

THE INFLUENCE OF HERBICIDES ON GROUNDNUT CROP, WEEDS AND ASSOCIATED SOIL MICROFLORA

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ABSTRACT

Four herbicides (two pre-emergence and two post-emergence) were used for weed control in a field experiment with groundnut CV BARD 479. Highest groundnut plant weight at 8 weeks after sowing and best weed control was recorded in pendimethalin. *Cyperus rotundus* increased in density when the grass weeds were initially suppressed in all the herbicide treatments. *Eleusine indica* has shown a positive response to metribuzin and pendimethalin. All weedicides reduced total microbial population by 10-100 times in the presence of groundnut. Population of rhizobia-like microbes and free-living diazotrophs was least affected by pendimethalin. Metribuzin negatively affected the nodule number while pendimethalin was intermediate in this respect. Effect on nodulation recorded was not microbe mediated but probably affected by the plant physiological condition due to the weedicides. Nomenclature: pendimethalin, N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine; fenoxaprop-P-ethyl, (D+)-ethyl-2-(4-(6-chloro-2-benzoxazolonyloxy)-phenoxy)propanoate; metribuzin, 4-amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazine-5(4H)-one; tralkoxydim, 2-(1-(ethoxymino)propyl)-3-hydroxy-5-(2,4,6-trimethylphenyl)cyclohexane-1-enone.