

Research Note :

RESPONSE OF FRENCH BEAN (*Phaseolus Vulgaris* L.) CV. ARKA SUVIDHA TO DIFFERENT NUTRITION DOSES

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ABSTRACT: French bean (*Phaseolus vulgaris* L.) is one of the most important vegetable crops which is grown for its tender green pods. The experiment was conducted at Vegetable Research Farm of K.R.C.C.H. Arabhavi. French bean cultivar Arka Suvidha was taken for study. The experiment was laid out in randomized block design with two replications and eight treatments. Observations were taken for five different parameters. Results varied significantly to all the traits. T₄ (40:60:50 kg/ha NPK + 25 t/ha FYM + 2 kg/ha B) was found superior among all the treatments for all the traits. The results of this experiment depict that application of NPK at 40:60:50 kg/ha + 25 t/ha FYM + Boron @ 2 kg/ha was beneficial for French bean cultivation in Arabhavi.

Keywords : French bean, nutrients, nitrogen, pod yield, Arka Suvidha.

French bean (*Phaseolus vulgaris* L.) is one of the most important vegetable crops which is grown for its tender green pods. It has 22-25% protein in its dry seeds and 1.00 to 2.40% in green pods (Anon., 1). Many workers have tried to standardize nutrition requirement for this crop. Nutrition requirement depends on the genotype and agroclimate. So, this experiment was laid out to find the best dose of nutrients for Arabhavi situation.

The experiment was conducted at Vegetable Research Farm of K.R.C.C.H. Arabhavi. French bean cultivar Arka Suvidha was taken for study. The experiment was laid out in randomized block design with two replications and eight treatments (Table 1). Each treatment had two rows of plants. Observations were taken for different parameters at frequent intervals. The crop was grown as seed crop and hence harvesting was done for seed and not as vegetable. Irrigation, weeding and plant protection measures were done according to the POP of University of Agricultural Sciences, Dharwad. Analysis was done using Randomized Complete Block Design for various growth and yield parameters (Sundarraaj *et al.*, 6).

Observations were taken for five different parameters (Table 2). Results varied significantly to all the traits. T₄ (40:60:50 kg/ha NPK + 25 t/ha FYM + 2 kg/ha Boron) was superior among all the treatments for all the traits. Plant height ranged from 20.80 cm to 30.63 cm and T₃ (30.63 cm) had

Table 1 : Different nutrient combinations used for the experiment.

Treatment	Composition
T ₀	Control (Without fertilizer)
T ₁	POP of UASD (62.5:100:75 kg/ha NPK + 25 t/ha FYM)
T ₂	40:60:50 kg/ha NPK
T ₃	40:60:50 kg/ha NPK + 25 t/ha FYM
T ₄	40:60:50 kg/ha NPK + 25 t/ha FYM + Boron 2 kg/ha
T ₅	80:120:100 kg/ha NPK
T ₆	80:120:100 kg/ha NPK + 25 t/ha FYM
T ₇	80:120:100 kg/ha NPK + 25 t/ha FYM + Boron 2 kg/ha

highest value followed by T₄ (26.70 cm). The values for number of branches per plant and number of leaves per plant ranged from 6.30 to 25.39 and 5.72 to 14.40, respectively. For both the traits, T₄ had maximum values. The results are in confirmity with Dubey *et al.* (3).

The values for number of pods per plant and pod length (cm) ranged from 8.42 to 20.34 and 10.55 to 18.00, respectively. T₀ (control) had minimum number of pods per plant (8.42), whereas T₄ had the maximum (20.34 pods) followed by T₇ where the number of pods were 18.63. Application of T₃ (40 : 60 : 50 kg NPK/ha) produced longest pod (18.00 cm) followed by T₄ (15.82 cm). Smallest pods (10.55 cm) were produced in control.

Table 2 : Effect of different combinations of nutrients on vegetative and yield characters.

Treatment	Parameters				
	Plant height (cm)	Number of branches	Number of leaves	Number of pods per plant	Pod length (cm)
T ₀	21.85	7.58	5.72	8.42	10.55
T ₁	23.90	9.29	6.10	14.64	14.64
T ₂	25.55	10.23	6.60	13.55	13.55
T ₃	30.63	6.30	6.30	15.82	18.00
T ₄	26.70	25.39	14.40	20.34	15.82
T ₅	24.90	6.70	6.70	14.15	14.15
T ₆	20.80	16.23	6.90	15.28	15.28
T ₇	21.60	18.22	11.76	18.63	14.12
Mean	24.49	12.49	8.06	15.10	14.51
CD (P = 0.05)	3.96	1.23	2.09	2.49	2.02

Being a legume crop, French bean does not require more amount of nitrogenous fertilizers (Singh *et al.* 5; Dwivedi, 4). The recommended dose of fertilizers by UAS, Dharwad also found to be effective with considerable vegetative characters and yields potential. The benefits of boron (B) in small quantities is reported by Dwivedi (4) and the similar results were observed in this experiments also proving the beneficial effects of B. Application of extra amount of fertilizers did not resulted in any yield enhancement.

The results of this was experiment depict that application of NPK at 40:60:50 kg/ha + 25 t/ha FYM + 2 kg Boron /ha was beneficial for French bean cultivation in Arabhavi. Similar results were also found by Datt *et al.* (2).

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