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INFLUENCE OF DESUCKERING AND RETENTION OF VARYING NUMBER OF SUCKERS ON PLANT GROWTH AND YIELD OF ROBUSTA BANANA

Agronomic practices influence crop production considerably. So far as banana is concerned, **desuckering** is an important operation influencing the size of the bunch. But **information** on **desuckering** and retention of varying number of suckers in banana is scanty under Kerala conditions. *Wills et al* (1953) has recommended allowing of sucker in the mother banana at about flowering phase adopting one **follower** system under Queensland and Australia conditions. With a view to studying the effects of desuckering in banana and **allowing** suckers at different intervals, studies were undertaken at Banana Research Station, Kannara.

The trial was conducted during the season of 1976-77 and 1977-78. The layout was randomised block design with six treatments and five **replications**. The treatments were allowing **all** suckers to grow, **retaining** the first produced suckers and removing the rest, retaining the first and second suckers and removing the rest, retaining the first, second and third suckers and removing the rest and removing all the suckers except the first and second produced after flowering. **Planting** was done in August-September giving spacing of 2.4 x 1.8 M between rows and **plants**. Cultural operations, manuring and irrigation were given as per the recommendations. Desuckering was done at fortnightly **intervals** using small crow bar of one metre length of special design suited for the purpose. Observations on growth parameters (weight of plant, girth of pseudostem and number of functioning leaves) at intervals of 90 and 180 **days** after planting and at flowering and yield characters (**bunch** weight number of hands and fingers per bunch) were recorded.

Data on vegetative and yield characters are presented in **Table 1** and **?** respectively. The data on vegetative parameters (**Table 1**) revealed that there was no **significant difference** in vegetative growth of plants at any stage. But, the yield data (**Table 2**) **indicated** that there was significant difference due to **treatments**. It was **interesting** to note that retention of varying number of suckers after **flowering** were significantly superior to other treatments. There was an increase in yield by 39.1 **per cent** in the first **season** and 53 **per cent** in the **second** season removing all suckers except the first produced after flowering". The same trend was noticed for other productive characters also. From the results, it was **concluded** that desuckering exerts great influence on the yield in banana. The low **yield obtained** in treatment of retaining suckers

Table 1 Vegetative parameters at different intervals and at flowering stage.

| Treatments | Characters | 1976-77 | | | 1977-78 | | |
|---|---------------|------------------------|-------------------------|--------------|------------------------|-------------------------|---------------|
| | | 90 days after planting | 180 days after planting | At flowering | 90 days after planting | 180 days after planting | At flowering. |
| Allowing all suckers to grow | Height (cm) | 45.3 | 106.1 | 200.4 | 68.3 | 174.9 | 205.3 |
| | Girth (cm) | 20.0 | 37.4 | 49.6 | 27.5 | 50.9 | 60.2 |
| | No. of leaves | 8.4 | 12.7 | 11.2 | 9.9 | 13.3 | 13.5 |
| Retaining the first produced sucker alone and removing the rest | H | 51.5 | 99.8 | 210.2 | 59.0 | 159.4 | 206.6 |
| | G | 22.0 | 37.5 | 51.5 | 27.2 | 48.5 | 57.7 |
| | N | 7.8 | 12.2 | 10.7 | 9.3 | 12.6 | 13.9 |
| Retaining the 1st and 2nd produced suckers and removing the rest | H | 47.6 | 104.1 | 212.5 | 61.8 | 165.2 | 210.9 |
| | G | 21.7 | 35.2 | 51.6 | 26.5 | 43.1 | 57.9 |
| | N | 7.8 | 12.0 | 11.0 | 9.5 | 12.5 | 13.5 |
| Retaining the 1st, 2nd and 3rd produced suckers and removing the rest | H | 43.6 | 100.7 | 203.9 | 62.5 | 159.8 | 203.7 |
| | G | 19.7 | 35.6 | 53.6 | 27.9 | 48.1 | 56.9 |
| | N | 7.8 | 12.2 | 10.7 | 9.6 | 12.5 | 13.6 |
| Removing all suckers except the 1st produced after flowering | H | 48.0 | 110.3 | 208.8 | 66.4 | 176.6 | 202.8 |
| | G | 20.9 | 37.7 | 50.1 | 28.7 | 54.0 | 59.9 |
| | N | 7.3 | 12.5 | 12.2 | 9.6 | 12.8 | 13.4 |
| Removing all suckers except the 1st and 2nd produced after flowering | H | 45.8 | 112.0 | 203.2 | 66.7 | 176.2 | 201.9 |
| | G | 19.4 | 38.7 | 52.6 | 27.8 | 51.6 | 58.5 |
| | N | 7.5 | 12.4 | 11.9 | 9.9 | 12.8 | 13.4 |
| Significance | H | NS | NS | NS | NS | NS | NS |
| | G | NS | NS | NS | NS | NS | NS |
| | N | NS | NS | NS | NS | NS | NS |

