

Effect of Adjuvant as Rainfastness and Herbicidal Activity of Glyphosate Against *Cynodon dactylon* and *Cyperus rotundus* Weeds

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Abstract

Glyphosate is a highly effective nonselective post emergence herbicide useful for combating the presence of a wide variety of unwanted vegetation, including agricultural weeds. Glyphosate in ionic form has relatively higher water solubility, especially when formulated as salt, and during the uptake period immediately after application glyphosate is vulnerable to being washed off the foliage by rain or by overhead watering or irrigation. Field experiments were conducted to examine the effect of adjuvant on the rainfastness of glyphosate against *Cynodon dactylon* and *Cyperus rotundus* weeds. The effect of rain and adjuvants were determined by % weed control after treatment given to the treated weeds. The 20 mm rainfall with interval of 2 and 4 hrs after treatment washed off entire glyphosate from the foliage and resulting poor weed control (15%). However addition of organosilicone adjuvant to glyphosate achieved higher weed control even after simulation of 20 mm rainfall with interval of 2 and 4 hrs after treatment. The addition of 0.1% organosilicone adjuvant improving the rainfastness of glyphosate by achieving effective control of *Cynodon dactylon* and *Cyperus rotundus* weeds under different simulated rainfall with different intervals.

Key Words: Adjuvant, Efficacy, Glyphosate , Rainfastness

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