HERBICIDAL ACTIVITY OF SOME BIOAGENTS IN COMPARISON WITH CHEMICAL HERBICIDES USED ON WHEAT

By

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B. Sc. Agric. (Plant Protection), Ain Shams Univ. (2008)

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ABSTRACT

Amira Salah Mahmoud Othman: Herbicidal Activity of Some Bio agents in Comparison With Chemical Herbicides Used on Wheat .Unpublished M.Sc. Thesis, Department of Plant Protection, Faculty of Agriculture, Ain Shams University, 2016.

The aim of the present study is to evaluate the herbicidal activity allelopathic plant extracts namely *Sorghum bicolor L* and *Oryza sativa L* on wheat and wheat weeds (wild oat, canary grass) under local conditions. The biocidal activity of the tested extracts was compared with two of the most common herbicides i.e. diclofop- methyl and clodinafop- propargyl used on wheat. Also, residues of the tested herbicides in wheat plant and soil were determined. Evaluation the herbicidal and phytotoxic effects of the tested materials were carried out under laboratory, green house and semi field conditions, and the following parameters were measured :((1)Germination percentage of wheat.(2)Seedling shoots and root length.(3)Dry weight of treated wheat, wild oat and canary grass.(4)Chlorophyll content.(5)Plant height.(6)Plant numbers in experimental plots.(7)Spike length and spike weight of treated wheat.

Generally, the obtained results indicated that no adverse effects of the tested extracts against the measured parameters of wheat productivity and yield. On the other hand such parameter showed promising herbicidal activity of aqueous and methanolic extracts of sorghum and rice straw against wild oat and canary grass especially aqueous extract of sorghum at concentration of 20%. In comparison of the activity of this extract with the two tested herbicides the obtained data revealed similar action for both. Determination of the herbicides residues in wheat leaves and soil indicated rapid degradation and dissipation of the two compounds.

Key words: plant extracts, allelopathic plants, Biochemical herbicides, wild oat, canary grass.

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