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Evaluation of the Effects of Some Medicinal Plants Extracts on Seed

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Abstract : In the present study, the allelopathic effects of Eruca sativa, Mentha peprinta, and Coriandrum sativum aqueous extracts, prepared by 25 gm and 50 gm of fresh leaves dissolved in 100 ml of double distilled water in addition to the crude extract (100%). The final concentrations were 100 %, 50%, 25% and 0% as control. The extracts were tested for their allelopathic effects on seed germination and other growth parameters of Phaseolous vulgaris. Laboratory experiments were conducted in sterilizes Petri dishes with 5 and 10 day time interval for seed germination and 24 h, 48 h and 72 h for radicle length on an average of 25°C. The effects of different concentrations of aqueous extract were compared to distilled water (0%). 25% and 50% aqueous extracts of Eruca sativa and Coriandrum sativum caused a pronounced inhibitory effect on seed germination and the tested growth parameters of the receptor plant. The inhibitory effect was proportional to the concentration of the extract. Mentha peprinta extracts, on the other hand, caused an increase in germination percentage and other growth parameters in Phaseolous vulgaris. Hence, it could be concluded that the aqueous extracts of Eruca sativa and Coriandrum sativum might contain water-soluble allelochemicals, which could inhibit the seed germination and reduce radicle length of Phaseolous vulgaris. Mentha peprinta has beneficial allelopathic effects on the receptor plant.

Keywords : Phaseolus vulgaris, Eruca sativa, Mentha peperinta, Coriandrum sativum, medicinal plants, seed germination
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