
IPMINFO

Integrated Pest Management for the Home Environment

TITLE

HOW YELLOW TRAPS CATCH INSECTS

Aphids, whiteflies, scales, and many other insects initially locate plants on which they feed by using visual cues such as color. However they do not see the colors reflected from the plants in the same way we do. Insects are able to distinguish among the various colors-of light that are reflected from the surface of plants. Therefore, instead of seeing leaves as a green color, they see varying hues of yellow and blue that are reflected from the leaf surface. The color of reflected light that we perceive as yellow (wavelength 500-600 nm) is a major component of the light reflected from plant surfaces, and a greater amount is reflected from newer growth than older growth. Most aphids, whiteflies and scales prefer the newer growth and fly towards objects reflecting large amounts of light at the proper wavelength. They will be attracted to any object strongly reflecting light in the 500-600 nm range including plants, shirts or cars. This strong response to yellow colored objects can be used to help control the numbers of aphids and whiteflies in your garden. Our yellow card looks like a mass of new foliage to the flying insect and attracts it to the card where it attempts to land. By covering the card with a clean, sticky material such as oil or vaseline, you can reduce the population of aphids or whiteflies in your garden. The impact of the cards will be

greatest when pest numbers are low in the spring/ early summer. After aphid or whitefly numbers have built up there are simply too many to allow the card to catch enough to be of any help.

Another way of utilizing the color sensitivity of these insects includes placing pans of water colored with yellow food coloring (or pans painted a bright yellow) and mixed with a few drops of detergent in the garden; the insects are attracted to the colored water, land and drown. Other objects that can be used as traps include Melmac® dinnerplates, plywood boards (6" x 12") painted yellow, or old Prestone® antifreeze containers cut in half. The trap must match the yellow color of the card as closely as possible.

For those who want to perform simple experiments on their garden, the color response of many insects can be an ideal tool. Simply get several different colors of paint-yellow, green, red, blue and white are good-and paint small boards with each color. Cover with a clear sticky substance such as heavy oil, vaseline, or petroleum jelly and hang in a line near a large bush or tree. Then take daily counts of the insects that are caught. This same experiment can be performed using water traps and food coloring. You might be very surprised by the results.

Division of Pest Management
California Department of Food and Agriculture