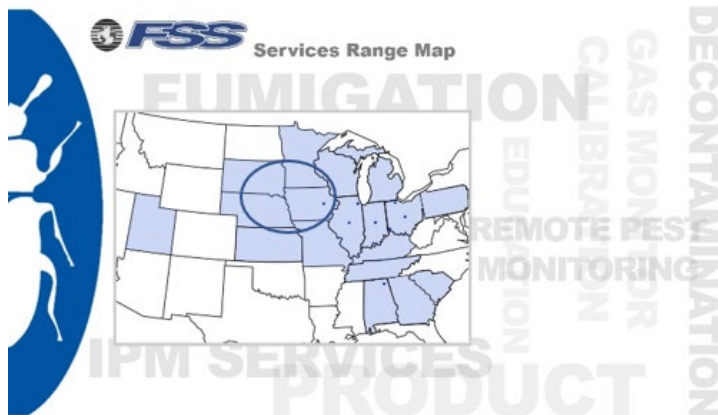


Fumigants & Pheromones

Fumigation Service & Supply, Inc.

FSS is Expanding Coverage in the Iowa Region

FSS is proud to announce the expansion of our coverage area and offer our signature DynamicIPM™, Fumigation and Decontamination Services, and Product Support to Western Iowa, Missouri and Nebraska. FSS has a unique skill set and a reputation for delivering results with Safety, Quality, and Integrity.



Introducing [Fumigation Service & Supply, Inc.'s](#) newest Area Manager, Sam Weighner.

Sam grew up in Northeastern Iowa and moved to eastern Colorado while he was still in school. Sam is a Greeley Colorado High School graduate and attended the University of Wyoming, where he studied Geology. He has worked as a third-party food safety consultant, writing programs and helping food processing plants to reach compliance with GFSI benchmarked audits. From there, he moved back to Iowa in the Des Moines area helping design and install water mitigation and concrete repair in both residential and commercial settings.

When he's not working, Sam enjoys the outdoors, hunting, and spending time with Lindsay, his wife, and their son, Daniel.

We are very excited to have Sam be a part of our FSS family and extend our coverage area to exceed the expectations for quality service.

You can reach Sam directly by emailing s.weighner@fumigationzone.com.

Fumigants & Pheromones

Insects Limited, Inc.



Tom Mueller

How is This Unseasonably Warm Weather Affecting Your FSMA Compliance?



in the area of the trap giving you insights you have never had before.



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 some 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

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. 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,

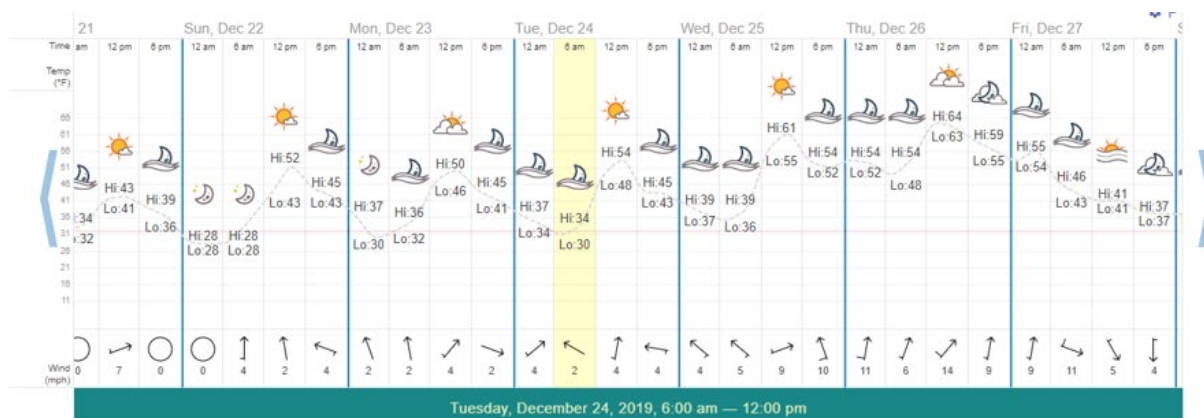
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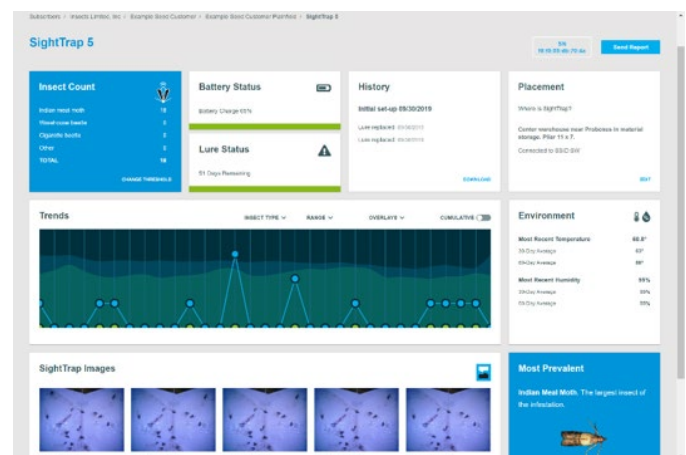
Tom Mueller

How is This Unseasonably Warm Weather Affecting Your FSMA Compliance?



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.

Fumigants & Pheromones

Insects Limited, Inc.



Patrick Kelley, BCE

Insects Limited Releases Top 15 Clothes Moth Cities in the USA for 2019

It is that time of the year again when we figure out which cities in the U.S. have the worst clothes moth problems. For the 3rd year in a row, Insects Limited released a ranking of the top 15 clothes moth cities in the United States. How about a drum roll for this past year's winners

(or losers?). 



