pests, diseases, nutrient deficiencies and other problems. It is a cornerstone of effective IPM. How can you manage your pest problems if you don't know what's there? A sound scouting program provides 1) early detection of pest problems, and locates areas prone to problems; 2) trends in the population levels of the pest or biological control agent; 3) enables the grower to identify the optimal time and method for treatment; and 4) measures the effectiveness of a management action (biological control or chemical insecticide treatment). A grower must develop a scouting program that works for him/her, taking into consideration how much time is available, and the severity of past pest problems. An effective scouting program will save time and money in the long run by allowing the grower to manage problems early. It is best to use a consistent approach, even if time is short.



Examples of scouting tools

How do I develop a scouting program?

1. Identify the scout and determine amount of time to spend on this activity per week per house.

Scout: _____ Time Allotment per House per Week: _____

The amount of time a scout spends monitoring the crop may change over the season. Early in the growing season there may be more time available to inspect the crop. As the season progresses, growers often find they have less time to invest in scouting, though this is often when scouting is most important. It is best to set up a standard program and try to stick to it, even when there is less time available.

2. Gather background information (Refer to your completed site survey)

- Historic problem areas (Crops prone to infestation or disease, places with poor drainage, leaks or algae accumulation, limited air movement, cold and hot spots, weed prone areas, poor pest exclusion zones)
- Planting schedule and plant movement pattern to and from other houses
- Irrigation type
- Pesticide applications and rates
- Equipment
- Fertilizer and media (current pH and EC)
- Biological control agents and releases

3. Gather materials

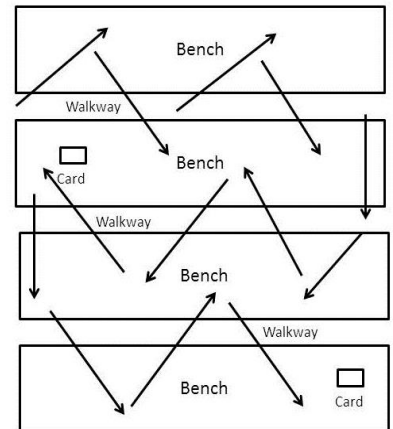
Hand lens, mini-microscopes, opti-visor or magnifying glass (at least 10x), EC or pH meters, disposable gloves to touch diseased plants, containers or baggies to collect specimens for id, sticky cards, plan ahead for plant-mediated IPM system use (indicator plants, banker plants etc.) or develop planting schedule for them, colored survey flags or flagging tape, hand counter/tally meter, potato disks for fungus gnat monitoring.

4. Compile a notebook or system for record keeping (Provided for you).

This is your resource base! It can contain the following: blank and completed scouting forms, greenhouse maps, information on biological control use or pesticide applications, fertilizer rates, pesticide labels fact sheets, virus testing results etc.

5. Develop a strategy

- Pick a day and time – Scouting should be done the same time each week. But if that is not feasible, better to do it when you can, than not at all.
- Determine a date by which the crop must have a tolerable level of pests. Day/Time: _____
- Determine action threshold for each pest (Handout 1)
 - Action threshold is the population level for a pest at which control is needed to avoid economic loss or aesthetic damage to a crop.
 - Tolerance for infestations depends on numerous factors such as type of pest, crop, stage of crop development, type of damage, time until sale.
 - Thresholds vary from grower to grower.
- Formulate a method for scouting. Will you count actual numbers of pests on each plant? Use presence vs. absence? Percent infestation?
- Create data recording form (Handout 2 and examples)
- Establish a route and a schedule
 - Map greenhouse (Handout 3)
 - ID bench and walkway placement
 - Divide house into scouting or management units (usually 1000 sq. ft)
 - Id placement of sticky cards (typically 1 per unit), indicator plants, potato disks, etc.,
 - Most efficient route is a zig-zag pattern.
 - Inspect 10-20 locations per unit (depending on the time you have)
 - Determine how often to test your water for pH and EC.



Example of a basic map

6. Let's Go Scouting!!!!

- Look at the entire crop. Do you see any off color plants or abnormalities?
- Begin to randomly inspect plants randomly along established route for insects, natural enemies, diseases or nutrient deficiencies. Use your laminated sheet of white paper (provided for you) to gently tap plants to dislodge insects after inspecting undersides of foliage. Don't forget to inspect hanging baskets, weeds under benches, and plants along the back edges of the benches! Mark results on your scouting form.
- Count insects on sticky cards and record data on your scouting form.
- Keep records of your data. Pick a method of graphing the data you collect that is easiest for you.
 - Mark sticky card counts on graphing template to monitor population trends over time for key pests.
 - Enter information into Excel or other form of computer program.
 - Keep chronological paper records in your notebook
- Evaluate your data and determine if a management action is required.
 - This is when observations from past weeks (and years) are useful. Are the pest or natural enemy populations increasing or decreasing above your threshold given the time of year and the crop? If you treated in the past, have populations rebounded or stayed below your thresholds? What were the results when populations reached these levels in the past?

For additional information:

Dreistadt, S.H. 2001. *Integrated pest management for floriculture and nurseries*. Regents of the University of California Division of Agriculture and Natural Resources.

Integrated Pest Management for Bedding Plants: A Scouting and Pest Management Guide. Cornell University and the New York State IPM Program Available at <http://www.nysipm.cornell.edu/publications/bpguide99/default.asp>