



IRC | 2019 | Berlin
INTERNATIONAL RAPESEED CONGRESS

Diseases
and Pests

Plant
Protection



Innovation for foliar pest control in rapeseed

Farmers are facing the challenge that **the number of available Modes of Action (MoA) of crop protection products is continuing to decline in the EU**. Especially the highly bee-attractive crop oilseed rape / canola (OSR) is lacking alternatives for proper pest control while protecting pollinators and other non-target organisms. **Since the ban of neonicotinoid seed treatments the crop cannot be protected from inside after emergence**. In Germany aphids were reported in OSR, transmitting viruses, which can lead to a significant yield reduction. **The number of foliar & soil applications of pesticides in OSR is going up as farmers try to protect their investment**. While pyrethroids may not even hit the pest (hiding underneath the leaf), these additional sprays may have an impact on the other insects, including beneficials.

Besides **pyrethroids**, which are known to **have resistance issues to several pests in OSR**, there is a **very limited number of other chemical classes and MoAs**. Thiacloprid (expiration of EU approval: 30/04/2020) and acetamiprid (expiration of EU approval: 28/02/2033) from the class of neonicotinoids or indoxacarb (expiration of EU approval: 31/10/2019) are not sufficient solutions for sustainable pest control following **IRAC resistance management guidelines and EPPO guidelines**, which require four different MoAs.

Bayer is currently introducing SIVANTO® prime (active ingredient: flupyradifurone) worldwide, belonging to the new chemical class of Butenolides that was developed by Bayer. It is **honey bee - and bumble bee friendly**. The approvals of flupyradifurone in many countries worldwide including several EU countries were obtained (NL, GR/EL, PL, CZ, BE, SI, HU, IT, BG), and the **approval process for uses in OSR is ongoing**.

Bayer is developing BUTEO® start (active ingredient: flupyradifurone) as **seed treatment for oilseed rape** in Europe. Refer to the presentation by Susanne Kretschmann: "Innovations in fungicide and insecticide seed treatments in Europe: SCENIC gold and BUTEO start" on Wednesday, June 19th, 2019 at 12:00-12:15.

Use plant protection products safely. Always read the label and product information before use.



Systemic seed- and soil applications of pesticides are criticized by some stakeholders for the comparably long lasting availability (e.g. neonicotinoids) and moreover they are challenged for being prophylactic and applied at a time when the occurrence of pests or the epidemic pressure cannot be foreseen with certainty. Also questioned is the proportion of active substance actually / initially taken up by the plant versus the remainder in the soil surrounding the seed.

However, when farmers want to control pests by other means, like foliar or soil applied insecticides (mainly non-systemic), the **following disadvantages** have to be considered. The amount of active substance applied per hectare often is higher, especially when more than one foliar application is required to replace one seed treatment. The timing of application may be too late, when operational conditions do not allow for a sufficiently early application, or weather and soil conditions preclude an application. The properties of the available products may not fit, e.g. pyrethroids are contact insecticides and need to directly get in direct exposure of the target pests, but if aphids are hiding underneath the leaves of young rapeseed plant, such products cannot control them.

Resistance management is substantially gaining in importance. The European and Mediterranean Plant Protection Organization (EPPO) recommends at least 4 different Modes of Action (MoAs) to sustainably control pests. The Industry Associations CropLife and ECPA are recommending at least three different MoAs. **For OSR in the EU this is no longer possible for several pests**.

In their "Protocol for the evaluation of data concerning the necessity of the application of insecticide active substances to control a serious danger to plant health which cannot be contained by other available means, including non-chemical methods" of 29 March 2017, **EFSA defines the chemical class of pyrethroids and neonicotinoids as having a "high" risk of resistance**. Furthermore in OSR in Europe, the pollen beetle (*Brassicogethes aeneus*) or cabbage stem flea beetle (*Psylliodes chrysocephala*) **are considered high risk pests to develop resistance**.

Bayer submitted a >1000 page dossier for "derogation Article 4.7" for Thiacloprid and identified many cases for a clear need to keep Thiacloprid available to EU farmers. In the European Food Safety Authority (EFSA) conclusion some 70 pest/crop combinations including 11 pests in brassicaceans are listed. The EU Standing Committee on Plants, Animals, Food and Fee (SCoPAFF) decision is expected for October 2019.



Bayer will continue to invest into research and development of new pest control solutions.

Novel digital tools will support farmers in decision making (monitoring / prediction / application timing).

In collaboration with external partners our research colleagues identified a novel approach to select promising development candidates with a favorable bee safety profile at an early stage.

Bayer can now make use of legacy Monsanto knowledge and technology to further add innovation to our pipeline to the benefit of rapeseed farmers worldwide.

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