

## Cabbage flea beetles (*Phyllotreta* spp.)

The adult beetles are small, 1.5-3.0 mm long, oval shaped, of metallic black, blueish, greenish or bronze colour. On the elytrae of some species there are longitudinal yellow stripes. Their third pair of legs is modified for jumping, with the femur very strong and thick. The whitish larvae develop in plant parts below or (more rarely) above (i.e. *Ph. nemorum*) the soil.

Their body is cylindrical, and they have three pairs of legs. The mature larvae can reach 5-6 mm length. The pupae are yellowish.

Their host plants include many cruciferous plants, i.e. cabbage, cauliflower, kohlrabi, radish, horse-radish, turnip, mustard, etc. *Ph. vittula* can damage also monocotyledonous plants, like maize or several cereals.

**Damage:** The main damage is caused by the adult beetles, which appear in large numbers in the spring and chew characteristic small holes on the seed-leaves, then later on the leaves. In the beginning they peel the epidermis, later on the damaged tissues are torn apart. As a result the leaves become sieve-like, which interferes

with the water balance of the plant. This type of damage is especially dangerous on seedlings, as it can result in total mortality of the plants. When the damage is caused on more developed plants, it can result in uneven ripening, and can influence marketability. Flea beetles also can act as vectors for several plant pathogenic viruses. The attractant trap should be placed into the plant culture or to the edge of the field by hanging it from a pole, so that the lower corner of the yellow crawl-up panel of the trap touches the soil. Usual beginning of trapping in Hungary is end of March.



www.ag.ndsu.edu



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*The beetle, which is captured in the trap*

Photo: Péntes B.



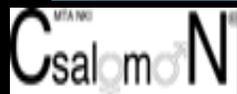
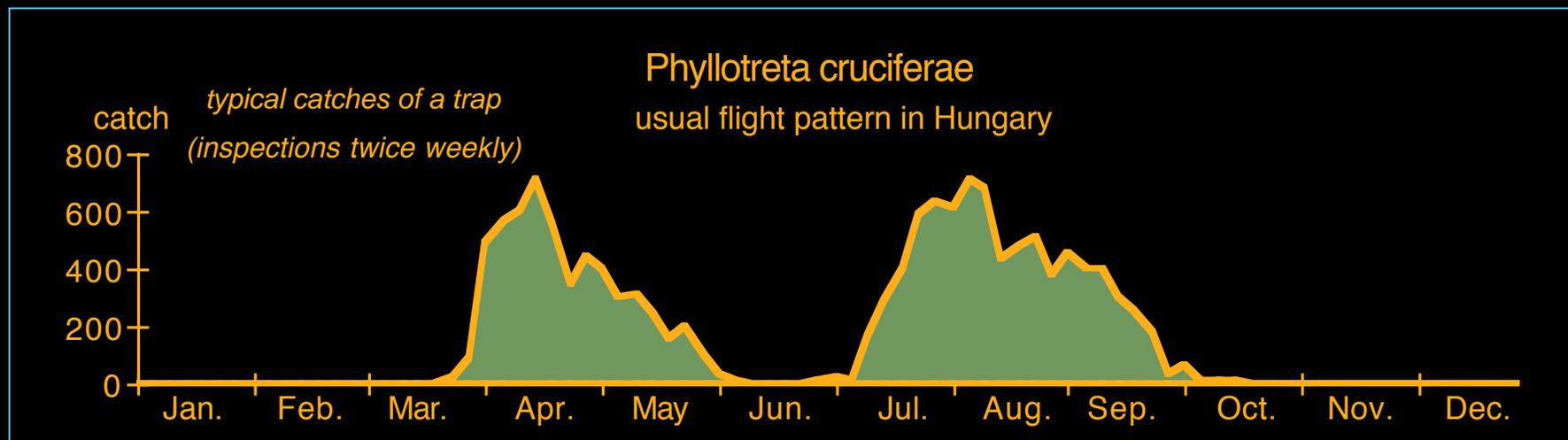
*The damage of the beetle, which should be averted*

**Selectivity of the CSALOMON® trap** (based on tests performed in Hungary): The attractant bait of the trap apart from many *Phyllotreta* spp. (*Ph. cruciferae*, *Ph. vittula*, *Ph. undulata*, *Ph. nigripes*, *Ph. atra*, etc.) [1] can attract the related *Psylliodes chrysocephalus*, and certain weevils (*Ceutorrhynchus* spp.). Other insects caught in the trap in small numbers are usually random catches.

