

# #067

## Pyrethroid resistance of insect pests of oilseed rape in Germany

ADDRESS

Meike Brandes  
Udo Heimbach

Julius Kühn-Institut,  
Institut for Plant  
Protection in Field Crops  
and Grassland,  
Braunschweig, Germany

Many insect pests are present in oilseed rape for a long period and are therefore exposed to several insecticide applications even though the application may be targeted on other pests. The main insecticide class used for more than 30 years for foliar sprays in oilseed rape are pyrethroids. Intensive and one-sided use of this insecticide class resulted in a selection pressure and finally in resistant insect pest populations. Since 2005 a resistance monitoring is carried out at the Julius Kühn-Institut using an Adult-Vial-Test.

More than 1800 German pollen beetle populations (*Brassicogethes aeneus*) were tested with lambda-cyhalothrin from 2005 to 2018. The number of sensitive pollen beetles decreased continuously over the years and vanished since 2010 completely. By now the percentage of highly resistant pollen beetles increased to about 90%. Also other insect pests of oilseed rape such as cabbage stem flea beetles (*Psylliodes chrysocephala*), different weevil species and the brassica pod midge (*Dasineura brassicae*) were tested within the monitoring. For the cabbage seed weevil (*Ceutorhynchus obstrictus*) and the cabbage stem flea beetle also resistance to pyrethroids was recorded in biotests as well as with molecular methods. For both species knockdown resistance (kdr) is known as resistance mechanism. The rape winter stem weevil (*C. picitarsis*) is spreading from France to southern Germany. Until now in Germany 35 populations were tested. First weevils with kdr were found 2014 in Baden-Wuerttemberg and 2016 in Rhineland-Palatinate. Up to now, *C. napi*, *C. pallidactylus* and *D. brassicae* show high sensitivity to pyrethroids.

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