

# San Antonio beetle - *Diabrotica speciosa* Germar

Adult beetles are 6-7 mm long. The young adults are yellowish light brown, later they turn to be green, with large reddish dots. Female beetles have shorter antennae, and their abdomens are large, full with eggs. By the males there is a sclerotized plate at the abdomen which makes them look more stocky. Larvae live in the soil among the roots and have a whitish, soft, maggot-like body.

Host plant is maize, wheat, groundnuts, soybeans, potatoes, but feeds also on many other vegetables and ornamental plants as well.

**Damage:** similar to the western corn rootworm (*D. v. virgifera*) 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. In goundnuts, potatoes and others the larvae damage the belowground parts of the plants.



*The beetle, which is captured in the trap*



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The CSALOMON® KLP+ 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, or soybeans, etc. *D. speciosa* develops continuous generations in warmer regions of South America. In more temperate areas (i.e. Argentina) it has 3 generations per year. The overwintering life stage is the adult, which is surprisingly cold-resistant. Recommended starting time of trapping in Europe is mid-June.

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

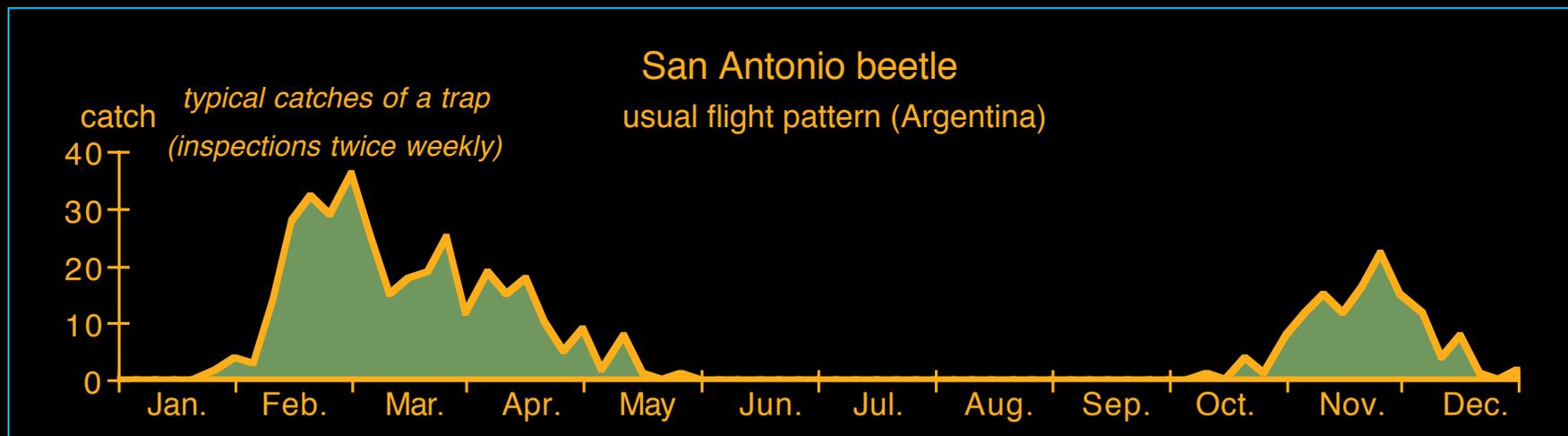
**Selectivity of the CSALOMON® KLP+ trap:** the trap is supplied with a floral lure. It will capture both female and male *D. speciosa* beetles. The attraction of the chemical bait is improved by the yellow colour of the crawl-up panel. Apart from *D. speciosa*, the trap may catch low numbers of *D. v. virgifera*. Specimens caught can easily be told apart by the stripes on their elytrae and different colouring from *D. speciosa*. The trap can catch high numbers of the cornsilk fly (*Euxesta eluta* – not present in Europe) which is a pest also and its catch can be of interest from a plant protection viewpoint. Very low numbers of other insects (hymenopterans, grasshoppers, etc.) may get into the trap occasionally by chance only.

The lure of the CSALOMON® KLP+ 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 bait should be replaced after this time period. For satisfactory performance a killing agent (not provided with the trap) should be placed into the catch container.



