

2nd Herbicide Resistance Summit – A Call to Action

Incidences and severity of herbicide resistance are increasing in the U.S. and globally, and pose serious economic and environmental risks unless bold moves to proactively manage the problem are taken. The spread of weed resistance is a natural ecological phenomenon that is due to the repeated use of herbicide(s) with the same mechanism of action. This has happened with many types of chemical controls for weeds and other pests. Fundamentally, over-reliance on a single weed management approach, for example the extensive use of glyphosate herbicide, every year over many years, places tremendous selection pressure for the evolution of resistance. Weed management professionals understand the causes of resistance and the integrated management practices that can help mitigate the evolution of resistance. Nevertheless, herbicide resistance is still increasing.

Farmers and weed management professionals face significant challenges in implementing sustainable weed management systems. Specific barriers vary widely between individual farmers, crops and regions for a multitude of economic, physical, sociological, and regulatory reasons. For example, a barrier for some weed managers is the expectation that new herbicide products will be constantly introduced to solve the problem. Another challenge is that herbicide-resistant weeds can spread across farms due to seed and pollen movement, which discourages individual farmers from taking action due to a lack of effective community-based networks or organizations that assure them their neighbors will take action as well. Some farmers prioritize short-term profits, even when investments in more sustainable weed management can substantially increase long-term profitability. Government policies designed to reduce soil erosion for example limit the prospects for some farmers of using tillage to improve the sustainability of weed management. Thus, sustainable weed management is a classic example of what social scientists term a “wicked problem”, one in which there is a highly complex set of interactions between natural and human systems that defy simple or straightforward solutions.

Progress on this vexing problem demands a vigorous call to action. All parties to the problem must take ownership and responsibility for finding innovative solutions, and move past the view that this is someone else’s problem or fault. Simply continuing to do what was done in the past guarantees continued failure. Farmers must not be viewed as exclusive actors, but rather collaborators with herbicide manufacturers, farm supply firms, federal and state government agencies, university scientists, crop consultants, commodity and community organizations, and non-governmental organizations. Moreover, agricultural, biological and social scientists must engage with each other, and with the agricultural community, in broad interdisciplinary collaborations.

During the 2nd Herbicide Resistance Summit, presentations will address herbicide resistance development and management from a global perspective, the decision-making process for weed management, economics of proactively managing herbicide resistance, potential for community-based approaches to area-wide weed management programs, incentives and regulatory approaches that should be considered, the need for new and different education and outreach efforts, and a call for greater diversity in non-chemical weed management strategies. Time will be set aside for audience interaction after each

presentation, and at the end of the Summit there will be discussion about specific action items for everyone involved.

Key action items to be discussed at the Summit include:

- Increase awareness that everyone engaged with agriculture has a role in managing herbicide resistance and accountability for that role.
- Develop a herbicide resistance management certification program for weed management decision makers and advisors.
- Reduce regulatory barriers to herbicide resistance management; e.g. conservation compliance.
- Establish prototypical, community-based area-wide herbicide resistance management programs for specific threats; e.g. Palmer amaranth in Iowa.
- Communicate the effect of herbicide resistance management on short and long-term farm profitability.
- Implement programs for scouting and controlling weed escapes.
- Provide short-term financial incentives to reduce the cost of developing and implementing field-by-field herbicide resistance management plans.
- Market/promote consistent and scientifically sound herbicide resistance management programs.
- Incentivize innovation in non-chemical weed management practices.

The Agenda for the Summit will be:

9:00	Welcome by USDA
9:15	Current State, Challenges, Accomplishments
10:00	Understanding the Decision Process
10:45	Break
11:15	Economics of Resistance Management
11:45	Community-Based Approaches to Resistance Management
12:30	Lunch
1:30	Global Perspective on Herbicide Resistance
2:00	Diversifying Weed Management Tactics
2:30	New Approaches to Education and Outreach
3:00	Break
3:30	Incentives and Regulations to Manage Herbicide Resistance
4:00	EPA's Perspective
4:15	Call to Action
5:00	Reception

More information will be provided soon regarding specific topics of conversation at the Summit; this is sent to spur you to register and attend!