NS — Not significant.

before flowering, is attributable to the competition for nutrients between mother plant and daughter suckers. Gopalan Nair *et al* (1954) have reported that prompt removal of unwanted suckers is necessary to ensure better vigour and productivity to parent plants. The studies have shown that it is not advisable to retain the suckers in Robusta banana before flowering. Retention of one or two suckers after flowering, however does not affect the yield of the mother plant.

സംഗ്രഹം

രോബസ്റ്റ വാഴയിൽ വിവിധ ദശകളിൽ ഉല്പാദിപ്പിക്കപ്പെടുന്ന കന്നുകളെ നിലനിർത്തിക്കൊണ്ടുള്ള ഒരു പരീക്ഷണം. 1976-77; 77-78 എന്നീ ആണ്ടുകളിൽ കണ്ണാറ വാഴഗവേഷ

Table 2 Data on yield characters

| Treatments | 1976-77 | | | 1977-78 | | |
|--|-------------------|------------------------|--------------------------|-------------------|------------------------|--------------------------|
| | Bunch weight (kg) | No. of hands per bunch | No. of fingers per bunch | Bunch weight (kg) | No. of hands per bunch | No. of fingers per bunch |
| Allowing all suckers to grow | 11.1 | 7.4 | 99.9 | 12.51 | 8.2 | 121.0 |
| Retaining the 1st produced sucker and removing the rest. | 11.6 | 7.6 | 103.3 | 11.93 | 7.9 | 119.9 |
| Retaining the 1st and 2nd produced suckers and removing the rest. | 11.5 | 7.6 | 100.7 | 11.68 | 7.9 | 116.9 |
| Retaining the 1st, 2nd and 3rd produced suckers and removing the rest. | 11.2 | 7.4 | 101.1 | 12.05 | 8.2 | 115.9 |
| Removing all suckers except the one produced after flowering. | 15.5 | 7.8 | 110.8 | 19.40 | 8.9 | 137.3 |
| Removing all suckers except the 1st and 2nd produced after flowering. | 13.4 | 7.6 | 103.4 | 16.10 | 8.5 | 128.0 |
| Significance | 1% level | NS | 5% level | 1% level | 1% level | 1% level |
| C. D. at 5% level | 1.02 | — | 5.50 | 1.61 | 0.42 | 9.01 |
| C. D. at 1% level | 1.77 | — | — | 2.19 | 0.57 | 12.29 |

N. S. Not significant

ഈ കേന്ദ്രത്തിൽ നടത്തുകയുണ്ടായി. പരീക്ഷണത്തിൽ നിന്നു വാഴ കലയ്ക്കുന്നതിനു മുമ്പു കന്നുകൂട്ടി വളത്താൻ അനുവദിക്കുന്നതു് അഭിലഷണീയമല്ലെന്നും ആയതു് വിളവിനെ പ്രതി ശുദ്ധമായി ബാധിക്കുമെന്നും കണ്ടു. വാഴ കലച്ചതിനുശേഷം വളരുന്ന ഒരു കന്നിനെ മാത്രം നിലനിർത്തി മറ്റുള്ളവയെ നശിപ്പിക്കുന്നതാണു് ഉത്തമമെന്നും തെളിഞ്ഞു.

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