For Immediate Release

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Weed Science Society of America Endorses Strategies to Reduce the Threat of Herbicide Resistance to Agricultural Productivity

LAWRENCE, KANSAS – APRIL 30, 2012 – Today the Weed Science Society of America (WSSA) announced that its Board has endorsed a series of best management practices designed to reduce the incidence of herbicide-resistant weeds and the threat they pose to agricultural productivity. Chief among them are recommendations that growers diversify their weed management practices and the types of herbicides they use.

"Today it is common to rely on repeated use of a single class of herbicides," says Rod Lym, WSSA president. "It is clear we need a different approach if we want to protect the future effectiveness of these products, which are important tools for famers."

WSSA plans to present its recommendations during a May 10 scientific summit on herbicide resistance organized by the National Research Council, the operating arm of the National Academy of Sciences. The event will be held at George Washington University in Washington, D.C.

WSSA scientists say the single most important factor contributing to resistance is overreliance on a single herbicide – or group of herbicides – with the same mechanism of action. Weeds most often develop resistance in response to such repeated and exclusive exposure, which renders the herbicide ineffective over time.

The best management practices recommended by WSSA to combat herbicide resistance include common-sense, diversified approaches to weed management – from proactive steps to reduce the number of weed seeds in the soil to the use of well-established cultural practices to suppress weeds through crop competition.

The WSSA's report says there are barriers to widespread adoption of best practices, especially when the associated costs are considered. A short-term focus on less expensive approaches to weed control tends to prevail over concerns for the future economic toll of herbicide-resistant weeds.

"Many in agriculture are in denial," Lym says. "They seem convinced they can ignore the threat of resistance and wait for new herbicides to come along and solve the problem. Yet the discovery of new herbicide chemistries is very rare. A solutions-based approach that incorporates all the tools at hand is essential."

WSSA Recommendations for Other Key Stakeholders

In addition to best practices for growers, the WSSA report also recommends important steps that other key stakeholders should take to address the increasingly urgent problem of herbicide resistance. Examples include:

- Requiring that product labels show each herbicide's mechanism of action – helping growers more readily identify suitable products for a diversified weed management program.
- Developing government and industry incentives to encourage adoption of best practices.
- Using federal, state and industry funding to support education programs and to pursue research that will help everyone learn more about resistance.

"Herbicides are critical to the sustainability of agriculture and to the security of our food, feed, fiber and energy," Lym says. "It is time for us to treat them as the scarce resources they are. Using herbicides in an appropriate way as part of an integrated weed management program can mitigate resistance and preserve herbicide effectiveness for future generations."

The WSSA's recommendations and full report, including supporting scientific references, are accessible online (http://wssa.net/Weeds/Resistance/BMPExecutiveSummary.pdf). The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) supported the development of the document.

About the Weed Science Society of America

The Weed Science Society of America, a nonprofit scientific society, was founded in 1956 to encourage and promote the development of knowledge concerning weeds and their impact on the environment. The Weed Science Society of America promotes research, education and extension outreach activities related to weeds, provides science-based information to the public and policy makers, fosters awareness of weeds and their impact on managed and natural ecosystems, and promotes cooperation among weed science organizations across the nation and around the world. For more information, visit www.wssa.net.

Related Sidebar

Recommendations from the Weed Science Society of America

The Weed Science Society of America (WSSA) says that effective herbicide-resistance management programs must consider *all* available options for effective weed control and use the following best management practices (BMPs):

1. Understand the biology of the weeds present.
2. Use a diversified approach toward weed management focused on preventing weed seed production and reducing the number of weed seeds in the soil seed-bank.
3. Plant into weed-free fields and then keep fields as weed free as possible.
4. Plant weed-free crop seed.
5. Scout fields routinely.
6. Use multiple herbicide mechanisms of action that are effective against the most troublesome weeds or those most prone to herbicide resistance.
7. Apply the labeled herbicide rate at recommended weed sizes.
8. Emphasize cultural practices that suppress weeds by using crop competitiveness.
9. Use mechanical and biological management practices where appropriate.
10. Prevent field-to-field and within-field movement of weed seed or vegetative propagules.
11. Manage weed seed at harvest and post-harvest to prevent a buildup of the weed seed-bank.
12. Prevent an influx of weeds into the field by managing field borders.

In addition to recommending specific BMPs, the WSSA recommends/endorses the following:

1. Reduce the weed seed-bank through diversified programs that minimize weed seed production.
2. Implement an herbicide mechanism of action labeling system for all herbicide products, and conduct an awareness campaign.
3. Communicate that discovery of new, effective herbicide mechanisms of action is rare and that the existing herbicide resource is exhaustible.
4. Demonstrate the benefits and costs of proactive, diversified weed management systems for the mitigation of herbicide-resistant weeds.
5. Foster the development of incentives by government agencies and industry that conserve critical herbicide mechanisms of action as a means to encourage adoption of best practices.

6. Promote the application of full-labeled rates at the appropriate weed and crop growth stage. When tank mixtures are employed to control the range of weeds present in a field, each product should be used at the specified label rate appropriate for the weeds present.
7. Identify and promote individual best management practices that fit specific farming segments with the greatest potential impact.
8. Engage the public and private sectors in the promotion of best management practices, including those concerning appropriate herbicide use.
9. Direct federal, state and industry funding to research addressing the substantial knowledge gaps in best management practices for herbicide resistance and to support cooperative extension services as vital agents in education for resistance management.