

**EFFECT OF IRRIGATION NUMBER UNDER DIFFERENT
LEVELS OF PHOSPHORUS AND POTASSIUM ON YIELD
AND SEED QUALITY OF FIELD BEAN (*Vicia faba* L.)**

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ABSTRACT

The effect of irrigation number with combination of phosphorus and potassium fertilizer levels on seed yield, yield components and quality of field bean was studied in two field experiments at the Agricultural Research and Experimental Center, Faculty of Agriculture, Moshtohor Zagazig University, Benha branch during 1992/93 and 1993/94 seasons.

The results indicated that plant height, seeds weight/plant, 100-seed weight and seed yield/feddan significantly increased by increasing the number of irrigation in both seasons, whereas the number of branches and pods per plant, absorption percentage and phosphorus percentage in seeds of faba bean significantly increased by increasing number of irrigation in one season out of two. Two irrigations gave the highest significantly protein content in seeds of faba bean during the two seasons. On the other hand, increasing irrigation to 4 watering had no significant effect on potassium percentage.

The plant height, number of branches/plant, number of pods/plant and potassium percentage in seeds of faba bean were significantly affected by the application P and K combinations in the second season only. Increasing P+K fertilization levels significantly increased pod weight/plant, seeds weight/plant, seed yield/feddan and absorption percentage in both seasons. The highest seed yield/feddan was obtained by adding 16 P_2O_5 +24 K_2O in the first season, 32 P_2O_5 +zero K_2O in the second one. However no significant difference between the combination of P and K level on 100-seed weight, protein content and phosphorus percentage in seeds of faba bean in both seasons.

The plant height and seed yield/feddan were significantly affected by the interaction between irrigation number and combination