

## **A review of different trapping methods and purposes for *Diabrotica virgifera virgifera* LeConte**

*Eine Übersicht unterschiedlicher Fangmethoden und –ziele für Diabrotica virgifera virgifera LeConte*

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The western corn rootworm has spread in Europe from the first half of the 1990s, and Hungary is in a special position neighboring Serbia, the country of the first appearance, where hardly any opportunity was available for research and development in the after war period. Hungary was the optimal place for the research of different monitoring methods of *Diabrotica* at low population densities in the early years, and the circumstances were optimal for the development of control methods 5-10 years later, when the beetle population was built up.

In this special position equipped with the scientific knowledge achieved in the chemical ecology of the western corn rootworm by researchers from the US (i.e. Prof. J.H Tumlinson, Prof. R.L.-Metcalf and colleagues) our team could develop and optimize several trapping devices for capturing the new pest using two bait types:

- (1) the pheromone baits, which attract exclusively males, and
- (2) the floral baits, which attract more females than males.

With these trapping methods available we investigated the most suitable ones and found that in real-life monitoring situations, their performance is different depending on the trapping purposes. The pheromone baited sticky traps (PAL) are the most suitable for catching the first male specimens, while floral attractant baited sticky traps (PALs) can catch the first females. Further, non-saturable, large catch capacity traps (KLP) are the most suitable for quantitative comparisons with both floral and/or pheromone baits.

The presented results were all derived from the evaluation of the trap types developed in our lab, which have become members of the commercially available CSALOMON® trap family. The Europe-wide use of the CSALOMON® traps and the conclusion of the EU research project DIABROTICA (QLK5-CT-1999-01110), which recommended to use PAL traps baited with pheromone as the standard detection tool for *D. virgifera virgifera* in Europe, shows a strong demand for trapping methods.

Our work on *Diabrotica virgifera* resulted in some interesting findings. Some of them are different from the common consensus, including the low to zero attractiveness of the yellow hue resulting mainly in captures by chance (despite of their wide use in the US) and the results on the circadian activity of males and females.

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