

Fumigants & Pheromones

Digital Newsletter Delivered by Insects Limited, Inc.

Issue 157

How is This Unseasonably Warm Weather Affecting Your FSMA Compliance?



Tom Mueller, Vice President of Insects Limited

It happens every so often. A stint of warm weather when it is supposed to be the coldest time of year.

99% of the population welcomes this surprise with open arms, but if you are someone who can sum up your job description in one sentence, *"It is my job to keep insects out of food, reduce customer complaints and protect our brand"* then this warm weather should not excite you.

It should put you on high alert.



At [Insects Limited](#), we work hard to introduce scientific and innovative pheromone technology to the industry that allows professionals with the above job description to do just that, keep insects out of food, reduce customer complaints, and protect your brands.

Recently, we introduced a product to the market called [SightTrap](#). It is a camera-based pheromone monitor that records an image of your traps each day, send the image to our web-based software (ForesightIPM) where the insects are identified, counted and graphed. It compares that data to the temperature and humidity in the area of the trap giving you insights you have never had before.

Here in the Midwest, we had seen unseasonably warm temperatures for the last 10 days. Temperatures warm enough to get the insects moving, and we are seeing that reflected in our customer's SightTrap data.

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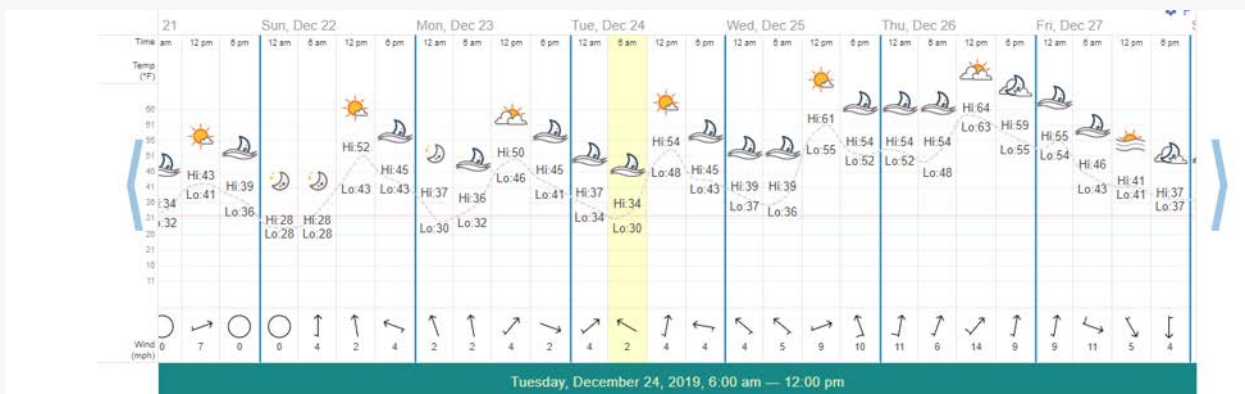
Our newest product guide is a must-see. The 20-page full-color and fully illustrated booklet can be viewed as a hard copy, online, or as a [PDF HERE](#).



In total, we have seen 37 insects (19 IMM, 15 WB, and 3 MFM) caught in the last 10 days. Before that, we had not caught a single insect in the previous 34 days.

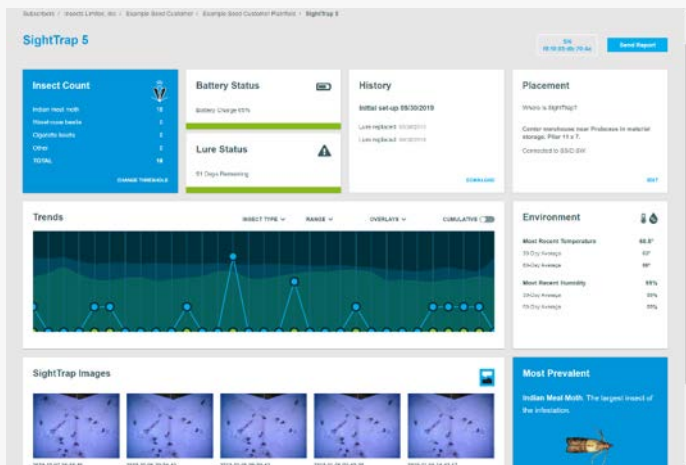
"Start with the Insect First!"

