Stored Product Pests
Drugstore Beetle

FACT SHEET 18-063-0317

Just the Facts... *Drugstore beetles (Stegobium paniceum) are among the most commonly encountered insects infesting stored food. Both adults and larvae feed on almost any product of vegetable origin, to include cereals, pasta, spices, dried fruit, tobacco products, and dry animal food. Drugstore beetles are also found in dried flowers and grain based anticoagulant baits commonly used for rodent control in food warehouses.*

What do they look like?

The adult beetles are oval, about 1/10 to1/8-inch long and are reddish-brown in color. Fine hairs cover the body and rows of pits are seen on the wing covers. The head is bent downward and not readily seen from above. The antennae end in a 3-segmented club which differentiates drugstore beetles from cigarette beetles which have serrated antennae

Drugstore beetle (left) and Cigarette beetle (right) showing antennae variation. B. Cabrera, U of Florida

(see pictures at right). The larvae are 1/6-inch, hairless, and cream colored with brown heads.

infested products are located. Drugstore beetles are also found in spilled food in cracks, crevices, or seams on the floors in shipping containers, rail cars, and delivery trucks.

How do they get in?

Drugstore beetles are free-living in the environment and are good fliers. The adults are attracted to light and may be drawn to warehouses or homes which are lighted at night. They are also attracted to stored food products but may be brought into retail outlets (exchanges and shoppettes), food warehouses (commissaries), and homes in infested grocery products and dry animal food. Although drugstore beetles can fly, they are usually transported inside food packages. The beetles may also be found on the outside of pallets

Stegobium paniceum larva, Ken Gray Image Courtesy of Oregon State Universitv 392-36A

containing food products and between boxes and bags of food on palletized cargo. The increased use of airtight plastic or foil bags and pouches has significantly reduced pest infestations of stored products; however, drugstore beetles can chew through packaging in transit or during storage. Dry animal food is more susceptible to infestation since many packages are not “air-tight” and exhibit small openings which permit drugstore beetle entry.

Where do they live?

The beetles live inside the products, but adults will often leave the food to seek mates. Adult beetles are often found along window sills and interior walls. This may be the first indication that a warehouse is infested, but it will not indicate which products contain beetles or where infested products are located. Drugstore beetles are also found in spilled food in cracks, crevices, or seams on the floors in shipping containers, rail cars, and delivery trucks.

Do they multiply?

Yes. The adult female lays approximately 75 eggs. The life cycle generally takes about 60 days to complete, but may extend to seven months when temperatures are around 60 degrees Fahrenheit. The adult beetles live up to 65 days. The adults can penetrate food packaging which allows this beetle to infest nearly all dry stored products in kitchens and pantries. If left unchecked, beetles from a single infestation can quickly spread to other susceptible products in warehouses, stores, or homes.

Army Public Health Center, Entomological Sciences Division
5158 Blackhawk Road, APG, MD 21010-5403
COM 410-436-3613 / DSN 312-584-3613 / Website: http://phc.amedd.army.mil
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What damage do they cause?

Larvae damage food products through feeding and penetration of the packaging; the adult insects chew through packaging, including aluminum foil, to seek food. Adult beetles leave “shot-holes” in food packages when exiting the infested product. Drugstore beetles also infest dried flowers and other plant material. The adult beetles entering homes may be first attracted to dried plants and then seek stored food in kitchens and pantries.

Prevention methods.

Sanitation and inspection are the keys to good drugstore beetle prevention and control. Pheromone traps are useful in determining if beetles are active in warehouses, but they will not indicate the location of infested products. Inspect pallets of food upon arrival at warehouses, and inspect individual products brought home from retail outlets. The presence of adult insects or holes in packages indicate infestations. Inspect salvage areas in food warehouses since spillage from broken packages is more common than in the storage areas. Check rodent bait stations weekly to ensure grain-based baits are not infested. Place food pallets at least 18 inches from walls to permit routine inspection and cleaning. Rotate food products so that older stocks are sold first; frequently inspect food with older manufacturing dates for infestations since adult beetles tend to emerge from packages in greater numbers as the infestation ages. This principle also applies in the home since beetles from a single infested product can migrate and infest multiple food products stored in a kitchen or pantry. Store dry food products in containers with tight fitting lids if the contents are not used within one week after opening.

Control methods.

Inspect and clean vehicles used to transport food to remove spilled material. Remove spilled food daily and clean warehouses with a vacuum monthly, especially along walls and the edges of pallets where beetles and food products accumulate. Place infested products inside plastic bags prior to disposal to reduce the spread of adult beetles. Segregate infested products in warehouses from non-infested products and cover with plastic until treatment or disposal. Place infested products in a freezer at 0 degrees Fahrenheit for 4 days to kill adults, larvae, and eggs. Do not reissue infested products or use for food preparation even after beetles are killed. Infestations can also occur when rodents are present. Mice may accumulate dry animal food, crackers, and cereal in harborage and nesting areas which are inaccessible (behind walls or under cabinets). Rodent control and pesticide treatment in void areas may be the only way to eliminate drugstore beetle infestations in homes after efforts to inspect and locate infested products in kitchens or pantries have failed.

For more information on surveillance and control of stored product pests, see the Armed Forces Pest Management Board Technical Guide No. 27, Stored-Product Pest Monitoring Methods, June 2005, and Technical Guide No. 38, Protecting Meal, Ready-to-Eat Rations (MREs) and Other Subsistence During Storage, June 2005 at http://www.acq.osd.mil/eie/afpmb/docs/tichguides/tg38.

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