Abstract

Pesticide spray technology aims the uniform deposition of products in the target, with minimal losses to the soil or drift. Thus, the objectives of this study were to evaluate the 2,4-D Amine deposition, applied on weeds in different operational conditions, and compare two different measurement techniques: analysis of 2,4-D by high performance liquid chromatography and tracer analysis using spectrophotometry. The experimental design was randomized blocks with six treatments and four replications, as a 3 x 2 factorial model: three spray nozzles (drift guard twin flat-fan, turbo flat-fan and air induction turbo flat-fan) and two spray volumes (80 L ha⁻¹ and 130 L ha⁻¹). The spray process was studied by the deposition on the weeds, losses to the soil, and losses by exo-drift. According to the results, it can be concluded that the correlation coefficient between the results of weed deposition from the two methodologies was low. Coarse droplets can be used for weed desiccation, without compromising target coverage. The correlation was significant to the soil loss. Air induction turbo flat-fan nozzles promoted greater herbicide loss to the soil. Drift was not detected with the methodologies employed.

Keywords

Pesticides - Application, Phytosanitary, Spray equipments, Pesticides.