EVALUATING TOLERANCE OF HPPD-TOLERANT COTTON TO PRE AND POST EMERGENT APPLICATIONS OF ISOXAFLUTOLE

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Abstract

With weed occurrence increasing in cotton fields across the South, BASF has been working toward commercialization of cotton that is tolerant to 4-hydroxyphenylpyruvate dioxygenase (HPPD) herbicides, specifically isoxaflutole (IFT). While weed control is the main goal of this new technology, it is necessary to first evaluate its tolerance to IFT. To assess the tolerance of IFT-tolerant cotton to applications of the herbicide a field study was conducted in 2019 and 2020 in Mariana, AR where IFT was applied as ALITE 27™ at either PRE or POST application timings within a typical season-long herbicide program. When injury and stand counts were assessed for the PRE applications, the treatments that included IFT showed no significant injury or stand loss compared to the nontreated check. Similarly, no significant injury from IFT was observed from the POST application, and no yield loss occurred relative to the weed-free non-treated treatment. Overall, HPPD-tolerant cotton showed little to no symptomology of injury from PRE or POST applications of IFT when added to a typical season-long herbicide program. The addition of IFT to cotton herbicide programs will allow for another herbicide site of action to be used on troublesome weeds and will help mitigate the risk for herbicide resistance evolution, which will aid preservation of technologies that are currently available and effective.