

TOXICITY OF THE HERBICIDE CLOMAZONE ON DUCKWEED LEMNA VALDIVIANA

The duckweed Lemna valdiviana is commonly founded colonizing small shallow waters (lakes on the lowland in south Brazil. This organism may have been affected by herbicide input into the lakes from aerial application and/or drainage office paddy fields. Clomazone (2- (2-chlorophenyl)methyl-4,4-dimethyl-3-isoxazolidinone) is one of the herbicides more frequently used as post-emergence in rice paddies. For this work assays were carried as EC50(96h) semi-statics tests with aseptic culture. The sterile fronds were obtained from material harvest on the paddy fields, and the concentration of Clomazone ranged from 14.0 to 229.0 mg/l. Two procedures were considered: diluted in water and sprayed applied Clomazone. The observed phytotoxic effects were evaluated by growth rate(Kt), duplication time (Td), frond yield, plant yield, mortality, chlorophyll a and b and protochlorophyll concentration. The EC50 values obtained to sprayed Clomazone (Kt=31.7; Td=31.9) were significantly small than to diluted Clomazone (Kt=46.4; Td=47. 3). These data suggest that aerial route is more hazardous than diluted procedure. Presence of chlorotic, necrotic, abnormal and died frond were common at the 114.0 and 229.0 mg/l treatment. Recuperation test corroborated the evidence that the sprayed procedure were more deleterious and L. valdiviana doesn't recovery his reproductive ability at the 114.0 and 229. 0 mg/l treatment.