ISBN: 978-85-64093-07-2

Efficacy and selectivity of diclosulam 840 g kg-1 (CoactTM herbicide) for weed management in ratoon sugarcane

Pedro Jacob Christoffoleti[1], Marcelo Nicolai[2], Caio Vitagliano Santi Rossi [3]

University of São Paulo - ESALQ/USP[1], Agrocon [2], Dow AgroSciences - Brazil[3]

Residual herbicides are the main tool for weed management in sugarcane in Brazil due to the long critical weed control period that the crop requires; however, changes in the cropping system with mechanical harvest has imposed weed shifts in the weed spectrum, so new herbicides must be tested in the crop. Therefore, the objective of this research was to test the efficacy and selectivity of diclosulam in sugarcane to control important weeds of this crop. Two field trials were conducted utilizing a randomized complete blocks design, in a ratoon cane of sixth harvest, in pre emergence conditions of the weeds, testing diclosulam, a commercial formulation Coact^{TM} herbicide 840 g a.i. kg^{-1}, at the rates of 52.92; 70.56; 88.2 and 105.84 g of diclosulam ha^{-1}. Soil of the trials was of sandy texture, containing 78.8% of sand and 9.8% of clay and the herbicide was sprayed by backpack sprayer, CO_2 pressurized, at 150 L ha $^{-1}$ spray volume, being the plots sprayed in November 25, 2014. In the next three months after herbicide application it rained 135.1 mm. The sugarcane variety in the trials was SP83-2847. Results from both trials indicated that all Coact^{TM} tested rates were selective, since none of the treatments, even at the higher rates exhibited any phytotoxicity symptoms, and the final yield were similar statistically to the handweeded check plot. Results from one trial indicated that *Ipomoea grandifolia*, *Digitaria horizontalis/D. nuda* (combined infestation of both species of crabgrass) had more than 90% of control at the rates of 70.56 g of diclosulam ha^{-1} or higher, however *Brachiaria plantaginea* was controlled at 52.92 g of diclosulam ha^{-1} or higher. The other trial indicated that the rate of 70.56 g of diclosulam ha^{-1} or higher controlled effectively *D. horizontalis*/*D nuda*, but *Cyperus rotundus* needed 88.2 g of diclosulam ha^{-1} or higher. Then, Coact^{TM} herbicide is an option for weed management in sugarcane, with selectivity and broad spectrum weed species control.

Palavras-chave: Herbicides, sugarcane, diclosulam, pre emergence,