

COTTON RESPONSE TO SIMULATED DRIFT RATES OF SEVEN HORMONAL-TYPE HERBICIDES. Kassim Al-Khatib, Douglas E. Shoup, Dallas E. Peterson, and Mark M. Claassen, Professor, Graduate Research Assistant, Professor, and Professor, Department of Agronomy, Kansas State University, Manhattan, KS 66502.

Cotton response was evaluated when 2,4-D amine, 2,4-D ester, clopyralid, picloram, fluroxypyr, triclopyr, and dicamba were applied at rates simulating spray drift during the 6 to 8 leaf stage at Manhattan and Hesston, Kansas in 2004. Herbicide rates applied represented 0, 100⁻¹, 200⁻¹, 300⁻¹, and 400⁻¹ of the use rates of 561, 561, 280, 561, 210, 561, and 561 g ha⁻¹ for 2,4-D amine, 2,4-D ester, clopyralid, picloram, fluroxypyr, triclopyr, and dicamba, respectively. Injury from 2,4-D amine and 2,4-D ester were similar and was greater than that of other herbicides. The order of phytotoxicity was 2,4-D>picloram>dicamba>fluroxypyr>triclopyr>clopyralid. All herbicides caused characteristic symptoms of hormonal-type herbicide, except triclopyr and clopyralid which caused severe bleaching and chlorosis. By 56 days after treatment, no injury symptoms were observed on plants treated with all herbicides except, all rates of 2,4-D, the three highest rate of picloram, and the highest rate of dicamba. All rates of 2,4-D and the two highest rates of picloram, and dicamba caused severe flower abortion. This research clearly showed that cotton is extremely susceptible to simulated drift rates of 2,4-D.