

Abstract

This experiment was conducted to evaluate the use of some herbicides in sesame weed control. The design was randomized complete block with 18 treatments and 3 replications performed at Agricultural Research Station, Ferdowsi University of Mashhad, Iran in 2014 growing season. Treatments were included full season hand weeding, full season of weed competition with sesame, 2 times hand weeding in 25 and 45 days after sesame planting respectively and the application of Terifluralin, Metribuzine, Oxiflufen, Pendimethalin, Eradican, Oxadiazon and Haloxyp-R-methyl herbicides at their recommended and reduced dose application plus hand weeding at 25 days after sesame planting. The results showed that applied treatments affected significantly ($P \leq 0.01$) on sesame yields and weeds control. Based on the results, the highest sesame seed yield (3548 kg. ha^{-1}) was recorded in full season hand weeding treatment, with no significant difference with applying of Pendimethalin herbicide as pre-emergence (1.5 l. ha^{-1}) as well as hand weeding 25 days after sesame planting ($3297.2 \text{ kg. ha}^{-1}$) applying of Oxiflufen herbicide as pre-emergence (750 ml. ha^{-1}) plus hand weeding 25 days after sesame planting ($3233.4 \text{ kg. ha}^{-1}$). According to the results of the experiment, application of Pendimethaline herbicide as pre-emergence (1.5 l. ha^{-1}) plus hand weeding 25 days after sesame planting and the application of Oxiflufen as pre-emergence (750 ml. ha^{-1}) as well as hand weeding at 25 days after sesame planting have selective properties in sesame chemical weed control.

Key words: Eradican, Oxyfluorfen, Pendimethalin, Terifloralin, Metribiuzin, hand weeding