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EFFECT OF TOP DRESSING WITH UREA AT FLOWER INITIATION TIME IN 'ZANZIBAR' VARIETY OF BANANA

Summarville (1944) working on 'Dwarf Cavendish' banana in Queensland found that the time elapsing between flower initiation and shooting varied with season from six months in winter to three months in summer. Based on this information he has concluded that the early phases of growth of banana especially during the flower initiation phase are very critical in irreversibly determining the number of hands and fingers of the bunch. It is based on this observation that the manurial schedule for banana always include frequent top dressing with nitrogenous fertilizers during the flower initiation stages of growth (Gregory, 1952; Champion and Pelegrin, 1955; Freiberg and Payne, 1937; Warner and Fox, 1976).

The present study was undertaken at Banana Research Station, Kannara, Trichur, Kerala during 1975-1976 to find out the effect of urea in split doses applied during the time of flower initiation in Nendran banana. The experiment was laid out with 3 treatments (Vide table 1) and 10 replications with 5 plants per plot at 2x2 metre spacing using an introduced Nendran variety 'Zanzibar'.

The crop was raised by planting 4 months old sword suckers of 'Zanzibar' in the month of November with basin irrigation once in three days during the summer months. The fertilizers were applied in the basins around each plant just before irrigation. The observations on height, girth and number of leaves were taken at the time of shooting and the number of hands, fingers and bunch weight at the time of harvesting. The duration taken for (lowering and the total duration from planting to harvesting were also calculated.

The results are given in Table I. Even a casual glance through the table will reveal that the additional dose of urea in split doses during either in the 5th or 6th month of planting has significantly enhanced both vegetative growth and fruit yield of the plants. Croucher Mitchell (1940) from their exhaustive studies on the manurial requirements of Gros Michel banana at Jamaica have recommended the application of nitrogenous fertilizers in small doses at short intervals of time under tropical conditions to minimise the loss of nitrogen through nitrification and leaching of nitrate. The results of the present study clearly indicate that split application of urea during the 5th or 6th month of planting will significantly increase the number of hands, fingers and total weight of bunches over the control. The findings of the present study on duration for shooting as well as on total duration from planting to harvesting are

Table 1 Mean data on certain vegetative and yield characters in 'Zanzibar' variety of banana.

Treatments	Height (cm)	Girth (cm)	Number of leaves	Mean				
				Duration for flowering (clays)	Bunch weight (kg)	Number of hands	Number of fingers per bunch	Total duration (days)
Control Basel dose of 15 kg green leaves + NPK @ 225:225:450 g/plant in two split doses at 2nd and 4th month of planting.	322.70	67.30	13.90	253.50	9.85	2.60	28.30	332.40
Control + 500 g urea in 5 equal split doses of 100 g each at weekly interval during the 5th month of planting.	347.70	69.90	15.80	261.60	12.28	3.00	34.20	349.00
Control + 500 g urea in 5 equal split doses of 100 g each at weekly interval during the 6th month of planting.	337.70	67.80	15.20	263.70	11.60	3.00	31.50	353.50
Critical difference at 5% level of significance.	8.52	N.S.	0.71	N.S.	0.8t	0.28	2.80	9.39

contrary to what is reported by Coucher and Mitchell (1940). They found that nitrogen always hastened the rate of maturity. But in the present study the total duration of the crop was significantly enhanced by the application of urea in split doses during 5th or 6th month of planting. The height and total number of leaves were also found to be significantly higher when compared to the control

From the results it can be seen that there is an average increase of six fruits/bunch in the treatment No. 2 over the control. Since the fruits of 'Zanzibar' variety are almost double the size of any Nendran variety, each such fruit will easily fetch a minimum of 50 paise. This will work out an additional income of three Rupees per bunch for an additional expense of 80 paise per plant being the cost of 500 g urea. (The additional labour cost involved is negligible since a single man can do the operation for one hectare). Thus it can be seen that the application of an additional dose of 500 g urea in 5 equal split doses of 100 g each during the 5th month of planting has resulted an attractive additional net profit of Rs. 5,500/- per hectare.

സംഗ്രഹം

'സാൻസിബാർ' എന്നയിനം വാഴയിൽ പുകല രൂപീകരണം നടക്കുന്ന സമയത്തു യൂറിയ മേൽവളമായി ചേർത്തുകൊടുത്താലുണ്ടാകാവുന്ന ഫലങ്ങളെപ്പറ്റി മനസ്സിലാക്കാൻവേണ്ടി ഒരു പഠനം നടത്തുകയുണ്ടായി. ഇതിൽ നിന്നും നേത്രവാഴയ്ക്കു സാധാരണ ഗതിയിൽ ശുപാർശ ചെയ്യപ്പെട്ടിട്ടുള്ള 225:225:450 ഗ്രാം/വാഴ എന്ന തോതിലുള്ള NPK മൂലകങ്ങൾക്കു പുറമെ നട്ടുകഴിഞ്ഞു അഞ്ചാം ഫിറൂർത്വ്നീല വാഴയൊന്നിനു 500 ഗ്രാം എന്നതോതിൽ യൂറിയ ഓരോ ആളുണ്ടാവിട്ട് 100 ഗ്രാം വീതം ഫിർസ്ട്സ് ജി റിക്സുണുകളായി നൽകിയാൽ കായ്കളുടെ എണ്ണത്തിലും കലയുടെ മൊത്തം തൂക്കത്തിലും ഗണ്യമായ വർദ്ധനവ് ഉണ്ടാകുമെന്നു കണ്ടിരിക്കുന്നു. ഇതുമൂലം ഹെക്ടറിനു 5500 രൂപ എന്ന നിരവധി അധികലാഭം കിട്ടുമെന്നു കണക്കാക്കിയിട്ടുണ്ട്.

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