

Evaluation of spray drift in potatoes using various spray delivery systems

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Spray deposition has previously been studied within a potato canopy. In a follow-up study, spray drift was evaluated using three treatments from the previous research plus two treatments encompassing an additional grower standard and a spray drift standard. Treatments included (1) an air-assisted Gambetti sprayer with full-cone nozzles applying spray at a rate of 400 litres/ha, (2) a rotary atomizer spraying system (Proptec) applying spray at a rate of 200 litres/ha, (3) a drop-leg application spraying above (25%) and below canopy (75%) at 260 litres/ha, (4) a conventional hydraulic nozzle spray boom with Guardian AIR™ Twin nozzles applying 200 litres/ha and (5) a conventional hydraulic nozzle spray boom with standard 11003 nozzles at 300 litres/ha. Data were normalized per nozzle and application rate (200 litres /ha). With the exception of the Gambetti application, results indicated a similar pattern with very low deposition beyond 10 m downwind. The Gambetti results showed very low deposition near 0 m and spray cloud reaching 40 m, but it is believed that the turbulent airflow from the Gambetti sprayer adversely affected the deposition samplers through a high level of disturbance, so more data are necessary for further analysis of this effect.