



Fig. 1. Head- front view of the Khapra beetle (a); Khapra beetle larvae (b); and lateral view of the Khapra beetle (c). Photo credits: <http://www.padil.gov.au/viewPestDiagnosticImages.aspx?id=124>

Common Name: Khapra beetle

Pest: Stored grain products

Classification: P: Arthropoda, C: Insecta, O: Coleoptera, F: Dermestidae

Host Range:

T. granarium feed on most dried plant or animal matter, however they prefer cereals and cereal products, particularly wheat, barley, oats, rye, maize, rice, flour, malt and noodles.

Impact:

Although the Khapra Beetle doesn't cause a direct impact on the environment, it does destroy grain stocks, cause imposition of unfavourable restrictions on exports and requires toxic fumigants to be controlled. Australia doesn't harbour the Khapra beetle, however, if it became established it could cost the Australian economy \$1.83 billion annually. This is mainly attributed to its ability to reduce the stored products weight by up to 30% and in extreme cases 70%. Products become contaminated with larval skins and setae, which can cause dermatitis and/ or allergic reactions. Furthermore, to rid a store of Khapra beetle requires fumigation. The most effective fumigant available is methyl bromide gas, an ozone depleting gas, which at high concentrations is known to cause respiratory and central nervous failure in humans.

Dispersal into New Locations:

Adult Khapra only naturally disperse over a short distance. Therefore, primary movement of adults and inactive larvae is human aided via truck, railcar, ship holds and packing material.

Key Distinguishing Features:

Adult beetles are 1.4-3.4 mm long, 0.75-1.9 mm wide, ovate and densely hairy. Colour of the Khapra beetle's top surface is dark reddish-brown with indistinct patches of yellowish-white setae on the pronotum and 3 indistinct yellowish-white bands on the wings. The setae on the under surface are of two types: evenly distributed, coarse, semi-erect, yellowish-brown with a few scattered, dark reddish brown setae. Antennae are yellowish-brown, 9, 10 or 11 segmented, with 3-5 segmented club.

Control:

Surface treatments are not reliable due to the ability of the larvae to become inactive for a period of time. The most effective treatment is the use of Methyl bromide which is permitted for control of quarantine pests only. Therefore, preventative measures, such as inspections at ports and entry points, are critical to ensure Khapra beetle incursions are detected early prior to establishing.

Further Reading:

French, S. & Venette, R. C. 2005, Mini Risk Assessment Khapra Beetle, *Trogoderma granarium* (Everts) [Coleoptera: Dermestidae], USDA, US

PaDIL <http://www.padil.gov.au/viewPestDiagnosticImages.aspx?id=124>

Global Invasive Species Database <http://www.issg.org/database/species/ecology.asp?si=142&fr=1&sts>

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