

Effect of Spraying Dispersion Using UAV Spraying System with Different Height at Paddy Field

Abstract

This study investigated the UAV spraying system height in relation to spraying uniformity and dispersion. The operating heights of the UAV spraying system at heights of 1 m, 1.5 m, and 2 m from the hollow cone nozzles were investigated within a wind speed of 2.8 m/s. The tests were to determine the spray uniformity and dispersion on the water sensitive paper that was placed on the paddy plant. The results of water droplet samples were evaluated using ImageJ software. The results show the droplet distribution at 1.5 m height has high values for average droplet density, which is 162.7 deposits/cm² at the top area and 161.8 deposits/cm² at the bottom area. The percentage of coverage was also high, at 55.21% at the top area and 51.4% at the bottom area.

Keywords

Average Coverage; Droplet Density; Heights; Spraying System; UAV