

# *Acanthoscelides obtectus* (Say)

## (Bean weevil)

Fam. Chrysomelidae (Subfam. Bruchinae)

**General information:** Primary pest of fresh and dried beans and seeds of other legumes (lentils, peas, soya); occurs worldwide in stocks, but also outdoors; adults feed on bean foliage, seed pods and flower pollen; up to 5 generations per year at warm temperatures (heated storages).

**Infested products:** Pulses (i.a. *Phaseolus* beans)

**Related species:** *Bruchus pisorum* (Common pea weevil), but no reproduction under storage conditions as they cannot re-infest stored seeds

**Total development:** About 34 days at 32 °C and 70 % relative humidity (100 days at 20 °C)

Egg	Larva	Pupa	Adult (beetle)
			
6 to 30 days	20 to 28 days	9 to 29 days	10 to 21 days
<ul style="list-style-type: none"> <li>- 0.7 mm elliptical form</li> <li>- white yellowish</li> <li>- eggs are scattered in loose groups of 2 - 20 in or on bean seeds (gap at the sleeve seam or on the pods)</li> <li>- 40 - 100 eggs per female</li> </ul>	<ul style="list-style-type: none"> <li>- whitish, hairy</li> <li>- initially stretched with legs, then maggot-shaped, 0.6 - 4.0 mm long</li> <li>- feed mainly within the beans (seeds)</li> <li>- up to 30 larvae per bean</li> <li>- 4 larval instars</li> </ul>	<ul style="list-style-type: none"> <li>- pupation occurs within the empty bean seed</li> <li>- emergence through the circular holes called "windows" prepared by the larvae which consume the seed</li> </ul>	<ul style="list-style-type: none"> <li>- 3.0 - 4.0 mm long</li> <li>- brown-mottled; drop shaped</li> <li>- fine, dense yellow-brown cross bands on deck wings, abdomen not completely covered</li> <li>- femur of hind legs with 1 big and 2 small teeth</li> <li>- saw-toothed form antenna</li> <li>- flight capacity</li> </ul>

**Damage:** Feeding holes (small entrance and large exit holes); hollow seeds (empty pods); reduced germination capacity; characteristic sweetish-fruity ester smell due to male pheromone; large populations reduce stored seeds to dust.

**Prevention:** Cleanliness; regular inspections; removal of infested seeds from the previous year; for smaller quantities, turn storage containers daily; cool and dry storage, avoid introduction of weevils from the field

**Early detection:** Pheromone trap (adhesive); screening for adults; inspection for typical "window frass" of pupating larvae in pulses. (see last picture)

Control: Fumigation (including pulses and empty rooms); inert dusts and gases; freezing; contact insecticides (e.g. white space); authorized plant protection products. Please refer to [www.bvl.bund.de](http://www.bvl.bund.de) : Database and pesticides directory, part 5, stored product protection; thermal treatment; use of biological antagonists (*Lariophagus distinguendus* or *Anisopteromalus calandrae*)

Damage:



Dot-like entrance holes (small)



Round exit holes (larger) and excavated seed



Exit hole with 'window' (left)