EQUIPMENTS FOR REDUCING SOIL POLLUTION WITH PESTICIDES FOR PEST AND DISEASE CONTROL IN VINEYARDS

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Abstract

Phytosanitary treatments are used for pest and disease control in vineyards; specialized machines and equipments are used for performing the treatments. Most of the equipments use the principle of hydraulic or/and pneumatic spraying of chemical solutions. In the process of spaying a certain part of the solution (especially at the first treatments) is lost and flows to the ground, thus leading to the chemical pollution of soil. In order to diminish this effect a special equipment was designed and constructed; its aim is to collect the droplets that do not reach the leaves. The equipment comprises two vertical panels, which are retractable and can be positioned on either side of the vineyard rows; the panels collect the chemical solution that was not retained by the plantation foliage. The recovered solution is then sent back into the tank of the spraying machine. Tests were performed in order to evaluate the efficiency of the equipment, aiming to establish the dependency between the solution retrieval rate and the position of the panels. For these tests the machine was equipped with flow meters for measuring the total amount of liquid drawn from the tank and the amount of liquid recovered by the means of the vertical panels.

Key words: spraying equipment, solution retrieval, soil pollution