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Weed Management in Sesame (*Sesamum indicum* L.)

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ABSTRACT

The seed yield loss of sesame due to weeds is estimated to be 35 to 70%. To avoid the losses, timely weed control is required. It has been observed that two hand weedings or hand weeding plus hoeing at 20 and 30 DAS gives higher yield and weed control efficiency. Use of pre-emergence herbicides Pendimethalin at 0.75 to 1.25 kg ai ha^{-1} or Alachlor at 1.5 to 2.0 kg ai ha^{-1} or Oxyflorafen 0.15 to 0.25 kg ai ha^{-1} found to give higher weed control efficiency and seed yield of sesame and economical. Application of these preemergence herbicides along with post emergence herbicides Imazythpyr or Quizolfop-ethyl found to give better weed control and increase in yield of sesame.

Keywords: Weed management, Pendimethalin, yield

Sesame (*Sesamum indicum* L.) is a herbaceous annual plant belonging to the Pedaliaceae family. It is cultivated for its protein-rich seed and its edible oil which is a rich source of UFAs (Elleuch *et al.* 2007). Sesame seeds are also an important source of dietary fiber and micronutrients such as minerals, lignans, tocopherols and phytosterols. In India, Sesame (*Sesamum indicum* L.) occupies an area of 19.42 lakh ha with a production of 0.58 million tons and productivity of 303 Kg ha^{-1}. This accounts respectively 6.1 and 2.8 percent of area and production of oil seeds in India (Anonymous, 2017).

Under irrigated conditions crop suffers highly due to weeds and the crop is more susceptible to weeds during initial stages which will limit the yield of sesame (Bennett *et al.* 2003). The major weeds observed in sesame crop are *Cyperus rotundus*, *Cynodon dactylon*, *Echinochloa crusgalli*, *Echinochloa colona*, *Dinebra Arabica*, *Digitaria longifolia*, *Dactylactenium aegyptium*, *Cleome viscose and Crotalaria medicaginea*. Yield losses due to weed infestation varies from 35-70% in sesame (Dharam *et al.* 1992). Losses due to uncontrolled weed growth in sesame have been reported as high as 50 percent (Dungarwal *et al.* 2006). Zubair *et al.* (2011) showed that, insufficient weed control during early growth period of sesame causes yield reduction between 35.5% to 70.0%.

Mechanical/manual weeding is difficult during the early- seedling stage of sesame. Cultural practices are often effective for enhancing weed competition in crops (Khaliq *et al.* 2012). To avoid the yield loss, weed management should be done in such a time so that minimum weed infestation is achieved in sesame (Duray and Hazra, 2013). Weeds can be controlled by

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