THE PEST MONITOR

BECAUSE PEST PREVENTION MATTERS TO FOOD SAFETY WINTER 2017

SEASONAL PESTS & THE PEST MANAGEMENT PARTNERSHIP

The Partnership.
As discussed in the online webinar "Impact of Pests on Food Safety" presented by Ecolab Senior Scientist Dr. John Barcay, there are key traits that a food facility should seek in the pest management company with which it partners as well as in the service specialist him/herself.

In addition to having the proper insurance, licensing credentials, etc., the pest management company should specify consistent protocols that will enable its service specialists to successfully service food processing facilities for pests, no matter where the facility is located. Additionally, the company should provide its service professionals with the necessary training to implement the protocols.

The pest management professional who services your facility should:

- Have the proper credentials. He or she must be certified and licensed to perform service in your facility, and should have food plant experience and/or expertise to ensure knowledge of and compliance with industry regulations and standards.
- Follow the protocols defined by the pest management company, and know and follow all those set forth by the food processing facility itself.
- Provide regular and relevant inspections throughout the property, focused on the exterior and interior, including all warehouse and storage, employee and office, and production and packaging areas.
- Provide a report on the inspection and service performed, along with actionable recommendations for any deficiencies or pest-conducive conditions found.
- Take an outside-in approach to service – inspecting and implementing any needed control measures, working from the exterior to reduce outside pest pressure, to entry points to ensure barriers are in place, to the interior as a final point of protection.

Continued on Page 2

Weather influences many facets of our lives – from the places we choose to live and visit to the clothing we don each day. But it also strongly influences other living things – including the insects, rodents, and wildlife pests that can live and breed around and in the places we live and work.

Historically, cold winter temperatures have helped keep pest life cycles to a minimum, delaying the growth and limiting distribution of insects and other pests. But the mild winters of recent years, along with this year's weather extremes and disasters, have disrupted those natural cycles, enabling increases in many pest species and/or their seasons of activity. (We provide more information on this in *Why Winter Service is Needed,* page 2, and *The Pests of Winter,* page 3.)

With such increases, the need also intensifies for a science-based service approach to pest management and the partnership between you and your service provider. So, what should you look for in a pest management partner and what role does the food facility need to take – especially during the winter season?

IN THIS ISSUE

ECOLAB®
Everywhere It Matters.™

Continued from cover

SEASONAL PESTS & THE PEST MANAGEMENT PARTNERSHIP

To enable a successful partnership, facility personnel also have a role to play, focused primarily on the aspects of integrated pest management (IPM):

- **Exclusion**
  Keeping pests out through structural pest-proofing is the first step in protecting your facility. This involves regularly inspecting doors, windows, foundation, roofs, etc. for any holes, gaps, or cracks through which pests could enter, then repairing or sealing these as applicable. Employees should be instructed to shut all doors when not in use – never propping them open to take a smoke break or run to the dumpster. Pests can enter very quickly through very small openings.
- **Sanitation**
  Just as sanitation is a critical GMP in any food processing facility to ensure against product contamination, it also is critical in the pest management program to reduce or eliminate extraneous sources of food and water that can attract pests and enable their survival. While all food in the facility cannot, of course, be eliminated, personnel can – and should – quickly clean up spills and food residue, break down equipment for thorough cleaning, keep break and other employee areas clean, keep dumpsters clean and inaccessible to pests, and removing clutter that can provide harborage.
- **Elimination**
  While this is generally an area for the service specialist, the facility needs to provide its support by ensuring access to all areas, keeping a log of pest sightings or issues, following up on any provided recommendations, and maintaining strong, open lines of communication.

Pests can enter facilities during any season of the year. And while there may be fewer exterior pests in the winter, those that are out in the cold are often seeking to come into the warmth. It is the successful pest management partnership that will enable you to keep your facility pest-free no matter the weather.

