Fumigants & Pheromones

Insects Limited, Inc.

Patrick Kelley, BCE

Dead Insects on Sticky Boards Attract Carpet Beetles

Blunder Traps for Monitoring - There are a couple of good reasons why a pest management specialist might want to monitor for insects using un-baited sticky boards in storage areas.

First, monitoring tells us how much insect activity we have in that specific location. Secondly and even more importantly, a trained eye can determine if the insects in the traps are the kind that put our stored-products at risk.

This information allows us to make informed decisions on how to best lessen those risks.

A field cricket has become stuck and died on a sticky blunder trap

Un-baited sticky traps are often called "blunder traps" since there is nothing drawing an insect into them except for the fact that they are positioned at that location.

Insects and other invertebrates simply blunder into the traps as they crawl or fly about the room. Typical "bug" captures in a blunder trap can vary greatly and often include spiders, crickets, ground beetles and other occasional invaders coming in from outdoors. These types of bugs tell us that we don't have adequate seals at the bottoms of our doors and insects are entering from outdoors. Other insect activity in the traps, such as silverfish, booklice or numerous stored-product pests indicate that we have a pest issue that needs to be addressed immediately.

Dead Insects as a Food for Carpet Beetles – It is well-known that carpet beetles feed on and destroy the natural fibers in wool carpets as well as other objects that contain feathers, fur, wool, hair and hide. What is less well-known is the fact that carpet beetles also love to feed on dead insects. The proteins that they find in dead insect carcasses provide the nutrition and energy that they need to quickly develop and reproduce.

If left in place for a long period of time, the larger insects that accumulate in the blunder traps can become a food attractant to carpet beetles and other dermestid beetles. A cricket or other large insect stuck onto the outer edge of a sticky trap allows the carpet beetle larvae to crawl right up to it and begin feeding on it. The larvae seldom get caught in the glue themselves as the long protective hairs on their bodies warn them of sticky areas to avoid. Also, as they begin to feed on the dead insects, the circular fecal pellets that they produce after feeding cover the glue surface and give the larvae a safe platform to crawl over.

For the occasional larva that does get stuck in the glue, it often escapes after shedding its skin and leaving the outer skin stuck in the trap while the live larva crawls to safety on top of the dead insect in the trap or off the glue completely.

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A Varied Carpet Beetle larva (lower left) feeds on a dead cricket stuck to a blunder trap

If you are monitoring specifically for carpet beetles, the best route to take is to use a dermestid attractant lure in a pitfall trap such as the All Beetle Dermestid Beetle Kit. https://store.insectslimited.com/all-beetle-dermestid-beetle-kit This trap design draws the larvae in but also helps keep the carpet beetle larvae from escaping the traps.

The use of blunder traps is still recommended as they continue to provide beneficial information about where the bugs are coming from or if they are infesting any nearby products.

As a pest manager, you don't want to leave older blunder traps that are filled with insects in place. These bug-filled traps become a food source for carpet beetles and other dermestid beetles and they should be replaced with clean sticky traps. A trap covered with crickets, spiders, ground beetles and other invertebrates should be replaced if any dermestid activity is found on it. This allows you to see where the most recent activity is occurring and removes any chance of the monitoring traps adding to a pest problem. Read the activity in your traps at regular intervals and make sound decisions based on what you find.

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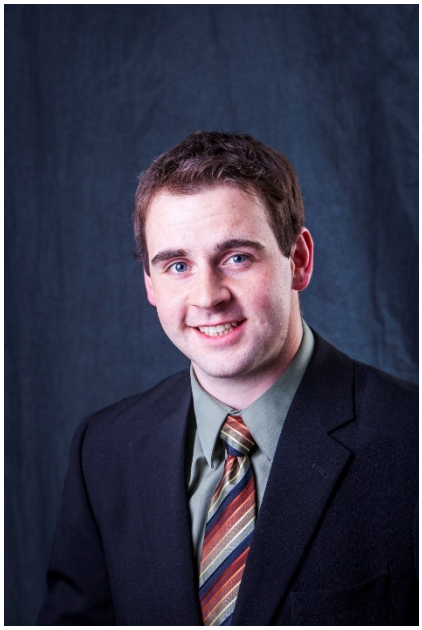
Ethan Estabrook Joins the Insects Limited Team

Beginning in 2019, Ethan Estabrook will join the Insects Limited team as a Research Associate.

Ethan comes to Insects Limited after eight years of work with Insects Limited's sister company Fumigation Service & Supply, where he was a Regional Manager at the main headquarters in Indiana. Ethan graduated from Purdue University and is a Board-Certified Entomologist (BCE). He brings with him a vast amount of knowledge about stored-product pests and their biology.

Ethan will be a great asset to Insects Limited's growing research team. He will add a new dimension to ongoing trap and lure research as well as filling a valuable need in researching and support of new technologies such as SightTrap.

Contact Ethan at E.Estabrook@insectslimited.com to welcome him aboard!



Ethan Estabrook, BCE - Research Associate, Insects Limited, Inc.

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Insects Limited, Inc.

David Mueller, BCE

Insects Affected by Climate Change

At Insects Limited we have observed that insects are sensitive indicators of climate change. They may be the most sensitive indicator to observe.

Whole forests of pine trees in Colorado and Utah are dead because an invasive beetle, called the pine bark beetle, has not only invaded the forest, but have developed multiple generations annually that increase the population exponentially. One generation per year would be harmful to a forest but the female lays 50 to 100 more offspring per year that now destroys the forest. Brown patches of dead pine trees can be seen from aerial photographs in places like the Kenai peninsula of Alaska where four million areas of forest are killed by spruce beetles.

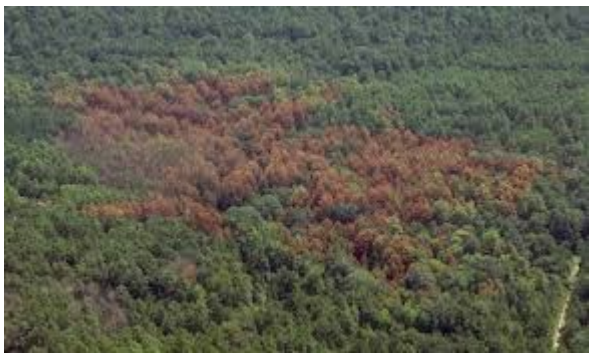
With thunderstorms and lightning flashes increasing, this dead forest is fodder for massive fires like those we have seen in California recently.

Moth eaten sweater

Clothes moths were known 20 years ago to have one generation per year. A female moth lays about 50 eggs per year. Now there are reports of clothes moths laying two generations per year. Multiply 50 individually hatched eggs x 50 offspring from each one of them and you have a destroyed wool sweater or a ruined wool suit.

You may be a sceptic and say that our recent weather is simply a group of single weather occurrences but go back to 1910 where the Purdue Report shows there are more extreme precipitation events and higher average temperature changes now than any other time in the past 100 years. The report shows that global weather change has reached extreme highs for the last several years.

A century ago, 10-15 percent of the precipitation events were extreme. Now, it isn't uncommon for one-third of the region's precipitation to reach extreme levels.



Southern pine beetle damage. Photo by USDA Forest Service.

"Major Forest Insect and Disease Conditions in the United States: 2015" found at https://www.fs.fed.us/sites/default/files/fs_media/fs_document/15627-usda-forest-service-insects-508.pdf