

Click beetle - *Agriotes brevis* L.

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The beetle, which is captured in the trap

The beetle is 7-10 mm long, and tries to escape in case of danger through "clicking" - true to its name. Similarly to other click beetles, its shape is despite being elongated, appears to be stubby, as the margin of its broad thorax runs down beside the shoulder of the elytrae. Its head is convex, with dots, the thorax is also dotted, its side margins are bending towards the ventral side, the elytrae are conical. Species identification of click beetles needs some expertise and a binocular microscope, or at least a good hand magnifier.

Host plants of the larva include maize, cereals, sunflower, sugarbeet, potatoes, other grasses, and also many other plants, i.e. tomatoes. The larvae feed on the roots. The main damage is caused by the larvae, the wireworms, which eat up hatching seeds and roots inside the soil. Damages are variable depending on the plant species attacked and the type of soil. Indicators can be: imperfect hatching of seedlings (maize), damaged hatchlings and roots, yellow colouring of the plant parts above ground. Pheromone traps should be placed at the soil. Usual beginning of trapping in Veneto, Italy is middle of March.



Selectivity of the CSALOMON® pheromone trap: at sites where *A. brevis* is not present, occasionally some specimens of *A. sputator* can be captured.

The bait of the CSALOMON® pheromone trap starts slowly to decrease its attractive activity after 6-8 weeks of field exposure (depending on actual weather conditions). After this period it is advisable to exchange the bait to a new one. **BE SURE TO USE THE SAME BAIT AS BEFORE IN THE SAME TRAP**; mixing baits for different species may hamper activity seriously!

Control of wireworms should be based on reliable forecasting.

Application of pheromone traps is much easier and simpler than other sampling methods utilized before (i.e. soil sampling, etc.). Pheromone traps detect the occurrence of the pest very sensitively, so that infestation centers can be "mapped" and treated by insecticide easily.



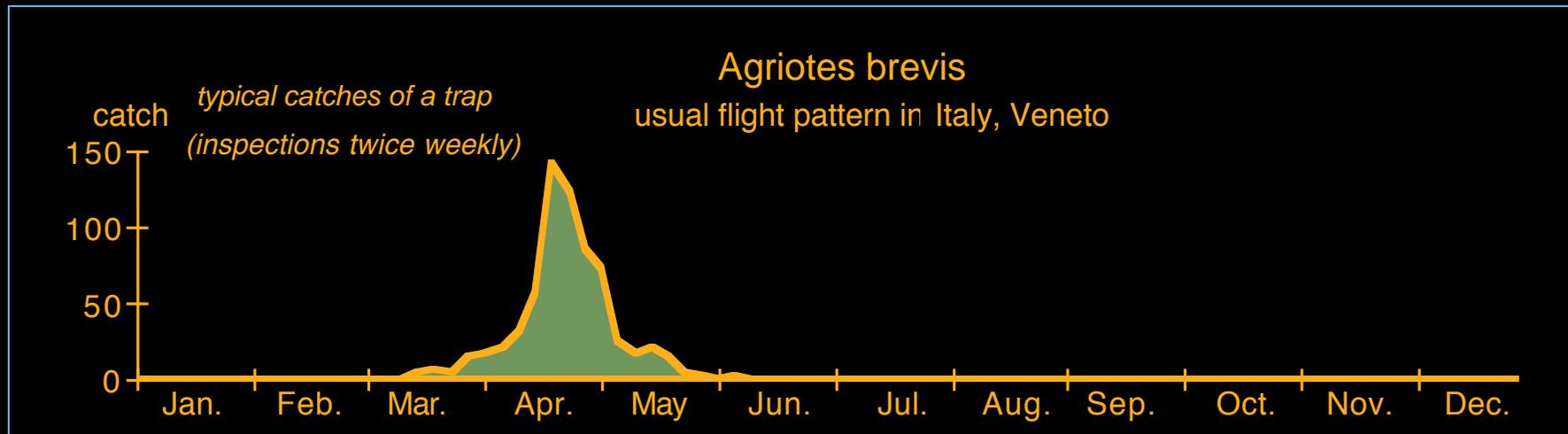
The damage of the larva, which should be averted

The non-sticky trap types are capable of catching very large numbers of beetles without being saturated. Detailed measurements for *A. brevis* are not yet available. According to experience in Italy on the closely related *A. ustulatus*, if the average catch per trap does not exceed 150-200 specimens per year, damage is highly improbable on the given field [1]. In case of higher captures, it is advisable to perform larval sampling (soil cores) for more accurate estimation of population levels. This may be performed through agrotechnical means, crop rotation or in more severe cases by soil insecticides[2]. More accurate establishment of correlations between trap captures and larval density in different cultures are underway (Lorenzo Furlan, pers. comm.)

[1] Furlan, L. és mtsi, *ATTI Giorn.Fitopat.* 1:133-140, 1996; [2] Jermy T, Balázs K. (szerk.) *A növényvédelmi állattan kézikönyve.* Akadémiai Kiadó, Budapest, 1990; [3] Tóth M., Furlan, L. *Conference of IOBC/WPRS – WG Entomopathogens and Entomoparasitic Nematodes (Innsbruck, Austria, 11-13 October 2004)*



Yf trap for catching click beetles



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Agriotes brevis

10 mm



So it looks when caught in the CSALOMON[®] Yf trap!

Photo: Tóth M.



Click beetles caught in traps with *A. brevis* bait (1998-2004)

(after Tóth & Furlan, 2005, IOBC/wprs Bull., 28:133-142; Furlan & Tóth, 2007, IOBC/wprs Bull., 30:19-25)

- *brevis* catches
- *sputator* catches
- *acuminatus* catches
- *proximus* catches
- no catch