KPOV – *The Point*

Gardening: Get Good At It

“What is Integrated Pest Management or IPM? – Part 2”

June 18, 2019

This is part 2 on Integrated Pest Management – the focus on long term pest prevention using the least toxic control to solve problems in the garden.

I talked about cultural controls and now I’ll explain physical controls which include physically blocking pests, removing them or trapping them.

Let’s start with hand picking insects. This is done by simply crushing the insect or put them in soapy water. Do this early in the morning and remove the infected plant part from your garden. Hand picking works well for cabbage worms and aphids – particularly at the early stages of infestation.

If hand picking insects isn’t your thing try using a forceful stream of water on soft-bodied insects. Don’t forget to spray the undersides of leaves. This will need to be done regularly to prevent recolonization of the insects. It won’t work well on mobile pests such as leafhoppers or spider mites. Now you can see why it’s so important to identify the garden pest.

I often use various types of barriers in my own garden as an early deterrent. Row cover is my choice for young seedlings and during vulnerable times for some plants. It comes in varied weights and sizes and can be reused for two or three seasons. Light-weight is marketed as “insect barriers,” it will allow 90%-95% of the light through and have 2º-6º degrees of frost protection.

Collars of tin or aluminum foil are useful to control cutworms on broccoli and cabbage. A sticky barrier, such as Tanglefoot, can prevent pests from climbing and colonizing in a tree or climbing down to pupate in the soil.

There are several methods used to trap specific insects common in our gardens. Earwigs seem to always be on a gardeners list. A rolled up dampened newspaper or paper towel placed around the garden will attract earwigs and then you simply shake out the paper into soapy water after capture. Not too difficult.

Next we have sticky traps which consist of a **sticky glue** layer mounted on a piece of cardboard – sometimes folded into a tent-structure to protect the **sticky** surface. I use sticky cards in my greenhouse as a useful tool to alert me to the presence of certain flying adult insects such as whiteflies and winged aphids.  Remember that mites, mealybugs, scales, and wingless aphids do not fly and will not be caught on the sticky cards.

Sticky cards can often help you track insect population trends, and make more informed and timely pest management decisions.

[C:\Users\Nancy\AppData\Local\Temp\Make a Light Trap - https:\www.uky.edu\Ag\Entomology\ythfacts\4h\unit2\hotm&ult.htm](file:///C:\Users\Nancy\AppData\Local\Temp\Make%20a%20Light%20Trap%20-%20https:\www.uky.edu\Ag\Entomology\ythfacts\4h\unit2\hotm&ult.htm)A **pheromone trap** is a type of [insect trap](https://en.wikipedia.org/wiki/Insect_trap) that uses [pheromones](https://en.wikipedia.org/wiki/Pheromone) to lure [insects](https://en.wikipedia.org/wiki/Insects). A pheromone is a secreted or excreted [chemical](https://en.wikipedia.org/wiki/Chemical) used by to communicate with other members of the same [species](https://en.wikipedia.org/wiki/Species). It is passed through the air or water and in insects; these pheromones are detected by the antennae on the head. Although this type of trap is often used on large-scale agricultural crops, it is a vital element of IPM.

In summary, pheromones are species-specific chemicals that affect insect behavior, but are not toxic to insects. They are used to confuse a mating population of insects.

Other physical controls include:

Mulching – which protects against soil-borne pathogens and you should add a new layer in the spring. Pruning – which is good for tent caterpillars (before they disperse) but not good for scales. Rototilling directly kills pests by burying them or exposing them. Using a Light Trap - A simple **light trap** can be made from a funnel, a round gallon can and a **light**. You can buy a large funnel or make one by cutting the bottom out of a gallon milk or detergent container. ... **Insects** that fly into the **light** bulb fall down the funnel and are trapped in the can.

For answers to all your garden questions, please visit our website: [**gocomga.com**](http://www.gocomga.com)and click on the KPOV tab on the orange bar. This has been Gardening: Get Good At It. Thanks for listening.

What kind of row cover should I buy?

* Floating row cover is available in many widths, lengths, and weights:Light-weight FRCs (around .5 oz./sq. yard) are marketed as “insect barriers,” have 90%-95% light transmittance, 2º-6ºF. of frost protection, and can be left on many crops (e.g., beets, snap beans, salad greens) from seeding to harvest.
* Heavy-weight FRCs (1.5-2.2 oz./sq. yd.) are usually used to extend the growing season in spring and fall, allow 50%-70% light transmittance, and 4º-10ºF. of frost protection.
* FRC can be purchased through mail order seed and garden supply companies and at some local garden centers. Some brand names are Remay and Agribon. Conducting an internet search on “floating row cover” will yield many suppliers. FRC can be most easily cut to size using sharp scissors.

Disadvantages of FRC

* Pest insects can become trapped under FRC, especially aphid, whitefly, mites, and thrips. Pests that overwinter in the soil near host plants could emerge the following spring under the cover (e.g., root maggots, flea beetle , Colorado potato beetle).
* Can abrade and injure stems and foliage during windy weather.
* Difficult to use on tall plants.
* Temperature under FRC can increase dramatically (5-15ºF.) above outside temperature.
* Must be removed from members of the squash family when plants flower.

**Types of sticky cards**

Most commonly, 3 by 5 inch sticky cards are used in the greenhouse.  Some cards have a grid system that makes it easier to count the insects on the card. Larger sticky cards are also available. Sticky tapes or ribbons can also be used to trap out insect pests.  As an example, some growers place sticky tape on their irrigation booms to trap out nuisance shore flies in their propagation houses.

Yellow or blue colored sticky cards are commercially available. Blue cards may be more attractive to thrips (and even shoreflies), and may be used to detect low thrips populations on especially susceptible crops. Yellow sticky cards are best used for general pest monitoring.

**Some Suggestions on Using Sticky Cards**

Use at least 3 to 4 cards per 1000 sq. ft., or a minimum of one card per 1000 sq. ft with additional cards placed near doors, vents, and over insect-sensitive plant species or cultivars.  Use clothespins and stakes to vertically attach sticky cards just above (4 to 6 inches) the crop canopy. As plants increase in height, move the sticky cards upward on the stake.

Glue two spring-type clothespins together with the clips facing in opposite directions. Attach one clothespin’s clip to a wooden stake. Attach the other clothespin clip to the sticky card. As the plant matures, you can move the sticky card higher. Cards should be placed above the crop canopy to attract whiteflies, fungus gnats, thrips etc. Cards can be placed closer to the media surface to attract fungus gnats.

Resources:

<https://www.uky.edu/Ag/Entomology/ythfacts/4h/unit2/hotm&ult.htm> - Make a Light Trap

<https://catalog.extension.oregonstate.edu/ec631/html> - Managing Diseases and Insects in Home Orchards

<https://extension.oregonstate.edu/news/how-safely-control-codling-moths-home-orchards> - Codling Moth

<https://extension.oregonstate.edu/news/fight-bugs-garden-ipm>