

ALLELOPATHIC INFLUENCE OF LANTANA CAMARA ON A LEGUMINOUS CROP

The aim of the present study is to screen out the allelopathic (inhibitory) effect of an exotic weed Lantana camara which has become invasive and forms monospecific thickets in roadsides, forest margins and crop field edges. In fact, allelopathic inhibition exerted by a species in natural environments turns it aggressive which could influence the community structure and composition leading to loss/ displacement of biodiversity. To test this hypothesis, we selected Lantana as a donor weed and mung bean (Vigna radiata) as the target species. Results of our preliminary study showed that Lantana exerts strong inhibitory effect on mung bean. The various concentrations [1:1, 1:2 and 1:3 (w/v)] of leaf extracts of Lantana reduced percentage germination, speed of germination, TTC stainability and field emergence capacity with extended T_{50} values of mung bean seeds. Levels of protein, insoluble carbohydrate, activities of catalase and dehydrogenase enzymes were significantly reduced in seeds pretreated with leaf extracts of Lantana and the effect was concentration dependant. Thus, from overall results it can be concluded that various inhibitors present in Lantana can impart strong inhibitory effect on mung bean. These results confirm that the leaves of Lantana possesses allelochemicals which rendered the allelopathic action on mung bean seeds.
