

Click beetle - *Agriotes litigiosus* Rossi

The beetle is elongated, length 7- 11 mm. The pronotum is as long as it is wide. There are two morphological forms of the species, a "dark" (= var. *laichartingi*) and a "red" [=fenotypus (fen.) *typicus*] form, which are geographically separated. Species identification of click beetles needs some expertize 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 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 of imprecise hatching of seedlings (maize), damaged hatchlings and roots, yellow colouring of the plant parts above ground.

A. litigiosus is reported to cause significant damages first of all in Italy, but the species is present also in some other parts of Europe. Pheromone traps should be placed at the soil. Usual beginning of trapping in Italy (Veneto region) is end of May.

Selectivity of the CSALOMON® pheromone trap: in tests conducted at several sites in Europe no other click beetle species were attracted during the flight period of *A. litigiosus*.

A CSALOMON® pheromone trap starts slowly to decrease its attractive activity after 3-4 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.).



The beetles, which are captured in the trap



The larva and its damage, which should be averted

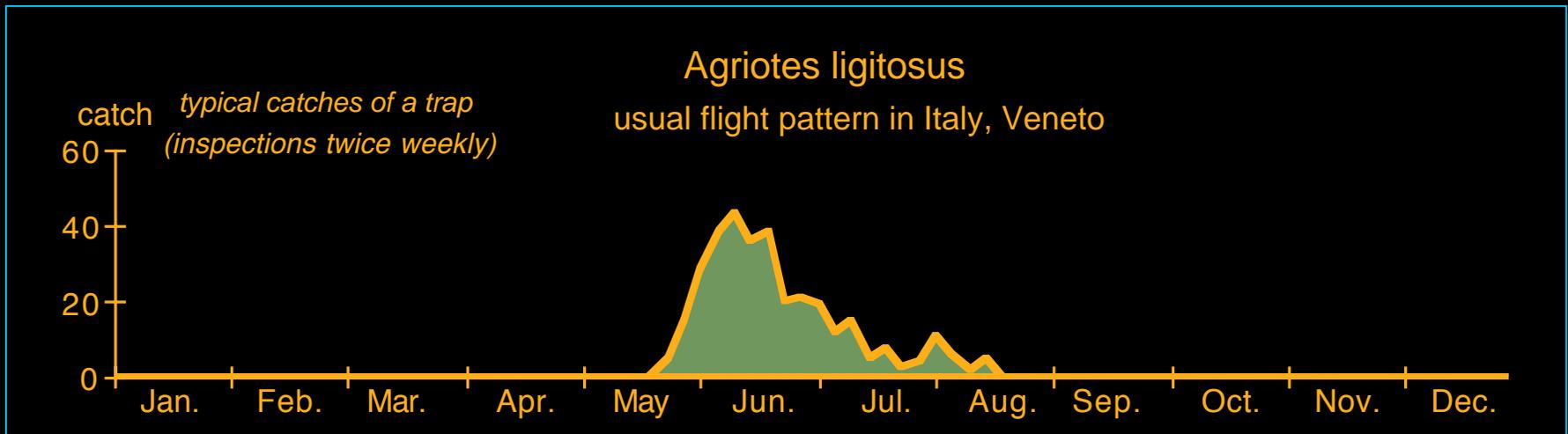
Pheromone traps detect the occurrence of the pest very sensitively, so that infestation centers can be "mapped" and treated by insecticide easily. The non-sticky trap types are capable of catching very large numbers of beetles without being saturated.

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. et al., *ATTI Giorn.Fitopat.* 1:133-140, 1996; [2] Jermy T, Balázs K. (eds..) *A növényvédelmi állattan kézikönyve.* Akadémiai Kiadó, Budapest, 1990; [3] Furlan, L. et al., *Proc. XXI IWGO Conf. VIII Diabrotica Subgroup Meeting, Oct. 27 - Nov. 3, 2001, Legnaro - Padua - Venice* 293-303, 2002



Yf trap for catching click beetles



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



Agriotes litigiosus

Click beetles caught in traps with *A. litigiosus* bait (1998-2004)
 (after Tóth & Furlan, 2005, IOBC/wprs Bull., 28:133-142; Furlan & Tóth, 2007, IOBC/wprs Bull., 30:19-25)

- litigiosus catches
- no catch

