

IRAC Pollen Beetle Working Group

Pyrethroid resistance has been recorded in European populations of the pollen beetle (*Meligethes aeneus*) since 1999, when it was first reported in Eastern France. Pyrethroid insecticides have long been favoured as the method of control for insect pests of oilseed rape and a lack of alternative insecticides with different modes of action, has ensured a continued high selection pressure for pyrethroid resistance. This has led to the spread of resistant pollen beetle across much of the oilseed rape growing regions of Europe.

In 2007 an IRAC Pollen Beetle Working Group was established to bring together expertise from agrochemical companies and independent researchers in order to monitor the development of insecticide resistance in oilseed rape pests and to provide guidance and advice on the best practices to prevent further insecticide resistance development.

Pollen Beetle Resistance Monitoring Methodology

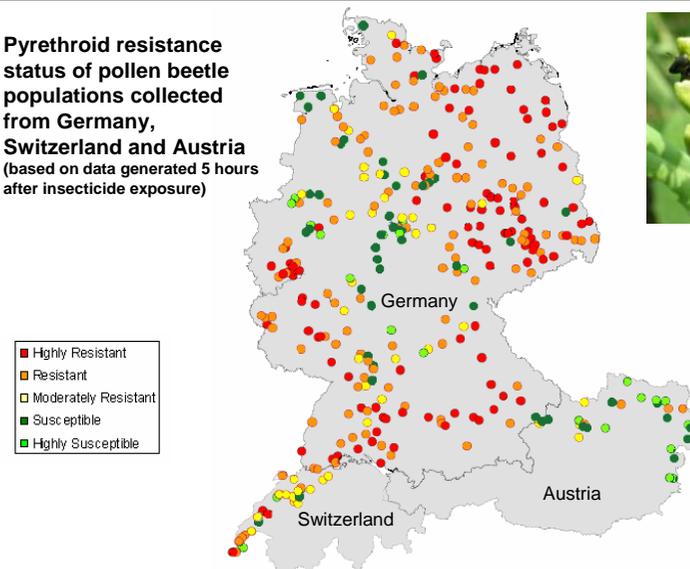
A simple methodology was developed by members of the working group to determine the pyrethroid susceptibility of pollen beetle populations in Europe. Technical grade pyrethroid insecticide is coated on the inside of glass vials at two different concentrations which represent 100 and 20% of the recommended label rate of the chosen pyrethroid. A minimum of 10 adult beetles are placed inside each vial, with beetle mortality assessed five and twenty four hours after initial exposure. Mortality observations can be then converted to one of five susceptibility classifications: Highly susceptible; susceptible; moderately resistant; resistant and highly resistant.

IRAC #11 Methodology which can be found on the IRAC website.



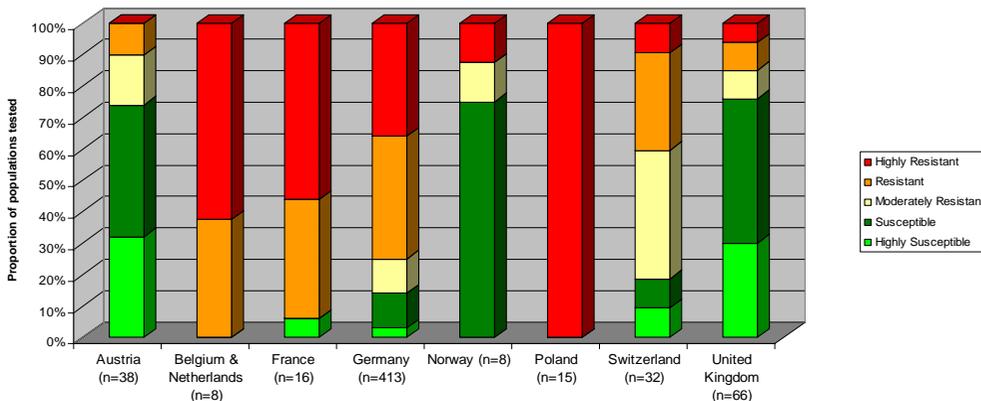
An additional 4% & 500% rate is included in this study

Pyrethroid resistance status of pollen beetle populations collected from Germany, Switzerland and Austria
(based on data generated 5 hours after insecticide exposure)



Samples of pollen beetles were collected from both insecticide treated and untreated fields between March and July 2007

Susceptibility status of pollen beetle populations collected from Europe
(Based on data generated 5 hours after insecticide exposure)



Resistance Management

In order to prevent the development or spread of insecticide resistance in European oilseed pests, it is essential to utilise insecticides with different modes of action in alternation, as part of a resistance management strategy. The IRAC Pollen Beetle Working Group provides guidance for oilseed rape pest control through its management decision tree. This guide has been used to help shape local recommendations in European countries. A copy of this document can be obtained from the IRAC web site: www.irac-online.org.



Participants

