



REVIEW OF TRAPS USED TO CAPTURE ADULTS OF *DIABROTICA VIRGIFERA* IN CORN CROPS

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Abstract: Monitoring *Diabrotica virgifera* populations is essential in the management and control of this beetle. An effective and also non-invasive method of monitoring populations is the use of traps. This method is easy and can be applied by any farmer without the necessary qualification. That's why we set out to analyze the types of traps available on the market, their applicability and costs. It was found from those consulted that traps with pheromonal capacity are more expensive but much more effective than those whose attractive element is color or other characteristics. At the same time, we wanted to summarize available solutions for monitoring and determining the dynamics of adult populations and highlight the essential points from which any farmer can start the action of population evaluation of adults in their corn crops.

• Introduction

The monitoring of the adult population of WCR it's a continuous activity, both in areas where WCR presence is known and in areas where it has not been yet reported. Where the population level is high and known, monitoring is a useful tool in developing trapping tools and pest control solutions, but also for crop management measures, like chemical control, to minimize production losses.

• Material and method

For this study, numerous sources were consulted, as books, scientific articles and producer's websites, over a period of tree weeks, during september and october 2024. Electronic sources were found through Google Scholar, being reliable sources, such as scientific journals, recognized and frequently cited by the authors. On the manufacturer's websites are available descriptions of each individual instrument.

• Results and discussions

The analyzed sources pointed out that several types of traps are available on the market in different shapes, colors, with various methods to bait WCR, using known stimuli, such as visual ones (yellow color) and olfactory ones (food, floral or pheromonal attractants), each of them having advantages and limitations.

Types of traps

Yellow sticky panels are used to signal the presence or absence of *Diabrotica virgifera*, monitor pest population dynamics and have as a consequence the reduction of the population.

Transparent sticky sheets have a simple design, with adhesive on one side, while the other side is non-sticky.



Container traps, also called „hat” traps are fitted with a receptacle (that allows insects to pass through, but prevents them from exiting) and a non-sticky panel, colored in bright yellow.

Delta traps are shaped like a triangular prism and are air suspended (on branches or other supports, with wires).

Acknowledgement: We would like to thank those who provided us with physical and electronic bibliographic materials upon request.

Roof-type traps are also a solution available on the market for WCR.

A summary of the described traps, together with their most important characteristics, can be found in Table 1. Also, in the graph below it can be analyzed what cost implies each tool.

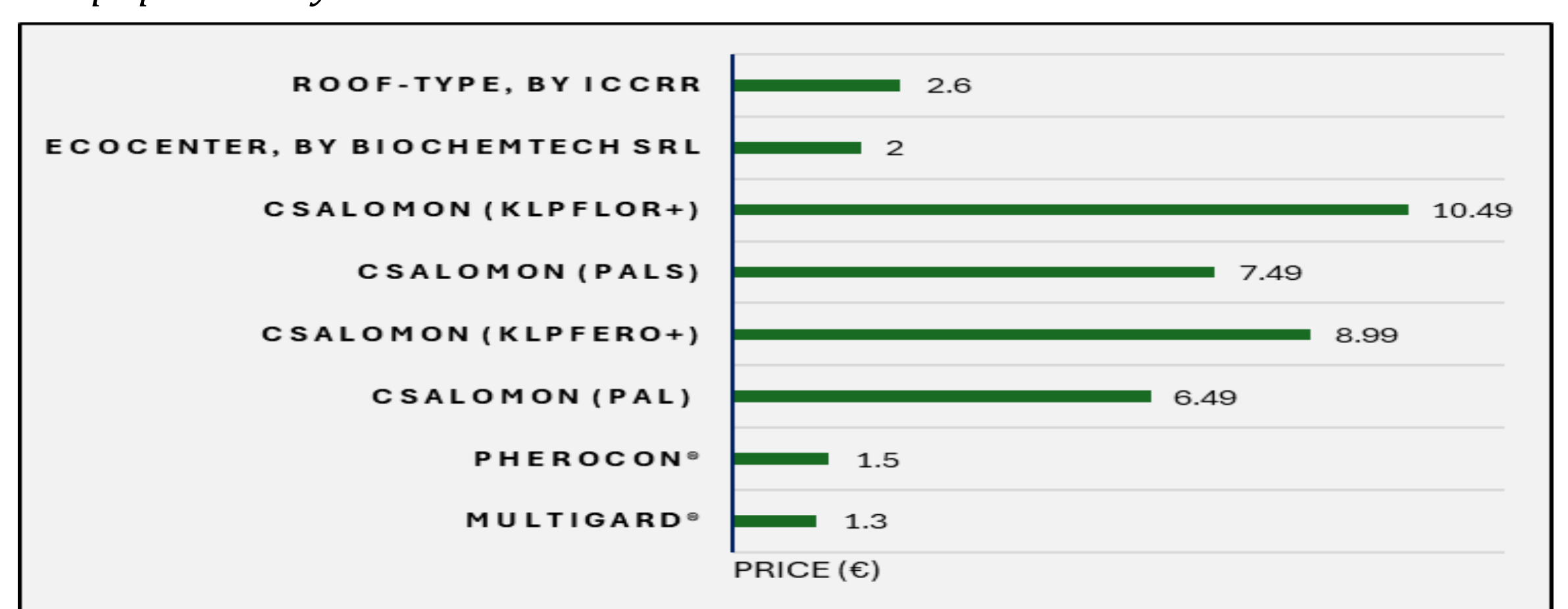


Table 1. Most used traps and their features

Type of trap	Attractive items			Sticky	Ratio male/female
	Visual	Sex pheromone	Floral lure		
Csalomon PALs	applicable	without	applicable	applicable	mostly female
Yellow panel Pherocon, Diabrotica Track, Multigard	applicable	without	without	applicable	mostly female
Csalomon PAL	without	applicable	without	applicable	male
Csalomon KLPfero+	applicable	applicable	without	without *	male
Csalomon KLPflor+	applicable	applicable	applicable	without *	mostly female
Delta, EcoCenter, Insecto™ Pheromone	without	applicable	without	applicable	-
Roof type, ICCRR	without	applicable	without	applicable	-

*Sticky strip can be placed inside

Traps price analysis



• Conclusions

This study shows that there are several traps *Diabrotica v. virgifera* on the market, some of them with great efficiency, like pheromonal ones, and others with not so high accuracy, as yellow sticky panels. Even so, all can be used in order to detect, monitor the distribution and the activity of WCR adults and also to provide information useful for a pest management plan (optimal timing to apply insecticides).

• References

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