

**Quick method for resistance detection in *Bidens pilosa* biotypes**F Gava<sup>\*1</sup>; J Hemckes<sup>2</sup>; L Vargas<sup>3</sup>; D Agostinetto<sup>2</sup><sup>1</sup>BASF South America; <sup>2</sup>UFPEL; <sup>3</sup>EMBRAPA

Weed resistance is an evolving and recurring problem in the different production systems in Brazil. A quick method for resistance identification can help to contain, manage and control resistant biotypes. Field and greenhouse studies with dose-response assays require more than 30 days to be performed and in most cases, the obtained information can only be applied in the following crop season. Thus, the development of quick tests could provide information in a shorter period of time and this information could be used more timely within the growing season and therefore likely reduce yield losses and resistance spread. The aim of this study was to correlate the results obtained by means of dose-response assays using *Bidens pilosa* in germination trials (Petri dishes), greenhouse, and field experiments, to validate a quick method for resistance detection. For this purpose, three dose-response experiments were conducted with the herbicide saflufenacil (Heat), in a germination trial (0,0; 0,071; 0,143; 0,286; 0,571; 1,143; 1,429; 2,143; 2,857 and 3,571 g ha<sup>-1</sup> of Saflufenacil), greenhouse trial (0,0; 0,5; 1,0; 2,0; 4,0; 6,0; 8,0 and 12 g ha<sup>-1</sup> of Heat) and field experiment (0 0; 10; 20; 30; 40; 50; 60; 70 80 and 100 g ha<sup>-1</sup> Heat). The trial design was completely randomized with four replications. We evaluated the efficacy of weed control 3, 7 and 14 days after herbicide application. There was significant correlation in the germination trial and the field. Thus highly correlated results suggest that, for saflufenacil, germination tests could be conducted to allow quick resistance detection and early field intervention to minimize the negative impact of resistant weeds.