Introduction and Background

Pyrethroid resistance has been recorded in European populations of the pollen beetle (Meligethes aeneus) since 1999, when it was first reported in Eastern France. The IRAC Coleoptera Working Group brings together expertise from agrochemical companies and independent researchers in order to monitor the development and spread of resistance in pollen beetles and other coleopteran pests of oilseed rape.

Pyrethroid resistance has been recorded in European populations of the pollen beetle (Meligethes aeneus) since 1999, when it was first reported in Eastern France. The IRAC Coleoptera Working Group brings together expertise from agrochemical companies and independent researchers in order to monitor the development and spread of resistance in pollen beetles and other coleopteran pests of oilseed rape.

Changes in the pyrethroid susceptibility of pollen beetle populations in Europe 2016

Changes in the neonicotinoid susceptibility in selected countries and EU (total) between 2012 - 2016

OP susceptibility monitoring 2016

Insecticide Resistance Action Committee

Changes in OP susceptibility of pollen beetle populations between 2007 - 2016

In order to prevent further insecticide resistance development, it is recommended that insecticides with different modes of action are utilised in an effective resistance management program, dependent on local insecticide availability and national use guidelines. IRAC guidelines for resistance management in oilseed rape can be found on the IRAC website (www.irac-online.org).

IRAC would like to thank all of those who contributed to the survey.

Summary & Recommendations

• There is currently no evidence to suggest that the lower sensitivity observed in the survey correlates with a reduced performance of neonicotinoid containing insecticides which are used under field conditions, however resistance management practice should be implemented to avoid further susceptibility decline.

• There was no evidence of changes in organophosphate susceptibility observed in the European countries surveyed.

• There was no evidence of changes in indoxacarb susceptibility observed in the European countries surveyed.

• Pyrethroid, neonicotinoid, organophosphate and indoxacarb susceptibility is measured by the use of insecticide coated glass vial assays. Results of the 2016 susceptibility monitoring program are presented in this poster. More details of the methods used in this survey can be found on the IRAC website (www.irac-online.org).

• In 2016 less than 10% of pollen beetle populations (n=286) surveyed in Europe could be classified as pyrethroid susceptible.

• After an initial decline in the number of susceptible pollen beetle populations observed in Europe since the IRAC survey began in 2007, there was no evidence of changes in organophosphate susceptibility observed in the European countries surveyed.

• The majority of populations tested across Europe remained susceptible to neonicotinoid insecticides. The percentage of populations with a lower sensitivity (<5% mortality) slightly increased from 8% to 12%, it should be noted that EU monitoring data of 2014 have been taken out of the graph due to the fact that many adult vial test-kits were of low quality due to wrong shipment conditions.

Visit IRAC web-site for further details at www.irac-online.org

This poster is for educational purposes only. Details are accurate to the best of our knowledge but IRAC and its member companies cannot accept responsibility for how this information is used or interpreted. Advice should always be sought from local experts or advisors and health and safety recommendations followed.