

# SAFESTORE: Fact Sheet

## LARGER GRAIN BORER

### *Prostephanus truncatus*

#### **DISTRIBUTION & HABITAT:**

*Prostephanus truncatus*, the larger grain borer a pest of particular significance in The United States, Southern Canada, Argentina, India, Africa, New South Wales and Southeast Australia. In particular, areas of maize growing are particularly prone to infestations of this insect pest. Whole grains may support several adult Grain Borers. *P. Truncatus* is mainly a secondary pest of grain, preferring to attack broken grains and the floury remnants thereof.

#### **BIOLOGY:**

Females generally lay between 2 and 40 eggs. As this species are long lived, up to 600 eggs may be laid in total. Eggs are laid singly and in groups. The minimum time to complete the lifecycle under ideal conditions is 25 days, although such conditions are rarely found in the field. Larvae will moult two to four times before pupation which will usually take place inside grain. *Rhizopertha* have been observed to infest and attack other stored food commodities such as tobacco, nuts, beans, biscuits, cassava, cocoa beans, dried fruits, peanuts, spices and dried meats/fish. Larvae are well documented as being voracious feeders. It is usual for adults to grow to a size of 4mm. Both lesser and larger grain borers have a distinctive shape, with a large pronotum, giving the appearance of having only two body sections when viewed from above

The main distinguishing feature separating the two species of grain borers is the shape of the posterior area of the elytra (wing cases) which is rounded in the lesser grain borer, but blunt, almost rectangular in the larger grain borer. In addition, the antennal club of the lesser grain borer is proportionally larger than that of the larger grain borer.

#### **SIGNIFICANCE AND PEST STATUS:**

Although cosmopolitan, this insect is mainly significant as a pest in grain storage situations, as its name suggests. It has been documented that this insect is less susceptible to chlorpyrifos methyl than other insects, making control more difficult, especially when difficulties with fumigation are taken into account. With an infestation of such a pest, accurate population monitoring is advocated as a primary line of defence against economic loss due to spoiled stored commodities.

# SAFESTORE: Instructions

## LARGER GRAIN BORER – *Prostephanus truncatus*

### *With Easy Read Traps*

*Prostephanus truncatus* population monitoring kit contains ten “Easy Read” units, 10 pheromone lures, and instructions. A chart for record keeping can be printed from our website at [www.jfoakes.com](http://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:** Simply insert 1 pheromone lure into the center of the glue area inside the Easy Read trap. It is now ready to place.

**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 a cool place, avoid direct sunlight. Lures/pheromones may be refrigerated for longer shelf 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.