

Survey for *Diabrotica* extension and management in France

Erhebung der Diabrotica-Ausbreitung und Bekämpfungsmaßnahmen in Frankreich

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The western corn root worm, *Diabrotica virgifera virgifera*, has become a major maize pest in Europe. After its first establishment in areas of intensive maize cultivation near airports in Serbia and Italy, outbreaks were observed in less intensive maize growing areas, close to airports in Western Europe, mainly around Paris but extending to the Ile de France region. In 2006 the beetle was successfully eradicated. Current spread of *Diabrotica* in France happens by road transport, with establishment close to motorways and transit areas for trucks. The regions Rhone-Alpes, Alsace, and to a lower extent the Burgundy region, had the highest numbers of beetle captures in 2011. Few individuals were detected in the Aquitaine region, as well as in the alpine valleys of Provence-Alpes-Côte d'Azur (PACA) in 2011. In 2012, the situation was similar to 2011 except a new outbreak in the Rhone Valley, along the motorway to the Mediterranean Sea, between Avignon and Valence.

Pest management was first carried out with insecticides against adults and regional crop rotation. Crop rotations have now been extended in combination with the use of insecticides against larvae. Taking economic consequences of management measures into account, including increased mycotoxin values in wheat planted in rotation with maize, a diverse range of control options for pest management seems to be the key for a sustainable control of *Diabrotica*. Although eradication and avoidance of new outbreaks are very ambitious aims, they still remain viable within specific regions. However, for other regions the delay of spread of the beetle seems to be the only realistic option available. Beetle captures in Alsace for example were seventeen times lower compared to those on the German side of the Rhine Valley in 2011. This may show that the management strategy applied in France could contribute to slow down spread with strategies that have an acceptable economical impact on growers.