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EFFECT OF SPLIT APPLICATION OF N AND K ON BANANA VAR: 'NENDRAN'

Adequate fertilization is essential for the growth and yield of Banana (Simmonds, 1966). It is estimated that an average crop removes 300 Kg. N, 80 Kg. P_2O_5 and 800 Kg. K_2O from a hectare of land (Veeraraghavan, 1972). Dugain (1959) reported that the fractional application of N was more profitable than infrequent application of larger quantities. So far, no work has been done in Kerala to study the response of banana to split application of fertilizers. Hence a trial was initiated to study the effect of fractional application of nitrogen and potash on the growth and yield of banana var: 'Nendran'.

The experiment was conducted at the Banana Research Station, Kannara during the crop season 1976—77 under irrigated condition. The soil belonged to clayloam and contained 0.69 per cent organic carbon, 15 Kg. available P_2O_5 and 126 Kg. available K_2O per hectare and was of a pH of 5.2. The experiment was laid out in randomised block design with eight treatments and replicated three times. The levels of nutrients tried were 225, 225 and 450g of N, P_2O_5 and K_2O respectively per plant per year. Nitrogen and Potash were applied in splits as detailed below.

Full dose N and K 30 days after planting, 90 days after planting and 150 days after planting, N and K in two equal split doses at 30 and 150 days after planting, N and K in three equal split doses at 30, 90 and 150 days after planting, N and K in four equal split doses at 30, 70, 110 and 150 days after planting, N and K in five equal split doses at 30, 60, 90, 120 and 150 days after planting and N and K in six equal split doses at 30, 55, 80, 105, 130 and 150 days after planting, Phosphorus was applied in single dose i.e. 3 days after planting. Uniform suckers of four months age were planted giving spacing of 2 m x 2 m in September. Cultural operations, irrigations and plant protection measures were adopted as per the package of practices.

Vegetative parameters and yield characters recorded are presented in Table 1. The data indicate that there is statistically significant difference among the treatments in respect of the height of the plants, girth of pseudostem and bunch weight. Tr. 4 (N and K in two equal splits at 30 and 150 days after planting) recorded the maximum values. The number of fingers/bunch was also highest in this treatment. These results are in conformity with the findings of Summerville (1944) who had suggested that the early phase of growth in banana is critical for later development and to ensure maximum vigour; minerals should be abundantly supplied at the time or soon after planting and at

Table 1 Mean data on Vegetative Parameters and bunch characters

Treatments	Height at flowering (Cm.)	Girth at flowering (Cm.)	Total No. of leaves	Total duration taken for flowering (days)	Average bunch weight	No. of hands/bunch	No. of fingers/bunch
Full N & K 30 days after planting	270.4	51.7	31.4	237	8.07	4.9	43.7
Full N & K 90 days after planting	244.0	53.6	34.7	232	7.97	4.7	47.0
Full N & K 150 days after planting	234.9	51.8	32.3	232	8.05	5.3	48.2
N & K in two equal split doses at 30 & 150 days after planting	293.4	53.8	32.5	234	9.73	5.1	48.5
N & K in three equal split doses at 30, 70, & 150 days after planting	301.3	58.1	33.1	228	7.55	4.9	40.9
N & K in 4 equal split doses at 30, 70, 110 & 150 days after planting	239.5	54.6	31.3	224	6.86	4.8	45.8
N & K in five equal split doses 30, 60, 90, 120 and 150 days after planting	293.4	55.6	33.0	228	6.30	4.7	40.3
N & K in 6 equal split doses at 30, 55, 80, 105, 130 & 150 days after planting	289.1	54.1	32.7	227	6.60	4.6	39.5
C. D. at 5% level	12.89	1.9	NS	NS	1.97	NS	NS

N S Not significant.

the time of initiation of suckers which is generally round about five months after planting in respect of 'Nendran' Banana. Simmonds (1958) had reported that most of the bio-chemical changes take place at the time of flower initiation in banana. Since the flower initiation in Nendran banana takes place in the fifth month after planting, abundant supply of nutrients at this stage turns out to be beneficial. Thus application of half the dose of nitrogen and potash at this stage create more favourable conditions for the plants to get maximum nutrients leading to enhanced productivity. Croucher *et al* (1940) had also reported about the beneficial effects of application of potash and phosphate twice yearly. Gregory (1952) found that application of nitrogen in two split doses was more beneficial than frequent dressings.

സംഗ്രഹം

നേത്രവാഴയ്ക്ക് പലതവണകളായി നൈട്രജനും പൊട്ടാഷും നൽകുന്നതുകൊണ്ടുള്ള പ്രയോജനം മനസ്സിലാക്കുന്നതിനുവേണ്ടി 1976-77 ൽ കണ്ണൂർ വാഴ, കൈതച്ചക്ക ഗവേഷണ കേന്ദ്രത്തിൽ നടത്തിയ പരീക്ഷണത്തിൽനിന്നും രാസവളങ്ങൾ രണ്ടുതവണകളായി കൊടുക്കുന്നതാണ് നല്ലത് എന്ന് കാണപ്പെട്ടു.

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