

Technical Bulletin



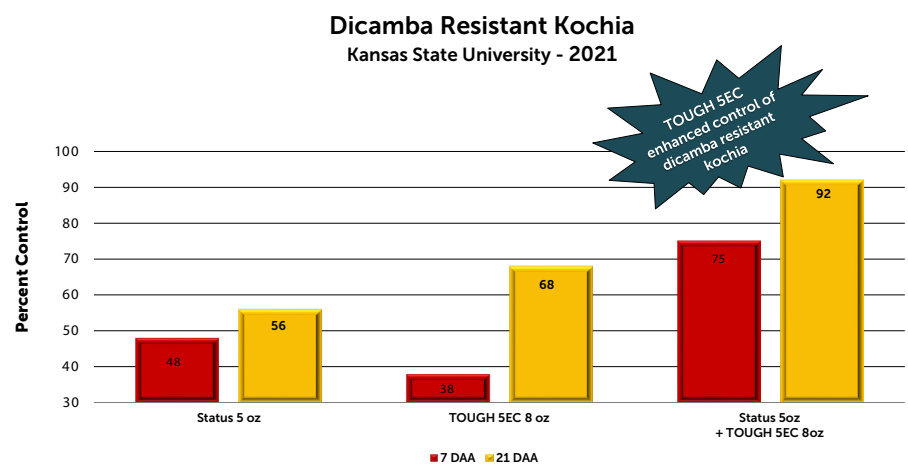
Improves Control of Resistant Kochia

OBJECTIVE

In response to comments from growers and agronomists regarding an increase in resistant kochia populations, and the failure to control with products such as Status®, a multi year study was initiated in 2021, incorporating **TOUGH® 5EC**, into commonly used post emergent herbicide programs. Quickly responding to the aforementioned comments, and reports that adding 8 ounces of **TOUGH 5EC** to 5-6 ounces of Status was providing great control, greenhouse studies got underway in the summer of 2021 evaluating Dicamba resistant kochia and continued in 2022 with atrazine resistant populations. The studies are being conducted at Kansas State University Agricultural Research Center - Hays, in conjunction with Dr. Vipin Kumar and his research team. Below are the results from this phase of the study.

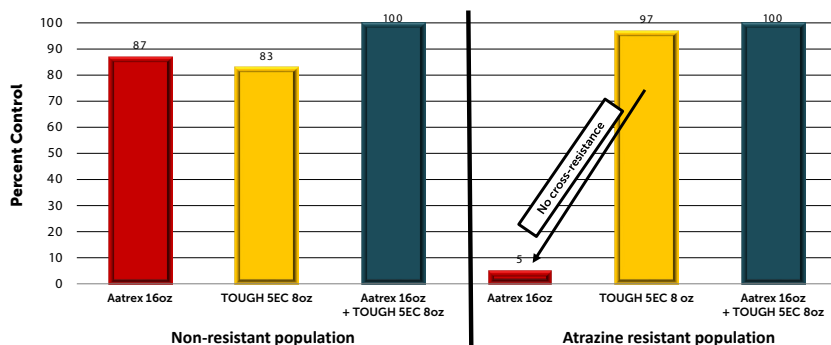
Chart to the right shows the results from the greenhouse trial with 12 pots/treatment. A COC (1% v/v) was added to treatments. Kochia was 3-4 inch tall at time of application.

The data clearly shows that adding **TOUGH 5EC** to Status drastically increased the control of the dicamba resistant kochia.



TOUGH Controls Atrazine Resistant Kochia

Kansas State University – 2022
(28 Days After Application)



You can see the benefit of adding **TOUGH 5EC** to atrazine on non resistant kochia populations taking control from 80+ up to 100% control.

While atrazine and **TOUGH 5EC** are both PSII inhibitors, **TOUGH 5EC** uniquely binds to a different site than atrazine, thus giving control of atrazine resistant weeds.