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The Combination Effect of MSMA and Diuron in Controlling Glyphosate Resistant *Eleusine indica* in Oil Palm Plantation

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Goosegrass (*Eleusine indica*) is one of the weeds that has problem associated with herbicide resistance. *E. indica* is normally controlled by herbicides such as glyphosate. The intensive use of herbicides has resulted in the weed developing herbicide resistance. The ability of the weed to develop resistance to various registered chemical herbicides has caused major problems to farmers in various cropping areas because of availability of fewer choices of herbicides in the market. A range of herbicides was evaluated for the control of *E. indica* in nursery and field trials. This study indicates that the combination of alternative herbicides mixture (MSMA 39.5%w/w + Diuron 7.8%w/w) + Paraquat dichloride 13%w/w (3.5 L/ha + 3 L/ha) and Glufosinate ammonium 13.5%w/w can effectively control the *E. indica* at four weeks after treatment with 100 per cent *E. indica* killed. Field trial results also revealed that combination treatments of herbicide mixture (MSMA 39.5%w/w + Diuron 7.8%w/w)(5L/ha), (MSMA 39.5%w/w + Diuron 7.8%w/w) + Paraquat dichloride 13%w/w (3.5 L/ha + 3 L/ha) and (MSMA 39.5%w/w + Diuron 7.8%w/w) + Glufosinate ammonium 13.5%w/w (3 L/ha + 1.5 L/ha) can effectively control *E. indica* five weeks after application compared to Glufosinate ammonium, Paraquat dichloride and Glyphosate isopropylammonium.

Keywords: *Eleusine indica*, glyphosate, MSMA, Diuron.

