National Action Plan on Sustainable Use of Plant Protection Products in Germany

Bernd Freier & Bernd Hommel

Julius Kühn-Institut (JKI), Federal Research Centre for Cultivated Plants, Institute for Strategies and Technology Assessment, D-14532 Kleinmachnow
bernd.freier@jki.bund.de
Cornerstones of recent plant protection policy toward National Action Plan in Germany

1st Workshop of the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV), 2002

“Guidelines for the prospective plant protection policy”, marked the start of an extensive dialogue on plant protection policy in Germany

Coalition Agreement of the Federal Government from 2002:

“… aims to develop a mitigation strategy for plant protection products through application, methods, technology and good professional practice."

2nd Workshop of BMELV


more in-depth discussion and identification of possibilities for mitigation of risks associated with plant protection product use
Reduction Programme
Chemical Plant Protection

Published in 2004

Aims

Reduction of risks associated with the application of plant protection products

Reduction of application intensity of plant protection products

Reduction of percentage of domestic products exceeding the maximal residue limits to less than 1 %
Reduction Programme in Denmark


*Bichel* – Committee, 1998-1999


Green Growth, 2010 – 2019

- Pesticide tax
- Quantitative reduction aims (Treatment Frequency Index)
National Action Plan on Sustainable Use of Plant Protection Products

Published in 2008

Further development of Reduction Programme against the background of coming EU-directive

General aims

Further risk reduction and

Stronger orientation to IPM
National Action Plan on Sustainable Use of Plant Protection Products

Aims

• Reduction of environmental risk by 25% till 2020 (base line 1996–2005)
• Reduction of exceeding of MRLs in crop products under 1% till 2020
• Limiting the use of pesticides to the necessary minimum
• Increase in use of preventive and non-chemical methods, IPM and organic farming
1. Research and Promotion of Innovation Towards IPM

- Innovation Promotion Programme (BMELV)
- Research and development to foster innovation
- Development, testing and transfer of non-chemical plant protection methods
- Advancing computer-aided forecasting methods and decision support systems
- Advancing plant protection **equipment** and introducing **new technologies** into practice
- Promoting resistance research and breeding of resistant varieties
- Demonstration of new integrated plant protection methods (e.g. demonstration farms)
- Development and use of crop and sector-specific guidelines on IPM
- Hot spot management
- Promotional programmes to foster IPM methods and organic farming
Measures

2. Improved knowledge and information

- Securing knowledge for users and the retail sector
- Development of online plant protection portals
- Improvement of plant protection advise

Numbers of advisors

<table>
<thead>
<tr>
<th></th>
<th>Governmental advisory services</th>
<th>Independent Advisors</th>
<th>Advisors of Pesticide manufacturers and retailers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>581</td>
<td>229</td>
<td>465</td>
</tr>
</tbody>
</table>

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Institut für Strategien und Folgenabschätzung Kleinmachnow
Measures


see Plant Protection Monitoring Programme

4. Consumer protection: Reducing plant protection product residues in food

see Plant Protection Monitoring Programme
Use of indicators in the National Action Plan

German Plant Protection Index (PIX)

- Treatment Frequency Index
- Maximum Residue Limits (MRL)
- Risk Indicators

Trends relating to rate of treatments complied with necessary minimum
Trends in the number of samples exceeding MRL
Trends in the number of samples with residues
Trends relating to risks
In the use of pesticides, the necessary minimum describes the amount needed to ensure crops are successful, not least as regards their economic viability. It includes that all other practicable options to prevent and deter harmful organisms have been exhausted and that consumer, environment and user protection provisions have been adequately taken into account.

As much as necessary and as low as possible.
No unnecessary pesticide uses
The necessary minimum is flexible!
Treatment frequency index
Indicator for intensity of pesticide use

First established in Denmark (Kudsk, 1989)

The treatment frequency index lists the number of times a pesticide is used on an area, taking account of any dosage reductions and whether only partial areas are treated. Pesticides applied in mixed tanks are listed separately.

Use of a pesticide in the maximum allowed dosage: 1.0
Use of a pesticide in half dosage: 0.5
Use of a pesticide on 50 % of area: 0.5
Network of Reference Farms for Plant Protection

Joint project of
- Ministry for Food, Agriculture and Consumer Protection,
- State Plant Protection Services and
- Julius Kühn-Institut, Federal Research Centre for Cultivated Plants

Aims

1. Generation of annual data on **pesticide use intensity** (treatment frequency index) in main crops of farms

2. Expert **evaluation** of treatment intensity in terms of the **necessary minimum** of pesticide use (general principle of IPM)

**Approx. 120 experts from German State Plant Protection Services are involved**
Network of Reference Farms for Plant Protection

In 2010:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Number of Farms</th>
<th>Number of Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter wheat</td>
<td>86</td>
<td>246</td>
</tr>
<tr>
<td>Winter barley</td>
<td>198</td>
<td></td>
</tr>
<tr>
<td>Winter oil seed rape</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Other arable crops</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Cabbage</td>
<td>28</td>
<td>68</td>
</tr>
<tr>
<td>Carrots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asparagus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apples</td>
<td>19</td>
<td>56</td>
</tr>
<tr>
<td>Viticulture</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>Hops</td>
<td>3</td>
<td>14</td>
</tr>
</tbody>
</table>
Distribution of Reference Farms for Arable Crops in Regions of Germany in 2010

19 arable cropping regions

Four main regions:
- North
- East
- South
- West
Network of Reference Farms for Plant Protection - Treatment Frequency Index Scores (TFI) for Fungicides in Winter Wheat

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Network of Reference Farms for Plant Protection
- Treatment Frequency Index Scores (TFI) in Maize, Winter Wheat and Apples

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Network of Reference Farms for Plant Protection
- Results of Evaluation of Pesticide Treatments by Experts of Plant Protection Services, Examples

Compliance with necessary minimum (% of pesticide treatments, 2007-2010)

- Winter wheat: 94% Herbicides, 85% Fungicides, 68% Insecticides, 78% Insecticides + Fungicides
- Apples: 93% Fungicides
2nd Indicator: Rate of Samples Exceeding Maximum Residue Limits (MRL)

Annual Reports of Plant Protection and Food Monitoring Programme

Federal Office for Consumer Protection and Food Safety (2011):

2010:
Samples: 16,373
Samples with residues: 60.1%

Samples exceeding MRLs:
2.9% (products from GER and EC countries) and
8.6% (products from non-EC countries)
3rd Indicator: Environmental Risk Potential of Herbicides, Fungicides and Insecticides

Calculations using SYNOPS model (Strassemeyer, 2011)
Cornerstones of Plant Protection Policy in Germany

Good Plant Protection Practise

Act

EC Regulations

NAP

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Thank you for your attention!