عنوان مقاله:

Optimizing Efficacy of Clodinafop-propargyl with Adjuvants on Little Seed Canary Grass (Phalaris minor Retz.) Control

محل انتشار:

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خلاصه مقاله:

Optimizing the herbicide dose by the addition of adjuvants is an acceptable way to increase performance and to reduce the risk of side effects from herbicides. Therefore, to detect a suitable adjuvant for clodinafoppropargyl against little seed canary grass (Phalaris minor Retz.). Greenhouse experiment were conducted as factorial in completely randomized design with four replications for compare effect of citogate surfactant, castor oil, rapeseed oil and detergent liquid. The treatments consisted herbicide factor in 6 levels (0, 8, 16, 32, 48 and 64 g a i h-1) and adjuvant factor at 3 levels (0, 0.1 and 0.2) percent by volume (%v/v), respectively. More over, in experiment separately as factorial in completely randomized design with 4replications,theeffect of adjuvant concentration sat 8 levels (0, 0.01, 0.05, 0.1, 0.15, 0.2, 0.25 and 0.3) percent by volume (% v/v) on surface tension of aqueous solutions of the adjuvants was determined. Based on results of experiment, the minimum and maximum surface tension was obtained from citogate and rapeseed oil solutions respectively. All additives increased clodinafop-propargyl herbicide performance in dry weight and survival percentage. The amount ofED50decreased and relative potency (R) increased. Most of the other adjuvants, citogate surfactant in creasedclodinafop-propargyl herbicide performance and then was castor oil. After that it rapeseed oil and liquid detergent was too late. With increasing adjuvant concentration of 0.1 to 0.2 (% v/v) foliar activity of the tested herbicide (potential relative) increased.

کلمات کلیدی:

Liquid detergent, Surface tension, Surfactant, Vegetable oil