**Longevity of the CSALOMON® trap in field conditions:** Depending on the warmth of the weather at least 3-4 weeks. After this period we suggest to exchange the bait to a new one for most effective detection and monitoring. The KLP+ ("hat") trap is suitable for sensitive detection, and for following the population density changes during the season. The trap can capture very high numbers of beetles. For satisfactory performance insects caught should be killed in the catch container.

The trap is excellent for **early detection** of the first occurrence of overwintering beetles in the spring, for **monitoring** and for **estimating population densities** in both the spring and summer beetle generations. Insecticide treatments are most effective when timed shortly after the appearance of the first flea beetles in our traps.

[1] Tóth M. et al, *Proc. 3rd Intern. Plant Prot. Symp. Debrecen Univ.*, 154-156, 2003.

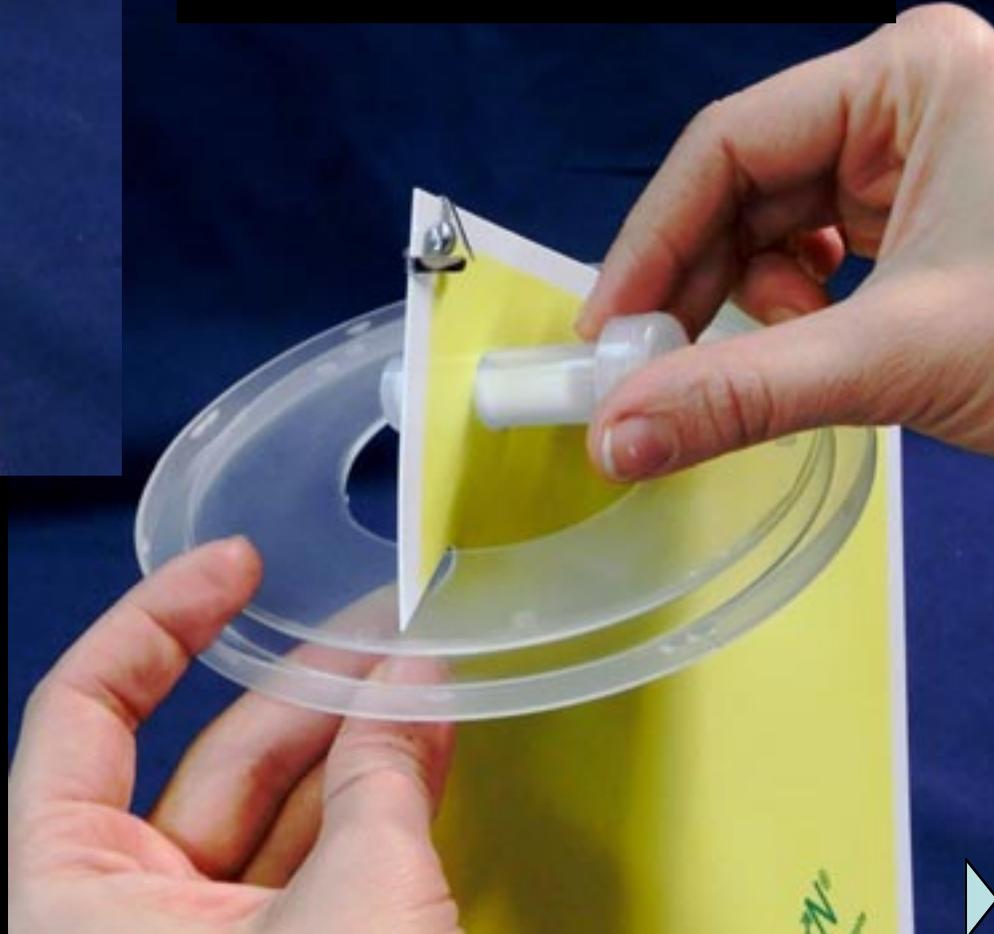


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To order / to inquire: MTA ATK Növényvédelmi Intézet (Plant Prot. Inst. MTA ATK) Budapest, Pf 102, H-1525, Hungary; phone. +(36-1)-391-8637, +(36)-30-9824999; fax +(36-1)-3918655; e-mail: <csalomon.orders@julia-nki.hu> or <h2371tot@ella.hu>; internet: <<http://www.julia-nki.hu/traps/>>.



This is how to place the  
lure dispenser  
into the KLP trap



