RESEARCHES REGARDING THE FLOW RATE UNIFORMITY OF THE TARAL 200 PITON TURBO SPRAYING MACHINE FOR DISEASE AND PEST CONTROL IN VINEYARDS AND INTENSIVE ORCHARDS

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Abstract

Pest and disease control is one of the most important technological links, because damages caused by them can be very large. Fruit production can be completely compromised if the application of plant protection products is not done correctly and on time. Chemical control is the main method used in plant protection. To do this, specially adapted spraying equipments are used. Sprayers are equipped with different types of nozzles, made from different materials resistant to corrosion and hydro abrasion produced by the toxic products, leading to the de-calibration of the spray nozzles. Thus the flow rate of chemical solution was affected, increasing the consumption. In order to avoid this phenomenon it is recommended to test the nozzles before each campaign, by measuring the flow rate of the liquid. With this idea in mind the TARAL 200 PITON TURBO spraying equipment was tested; the procedure consisted in collecting the liquid distributed by the nozzles during two minutes; the amount of collected solution was than measured with a graduated cylinder. The experiments were carried out in four repetitions for three rotation speeds of the power take-off shaft (310, 460 to 540 rpm) and different pressures of the liquid (0.2, 0.4, 0.6, 0.8, 1.0, 1, 2 to 1.4 MPa). After determining the flow rate uniformity, it was found that the best result was obtained for rotation speeds of the power take-off shaft of 540 rpm.

Key words: nozzles, spraying machine, TARAL 200 PITON TURBO.