

Comparative phytotoxic effects of aerial and root aqueous extracts of *Sida Cordifolia* L. on germination and seedling vigour performance of Lettuce, tomato and carrot

ABSTRACT

A comparative study was conducted to see the effect of *Sida cordifolia* L. aerial and root extracts on seed germination and seedling vigour performance of *Lactuca sativa* (Lettuce), *Lycopersicon esculentum* (Tomato) and *Daucus carota* (Carrot). Four treatments were prepared 50, 25, 10 and 0 g/l (control). The result showed a significant decrease in germination and growth in all the treatments and regardless of concentrations lettuce was observed to be more susceptible in all extracts. Leaf extract exhibited the highest phytotoxicity followed by root while shoot extract produced the least effect. Inhibition index showed decrease in growth appeared to be concentration dependent. Liquid chromatography mass spectrum analysis of leaf and root extracts revealed presence of aliphatic acids notably stearic and palmitic which may act as inhibitory agents.

Keyword: Allelopathy; Phytochemicals; Malvaceae; Extract; *Sida cordifolia*