

P-110 (4)**HOW NOZZLE TYPE, BOOM HEIGHT AND WIND SPEED AFFECTING ON SEDIMENTATION SPRAY DRIFT AS MEASURED IN A WIND TUNNEL**

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Crop protection product (CPP) may be subjected to spray drift. This study is describe tests conducted at IRSTEA-Montpellier in France to determine how nozzle type, boom height and wind speed affecting on sedimentation spray drift as measured in a wind tunnel. Laboratory tests were conducted with different experimental setups using three nozzle types were flat fan nozzle 110 02, flat fan air induction nozzle (single jet) 110 02 and flat fan air induction twin jet nozzle (twin jets)110 02; three boom height were 40, 60 and 80 cm and three wind speeds were 2, 4, and 7.5 ms⁻¹. All experimental measurements are carried out using an operating pressure of 2.5 bar. Air temperature and relative humidity were 20° and above to 90% respectively. Boom position was in frontal position (perpendicular with wind speed). Spray drift was detected using distribution test bench (5cm width*10cm depth) until 9m length. The main results showed the effect of wind speed on sedimentation spray drift is visible on the both of peak value of deposition and position with the distance from the nozzle. In additions, the results showed a significant difference between flat fan nozzle and air induction nozzles. Also, the results revealed no significant difference between single jet and twin jets. As well as, the results indicates that the effect of boom height on sedimentation spray drift was varied depending on nozzle type and wind speed. These results will contribute to a large study on the interaction between the factors that mentioned above and drift control in both laboratory and field tests.

Keywords: spray drift, nozzle type, boom height, wind speed, wind tunnel