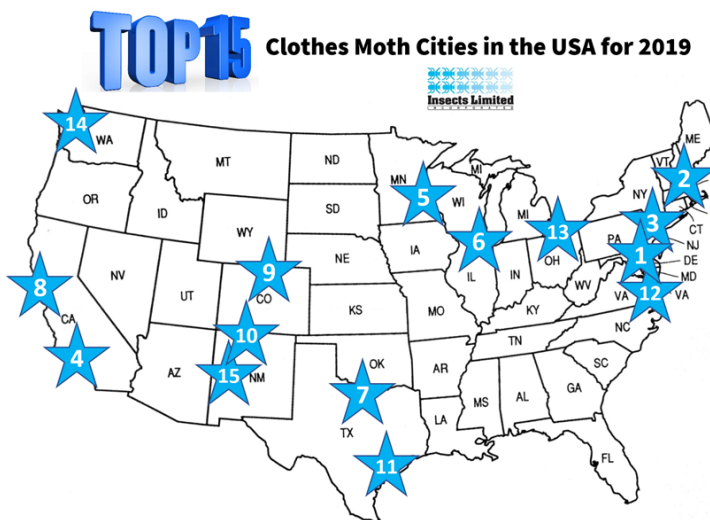
Fumigants & Pheromones

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Insects Limited Releases Top 15 Clothes Moth Cities in the USA for 2019



Map of the United States showing the top 15 cities where clothes moths were found in 2019

For 2019, the top four cities for clothes moth remain unchanged; New York City, Boston, Philadelphia and Los Angeles. Minneapolis inched up two spots to grab the final spot in the top five. The state of Texas made big leaps this year as Dallas moved up considerably, and Houston joined the list while Atlanta dropped off. Find the entire list of the rankings below.

Metropolitan Area	Change in Ranking
1. New York	No Change
2. Boston	No Change
3. Philadelphia	No Change
4. Los Angeles	No Change
5. Minneapolis	↑2
6. Chicago	↑2
7. Dallas	↑4
8. San Francisco	↓2
9. Denver	↑4
10. Santa Fe, NM	↑2
11. Houston	NEW
12. Washington DC	↓7
13. Cleveland	↓4
14. Seattle	↓4
15. Albuquerque	↓1

Eastern Seaboard:

The Eastern Seaboard again owns the top three spots on this list with NYC, Boston and Philadelphia highlighting those spots.

Other cities:

Los Angeles remained steady at the N^o. 4 spot. Denver tied with Dallas by moving up four spots from 13th to 9th. Washington DC was the biggest mover overall on the list, dropping from the 5th spot to the 12th. Chicago moved up from 8th to 6th.

Texas:

Moth populations in Texas look like they are on the rise with Dallas moving from 11th to 7th on the list and

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Houston coming out of nowhere and moving right into the 11th spot.

States:

As far as US states go, no state has more than two cities on the list. Besides Texas having both Dallas and Houston, California has Los Angeles and San Francisco on the list. New Mexico continues to surprise with both Albuquerque and Santa Fe remaining on the list.



What can I do about clothes moths?

Knowing what to look for is essential in identifying clothes moth activity. Finding and eliminating the moths early in an infestation can prevent years of battling these pests if they get out of control in your home. Pheromone traps are a good means of identifying and locating problems, but knowing the telltale signs of the frass and webbing from the larvae eating the clothing and rugs can prove extremely valuable in early detection. Luckily, now there are some great YouTube videos out there that can help. Here are links to a few of those:

CLOTHES MOTH BIOLOGY VIDEO LINKS

Life Cycle of Clothes Moths on a Wool Rug:

<https://youtu.be/MH5xAq5YMBU>

Signs of Clothes Moth Damage:

<https://youtu.be/UKzoNJHqfGs>

Identifying Clothes Moths by their Frass:

<https://youtu.be/g1JQU9SjZi4>

Top Five Facts About Clothes Moths:

<https://youtu.be/0b7JiGez8Ng>

Clothes Moth Identification:

<https://youtu.be/s1tuAP1IF-o>



CLOTHES MOTH PHEROMONE TRAP LINKS

GreenWay Clothes Moth 2-pack:

<https://www.greenwaytraps.com/product.php?p=Clothes%20Moth%20Trap>

Insects Limited Clothes Moth 5-Pack:

<https://store.insectslimited.com/clothes-moth-5-pack>

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Insects Limited Clothes Moth 10-Pack:

<https://store.insectslimited.com/webbing-clothes-moth-kit>

Where will they go next?

Webbing clothes moth, *Tineola bisselliella* appear to continue to be on a rapid rise in many metropolitan areas. Research has suggested that the webbing clothes moth does not come into our homes and businesses from natural reservoirs (E.g. bird nests, dead animals) but instead travels from person to person¹. This type of behavior is called synanthropic, which means the clothes moths benefit from an association with humans and the habitats that humans create. As we pass along our wool rugs, blankets, sweaters, fur coats and feather pillows, etc. to family members, friends or other means of trade, we also move the moths from location to location. The densely populated northern portion of the Eastern Seaboard (Maine to Washington DC) again accounted for over 70% of the clothes moth sales for the entire country. As people move about the country, they carry the clothes moths with them, so even if your city isn't on this list now, be prepared because they still might be coming your way soon!

***The list of top cities was compiled based on the total number of sales of clothes moth pheromone traps into the greater metropolitan areas of each ranked city during the period of January 1 – December 31, 2019.*

Resource:

¹Krüger-Carstensen, B., & Plarre, R. (2011). Outdoor trapping and genetical characterization of populations of the webbing clothes moth *Tineola bisselliella* (Lepidoptera: Tineidae) in the broader area of Berlin. *Journal of Entomological and Acarological Research*, 43(2), 129-135.