

Western corn rootworm (*Diabrotica virgifera virgifera*)

What is it and where is it found?

The Western corn rootworm, *Diabrotica virgifera virgifera* is a serious pest of maize (*Zea mays*). It originated in North America but was first discovered in Europe in 1992 in a small maize field near Surcin airport, near Belgrade (former Yugoslavia). It has spread outward from the site of its first introduction. Outbreaks have been confirmed in countries such as Italy, France, Belgium, the Netherlands and the United Kingdom. All these outbreaks have originated in close proximity to international airports.

It was first reported in the UK in 2003 on maize near London Heathrow and Gatwick airports. Statutory action is continuing in the affected areas.



Adult of the Western corn rootworm

Western corn rootworm in Europe 2005



IWGO by C.R. Edwards and J. Kiss, based on data from Baufeld, Bertossa, Boriani, Cate, Cean, Cheek, Furlan, Iqrc Barcic, Ivanova, Karic, Kubik, Lammers, Princzinger, Reynaud, Sahajdak, Schaub, Sivcev, Urek, Vahala, Van Eester and Yakobtsuk

What are the symptoms?

Both adults and larvae feed on the plant, but larval root feeding is the main cause of damage, reducing nutrient uptake and growth. Root damage weakens plants and makes them more susceptible to lodging in wet or windy conditions. This can affect or even prevent crop harvesting. Adults feed on flowering maize pollen, silks, leaves and young developing kernels, but can also feed on a wide range of other plants that flower in the summer and offer alternative sources of pollen. However, larvae very rarely complete their life-cycle successfully on other plant species.



Larva feeding in maize root

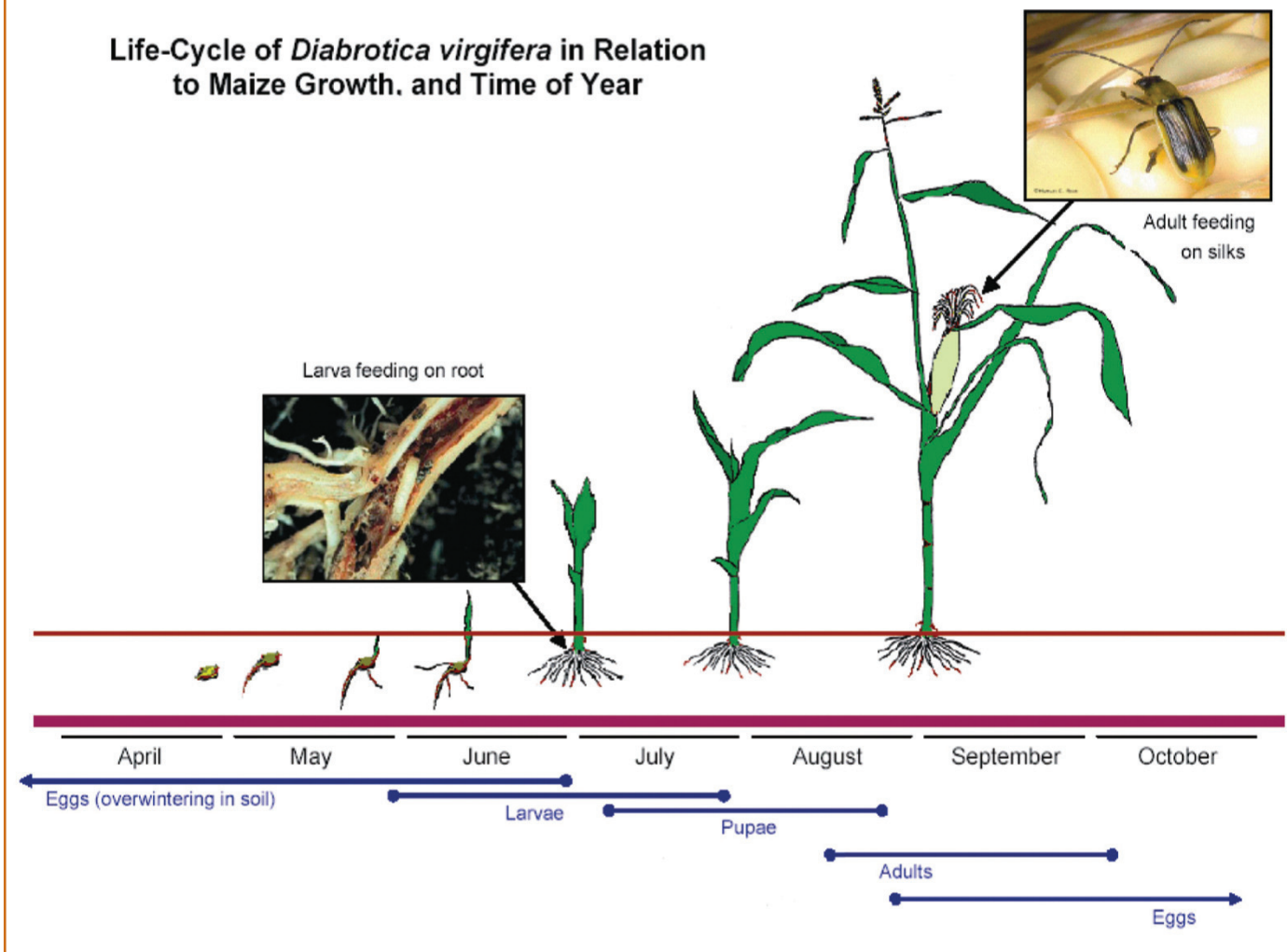
Photograph courtesy of University of Illinois, USA
(Department of Crop Science)



Damage to maize roots by larvae

Photograph courtesy of Marlin Rice,
Iowa State University, USA

Life-Cycle of *Diabrotica virgifera* in Relation to Maize Growth, and Time of Year



What is being done in the UK?

A national survey is undertaken each year using pheromone traps. These use a synthetic form of the sex pheromone naturally emitted by the female beetle to attract a mate. Adult male beetles are trapped during the flight period (August and September). Traps are placed in maize fields, particularly those in continuous production in southern and western areas of England and near to international airports.

Further details on the pest, EU legislation, annual surveys and pest findings are available on the Defra website at: www.defra.gov.uk/planth/diab.htm



Best Practice – How can growers prevent its introduction and spread?

Crop rotation is the most effective way to prevent the establishment of this pest and prevent damage and potential loss of yield.

- Maize growers are advised to rotate maize with alternative crops wherever possible. This helps to break the life cycle, as larvae hatching in spring from eggs laid in the soil the previous year will starve if no maize roots are available to feed on.
- Avoid or rotate maize for game cover as this can also be a potential reservoir of the pest which may pose a risk to other maize crops in the area. Use non-maize seed mixes wherever possible.
- Rotation is particularly important where maize is grown in the vicinity of international airports.

Keep a good look out

If you suspect the presence of this pest you should immediately inform your local Defra Plant Health and Seeds Inspector (PHSI) or:

PHSI HQ, York

Tel: 01904 455174

Fax: 01904 455197

Email: planthealth.info@defra.gsi.gov.uk

Web: www.defra.gov.uk/planth/ph.htm

