

SHORT COMMUNICATION

EFFECT OF SOIL AMENDMENT ON THE YIELD OF *ASPARAGUS OFFICINALIS* L.

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Soil amended with sand and farm yard manure in different ratio gave more spear yield than the control. Sand, soil, farm yard manure in the ratio of (1 : 1 : 1) gave the highest yield of marketable spears/hectare.

Asparagus officinalis L. commonly known as Asparagus is an important vegetable crop extensively used in the canning industry throughout the World. In India, the cultivation has just started in Kashmir Valley. Very little is known about the composition of soil which can prove more productive. Effect of soil mixture on seedling development of asparagus cultivar viking KB 3 in container was undertaken by E.B. Faher (1990).

The present investigations were carried out for three years (1988-90) at the experimental farm of Regional Research Laboratory, Srinagar to study the effect of soil amendment on the growth pattern of asparagus. The material consisted of open pollinated seed collected from certain selected strains. The seeds were sown in nursery in May, 1985 and transplanted into the plots of size 3×4 metres which were previously ploughed 4 feet deep and the top soil removed so as to enable to amend the soil as planned in the experiment in October, 1985. The plot consists of three rows. Each row consisted of eight plants with row to row and plant to plant distance of 1×0.5 m respectively. The experiment was carried out in randomised block design with three replication for three years. Six treatments were (i) Control (ii) Sand, soil (1 : 1), (iii) Soil, FYM (1 : 1), (iv) Sand, FYM (1 : 1), (v) Sand, Soil, FYM (1 : 1 : 1), (vi) Sand, Soil, FYM (9 : 1 : 4). A dose of NPK 60,100, and 80 Kg/ha were given after the harvesting of spears every year. 15 plant/plot were

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Table I. Growth of *Asparagus officinalis* under different soil treatments

Character	Year	Treatment						C.D. at 5%
		I	II	III	IV	V	VI	
Plant height (cm)	1988	188.26	189.46	185.66	197.10	179.36	173.06	N.S.
	1989	187.00	183.00	178.30	187.30	175.20	176.30	N.S.
	1990	195.80	197.90	179.72	184.50	196.66	200.90	N.S.
	Pooled	190.35	190.12	181.24	189.65	183.74	183.42	N.S.
Number of stalks/plant	1988	7.90	7.70	9.70	8.80	8.00	6.10	N.S.
	1989	5.20	7.90	6.80	6.30	5.50	4.50	N.S.
	1990	5.30	4.90	6.80	6.90	5.50	5.30	N.S.
	Pooled	6.13	6.83	7.76	7.73	6.33	5.30	N.S.
Stalk diameter (cm)	1988	1.14	1.11	1.14	1.27	1.13	1.25	N.S.
	1989	1.21	1.33	1.21	1.37	1.38	1.54	N.S.
	1990	1.50	1.65	1.50	1.66	1.69	1.72	N.S.
	Pooled	1.28	1.36	1.28	1.43	1.39	1.50	N.S.
Number of spears/plant	1988	5.40	4.98	7.17	6.10	6.59	5.37	N.S.
	1989	5.50	5.30	6.20	4.70	6.40	4.70	N.S.
	1990	5.45	5.15	6.68	5.40	6.49	5.03	N.S.
	Pooled	5.45	5.15	6.68	5.40	6.49	5.03	N.S.
Weight of spear (g)	1988	16.38	20.00	21.19	22.97	22.26	23.28	4.12
	1989	21.28	25.81	23.25	26.04	27.12	26.38	3.54
	1990	18.83	22.92	22.22	24.50	24.69	24.83	3.76
	Pooled	18.83	22.92	22.22	24.50	24.69	24.83	3.76
Spear diameter (cm)	1988	1.36	1.41	1.41	1.49	1.39	1.51	N.S.
	1989	1.56	1.58	1.61	1.54	1.68	1.57	N.S.
	1990	1.46	1.49	1.51	1.51	1.53	1.54	N.S.
	Pooled	1.46	1.49	1.51	1.51	1.53	1.54	N.S.
Weight of spear/plant (g)	1988	88.45	99.75	150.45	140.11	146.69	125.04	N.S.
	1989	117.04	136.79	144.18	122.80	173.56	123.98	N.S.
	1990	102.74	118.27	147.30	131.24	160.12	124.51	N.S.
	Pooled	102.74	118.27	147.30	131.24	160.12	124.51	N.S.
Calculated yield/ha (Q)	1988	12.38	13.96	21.06	19.61	20.53	17.50	—
	1989	16.38	19.15	20.18	17.19	24.30	17.36	—
	1990	14.38	16.56	20.62	18.39	22.42	17.41	—
	Pooled	14.38	16.56	20.62	18.39	22.42	17.41	—

(i) Control, (ii) Sand, soil (1 : 1), (iii) Soil, FYM (1 : 1),
(v) Soil, FYM, Sand (1 : 1 : 1), (vi) Sand, Soil, FYM (9 : 1 : 4).

selected at random for recording observations on morphological and yield characters. Spears were harvested every year after the establishment on 19th April for about two months (30 harvest). Per hectare yield of marketable spears were commuted by multiplying per plant yield with plant density at 14,000 plant/ha.

The weight of spears was significant for both the years and every treatment showed higher weight of spears as compared to control (Table I). Spear diameter though non-significant showed increase over control. The weight of spear/plant was the highest in treatment V (160.12 g) followed by treatment III (147.30 g). The calculated yield/ha was also highest in treatment V (22.4q) as compared to control (14.38q). Thus there was an increase of 55% of marketable spears/ha over control.

REFERENCE

- Faher, E.B. (1990). New possibilities in raising *Asparagus* seedlings. *Asparagus Research Newsletter* (91) : 24-30.