Insects are predictable if you know their biology. Once temperatures cool down and the photo-period hits less than 12/12 (light hours/dark hours), the insects go into diapause. They predict if unfavorable environmental conditions are coming (see *The Insects; Structure and Function, 4th Edition. R.F. Chapman, Cambridge University Press, 1998. ISBN 0-521-57048-4, p 403.*), and go into survival mode.



They pause their life cycle and just "hang out" until the unfavorable conditions improve. During the last 10 days, they "hit the play button" and started moving and you can bet your favorite Christmas present they searched for and found a mate to reproduce with quickly. This is going to cause even higher numbers in you or your customer's products when the weather warms and the insects come out of diapause.

Luckily, to the day, the SightTraps were able to communicate the exact locations of insect activity and provide the information to the right people. Customers took the information, inspected the areas, then located and solved the problem. This will inevitably lead to better results and happier customers.



You too can be a hero. Just work with us to combine science with a quality pheromone program and new pheromone technology like the [SightTrap](#).

Contact the author at t.mueller@insectslimited.com for more information on the SightTrap and ForesightIPM system.

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Insects are Loving This Pandemic



Pat Kelley, BCE
President of Insects Limited

By now, we all have a pretty good idea of how people are responding to COVID-19 pandemic and all that goes with it. We see a lot of fear and a lot of hope, we see the best in people and the worst in people. Let's briefly consider how insect pests are doing through all of this. It should put you on high alert.

Insects Enjoy the Solitude

While the human species focuses on survival and self-isolation, the insects find themselves in an enviable position.



Like a four-year-old child who finds themselves in the kitchen all alone with a birthday cake, or a youth sports team that wanders into a breakfast buffet bar with no parents or coaches to suppress their over-eating, insects everywhere are finding themselves in empty food warehouses, museums and retail stores with no people to keep a check on what they are eating and how much damage they are inflicting. We know that insects thrive best when they have an unlimited food supply and are left undisturbed, and by all accounts, they are doing their best right this minute. A mild winter in North America was already giving the insects an advantage over a typical year. Having very few people to monitor and control their populations could very well launch their numbers into the stratosphere this year. Given all of these strikes against us, how are we to proceed?

Barebones Monitoring is Better than No Monitoring

With shelter-in-place being the norm, a majority of the population is working from home or out of work.

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Because of this, many of our food storage warehouses, retail stores and many other institutions that contain dried food goods or protein-based museum objects sit empty. I have been approached by several large museums that tell me that over the past month the only people who have access to these wonderful and expansive spaces are a few lone security guards who have no training in IPM. My advice to everyone who is in charge of protecting their products in spaces void of a human presence would be to implement (at the very least) a barebones monitoring program to alert you about any drastic pest population increases. The luxury of spending many hours checking traps and searching for signs of pests is simply no longer an option. In areas where you may have had 20+ traps that you could check regularly in the past, you may now need to reduce this to a single strategically placed trap that can be easily checked by a security guard or by other key personnel when they are doing their daily or weekly rounds. Although a single trap may not give you a detailed pest analysis, it can alert you to the presence of a potential pest crisis. The alternative to this is coming in after several months of being away and finding widespread losses.

This is a Perfect Time to Use Remote Monitoring

Being able to check for insect or rodent activity while you are sitting in the safety of your own home makes remote monitoring systems a perfect solution during the COVID-19 crisis. Remote devices allow us to actively check our spaces without a physical presence. There are remote rodent monitoring devices that will show which specific traps have captured rodents, so you know exactly which areas have issues and which specific traps need to be addressed when you are able to access the property. Along those same lines, remote insect monitoring systems like the [SightTrap™](#) take a daily picture of the trap and send an image to our smartphones or computers at home. Users have access to an automatic data-producing dashboard paired with each trap, so they know whether or not there is a pest concern in that area. This is the best scenario possible when we are not able to physically be at the location where the trap is located.

Focus on the Most Susceptible Products

Given that we have limited time and resources to have any monitoring devices checked, we should focus our attention on the areas with the most susceptible materials. Think back to where the majority of pest issues have originated in the past or where those things most likely to be consumed by insects are located within your facility and place your trap or traps in these spots. With the correct trap placement, you will be notified when early signs of pest activity appear, and you may be able to react in time to resolve a pest problem before it gets too far out of hand.



Don't Give Up Hope

The biggest thing to note during these strange times is to not give up hope about your ability to protect your products and objects. Feelings of panic will do you no good at all. Take a step back from the situation and think about your options. Use whatever monitoring resources that you have at your disposal in the most thoughtful and rational way possible. Finally, react to the pests based on what you see and with the tools you can use in your own unique setting. The insects are using this as an opportunity to thrive. We humans should see it as an opportunity to become smarter in our pest management approaches.

