

Public Abstract

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Title:EVALUATION OF AGROCHEMICAL INTERACTIONS AND APPLICATION TIMINGS IN CORN AND SOYBEAN

Due to the increase in Roundup resistant (RR) weeds, two agrochemical companies have developed soybeans with resistance to 2,4-D and dicamba in an effort to provide growers with new options for the control of RR species. Due to the high sensitivity of non-transformed soybeans to 2,4-D- or dicamba-resistant crops, there is increasing concern about the potential for off-target movement of these herbicides through drift, volatility, and/or tank contamination. Traditionally, applications of foliar fungicides have been made to corn at tasseling (VT); however in recent years some pesticide manufacturers have promoted early-season (V5-V6) fungicide co-applications with an herbicide treatment. Corn is also a nitrogen-demanding crop, where nitrogen uptake is often limited due to soil characteristics and environmental factors. The ability to co-apply agrochemicals allows growers the option of combining desirable products with an herbicide application at no additional application cost. The objectives of this research are to: 1) compare the relative soybean injury of eight synthetic auxin herbicides to one another and 2) determine the effects of V5 herbicide, fungicide, and/or slow-release N co-applications on corn injury and yield. Results from these experiments suggest significant yield reductions can occur if proper application methods are not followed when applying synthetic auxin herbicides. Also, the addition of a fungicide and/or slow-release N fertilizer at V5 is not likely to increase corn grain yields in comparison to an herbicide treatment alone.