

## **Droplet spectra generated by the interaction between spray solutions containing 2,4-D choline and glyphosate sprayed with air induction nozzles.**

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The mixture of 2,4-D and glyphosate increase the spectrum of weed control. Together with lower volume applications (below 100 L ha<sup>-1</sup>), both procedures represent strategies widely used in Brazil. The aim of this study was to evaluate droplet spectra generated by spray solutions containing 2,4-D choline salt and glyphosate sprayed with different air induction flat fan nozzles at 80 L ha<sup>-1</sup>. Four solutions used considered: a ready mixture of 2,4-D choline salt and glyphosate (Enlist Duo Colex-D) and three tank mixtures containing 2,4-D choline salt (Enlist Colex-D) and glyphosate formulations (Zapp QI, Roundup Transorb R and Glizmax Prime). Label rates of the herbicides were sprayed with four 11002 air induction flat fan nozzles: AIXR (Teejet), CVI (Jacto), GA (Hypro) e ADIA (Magnojet), all at 2.8 bar. The volume median diameter (VMD), the volume percentage of droplets smaller than 105 µm (V105) and the relative span (RS) were obtained using the VisiSizer P15 system (Oxford Lasers Ltd/UK). The statistical analysis showed that there was interaction between the spray solutions and nozzles for VMD (F = 93.7, p<0.0001), V105 (F = 294.48, p<0,0001) and RS (F = 38.88, p<0,0001). In this way, the droplet spectrum generated by each nozzle was dependent upon the type of spray solution sprayed, as well as the opposite was also true. This result allowed us to conclude that the characterization of the quality of spraying and the drift potential from all treatments was dependent directly from each interaction between the spray solution and the nozzle.

**Palavras-chave:** 2,4-D Choline salt, wind tunnel, spray nozzle.