

Western corn rootworm - **PALs** trap

Diabrotica v. virgifera LeConte.

Adult beetles are 4-8 mm long, have a flat body with 3 broad, dark stripes on their yellowish-white back. In male beetles, dark stripes are more or less converged. Female beetles have shorter antennae, and their abdomens are large, yellow, full with eggs. By the males the end of the abdomen is more rounded. Thorax is not spotted, yellowish-brown, which is an important species trait in both sexes. Larvae live in the soil among the roots and have a whitish, soft, maggot-like body.

Host plant is **maize**, but feeds also on some other graminaceous plants. **Damage:** The greater damage is caused by the larvae, which chew and often bore throughout the root-stock and roots of maize in the soil. The whitened, spotted colour of the leaves is characteristic, shows deficiency in nutrients. Indirect damage: plants with dead roots often collapse, sometimes they can recover and straighten up, this way forming a "goose-neck" shape, characteristic of the damage by western corn rootworm (WCR) larvae. Adult beetles cause damage by chewing the grains at the tip of the unmatured maize-ears, They also damage the stigma, which can cause fertilization problems. This damage, however, is not so significant as the root-damage caused by the larvae. The **PALs** traps should be placed at **1.0-1.5 m** height (or below the upper level of vegetation) at maize plants 5-10 m inside a maize field.



PALs



The beetle, which is captured in the trap



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The damage of the adult beetle



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Recommended starting time of trapping in Central Europe is **mid-June**.

Selectivity of the **PALs** trap: the trap - which is not baited with a pheromone, rather with a floral attractant - can catch both females and males. The attraction of the chemical bait is improved by the yellow colour of the trap. In Central Europe - according to our experience so far- the bait of the trap does not attract any other insects. Flies, wasps, aphids etc. are coming to the yellow colour of the trap and are more or less easily distinguishable from *Diabrotica* beetles. Although it can be used also without bait as a yellow sticky sheet,, we recommend to apply the **PALs** trap complete with the **floral *Diabrotica* bait**, which enhances the **PALs** trap's efficiency and specificity enormously!

The bait of the **PALs** trap does not loose from its activity for at least **4-6 weeks** in the field, depending on environmental conditions. In order to ensure reliable monitoring, the whole trap should be replaced after this time period.

*The larvae
and their
damage*



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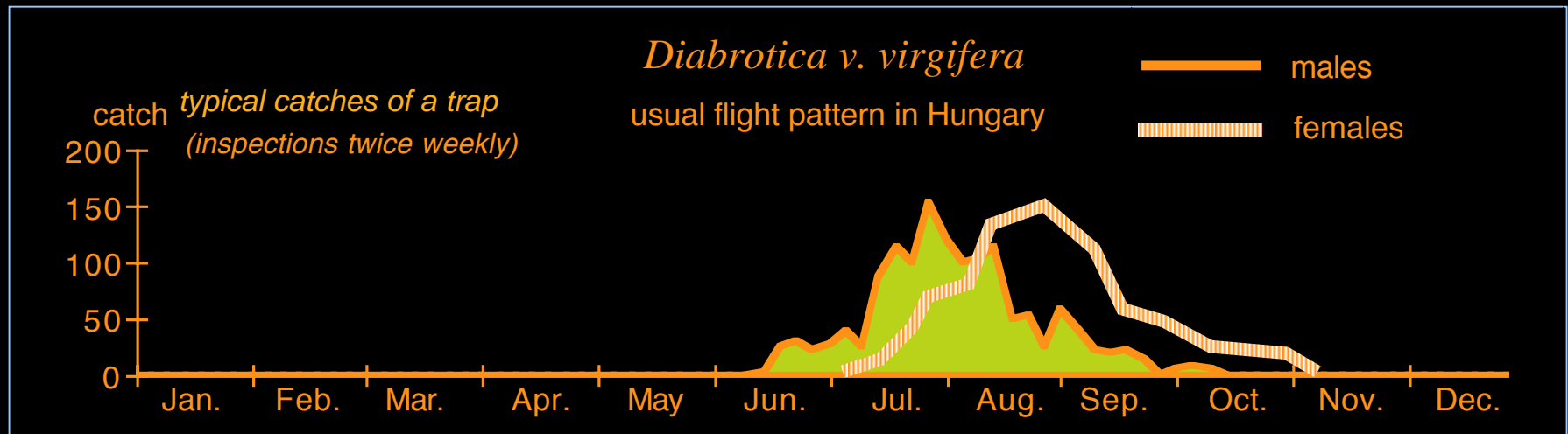
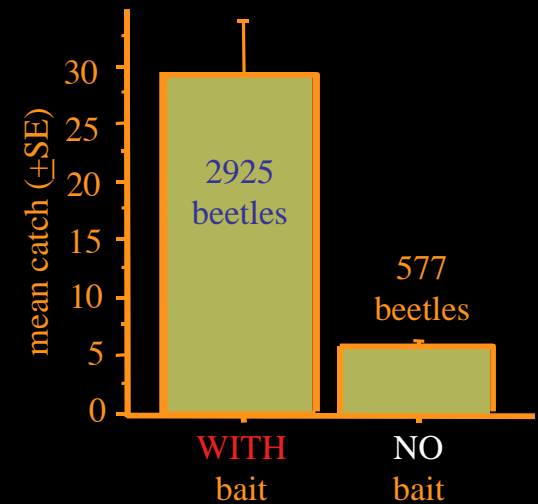


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The western corn rootworm appeared in Europe quite recently. First beetles were discovered near Belgrad (Yugoslavia) during the summer of 1992^[1]. For detection of the pest pheromone-baited traps (i.e. KLPfero+, PAL) can be recommended, which, however, catch only males. In areas where the pest has established itself, more detailed population ecology studies can be performed with the floral attractant baited traps (i.e. KLPflor+, PALs), which catch both females and males. The easiest way to control *Diabrotica* is by crop rotation^[2]. Where this is not possible, soil insecticides can be applied.

[1] Čamprag, D., Bača, F. *Pesticide Science*, 45:291-292, 1995. [2] *Kukuruzna zlatica*. ed. D. Čamprag. Društvo za zaštitu bilja Srbije, Beograd, 1995.

Captures of WCR in PALs traps with OR without floral bait (Bácsbokod, Hungary, 2001)



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PALs



The floral bait of the PALs trap attracts both female and (to a lesser extent also) male WCR.

