Mutual effect of different crops with different densities of horse purslane (Trianthema portulacastrum L.)

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Abstract

In Pakistan the extensive use of herbicides not only created the herbicide tolerance in weeds but also pose environmental threats. Different alternative techniques can be effectively utilized for successful weed management. Crops have the potential to suppress the seasonal weeds. Keeping in view the possible suppressive potential of crops, in a research trial different summer crops (cotton, maize, sorghum, numgbean and pearl millet; 2 plants pot-1) were sown in the pots in sole and with horse purslane (2, 4 and 6 plants pot-1). Horse purslane itself was also sown in pots in sole for comparison. Data were collected using standard procedures and analyzed by using analysis of variance techniques. Different crops were observed having differential response against horse purslane. Highest inhibition in shoot length, fresh and dry weights of horse purslane was observed in millet and sorghum. Cotton had least suppressive effect horse purslane parameters. Horse purslane also has competitive ability with crops. Highest adverse effect was recorded against mungbean shoot length (20-39%), shoot fresh weight (22-47%) and shoot dry weight (19-47%). Sorghum and millet were least affected by horse purslane. Sorghum shoot length, shoot fresh and dry weights were suppressed by 6-19%, 3-17% and 10-18% respectively and millet shoot length, shoot fresh and dry weights were suppressed by 3-23%, 7-18% and 9-22% respectively. It is concluded that pearl millet and sorghum are the best crops for this weed suppression. These crops can be included in sequential cropping (crop rotation) and intercropping system for better horse purslane management.

Keywords: Mutual effect, summer crops, horse purslane, allelopathic interaction, weed suppression

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