WHY WINTER SERVICE IS NEEDED

Insects and other pests may be less evident in the colder winter months, but they are not gone, and they may even be harboring in your facility. And with NOAA predicting another warmer than average winter for much of the U.S., we can expect higher than average numbers of pests to survive and potentially become active earlier than normal.

Additionally, according to UC Davis, studies have shown that milder winters allow for higher rates of growth and reproduction in certain insects; allow others to reach their minimum flight temperature sooner, aiding in increased dispersal capabilities; and enable further northward expansion or shift of insect ranges. When one adds the weather disasters of 2017, resulting in massive flooding in some areas and drought and heat in others – it becomes very likely that we will see an increase in insect invasions.

It also is important to realize that this increased insect pressure will occur during the winter months, not just spring and summer. According to the National Pest Management Association's "**Bug Barometer**," the weather of 2017 is expected to impact pest populations of every region of the U.S.

Pacific Northwest
The severe heat and drought may result in more mice in urban areas seeking water and shelter.

Southwest & West Coast
The sporadic heat, persistent warmth, and substantial rainfall are expected to increase cockroach and ant pressure indoors, and mosquitoes, spiders, and stinging insects outdoors.

Midwest
The heavy rainfalls, mild spring and warm summer boosted rodent populations, who will likely invade structures; continued rainfall could drive high numbers of crawling pests indoors.

Northeast
Warmth and rain cause stink bugs and ladybugs to flourish, resulting in an unusually high number to move indoors – along with rodents that also will seek shelter.

Thus, while winter pest management services have always been beneficial for maintaining a pest-free environment, monitoring for winter and stored product pests, and preventing the invasion of early spring pests, the need becomes even greater as our climate continues to change. Year-round service provides continual inspection and monitoring, can detect/eliminate pests before they become established in your facility, and ensure your facility is ready when flies and other "awakening" insects emerge in the spring.

OCCASIONAL INVADERS

PEST OF THE QUARTER: PESTS OF WINTER

The Problem.
Many of the pests of winter are occasional invaders that don't breed within buildings, but whose presence in the production area of a food plant can be a contamination hazard, and high numbers can be the impetus for citations or inspection or audit failures.
Take as an example, the stink bug. Populations have been increasing and their range expanding since this invasive species was first discovered in the U.S. in 1998, but the massive numbers being seen this year are a prime illustration of the impacts of weather on insect populations. The wet winter and spring and warm autumn have caused a significant increase in the populations of stink bugs in many areas of the U.S.

Additionally, this pest's habit of clustering on the sunny sides of structures, then crawling into cracks and crevices to overwinter within the walls as the weather cools is a behavior shared by other key winter pests including Asian lady beetles, boxelder bugs, and cluster flies. These bugs become indoor pests and food-facility hazards when they then move on into the building. Although, like many occasional invaders, they often are found near doors, windows or other openings, they can be in virtually any part of the facility as they wander around the unnatural habitat.

Although their visible numbers will decrease significantly as winter progresses, you can expect the problem to resume in the spring when the bugs begin to sense the warming weather and "awaken" to head back outdoors. Unfortunately, the warmth of your plant's production is just as likely to draw them inward, causing the issue to start anew.

The Solution.
In addition to implementing exclusion efforts, including the sealing of cracks and crevices and ensuring doors and windows are well-fit and maintained, a comprehensive pest program can help protect your facility by establishing an exterior barrier of protection and a repellant zone around your building.

Additionally, the pest management professional's consultation and recommendations, data-driven reporting, round-the-clock customer support can help you keep your facility pest-free, while educational tools can raise staff awareness on how they can help to prevent pest activity.

