

## EFFECT OF N P K FERTILISERS IN CONJUNCTION WITH "SPARTIN" ON THE GROWTH AND YIELD OF BRINJAL

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Brinjal is a common vegetable, widely cultivated in Kerala State. The yield per hectare of this crop is very low and there is considerable scope to increase the production by proper fertilisation. Not much work has been reported regarding the response to fertilisation of this crop in Kerala State. Similarly, information available in India on the response of secondary and trace elements to this crop is also meagre. The present investigation was therefore undertaken to study the response of Brinjal to various levels of N P K and "Spartin-A", a proprietary product of Swati Industries, Bombay, containing secondary nutrients like Ca, Mg, and S and trace elements Fe, Cu, Mn, Mo, B, Zn, and Si.

### Materials and Methods

The experiment was conducted at the Agricultural College Farm, Vellayani. The experiment was laid out in a partially confounded  $3^3 \times 2$  factorial design with a single replication. The N P K has been confounded and the higher order interaction was taken as error. The treatments were Nitrogen: 75, 100 and 125 kg N/ha ( $N_0$   $N_1$   $N_2$  respectively) Phosphorus: 100, 150, and 200 kg  $P_2O_5$ /ha ( $P_0$   $P_1$   $P_2$  respectively) Potash: 50, 75 and 100 kg  $K_2O$ /ha ( $K_0$   $K_1$   $K_2$  respectively) Spartin: 0 and 300 kg/ha ( $S_0$   $S_1$  respectively) Cattle manure at 4000 kg/ha was applied in all the plots. The entire quantity of  $P_2O_5$ ,  $K_2O$  and 1/3 nitrogen and spartin were applied after mixing with cattle manure and one week before transplanting. The remaining quantity of nitrogen was applied in two equal doses on the 30th and 45th days after transplanting.

### Results and discussion

The data on flower production, number of fruits per plant and the yield of fruits are given in Tables 1, 2, 3 respectively. The highest level of nitrogen viz. 125/ha gave significantly higher number of flowers than the two lower levels. The effect of nitrogen on flower production at 75 kg N/ha and 100 kg N/ha were on par. Similar increases in flower production due to increased doses of nitrogen were reported by Assami and Kodata (1933), Patnaik and Farooqui (1964) and Gnanakumari and Satyanarayana (1971). The different levels of phosphorus had no effect in flower production. However the results show an increasing trend in flower

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## ON THE OCCURRENCE OF *SELEPA DOCILIS* BUTLER AS A PEST OF BRINJAL IN MYSORE STATE

*Selepa docilis* Butler (Lepidoptera : Noctuidae) was observed for the first time in 1968 in Mysore State (at Hebbal, Bangaiore) infesting brinjal. This has been previously recorded on brinjal in other parts of India (Cherian & Pillai 1942, Isaac 1944, Pruthi 1946). The moths were found to lay pear-shaped eggs measuring 0.62 x 0.67 mm; the surface had longitudinal ribs with cross striations. The egg hatched in 6 - 7 days. The first instar larva, 1.45 mm long was white with black head and long hairs all over the body. The larva fed on the leaves and underwent 5 instars, the 1st instar taking 5-6 days and the remaining 4 instars taking 4 days each. Full grown larva was thick and stout with the head pale yellow and mottled with black patches. Green bands were present laterally and pinkish bands dorsally on the body. Second and 9th abdominal segments were black dorsally. Body was covered with long white setae. Larval period on the whole occupied 21 - 22 days. Pupation took place on the underside of leaves in a dirty white cocoon for a period of 8 - 10 days. Total life cycle occupied 35 - 39 days in June-July.

Damage to brinjal was caused by the larvae scraping the leaf surface in the early stages and feeding on the whole leaf tissues leaving the veins in the grown up stages.

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**Table 3. Mean yield of fruits in Kg/ha**

Levels of nutrients	N	P	K	S
0	19497.1	19991.7	21063.4	20671.8
1	20733.1	20610.0	18878.8	20671.8
2	21702.3	21393.2	22052.7	-
F test	N. S	N.S	N S	N S
SE	933.63	933.63	933.63	764.63

Patnaik and Farooqui (1964) and Gnanakumari and Satyanarayana (1971). The beneficial effect of graded doses of nutrients in increasing the number of flowers and fruits might have together contributed to an increase in yield. Potash and spartin had no effect on the yield of fruits.

### Summary

The experiment to study the effect of graded doses of nitrogen, phosphorus, potash and spartin was conducted in the Agricultural College Vellayani. The results showed that flower production was increased significantly due to the effects of increasing doses of nitrogen. There was an increasing trend in the yield of brinjal due to incremental doses of nitrogen and phosphorus. Potash and spartin had no effect on the yield of brinjal.

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