

Summary of activities from subcommittee Insecticides



Diamondback moths in oilseed rape plants

Marika Rastas, Luke Finland:

- Diamondback moths (*Plutella xylostella*) were extremely abundant during the growing season 2016.
- Influx of DBM arrived to Finland with eastern air currents in the end of May
- In favourable weather conditions this led to exceptionally high amount of DBM invading the cruciferous crops.
- Controlling the pests with insecticide sprays was difficult and exception permits were granted for prolonged use of pyrethroids in oilseed and use indoxacarb cabbage for DBM control.
- Possible DBM insecticide resistance was tested for Lambda-cyhalothrin and indoxacarb.

Diamond backmoths

Results:

- Indoxacarb was effective with all tested concentrations. Pyrethroid efficacy varied in the tested population.
- In one population pyrethroids had no effect with any of the concentrations. In the rest of the populations the mortality was 77-32% with field screening dosage.
- Results indicate DBM populations in Finland had some degree of pyrethroid resistance.

Pollen beetle in oilseed rape

Niels Jacob Jakobsen, Adama, Denmark;

Martin Gejl, Agrolab; A/S;

Birute Vaitelyte, LRCAF, Lithuania;

- Lambda-cyhalothrin had little less efficacy compared to year 2015. The 4 populations in DK was from the same area on Funen know to have high resistance.
- Tau-Fluvalinate was at same level of efficacy as last year. Biscaya (thiacloprid) was same level as last year.
- Problems with getting a good dose-response due to to high efficacy in lowest rate.
- In Lithuania situation seemed little better with pyrethroids (use has decreased) mainly because new products of different mode of actions have been adopted.

Pollen beetle

- Basically Pollen beetle is not any more so problematic after the new products of different mode of actions have come to the market
- However, in some areas pod midge (*Dasineura brassicae*) is more harmful to oilseed crops than pollen beetle.

Two-spotted spider mite in strawberry

Laisvune Duchovskiene, LRCAF Lithuania:

- Two-spotted spider mite (*Tetranychus urticae*) was conducted allele frequency determination using QS methods.
- Total 12 point mutations were chosen as target mutations. Several mutations were found at only organophosphate and pyrethroid acaricides.
- No mutations were not found associating abamectin, etoxazole and bifenazate.
- This may mean that the acaricide resistance problem would be not serious in field vegetables in Lithuania

Two-spotted spider mite in strawberry

- Usage of different-types of acaricide would be helpful to manage the resistant population with the retardation of resistance development.
- The sensitivity of mutation allele frequency to actual phenotypic resistance levels were different due to the existence other multiple resistance factors such as detoxification enzymes

Strawberry blossom weevil in strawberry

Jarmo Ketola and Isa Lindqvist, LUKE Finland:

- Strawberry blossom weevil (*Anthonomus rubi*) has been a severe problem almost every year during the last five years in the eastern part of country
- In North Savo cultivated area of strawberry was 813 ha in 2014. In Suonenjoki for instance strawberry area of 56 farms was 290 ha (5.18 ha/farm)
- Pyrethroids have been for many years the only insecticides allowed in the control of *A. rubi*. Calypso was accepted for use in 2015 and Steward in 2016
- Co-operator laboratory in making testing vials has been LRCAF

Strawberry blossom weevil in strawberry

- Indications of decreased susceptibility against the pyrethroid lambda-cyhalothrin was seen in most fields
- In spite of some adjustments due to experiences from the preliminary test in 2015 some problems occurred

- Sensitivity tests in the laboratory:



Discussion of things at the moment and for the future:

- Niels participated in IRAC meeting and asked to become familiarized with their material (videos, pests etc.).
- We discussed also about funding pesticide resistance management studies. There are some funding instruments in the state scale and in EU.
- How to spread knowledge between the stakeholders

The important question is how to share the data in Norbarag area. One solution would be the poster, where resistance situation is shown by countries. In addition there will be also recommendations in pesticide resistance management.