Implementing a global IWM program
The Bayer journey

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Key drivers in the weed control market

- Bayer’s Integrated Weed Management Program
- Promoting Best Weed Management Practices
- Creating awareness & offering IWM Services
Key drivers in weed control market

<table>
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<tr>
<th>Need for weed control solutions</th>
<th>Weed resistance is increasing</th>
<th>Weed resistance is a complex topic</th>
<th>Farmers awareness</th>
<th>Regulatory requirements</th>
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- **Need for weed control solutions**
  - Worldwide, 30,000 weeds compete with crops for space, nutrients, water, and light.
  - 1/4 of the worst and most common weeds are already resistant.

- **Weed resistance is increasing**
  - Weed resistance is a complex topic.

- **Weed resistance is a complex topic**
  - Types of resistance: biotype with altered site action and metabolic resistance.

- **Farmers awareness**
  - Implementing a global IWM program.

- **Regulatory requirements**
  - October 2015

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Bayer CropScience
Bayer’s Integrated Weed Management Program

3 core elements structure the program

The integrated weed solutions are implemented according to

Best Management Practices:
- IWM Principles
- IWM Guidelines
- Product stewardship

Science & Partnerships

- Providing integrated solutions for optimized weed control and protect yield
- IWM Principles
- IWM Guidelines
- Product stewardship

Solution offer based on …

Science & Partnership
- Scientific competence
- Valuable partnerships

Enhancing farms’ productivity
Bayer’s Integrated Weed Management
Global Mission Statement

Bayer CropScience aims to enhance productivity by offering outstanding integrated weed management solutions executed in local initiatives, including best-in-class innovations and valuable partnerships.

In this way, Bayer CropScience is contributing to a more sustainable future of agriculture.
Global IWM Guidelines must be reflected in local IWM tailored made programs

Integrated Weed Management Solutions

### North America
- Corn/Soy (1 rotation in US)
- Wheat/OSR (1 rotation in CAN)
- Corn/Soy/Wheat
- Cotton/Soy/Corn/Wheat
- Wheat/Potatoes/Sugar Beets

### Latin America
- Soybean/winter corn
- Soybean/wheat
- Soy/cotton/soy
- Cotton/cotton/soy
- Soy/soy/cotton

### Europe Middle - East Africa
- Winter Cereal/Winter Cereal/OSR
- Winter Cereal/Winter Cereal/Corn
- W Cereal/W Cereal/Sugar beet or Potatoes or Sunflower
- W Cereal/Corn/Corn
- OSR or Sugar beet or Sunflower/ Spring Barley/W Wheat
Bayers’ IWM program aims to promote Best Weed Management practices based on Guidelines

1. Know the weed spectrum
2. Develop a weed management strategy
   2.1. Develop a plan
   2.2. Diversify weed management strategies
   2.3. Enhance crop competitiveness
   2.4. Aggressively manage weeds
   2.5. Start clean
   2.6. Maximize herbicides activity
3. Demonstrate in practice IWM techniques
Bayer’s IWM Program: Global and country initiatives for a consistent approach to weed management
How is Bayer promoting Best Weed Management Practices locally?

Respect the Rotation is an educational stewardship program promoting the importance of IWM today to ensure farm productivity tomorrow.

3 methods for success: cultural, mechanical and chemical.

Popularize three-step practice that provides opportunities for herbicide diversity:
1. Rotate Crops
2. Rotate Herbicide-Tolerant Traits
3. Rotate Modes of Action

Bayer CropScience UK set up a Black Grass Task Force and launched a very informative website highlighting the four building blocks of black-grass management:
1. Checking the weed population
2. Cultivating soil as part of a cultural control strategy;
3. Enhancing crop competition
4. Including diversifying chemical control, i.e. applying herbicides with different modes of action to reduce selection pressure.

Incorporating effective everyday farming practices into cropping program, and rotating them in a planned way.
1. Crop rotation
2. Rotate herbicide modes of action
3. Rotate technologies and production practices
4. Seeding
5. Fertility Plan (feed the crop not the weeds)
6. Keep equipment clean
7. Tillage
8. The worst thing you can do is to do nothing
Creating opportunities to trigger dialogue and lead the conversation

1. Create IWM Brochure and transfer knowledge
2. Organize national regional, global events
3. Give a face to weed resistance & survey the markets
4. Create touch points to reach out farmers
5. Use social media & create web platform
6. Trigger interaction with field days
Innovating in IWM services to support farmers in implementing best practices

- Educational tools
- Diagnostics of weed resistance
- Risk assessment of weed resistance
- Weed Identification tools
- Weed Resistance demonstration platforms
Setting up a Global Bayer IWM approach - learnings

Criteria for the best in class IWM strategy:

1. Multidisciplinary
2. Science based
3. Communicable
4. Actionable
5. Custom made
Thank you for listening!