

Efficacy evaluation of the herbicide halosulfuron methyl alone and mixed with acetochloro in weed control in sweet Pepper *Capsicum annum* L. in the Maracaibo Plain, Zulia state, Venezuela

W. Gutiérrez², C. Medrano², J. L. Báez²,
H. Pinto³, Y. Villalobos² y B. Medina²

Abstract

This study was carried out at the Zulia University experimental farm "Ana Maria Campos". The area belongs to a very dry tropical forest region with sandy loam soil. The objective was to evaluate the efficacy of the herbicide halosulfuron methyl alone and mixed with acetochloro on weed control in sweet pepper *Capsicum annum* L. The experimental design was a randomized block with 8 treatments: halosulfuron methyl 125, 100 and 75 g a.i Ha⁻¹, halosulfuron methyl 100 g a.i Ha⁻¹ + acetochloro 13,5 g a.i Ha⁻¹ and halosulfuron methyl 75 g a.i Ha⁻¹ + acetochloro 13,5 and 18,0 g a.i Ha⁻¹ including a weeded and un-weeded control and 4 replications. The experimental unit was a plot with 3 rows of 5 m long and 0,6 m between rows. The statistical analysis did not show significant differences for the variable toxicity grade. The herbicide halosulfuron methyl at 75, 100 and 125 g a.i Ha⁻¹ did not cause pepper injury when applied 1 week after transplanting. The variable percentage weed control (PCM) as weed weight showed highly significant differences for treatments (P<0,01) at 7 weeks after applications. The best result (PCM) was obtained with 2 hand-weedings. The herbicide halosulfuron methyl at 15 days after application (DDA) showed weed control higher than 90% however at 30 and 45 DDA the weed control percentage decreased to 73% and 64% respectively. The herbicide mixture with acetochloro presented better weed control effectiveness than halosulfuron methyl, but no significant differences were detected (P<0.05). Also significant differences were obtained for plant weight (fresh) between herbicide treatments and non-weeded plots.

Key words: *Capsicum annum* L., herbicides, weed control and halosulfuron methyl.

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2. Departamento de Botánica, Facultad de Agronomía, La Universidad del Zulia. Apto. 15205, Maracaibo, ZU 4005. wernergutierrez@cantv.net.

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