Technical Bulletin

Setting the Standard for Food Safety and Pest Management Solutions

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Proper Use of Pesticides in 2017 USDA/PDP Sample Survey

The USDA released its 2017 Annual Summary on the use of Pesticides on our food supply. Results showed over 99% of the products sampled had residue levels below those established by the EPA (Environmental Protection Agency) and 53% of the samples had no detectable pesticide residue. The sampling program included products from ten states. Fresh and processed fruit and vegetables accounted for 83% of the total samples collected while domestic samples accounted for over 72% and imported products accounted for 26%.

Pesticides screened by PDP (Pesticide Data Program) include those with current registered uses for the commodity being tested and compounds for which toxicity data and preliminary estimates of dietary exposure indicate the need for more extensive residue data. PDP also monitors pesticides for which EPA has modified use directions (i.e., reduced application rates or frequency) as part of risk management activities. In addition, PDP tests for selected pesticides that may not have U.S. tolerances but are used in other countries that export commodities to the United States.

When it came to whether more residues were found in domestic or imported products, the results showed both, depending on the pesticide used. For examples, the insecticide cyhalothrin (lambda) was detected in 39.0 percent of the snap pea samples from Guatemala, 2.0 percent from Mexico, and 12.2 percent of the U.S. samples. In contrast, the herbicide DCPA was detected in 22.6 percent of the snap pea samples from the United States and 2.0 percent of the samples from Mexico.

We should feel good about our food supply and pesticide use. Great work farmers!!.

Submitted by: Mark Dargay
Director, Regulatory Compliance

The Red Flour Beetle

Order: Coleoptera **Family:** Tenebrionidae (partim)

The term flour beetle is often used to describe one of three main classifications of darkling beetles: Red Flour Beetle (Tribolium castaneum), Confused Flour Beetle (Tribolium confusum), or Destructive Flour Beetle (Tribolium destructor).

The beetles most encountered are the Red Flour Beetle and Confused Flour Beetle; the adults are approximately 1/8" in length, both are attracted to light (which make insect light traps a useful tool for monitoring) and can only eat damaged or milled grains and both are often introduced to a facility through infested flour deliveries. Flour mills often cannot sift flour beetle eggs from the their finished product. When identifying the insect the biggest distinguishing difference are their antennae shape. There are other differences to consider when identifying such as the adult red flour beetle can fly (only when stressed) whereas the confused flour beetle cannot. These beetles may cause an allergic response in some consumers but are not known to spread disease and cause no damage to structures or furniture.

Flour beetles can be monitored through the use of pheromone traps or insect light traps (ILTs). Control is achieved through frequent cleaning of flour systems and the removal of dusts and accumulations which will often remove all life stages of the insect. Fumigation and heat treatments are effective for control while Crack & Crevice or space treatments using an approved insecticide mixed with an appropriate IGR will supplement the cleaning program but does not replace it.

Submitted by: Rich Gibson, ACE, CHA

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Cigarette Beetles Like Caraway Seeds


Source: University of Nebraska

During a routine internal audit conducted by Comprehensive Food Safety (a division of RK Environmental Services) at a large commercial bakery, an excessive number of cigarette beetles was noted in the pheromone monitoring traps located in the dry goods storage area. An immediate survey of the area showed no easily identifiable source. Minimal product related dusts were evident, there were no damaged bags of ingredients and everything in the front rows of the three pallet deep racks were recently received.

The audit team took a break from the inspection to review pest control records and immediately noted an increase of 50 to 100 percent each week from the previous month. Counts essentially quadrupled in the previous four weeks with no alerts or flags raised by the contract service provider (not RK Environmental Services). This was a serious concern. While some level of stored product pest activity is expected, there needs to be established thresholds and corresponding actions when these limits are exceeded.

As the inspection continued, the CFS led audit team had plant personnel remove several pallets from the first and second tiers of the storage racks and line them up in the open floor space for further inspection. Once this task was complete the pallets were inspected from top to bottom and front to back. A pallet of caraway seeds was quickly identified as the source. The pallet was dated as received nearly five months earlier while the non-infested pallets of the same materials were received in the past 30 days. It was a clear deviation from the industry standard "First-in, First-out" (FIFO) stock rotation practices.

The infested pallet was discarded immediately to reduce the risk of further infestation of products stored in the area. To ensure that the destructive beetle wouldn't spread or harbor in the compacter, the waste contractor was contacted to immediately pick up the material. Thorough inspections were conducted on the remaining pallets in the immediate area and some pallets were placed in the cooler as an extra precaution and left in there for a week. The racks were inspected and cleaned and everything was placed back in the correct FIFO sequence. As a preventative action, all relevant personnel were retrained on proper procedures. The root cause could be identified as simple laziness as the racking system requires pallets to be manually pulled out and cycled instead of loading from the back. In the end, complete control was attained without the use of any chemicals.

Take Away Tips:

- Establish Thresholds (with action plans) and monitor closely
- FIFO is more than an acronym
- Internal Audits are a great tool for ensuring continual compliance (and improvement)
- Root cause can often be attributed to employees

Submitted by: Rich Gibson, ACE, CHA