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Sensitivity of broccoli (*Brassica oleracea var. cymosa*) hybrid seedlings to selected soil applied herbicides under simulated thermoperiods and humidity of Magaliesburg

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Weeds contribute to low yield in broccoli crop production because of its competitive nature to the crop. The sensitivity of broccoli to vegetable recognized herbicides is of huge concern. This study was conducted to determine the sensitivity of direct seeded broccoli hybrid to four pre-emergence herbicides at seven application rates, Metolachlor at (0.4, 0.8, 1.2, 1.6, 2.0, 2.4 and 2.8 l/ha), Clomazone (1.0, 2.0, 3.0, 4.0, 5.0 6.0 and 7.0 ppm/ha), Oxadiazon (0.25, 0.5, 1.0, 1.5, 1.75, 2.0 and 2.5 l/ha), Halosulfuron (0.015, 0.025, 0.040, 0.055, 0.070, 0.085 and 0.11/ha) and an untreated non-herbicide control which was replicated three times in a greenhouse pot experiment. The trial was conducted between June to September 2017 and the experiment was carried out in a Randomized Complete Block Design. Clomazone and Metolachlor herbicides caused unacceptable injury (greater than 25%) at the proposed use dose of each herbicide applied at planting assessed at 7, 14 and 28 Days After Treatment (DAT). Oxadiazon caused greater visual injury at 7 and 14 DAE and reduced plant vigor by 50% compared to the non-treated control. Halosulfuron caused a 10% visual injury. Broccoli hybrid was tolerant to halosulfuron at 0.055 and 0.070 l/ha.

Biography

Emmanuel Ifeanyi Egbueze holds a bachelor degree in Agriculture Honors and Master of Science in Agriculture. He is currently working on his PhD in Agriculture. He has worked on various fields like seed technology, agronomy, plant pathology and most recently weed management.

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