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In Agronomy (Crop Physiology)

The potential allopathic effect of aqueous and ethanolic extract of wild poinsettia (*Euphorbia heterophylla*) aerial part on germination and seedling establishment of rapeseed (*Brasica napus*), *Avena ludoviciana* and *Phalaris minor*

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difference was observed between the type of solvent or organ, and in general, the dry weight of Phalaris leaves decreased by about 50% by all treatments.The dry weight of Phalaris stem and leaf area decreased between 31 and 65% and 17 and 22%, respectively. According to field results, the inhibition of alcoholic extract at a dose of 2 grams was higher than that of alcoholic extract at a dose of 4 grams, and in some cases, the high dose of alcoholic extract not only did not decrease the growth of Phalaris, but also increased it. Also, the results of field investigations showed that leaf area and dry weight of oat leaves were affected by all three factors of solvent type, organ and concentration, but plant height and dry weight of oat stem were only affected by concentration and influenced by solvent type and organ. did not take In the case of wild oat weed, the alcoholic leaf extract with a dose of 4 g/ha had the highest inhibition. According to the field results, rape seed yield decreased from 20 to 32% due to the investigated treatments, and the largest decrease was observed in the concentration of 4 grams (32%) and 2 grams (31%) of alcoholic extract. The biological performance of rapeseed also decreased between 11 and 16%, similarly, the highest decrease was observed in the alcoholic extract, and no significant difference was observed between the dose of 2 and 4 grams. Also, in this experiment, secondary metabolites such as saponin, steroid, and terpenoid were detected in the aqueous and alcoholic extracts of Ferfion weed, and the quantitative measurement of the amount of phenol and flavonoid showed that the amount of these metabolites was higher in the aqueous and alcoholic extracts of the stem. It was from leaves.

Key words: allelopathy, canola, weed, ferfion