

ABSTRACT

DETERMINATION OF PERFORMANCE OF AIR DEFLECTOR FOR AIR ASSISTED SPRAYER

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In this study, conventional air-assisted sprayer which is widely used in the vineyards of Aegean Region was compared with conventional sprayer with special deflection head on the lower part of the air outlet. The differences of the deposition of the tracer dye, the spray drift on the ground and the coverage rates on the water sensitive papers were evaluated.

On the field trials conventional air-assisted sprayer and two conventional sprayers with different deflection heads (TS 2014 and TS 2014a) on the lower part of the air outlets were used with the same working pressure, size and type of nozzle (Hollow cone nozzle) and the same application rate.

During the trials deposition of the Sodium Fluorescent was used as tracer dye and was analyzed in spectrophotometer. According to the field measurements, TS 2014 had the best results on the collectors which were placed on the lower part of the vine plants according to the uniformity of distribution and drift amount on the ground.

When the results of the parts of upper right interference and upper center interference of the target plant were evaluated, the conventional air-assisted sprayer had better coverage rate and deposition of the tracer dye than the other sprayers.

Key words: Air assisted sprayer, Vineyard spraying, Spraying uniformity, Sprayer deposits, Image analyze, Droplet measurement.