ABSTRACT

Grain sorghum demand for industrial and domestic uses has triggered increased production of sorghum. Field experiment was conducted at Egerton University Njoro, Kenya to determine the most effective herbicide(s) for weed management in sorghum. The experiment was carried out in a randomized complete block design (RCBD) with nine treatments replicated three times. The treatments consisted of four pre-emergence herbicides namely Lumax® (Mesotrine, Metolachlor, Terbuthylazine), Primagram® (Atrazine, S-metolachlor), Dual gold® (S-Metolachlor) and Sencor® (Metribuzin). In addition, three post-emergence herbicides namely 2,4-D (2,4-D amine salt), Maguguma® (Atrazine, S-metolachlor) and Auxio® (Bromoxnil, Tembotrine) were included. Positive and negative controls comprised of hand weeding and no weeding, respectively. Pre-emergence treatments were applied immediately after sowing while post-emergence treatments were applied 30 days after sowing. Weed density and biomass were determined at 30 and 60 days after sowing. Means were separated according to least significant difference (LSD) whenever the herbicide effects were significant ($P \leq 0.05$). Analysis of variance revealed significant ($P \leq 0.05$) differences in the effect of the treatments evaluated. When used as pre-emergence herbicide, Sencor (Metribuzin) was more effective in reducing weed density by 96 and 79% relative to un-weeded and hand weeding treatments, respectively. The post-emergence 2,4-D herbicide reduced weeds by 90, 43 and 26%. Sencor and 2, 4-D were more effective in managing weeds in sorghum and currently, could be the best option for farmers in Kenya and elsewhere. Key words: Sorghum, herbicides, Sencor, weeds