Allelopathic influence of *Digitaria sanguinalis* on germination and seedling growth of some selected crops

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Digitaria sanguinalis (Crab grass) is a common weed in cultivated fields. This study was conducted to investigate any allelopathic influence of dry weed leachates, root exudates, fresh plant extracts and dried weed residues of *D. sanguinalis* on black gram *(Vigna mungo)*, green gram *(V. radiata)*, cowpea *(V. sinensis)*, ground nut (*Arachis hypogea*) and cotton (*Gossypium arboreum*) by laboratory and glass house experiments. Seedlings were grown in petridishes with the addition of leachates, exudates and extracts of *D. sanguinalis* and the growth was measured. Six grams of dry parts of *D. sanguinalis* were taken and 2.5 mL leachate per petridish was added. Five hundred grams of soil was used to grow *D. sanguinalis* and 2.5 mL exudate per petridish was added. Glass house experiments were carried out using weed residues.

Each experiment was conducted according to a completely randomised design. Leachates from dry parts of *D. sanguinalis* did not reduce significantly ($p=0.05$) the germination significantly in most crops but they inhibited seedling growth of most of crops. Extract of fresh weed was toxic to different crops under laboratory conditions at varying degrees. Root exudates of the weed did not reduce the germination of crop plants significantly. But it reduced seedling growth of various test plants significantly ($p<0.05$). In glass house experiments, surface placed weed residues significantly delayed seed germination and inhibited shoot growth in all tested crops. Germination of cotton was significantly reduced by this treatment. Decayed residues of *D. sanguinalis* were toxic at 15 g decayed residues/ kg of soil. Germination and seedling growth of tested crop plants were significantly reduced by this treatment. Germination of cowpea was not significantly reduced by this treatment. This study showed that *D. sanguinalis* has some allelopathic influence on various crops; cotton being the most sensitive.

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