Improving the availability of plant protection products in minor uses

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A joint project of DBV, ZVG and JKI

Introduction

Minor uses in plant protection are areas of usage of minor economical impact. The national action plan for sustainable crop protection (NAP) specifically aims to secure viable plant protection measures for minor uses and resistance management. With regard to the NAP, the objective of the joint project is to support the activities for minor uses in Germany and to improve the availability of plant protection solutions. The German grower associations Deutscher Bauernverband and Zentralverband Gartenbau have initiated the joint project in cooperation with the Julius Kühn-Institute. The project is financially supported by the German Federal Ministry of Food and Agriculture (BMEL).

Project structure and present focus

Overall objective: Improving the availability of plant protection products in minor uses

Goal: Developing procedures for communication and data transfer between extension services, grower associations, plant protection industry as well as national and European working groups for minor uses.

Present focus on the following difficult-to-control weeds, pests and diseases in several vegetable crops

<table>
<thead>
<tr>
<th>Pest</th>
<th>Control by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senecio vulgaris e. g. in lettuce crop</td>
<td>Known herbicides, which are in the registration process</td>
</tr>
<tr>
<td>Pisum annuum e. g. in parsley crop</td>
<td>New insecticidal compounds, which are in the registration process</td>
</tr>
<tr>
<td>Aphis e. g. on courgettes</td>
<td>New fungicidal compounds (including botanicals), which are in the registration process</td>
</tr>
</tbody>
</table>

Goal: Investigations in international databases (e.g. HOMOLOGA, IR4) for pesticides, which are registered in other countries for minor uses in arable farming, ornamental horticulture, tree nurseries, fruit and vegetable growing.

Present focus is set on the investigation for pesticides to control

<table>
<thead>
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<th>Pest</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Drosophila suzuki in fruit growing</td>
<td>Phytophthora in ornamentals</td>
</tr>
<tr>
<td>Thrips in ornamentals</td>
<td>Pyrausta rosae (Carrot fly)</td>
</tr>
</tbody>
</table>

Goal: Searching international literature databases for state of the art research on plant diseases and pests, and conducting field trials with new plant protection products or new control strategies.

Present focus: field trials are conducted to control

- Root flies in radish, Chinese cabbage, carrots
- Leaf miners in carrots, leek
- Thrips in leek

- Cabbage root fly (Delia radicum) with fly injury to radish (left) and head cabbage (right)
- Carrot leaf miner (Phytomyza carotae) head miner injury to carrots
- Allium leaf miner (Phytomyza gymnosoma) leaf miner injury to leek (top view in mine, left) and typical feeding points caused by female fly (right)

Conclusion / Output

The project is incorporated into the national and international network of minor uses. The results of the project are provided to the grower associations, extension services and to the working groups for minor uses for further actions. Further information on the project and results are published online and are available on the following websites:

http://www.isip.de
http://www.pflanzenschutz-information.de

Further reading:
Lamichhane et al., 2015: Challenges and opportunities for integrated pest management in Europe: A telling example of minor uses. Crop Protection 74, 42-47.

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