Want to Save Money on Pesticides? Scout for Thrips!

Scouting is the most important part of an integrated pest management (IPM) program for western flower thrips. It takes time but will save growers money by reducing unnecessary pesticide sprays or biological control releases. Every grower, large or small, should develop a regular scouting program that is tailored to their specific needs and limitations. A scouting program can be quite broad and take considerable time, or short and simple. As with most things, you get what you pay for, but an effective scouting program is worth the investment. The goal of any scouting program is to detect pests and their general locations early and manage them before a serious outbreak spreads throughout the crop. There are many tricks to the trade based on decades of grower experience and research study. It is worth taking advantage of this knowledge. Here are a few hints.

To Know them is to Manage them. The first step to set up a scouting program is to ensure the scouter can recognize the different life stages and damage of key pests likely to be found in the greenhouse. Scouts should also know what the beneficial insects look like too.

Write it down! Thrips populations tend to follow similar cycles every year. When day length is short and temperatures are cool, thrips numbers tend to remain low. As days get longer and sunnier, and temperatures in the greenhouse rise, thrips populations increase. That is because they complete their life cycle faster. In South America where the day length remains relatively constant all year long, pest populations may be affected by other external environmental factors that growers can become attuned to based on scouting. By keeping records from year to year, growers can foresee when to step up their attack against them if necessary. It is also wise to track where thrips commonly occur (around vents or doors, perhaps) and which plant species and varieties they commonly infest. This allows growers to identify pest-infested hot spots early and make a proactively targeted insecticide spray or natural enemy release rather than treat the entire range. This saves money and protects the environment and beneficial insect population.

Why Does Scouting Work Well for Thrips? Flowers are the preferred food source for western flower thrips. Just like people, thrips have their favorite foods and tend to stay on the same plant as long as the good food lasts. Adults only disperse when food quality or quantity declines. Also, thrips are poor flyers and rely on wind currents in and outside the greenhouse to carry them around. Plants closest to the vents are most likely to get infested in side-vented greenhouses, while thrips infestations are more scattered around in top-vented greenhouses. Because thrips don’t move that readily within the greenhouse, esp. if they landed on a favored host, scouting should focus on those locations. That allows growers to detect hot spots quickly.

What about Sticky Traps? Most growers put up sticky traps, either yellow or blue, to monitor for thrips. These traps are a quick and easy scouting tool, but they don’t tell the whole story. Thrips can be found 2-4 weeks earlier on a preferred host plant than on sticky cards. Growers should never assume they don’t have a thrips problem just because there are none on the sticky cards.
Some growers focus on pest population trends on the sticky cards, recording rough numbers every week, looking for significant changes over time.

**Try Guardian and Trap Plants to Provide Early Warning and Control!** Guardian plants, such as marigolds, can be used to attract, sustain and kill thrips. They are a preferred food that can be used to detect thrips early. They are effective in a wide range of production systems, including annual bedding plants as well as perennial crops such as roses and gerbera daisies that stay in the ground for months or years. Start marigolds from seed, and within a month they are flowering and ready to put on benches to attract thrips. One marigold per 1,000 square feet (92 square meters) is suggested. This tool works particularly well early in the season when crop plants are not yet flowering. If marigolds are placed near vents, invading thrips will stop there first. Growers must scout the marigolds regularly and if plants become heavily infested, they must be replaced with a clean plant. When removing thrips-infested marigolds, place them in a plastic bag and dispose of them away from the growing area. Research supported by the Thrips and Botrytis Project showed that marigolds can be used together with an insect-killing fungus in the soil and predatory mites in the foliage to provide a long-term tool to reduce early thrips infestations while also serving as a detection aid.

**Where to Start with IPM?** Here are several key components for successfully reducing thrips populations:

1. Start with clean facilities by sanitizing the floors and benches before production, removing weeds under benches and around from the growing area; and eliminate infested plant material.
2. Inspect incoming plant material before bringing it into the production area, and discard it if it is infested.
3. Use a preplant cutting dip, such as an insect-killing fungus to target pests coming in on propagation material.
4. Establish flowering, potted marigold plants where thrips are likely to occur, such as near vents and doors.
5. Establish a regular scouting program for the production area that includes recording the information, and refer to it frequently before considering a treatment.
6. Identify pest hot spots early and target them with a spot spray or release of natural enemies, rather than making applications over the entire production area.
7. Rotate pesticides properly, considering the mode of action, to avoid creating pesticide-resistant pest populations.