Unlike *D. v. virgifera*, which has been introduced and spread already in many European countries[1,2], *D. speciosa* has not been detected in Europe (2013). If it is introduced and establishes then it may cause much greater trouble than *virgifera*, since *speciosa* has a much broader host range. *D. speciosa* is on the EPPO A1 list. The CSALOMON® KLP+ trap has been designed first of all for early detection purposes. When a population establishes, the easiest way to control *Diabrotica* is by crop rotation[3]. Where this is not possible, soil insecticides can be applied. Other reading: see [4].

[1] Camprag, D., Baca, F. *Pesticide Science*, 45:291-292, 1995. [2] for current distribution of WCR in Europe see [www.mkk.szie.hu/dep/nvtt/wcrnet](http://www.mkk.szie.hu/dep/nvtt/wcrnet) [3] *Kukuruzna zlatica*. ed. D. Camprag. Drustvo za zastitu bilja Srbije, Beograd, 1995. [4] [http://www.eppo.int/QUARANTINE/insects/Diabrotica\\_speciosa/DS\\_Diabrotica\\_speciosa.pdf](http://www.eppo.int/QUARANTINE/insects/Diabrotica_speciosa/DS_Diabrotica_speciosa.pdf); [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1519-566X2001000400030](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1519-566X2001000400030)



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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.

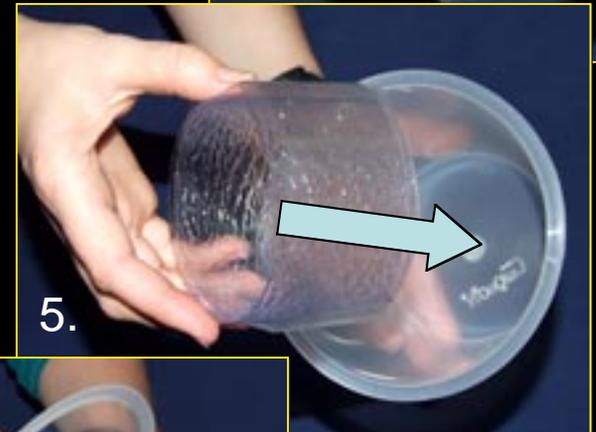
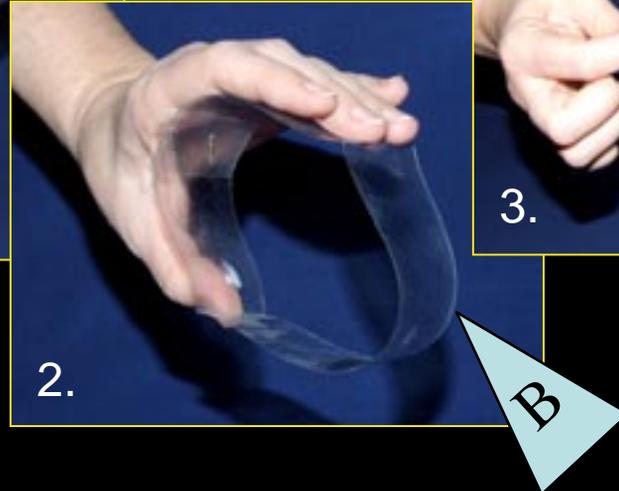
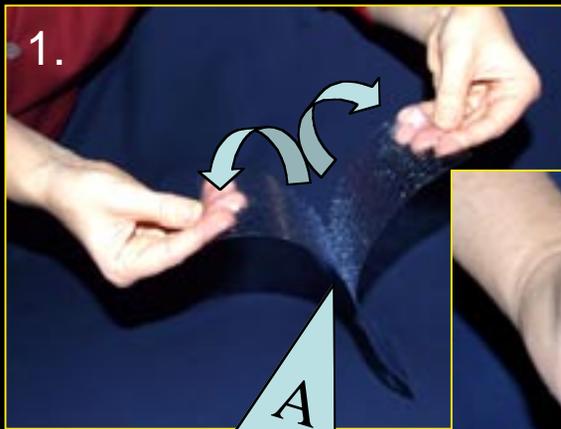
Another successful solution was to use pieces of dog collars (anti mite collars for pets) with diazinone (15%).

One can also spray the inside surface of the traps and catch containers (the largest surface possible) with sprayable household insecticides (permethrin, empethrin 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!



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So the beetle looks which is caught in the CSALOMON® KLP+ trap!