



Tolerance of egusi-melon [*Citrillus colocynthis* (L.) schrad] and susceptibility of weeds to Primextra doses

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ABSTRACT

Objective: The study was to evaluate melon tolerance and weeds susceptibility to Primextra {Primextra-Gold 660g/L (atrazine (370g/l) + S-metolachlor (290 g/l SC))}.

Methodology and results: The Field studies were conducted in 2013 and 2014 planting seasons at Faculty of Agriculture Farm, University of Port Harcourt, Rivers State, (latitude 04° 54' 538"N, and longitude 006° 55' 329"E; 17m above sea level), Nigeria. Seven rates of primextra (0.25, 0.50, 0.75, 1.00, 1.25, 1.50, 1.98 kg ai ha⁻¹), applied as pre-emergence were compared with a untreated control (no primextra). The 8 treatments were fitted into a Randomized Complete Block Design, replicated three times. Melon was planted 3 seeds per hole at a spacing of 1m x 0.5m (20,000plants/ha). Result from this study showed that both melon and weeds were susceptible to all Primextra rates but melon tolerated low doses of Primextra in the range of 0.25 – 0.75 kg ai/ha than higher rates. Weeds were more susceptible to higher Primextra rates between 1.0 and 1.98 g ai/ha. Susceptibility of weeds to Primextra rates of 0.25 – 0.75 kg ai /ha and 1.0 – 1.98 kg ai/ha accounted for about 76.2 % and 74 % weed control efficiency respectively. Results also showed that melon tolerated Primextra doses of 0.25 to 0.75 kg ai /ha and thus reached a mean ground cover of ≥ 40 % to ≥ 80 % when compared to the untreated plot. Melon fruit yield from the Primextra treated plots had about 23.5% (1659 Kg/ha) yield advantage over the untreated control plot (1269kg/ha). Mean fruit yield with the herbicide rates were as follows: 1959.5 kg/ha (0.25- 0.75 kg ai/ha); 1430 kg/ha (1.0 – 1.98 kg ai/ha) and 974.5kg/ha (1.50 -1.98 kg ai/ha). Susceptibility of weeds to Primextra increased as application dose increased. The implication of this result is that melon may find a tolerable dose of Primextra-Gold for integration in maize-melon cropping systems.

Conclusion and application of results: Farmers can intercrop either simultaneously egusi-melon with maize or relay egusi-melon into maize and use primextra for pre-emergence weed control, at a dose not greater than 0.25-0.75 kg ai/ha for good yield and acceptable weed control. This can be applied in maize-melon cropping systems with melon either simultaneously or in relayed intercropping to reduce the effect manual weeding on melon especially during flowering and fruiting.

Keywords: PrimextraGold, melon, Tolerance, weed