Remote Monitoring

Pheromone monitoring just got easier with SightTrap, which puts cameras in your traps and gives you access to essential information and data on your computer and smart phone. [Learn More](#)



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Mealy Moth, Meal Moth, Indian Meal Moth – What is it really?



Ethan Estabrook, BCE
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The terms “Mealy moth”, “Meal Moth” and “Indian Meal Moth” get thrown around by people talking to each other and on the internet frequently, but what really is a “Meal moth”? What we have here are actually two separate species. The “Indian meal moth” or sometimes called simply a “Mealy moth” is the species *Plodia interpunctella*.

The [Indian meal moth](#) is the number one pest of grains and dried food goods and considered to be the top pantry pest in the world. This moth got its common name when it was found infesting the ground meal made from Indian corn a very long time ago.



Top view of an Indian meal moth (*Plodia interpunctella*) - #1 Pest of stored grains

This major economic pest should not be confused with The Meal Moth, *Pyralis farinalis*. Although both species have similar names, similar coloration, and feed on some of the same types of food products. It is important to distinguish between the two species because they require different monitoring techniques.

[Indian meal moths](#) can be identified by their distinct bicolored wings. Their wings are a lighter cream to yellow at the base and a darker reddish brown at the tips. Adult moths are about 6 to 7 millimeters long. Indian meal moths are one of the most common insect pests found on dried stored products like pet food, grains, seeds, and cereals.

More information about the Indian meal moth can be found on our [YouTube channel](#).



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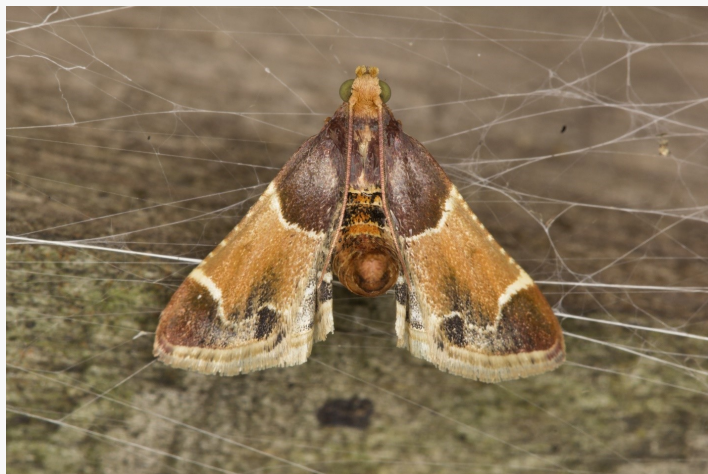
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Meal moths, on the other hand, have a wavy pattern of dark reddish brown at the wing base and tips with a tan center bordered by a light white line.

Adult moths are much larger than the Indian meal moth at a body length of 7.5 to 15 millimeters (Twice as long).

Meal moths feed on similar food material as the Indian meal moth and can be found on dried stored products like pet food, grains, seeds, and cereals but typically in areas that are lacking in sanitation.



Top view of a Meal Moth (*Pyralis farinalis*), twice as long as an Indian Meal Moth

[Indian meal moths](#) can be easily monitored with sex pheromones. The Indian meal moth pheromone is very effective at attracting male Indian meal moths and can also attract other moth species like the almond moth (*Cadra cautella*), Mediterranean flour moth (*Ephestia kuehniella*), raisin moth (*Cadra figulilella*), tobacco moth (*Ephestia elutella*), and beet armyworm (*Spodoptera exigua*). The Indian meal moth pheromone is widely available and cost-effective.

The meal moth, *Pyralis farinalis* does not have a commercially available sex pheromone and are they are not attracted to the Indian meal moth pheromone.

Attractants like food material can be used to detect and trap the meal moth, but do not expect the same type of capture rates compared to the Indian meal moth pheromone. Food attractants as an insect monitoring tool have much more competition when other food scents are present and this can reduce the overall effectiveness of a lure attractant.

Cleaning up spilled food material and placing dried food products into airtight plastic containers will help remove other food scents and help make food attractant lure more effective. Sanitation and exclusion are the first steps to a comprehensive integrated pest management program.

More information about the Indian meal moth can be found on our [YouTube channel](#).



Quality Pheromones and Trapping Systems

Insects Limited manufactures and sells pheromone lures and traps for insect pests of dried food, textiles, grain, carpets, taxidermy, and tobacco.

www.InsectsLimited.com

