

Instruction Sheet
KHAPRA BEETLE BAIT KIT (IT128)
for control of the Khapra Beetle *Trogoderma granarium*
Updated June 30, 2006

BACKGROUND

The Khapra beetle, considered to be one of the world's most destructive pests of grain products and seeds, probably originated from regions now including India and Bangladesh, but has since spread to other areas including northern and eastern Africa, southern Europe and the Mediterranean region, the Mideast, and east into Asia. This pest thrives in warm, dry climates. Populations build rapidly in a short time under hot, dry conditions, but can survive in colder climates in heated situations such as warehouses, food plants and grain storages. The beetle can not fly, and is therefore spread mainly by commerce and trade.

The problem of preventing the beetle's spread is compounded by its ability to survive for several years with little food, and its habit of hiding in cracks, crevices and even behind paint scales or rust flakes. If left uncontrolled, the insect can make the surface of a grain storage appear alive with crawling larvae. This species is considered to be a dirty feeder, breaking or powdering more kernels than it consumes. They not only consume the grain, but may also contaminate it with body parts and setae which are known to cause adult and especially infant gastrointestinal irritation.

Khapra beetles are dark brown, have smudgy yellowish-brown and reddish-brown transverse stripes on the wing covers and are covered with fine hairs. The larvae are yellowish-brown and grow to a length of up to 5mm (3/16 in); they have thick, reddish brown hairs with the characteristic bunches of tail hairs growing at the tail end.

LIFECYCLE

Each female can deposit up to 125 eggs in the infested goods. The larvae can withstand unfavorable conditions such as a lack of nutrition and low temperatures for long periods. The entire development period is 30 days at 32°C / 90°F, about 2 months at 25°C / 77°F, and a number of years under unfavorable conditions.

DAMAGE

The larva is a very serious stored product pest in warehouses, mills, breweries, and malt factories. It attacks all types of grain, malt cereal products, oilseed cake, groundnuts, fish meal, etc. Grain kernel are often hollowed out until only the husk remains, the edges of jute sacks are often found to be thickly populated with larvae in infested stores.

BAIT KIT CONTENTS

- Five (5) species specific insect lures
- Ten (10) absorbent pads
- One (1) 5 ml container of natural oil

INSTRUCTIONS

- Remove components from bait kit.
- Open the pitfall trap and remove both the old insect lure and the old absorbent pad from the trap. Remember to remove all old insect lures from the field.

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- Insert the new insect lure into the prepunched slot on the bottom of the cardboard sleeve in the trap.
- Place one absorbent pad into the well and add the mineral oil (approximately 10 to 12 drops) to it until the pad is evenly saturated.
- Close the trap and return it to where it was.

STORAGE INFORMATION

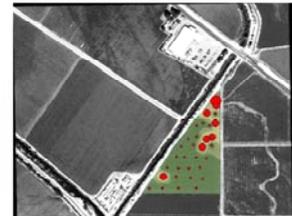
1. Bait kits should be stored in refrigerator. Shelf life with refrigerator storage is about 2 years.
2. For the unopened insect lures, for longer shelf life of more than 2 years, you can store in freezer.
3. Do not store the mineral oil in freezer.

OTHER INFORMATION

1. Please feel free to view the latest ISCA Catalog, instruction sheets and other customer support material at the ISCA website: <http://www.iscotech.com/exec/customersupport.htm>.
2. Acknowledgements for *Trogoderma granarium* general information:
 - a. Purdue University, Entomology Department Khapra beetle *Trogoderma granarium* Fact Sheet April 1995.
 - b. Alameda County Agriculture Programs, Pest Detection website.
3. The standard disclaimer for the information and use of ISCA's products can be found in the ISCA Technologies Standard Terms and Conditions of Sale. You may request that a copy be sent to you or you can view this at the ISCA website at: <http://www.iscotech.com/exec/sales.htm>. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with product instructions and label.
4. We value your feedback about your experience with ISCA's products and services. You may e-mail questions or comments to info@iscotech.com.
5. We also recommend ISCA's Moritor System for your pest monitoring program. The Moritor System is a GIS capable, internet accessible pest management information system. See inset box.



Moritor
www.moritor.com



Species density map
generated by Moritor

ISCA's award winning Moritor Pest Management Information System combines the facility and precision of data collection using handheld PDAs and automated sensors, Global Positioning System (GPS) and Geographic Information System (GIS) analytical tools residing on the Moritor server to give users internet accessible, timely and useful information about pests in their fields.

