

SAFESTORE: Fact Sheet

Warehouse & Khapra Beetles *Trogoderma variabile* & *granarium*

DISTRIBUTION & HABITAT:

The Warehouse Beetle, *Trogoderma variabile* is believed to be one of the most important dermestid pests in warehouses. It feeds on all kinds of seeds, cereals, corn, corn meal, dog food, as well as dead animals and many other stored products. Khapra Beetles, *Trogoderma granarium* (family dermestidae) are relatively widely distributed, being pests of particular note in India, indeed Khapra is an Indian word meaning brick and was given to the insect because of its habit of harbouring between bricks. The Khapra Beetle will infest grain such as wheat and barley, and other commodities such as rice corn and fishmeal.

BIOLOGY:

The adult Warehouse beetle is approximately 3.2 mm in length and is brownish/black in color. Larvae are approximately 6.3 long and are reddish/brown or yellowish-white. The adult Khapra beetle is approximately 3mm in length. Larvae are 6 mm long and yellow brown in color. Infestations of the Khapra beetle are generally characterized by larvae and cast skins (exuvia) on the surface of the infested commodity.

Both Warehouse and Khapra Beetles are abundant in setae (hair) which can be irritating if swallowed.

The Warehouse beetle, unlike the Khapra beetle, can fly.

SIGNIFICANCE AND PEST STATUS:

“The Warehouse Beetle occurs throughout most of the United States and is one of the most common stored product pests in seaports throughout the world” Mallis 1982. The Khapra Beetle is “a formidable pest of the food and grain industries” Shepherd 1957. A particular aspect of both’s biology that gives them this significance is their resistance to starvation. Larvae are able to harbour in cracks and crevices for extended periods of time and hence may avoid treatment during “Clean Down” practices, even if the facility is empty of food commodities for several months.

SAFESTORE: Instructions

WAREHOUSE/KHAPRA BEETLES - *Trogoderma spp*

With Diamond Traps

Trogoderma population monitoring kit contains ten “Diamond Traps” units, 10 rubber septas containing pheromone with food attractant and instructions. A chart for record keeping can be printed from our website at www.jfoakes.com.

Best results can be obtained by using the SAFESTORE system to set up a monitoring program. When in place, such a program can help you to identify when and where infestation problems will arise.

RECOMENDED: that a thorough inspection of the area involved be carried out, and potential infestation “hotspots” are identified and marked on a site plan or map. The position of the traps can be marked on this map when they are placed, to facilitate the reading of catch levels.

PREPARATION: hold the diamond trap at the top (hole punch is located at the top of the trap) and grab the underside fold and pull down. The diamond trap is now open and ready for placement of the pheromone. Open the foil package and remove the pheromone rubber septa and place in the center of the glue area inside the trap. It is now ready to hang in place (wire hanger provided).

PLACEMENT: can affect the amount of insects that will be caught, so for an effective program, it is important that the traps are placed in the best position available, and when they are replaced, the positioning is altered as little as possible so that information from different times of the year can be compared. Traps should be placed when temperatures are 55°F or higher.

BEST POSITIONING: varies from site to site, so there is a certain amount of choice available in the placing of the traps, however good results can be obtained by following a few guidelines:

- Wherever possible, place units on a flat even surface.
- Sheltered and recessed areas provide good monitoring points (fire hoses, fire extinguishers)
- Ensure that sanitation staff is informed of the program to prevent trap removal.
- Mark the position of the traps on the site plan, and assign them a number.
- Never store monitoring equipment with insecticides.
- Wash hands before placing or inspecting trap units.
- Avoid placing traps in areas where large volumes of air are moving out of the building.
- Place traps in a grid pattern (30 –50 feet), shorter intervals to pin-point infestations.

REGULAR CHECKING: once per week is recommended, however it may be necessary to inspect more often if you have a zero insect tolerance policy.

The sensitivity of the area to be monitored dictates how often they should be inspected, but whatever frequency they are checked should be kept constant so that the records you keep can be compared to each other. [Click here](#) to see our Record Charts for monitoring of specific and non-target pests. These tables can be printed, photocopied, completed and filed for future reference.

Trap units should be replaced every 4 - 6 weeks. Care should be taken during inspections to check the condition of the glue areas in the units, especially in dusty conditions or high insect catch situations, which may cause the glue surface to deteriorate. Should this occur, the trap should be replaced.

Store un-used lures/pheromones in cool place, avoid direct sunlight. Lures/pheromones can be refrigerated for long life.

The information given in this instruction sheet is provided as a general guide, and is by no means extensive. The biology of pests is the subject of a great many texts and although every effort has been made to provide factually correct information, Russell Fine Chemicals nor J.F.Oakes Sales & Marketing will in no circumstance be liable in respect of any omission or error.