4 OCCASIONAL INVADERS OF WINTER

ASIAN LADY BEETLES (Harmonia axyridis)

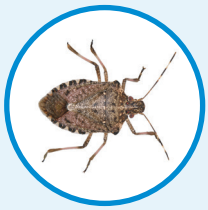
Size: About 7 mm
Description: Oval or convex body that is yellow to red in color; some have black spots on wing covers
Damage: Can bite, give off foul smell if threatened, can cause spotting on surfaces and allergic reaction in some people

BOXELDER BUGS (Boisea trivittata)

Size: About 12 mm
Description: Black with orangish abdomen and stripes on upper thorax and wing edges, flat on top
Damage: In heavily infested areas, high numbers can invade buildings, can damage plants and trees, particularly the flowers, tender twigs, and seeds of boxelders

CLUSTER FLIES (Pollenia rudis)

Size: 8 - 10 mm
Description: Dark gray with golden yellow hairs on the thorax
Damage: Droppings can leave spots on walls, windows, and other surfaces, particularly where they cluster



STINK BUGS (Halyomorpha halys)

Size: About 17 mm long and wide
Description: Brown with "shield" shaped body
Damage: In addition to invading buildings, sometimes in very high numbers, it will feed on a variety of fruit and ornamental plants, soybeans and beans. Crushing the bugs can produce a strong smell and, occassionally, an allergic reaction.

Protecting Your Products with Fumigation

Like winter pests, stored product pests can enter your facility through cracks, gaps, and openings in the structure, or they can be brought with raw goods. But no matter how they get in, these insect pests can cause massive damage and contamination to your stored products and ingredients.

Thus, it is critical that moths, beetles, and other such pests be quickly eliminated; stored goods be used on a first in/first out basis; and the area be regularly monitored for pests. Additionally, all incoming ingredients should be inspected for any signs of insects and contamination and your supplier control program include pest management specifications.

If stored product pests are detected at any point – whether at the supplier facility, at port, in transit, or in your warehouse – the best answer for elimination can be fumigation, for which a number of methods can be customized for a storage unit, facility, or transportation vehicle. For example, bulk grain is often treated through fumigant recirculation, which can provide effective and economical control. Advantages of the method are that it does not require lengthy exposure periods and fumigant can be distributed throughout a grain mass.

Recirculation can be used as an emergency method, especially for the long-term storage of crops, or a permanent application and monitoring system can be installed in a facility, which provides faster fumigation readiness, balanced gas application, reduced cost, precise gas application, improved monitoring and continuous fumigation improvement.

Regardless of the method used, each job should begin with a comprehensive fumigation management plan; include documentation to meet all local, state, federal and foreign requirements; provide monitoring and trending reports; and work in partnership with the food facility for exclusion and sanitation.

.

ASK THE PEST EXPERT

Question: When should I start thinking of Spring pest protection?

Answer: Winter is a great time to start planning for the pest pressures of the coming spring. Reviewing your current pest program and last year's trends with your pest provider will help you stay on track with pest elimination.

I recommend that exterior treatments be executed in the spring to help reduce future interior pressures with occasional invaders, ants and spiders. Even flies such as cluster files can become a nuisance in the spring and performing these preventive treatments early can help immensely.

Fixing structural issues is another priority to talk to your pest provider about. This is important to address over the winter months as pests will start emerging in the spring. Lastly, don't forget about the importance of sanitation as it's the life blood to multiple pests.

About the Expert

John Barcay, Ph.D.
Ecolab Senior Staff
Scientist and Urban Entomologist

Dr. Barcay is a member of the National Pest Management Association, Entomological Society of America, American Mosquito Control Association, Gamma Sigma Delta (the honor society of agriculture), Society for Vector Ecology and Pi Chi Omega, a professional fraternity for urban pest control, and Independent Organic Inspectors Association.

Dr. Barcay received his bachelor's degree in entomology from Colorado University. He also received his master's degree and doctorate in urban entomology from Colorado University.

To submit questions to Dr. Barcay, email here.

To receive this publication directly to your email inbox, subscribe at: ecolab.com/pestmonitor.

ECOLAB PEST ELIMINATION

1 ECOLAB PLACE
ST. PAUL, MN 55102
1 800 325 1671 WWW.ECOLAB.COM/PEST

The Pest Monitor is published by Ecolab to provide general information on pest prevention in Food and Beverage Processing & Handling facilities.