Effect of two different insecticides on the reproduction of pollen beetles in field tests

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One of the most important pests of oilseed rape is the pollen beetle (*Meligethes aeneus* F.). Beetles emerging from overwintering sites in spring immigrate to oilseed rape crops and feed on the buds to get access to pollen, which results in bud abortion and high yield loss.

In the past 30 years control of pollen beetle in Germany was mainly based on the application of synthetic pyrethroids. The extensive and indiscriminate use of this insecticide class resulted in a high selection pressure on the beetles, ensuing in the formation of resistance, which has spread over many European countries. Replacement of pyrethroids by insecticides with other mode of action is limited as only few alternative active substances are available.

One of these alternative substances is the neonicotinoid Biscaya (active ingredient thiacloprid). To test the effect of Biscaya and of the pyrethroid Karate Zeon (active ingredient lambda-cyhalothrin) on the reproduction of pollen beetles a field trial was carried out near Braunschweig. The field trial was divided into control plots without insecticide application, and plots sprayed on different dates with Biscaya or Karate Zeon. Shortly before and after application the number of beetles was counted in the different plots. Additionally the number of eggs per bud and the number of larvae dropping to the ground for pupation was recorded. Furthermore samples of adult pollen beetles were analyzed for resistance to pyrethroids and sensitivity to thiacloprid by using the Adult-Vial-Test.