When using our KLP+, VARs+ or VARb3z+ trap designs it is **absolutely necessary** to kill insects getting into the trap. The most widespread insecticide used in pheromone traps worldwide is an anti-moth strip with dichlorvos (DDVP 15-20%) active ingredient. (This from 2010 is not permitted in some countries!)

Colleagues in Italy successfully used an anti-moth strip VAPE bought in Italian supermarkets. This strip is having transfluthrin as active ingredient.

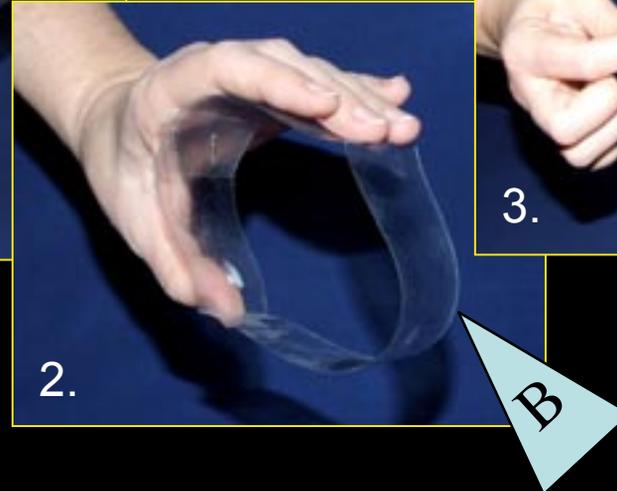
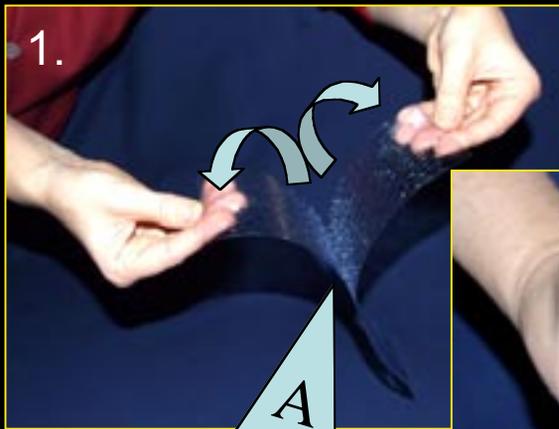
Another successful solution was to use pieces of dog collars (anti-mite collars for pets) with diazinone (15%).

One can also spray the inside surface of the traps and catch containers (the largest surface possible) with sprayable household insecticides (permethrin, deltamethrin or deltamethrin active ingredients all found suitable), however, in this case one has to re-spray at weekly intervals.

For users who find the application of insecticides inconvenient for any reasons, as an alternative we supply our **cylindric sticky insert** (sent as a supplement to KLP+, VARs+ and VARb3z+ trap types).



## Assembling instructions for Cylindric sticky insert



1. Separate one sticky insert (A) from the pair of inserts!
- 2-4. Place the sticky insert into the holder ring (B), so that the STICKY SIDE FACES INSIDE!
5. Put the assembled cylindrical sticky insert into the catch container of the KLP trap!
6. Place on it the plastic cone and assemble the trap as usual!

So it looks when caught in the CSALOMON® KLP+ trap!



*Ph. vittula*

*Psylliodes chrysocephalus*

közöns. földibolha  
*P. cruciferae*

