



Efficiency of some weed control treatments and some bio-stimulants on growth, yield and its components of faba bean and associated weeds.

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Abstract : Field evaluation of the efficiency of five weed-control treatments (Unweeded, oxadiargyl, butralin and prometryn and two hand hoeing) and seven bio-stimulants levels (folic acid at the rate of 5,10 and 15 mg/L, and seaweed extract 50, 100 and 150 mg/L as well as and untreated) and their interactive effects on faba bean growth, yield, yield attributes and determine the protein and total carbohydrate percentages were performed in two successive seasons at the agricultural experimental station of the National Research Centre, Nubaria, Egypt. Two hand hoeing achieved the highest weed depression expressed in the lowest dry matter of broadleaved, narrow-leaved and total weeds. Reduction in dry matter of total weeds was (93.92 and 92.27%) compared with unweeded treatments. Two hand hoeing was the most superior treatment in increasing plant height, shoot dry weight, leaf area index and SPAD value at 60 and 90 days from sowing as well as yield, yield attributes and chemical composition of faba bean seeds followed by that of oxadiargyl treatments. Application of two hand hoeing and oxadiargyl provided 46.62 and 27.76% more grain yield than weedy check. Folic acid at the rate of 15 mg-1 or seaweed extract at the rate of 150 mg-1 enhanced growth, yield and chemical composition of faba bean seeds. The interaction between weed control and bio-stimulants had significant effect on total dry weight of weeds, leaf area index, seed yield and protein percentage in seeds. Two hand hoeing or oxadiargyl herbicide integrated with Folic acid at the rate of 15 mg-1 or seaweed extract at the rate of 150 mg-1 application produced the maximum values of leaf area index and seed yield. It could be concluded that two hand hoeing or herbicide oxadiargyl combined with folic acid application up to 15 gm L⁻¹ could effectively improve growth and productivity of faba bean under sandy soil conditions.

Keywords : folic acid, seaweed, herbicides, yield and protein.

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