

## Keynote Presentation

*Einleitendes Referat*

### **20 years of *Diabrotica* in Europe, present and future challenges**

*20 Jahre Diabrotica in Europa – aktuelle und zukünftige Herausforderungen*

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The lodged maize plants due to larval damage of western corn rootworm, (WCR, *Diabrotica virgifera virgifera* LeConte) and WCR adults were first detected in Europe in a maize field near Belgrade, Serbia, in 1992 (BACA, 1993). Though the first introduction of the WCR into this area is likely to have occurred between 1979 and 1984 (SZALAI *et al.*, 2011), the visible maize plant damage and adult beetle presence on the field has raised serious concerns among authorities and scientists obviously since 1992. By 2012, the WCR has spread to almost all important maize growing areas in Europe and resulted in well established populations in many regions.

The first detection and the continued spread of the WCR coincided with several important and even “historical” changes in Europe, namely the enlargement of the EU, developing the principles and implementing integrated pest management, the changes in the spectrum of registered insecticide active ingredients and the ongoing revision of plant protection products in the EU etc. that have made the monitoring, control and management of this pest very challenging.

The detection of WCR larval damage and the specific situation in the region in the 1990's required immediate actions, i.e. monitoring, control and range of quarantine measures in the countries concerned. Experiences on the biology, control and management of the WCR from the USA were used and adapted to European conditions to prevent or reduce yield losses and population build up as well as to slow the spread of the WCR. US experts together with European scientists were supported by international bodies (FAO of UN, IWGO of IOBC, EPPO, etc.) that has initiated and established a broad international cooperation since the middle 1990's.

The first EU-5 framework multi-country project (WCR ecology and management in Europe) related to the biology, behavior, economy of control and quarantine measures as well as the control and management of the WCR started in 2000 as an important milestone for IPM development for this pest. In addition, from 2000 on an FAO donor-assisted project involving 7 Central European countries introduced a novel approach, the participatory training of farmers, for IPM development in maize based on local ecosystems. This activity significantly contributed to a broader IPM development in maize and in arable cropping systems in these countries. In addition to these projects, later other EU-funded projects on the WCR were also successfully completed. Significant national, bilateral and regional activities have started in several Member States and broader regional cooperation is being developed nowadays as well (including development, testing and application of biological control agents, population modelling etc.).