

New insights on the control of dicamba-resistant kochia

May 15 2019



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Kochia is a highly invasive weed that is common in the Great Plains, where it has developed resistance to multiple herbicides. Now new dicamba-resistant strains are adding to grower worries.

In a study featured in the latest edition of the journal *Weed Technology*, researchers explored two recently discovered dicamba-resistant kochia populations found in fallow fields near Hays, Kansas. Both were part of a wheat-sorghum-fallow rotation.

Dose-response studies showed moderate to high levels of dicamba resistance. One population was five- to eight-fold more resistant than susceptible kochia plants, while another was three- to five-fold more resistant.

To evaluate control options for dicamba-resistant kochia, researchers compared the results achieved by spring and fall applications of preemergence [herbicide](#) tank mixtures with multiple sites of action. One mixture contained dicamba, pendimethalin and sulfentrazone, while the other contained metribuzin and sulfentrazone.

Though both spring and fall applications provided effective control of dicamba-resistant kochia in fallow fields, spring-applied herbicides provided better extended control. In fact, spring applications reduced emergence by 85 to 95 percent over three to four months.

"To control kochia and sustain the long-term utility of dicamba, integrated weed management strategies are a must," says Vipin Kumar, Ph.D., of Kansas State University. "Applying preemergence tank mixtures with multiple sites of action can be an important part of any stewardship program, especially when combined with tillage, cover crops and other [weed](#) management techniques."

More information: Vipin Kumar et al, Dicamba-resistant kochia (*Bassia scoparia*) in Kansas: characterization and management with fall- or spring-applied PRE herbicides, *Weed Technology* (2019). [DOI: 10.1017/wet.2019.4](https://doi.org/10.1017/wet.2019.4)

Provided by Cambridge University Press

Citation: New insights on the control of dicamba-resistant kochia (2019, May 15) retrieved 23 June 2024 from <https://phys.org/news/2019-05-insights-dicamba-resistant-kochia.html>

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