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INTRODUCING THE IOWA PEST RESISTANCE MANAGEMENT PROGRAM

This is an lowa-specific effort to address pests — including weeds, insects and plant diseases — that can adapt and become resistant to chemical, genetic, and agronomic control practices. The lowa Pest Resistance Management Program (IPRMP) outlines approaches for effective, integrated management solutions that will sustainably manage pests. By fostering methods to detect resistance, pest resistance can be delayed or even prevented, limiting its spread.

WHY DOES IOWA NEED A PEST RESISTANCE PROGRAM?

Pest resistance management (PRM) is the effort to delay pests from developing resistance. Pest resistance has the potential to impact yields, increase the cost of production, and limit farmers' future PRM options. With that in mind, the IPRMP was developed with a broad cross-section of lowa agricultural partners to address this important issue while remaining flexible enough to incorporate new information.

WHAT ARE THE PROGRAM'S GOALS?

The lowa program seeks to engage the entire ag community on the issue of pest resistance management with the goal of keeping technology and tools — including pesticides for controlling weeds, insects, and disease; seed treatments; and biotechnology products and native traits — available and effective. It is also important that farmers know they are not alone in their effort to address resistance; a wide variety of experts and resources are available to help. The lowa program will also include wide participation from all sectors of lowa agriculture in order to educate and prevent broad applications that could lead to resistance.

HOW WILL THE PROGRAM BE IMPLEMENTED?

lowa's 90,000 farmers will play a leading role in PRM through their stewardship of pesticide management technologies and biotechnology traits and tools. Farmers make management decisions each year on more than 23 million row-crop acres. Farmers' proactive adoption of practices is necessary to delay the development of herbicide, insecticide, and fungicide resistance, protect crop traits, and manage existing cases of resistance to help them remain competitive in the global market by maintaining the long-term productivity of lowa agriculture while reducing pest-associated yield losses.

In addition, reaching agricultural professionals, such Certified Crop Advisers, Independent Crop Consultants, seed and pesticide retailers, and agronomic and farm advisors will be critical to the success of the strategy. Ag professionals who can provide multi-year plans that include PRM tactics will provide additional value to their services.

Finally, pilot projects of active PRM will be established. These projects will be focused on utilizing the latest pest resistance management tools and also examine approaches to encourage successful, voluntary PRM adoption. The pilot projects will identify key stakeholders within a defined "community" and will be inclusive, bringing all potential players to the table. The pilot projects will work to establish incentives and novel approaches to encourage the community to work together to address the identified pest-resistant problems (i.e., weeds, insects, and disease).

WHERE CAN I LEARN MORE?

Visit *ProtectlowaCrops.org* to see the latest news, program updates, and to connect with experts.



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The logic model shows how the IPRMP will build success by combining knowledge from all groups to change the way pests are managed to achieve sustainable productivity.

IOWA PEST RESISTANCE MANAGEMENT PROGRAM LOGIC MODEL

INPUTS

AG INDUSTRY

ON FARM

 Education tools and messaging

- Science-based assessment
- Socioeconomic analysis
- •Central website and resource coordination
- Pursue funding sources Integrated Pest Management
- Education and outreach Provide RM practices
- Scenario-based socioeconomic analysis (short and long-term costs/benefits)
- Central message (safe, healthy, sustainable food) •Engagement plan

HUMAN BEHAVIOR

- Tier communications
- ·Identify markets/institutional structures for promotion
- Survey recommended practices
- Support meetings,
- workshops, and influencers Compilation of information
- •Tier communications to
- Survey of recommended practices
- ·Identify local and regional champions
- ·Identify agriculture and general-public networks •Early response to questions

LAND MANAGEMENT & **PRODUCTION**

- •Improve information for decision-making
- Use of new technologies
- Establish baseline for
- forecasting and decisions ·Procedures for collecting and compiling baseline reports
- Land rent leases include pest resistance management
- Increase numbers of farmers practicing pest resistance management
- Education and outreach

PEST RESISTANT POPULATION OUTCOMES

- Minimize pest resistances
- Maintain technologies
- Reduce economic impact
- ·Measure plan efficacy
- Consider geographic zones in order for plan upgrades and to increase participation
- ·Minimize spread and development of pest
- •Maintain technologies for farmers
- •Minimize economic impact
- •Develop safer, healthy, and sustainable food
- Promote sustainability

Once the pilot projects launch, there will be periodic on-farm sessions to share progress, learnings, and innovations. Year three of the pilots projects will be key for sharing tested accomplishments. Once results are compiled, adjustments will be made to the plan and to pilots to continue improving management efforts.























US Herbicide Resistance Action Committee **US Insecticide Resistance Action Committee US Fungicide Resistance Action Committee**