

Session 11

WEED MANAGEMENT IN CROPS AND NON-AGRICULTURAL LAND

Elephant grass response to amino-acid synthesis inhibitor herbicides (24)

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The research for new sources of renewable energy has been growing steadily due to the increasing of global energy demand. The elephant grass (*Pennisetum purpureum* Schum.) is considered one of tropical forages with higher dry matter yield potential that can range from 10 to 80 t ha⁻¹ per year. Besides being an excellent animal feed, used in dairy production, the elephant grass can also be suitable as raw material for alcohol production and generation of electricity. One of the major limitation of the implementation and conduct of elephant grass fields is related to weed interference. Experiments were conducted at different locations in Brazil to evaluate the tolerance of elephant grass plants to amino-acid synthesis inhibitor herbicides in order to provide subsidies to weed control in elephant grass crop. The herbicide treatments were as follow (g ha⁻¹): metsulfuron-methyl (7.8 and 15.6), chlorimuron-ethyl (15 and 30), halosulfuron (112.5 and 225), ethoxysulfuron (150 and 300), nicosulfuron (60 and 120) and an untreated check. The herbicides metsulfuron-methyl, chlorimuron-ethyl, halosulfuron and ethoxysulfuron caused mild symptoms of injury in elephant grass plants even in higher doses. The younger leaves presented slight chlorosis that disappeared at 21 days after herbicides application without reducing forage biomass. The nicosulfuron caused considerable damage on elephant grass plants with forage productivity losses. The symptoms consisted of leaf discoloration and wrinkling of the middle portion of the blade of the central leaves of the whorl that were undergoing expansion at the time of application. The herbicides metsulfuron-methyl, chlorimuron-ethyl, halosulfuron and ethoxysulfuron were selective to elephant grass plants, being a potential practice for controlling weeds on elephant grass fields. The nicosulfuron caused serious injury on elephant grass pasture.

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