

## EVALUATION OF NICOSULFURON FOR WEED CONTROL OF MAIZE (*Zea mays* L.)

D.G.G.S. Dharmarthne<sup>1</sup>, S. Nissanka<sup>2</sup>, N. Senanayaka<sup>1</sup>

<sup>1</sup>Department of Plant Sciences, Faculty of Agriculture, Rajarata University of S Lanka, Puliyankulama, Anuradhapura, Sri Lanka.

<sup>2</sup>Opex Agro (Pvt) Ltd, 127, W.A.D.Ramanayaka Mawatha, Colombo, Sri Lanka

Weeds are a serious constraint to maize production in Sri Lanka. Nicosulfuron is a new selective herbicide for post-emergence control of weeds in maize. Field experiment was conducted to evaluate the response of maize cultivars (30Y87) to three

herbicides, Glyphosate 36% SL (4000 ml ha), Pendimethalin 30% EC (3500 ml ha), Nicosulfuron 4% SC and Nicosulfuron 75% WDG. Four concentrations of

Nicosulfuron were used (Nicosulfuron 4% SC 1250 and 1500 ml ha, Nicosulfuron 75% WDG 50 and 60 gha) and compared with hand-weeded and non-weeded control. and

Glyphosate were applied one day after the planting. Pendimethalin Nicosulfuron was applied 15 days after the plant emergence. Results showed that the manual weeding and all herbicide treatments had lower weed density and biomass, and higher grain yield than the un-weeded control. All treatments of Nicosulfuron produced significantly higher maize yield than other two herbicides and the unweeded control. Comparing the effect of weed biomass and weed dry weight at 4 and 6 weeks after planting on the final yield of maize revealed that Nicosulfuron at the rate

of 1500 ml ha showed significantly higher yield than manual weeded and un-weeded treatments. Highest maize grain yield of 11,166 kg ha was obtained from plots treated with 1500 ml ha of Nicosulfuron. Results suggest that Nicosulfuron has the potential as a selective herbicide to control grasses, sedges and broadleaves (*Borreria ocymoides*, *Leucas zeylanica*, *Celosia argentic*, *Eleusine indica*, *Dactyloctenium aegyptium* and *Cyperus rotundus*) in maize cultivation in Sri Lanka.

**Key words :** Glyphosate, Maize ( *Zea mays* L.), Nicosulfuron, Pendimethalin