Diagnostic methods for Diabrotica virgifera virgifera,LeConte: Coleoptera; Chrysomelidae

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INTRODUCTION

In 1994 specimens of *Diabrotica virgifera virgifera,* LeConte were collected near Belgrade, Serbia.
Since 2002 and 2003, *Diabrotica* beetles have been caught for the first time in several places in western Europe. All beetles were collected in maize fields.

Fig 1 Pheromone trap in corn field

There are about 100 000 ha of corn grown every year in Albania. Of those, 40 000 ha produce corn for grain, and 60 000 ha are used to produce corn for silage. Most of the corn hectare is grown as a monoculture, without a proper rotation system. Field monitoring of *Diabrotica virgifera virgifera,* LeConte has been conducted within the framework of the International Working Group on *Ostrinia* (IWGO) network group. Since 1999 we have conducted nationwide monitoring of WCR (*Diabrotica virgifera virgifera, LeConte* using the Hungarian-type pheromone traps (Fig. 1). The traps were set up mainly at “Mother Teresa” Airport and at some other sites in Albania (Shkodra, Durres, Elbasan, Dibra, and Saranda), close to the border of Montenegro, FYROM, Kosovo and Greece. The sexual pheromone used was 8-methyl-decane-2-oylpropanate. According to our investigations, this type of pheromone trap is more effective in catching *Diabrotica* adults in cornfields.

Fig 2 Western Corn Rootworm adult

Corn rootworms are a very difficult pest to manage because they have shown an ability to rapidly evolve resistance to both chemical insecticides and cultural management systems, such as crop rotation.

Diagnostic methods

All Chrysomellid species caught on pheromone traps were prepared for identification according to the preparation and preservation procedure recommended by specialists for coleopteran species. The samples were taken every two weeks from June to September.
A reliable identification key (Krysan,J. L.; Miller, T. A. 1986) was used for *Diabrotica spp* based on the EPPO protocol for *Diabrotica virgifera virgifera* (WCR).

The use of sex pheromone traps has facilitated the monitoring and identification procedure.

Prospective

We are considering the use of new methods such as PCR for identification of insect species, including coleopterans. This would allow identification of *Diabrotica* larvae, which are much more difficult to correctly identify than adults.
This method is quite new for entomologists in Albania, but could be started after training and acquisition of the necessary equipment for the entomology laboratory of our Institute.

References

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