

Suckering Behavior of Some Banana Cultivars of *Musa* AAA Group

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Abstract—The sucker production behaviour of banana of ten promising cultivars of *Musa* AAA group namely; Jahaji, Barjahaji, Maanjahaji, Sutijahaji, Grand Naine, Giant Governor, Amritsagar, Sahabkal, Red Banana and Tulshi Manohar was studied in the Instructional cum Research Farm, Department of Horticulture, Biswanath College of Agriculture, Assam Agricultural University, Biswanath Chariali during 2013-2014. Total number of suckers produced by each plant of different cultivars was recorded in three stages of growth viz., at vegetative stage, shooting and at harvest. The suckers which were fully emerged from the base of the mother plant were only considered for counting. The highest number of suckers at vegetative stage was recorded in Barjahaji (6.53) followed by Jahaji (6.30) and they were at par with each other. At vegetative stage, sucker production was lowest (2.86) in both the cultivars of Amritsagar and Sahabkal. No significant difference in sucker production was observed at shooting stage among the cultivars. The cultivar Amritsagar produced the lowest number of suckers (3.55) followed by Sutijahaji (4.00). The cultivars producing more numbers of leaves during their crop duration produced higher number of suckers per plant. The higher number of suckers at harvest was recorded in Red Banana (6.77) which was at par with Tulshi Manohar (6.66) and was significantly differed from other cultivars of the present investigation. The higher production of suckers could be attributed to the presence of higher number of growing buds enclosed by layer of leaf sheath on the corm at the time of planting.

Keyword: AAA group of banana, sucker production

1. INTRODUCTION

The area under banana cultivation is increasing every year in the country. The choice of suitable cultivar is of paramount importance for successful commercial cultivation of banana. The recommended cultivars grown commercially in Assam are Jahaji, Barjahaji, Malbhog, Chenichampa, Manohar, Jatikal and Bhimkal. Area and production of banana in Assam are 51.51 thousand hectares and 837.02 thousand MT, respectively in 2012-13 with the productivity of 16.2 MT/ha as compared to the national productivity of 34.2 t/ha. The highest productivity of banana has been recorded in Madhya Pradesh (66.0 t/ha) followed by Gujarat (64.0 t/ha), Bihar (51.5t/ha) and Tamil Nadu (46.1 t/ha) in 2012-13 [1]. The

highest productivity of banana in these states is due to the cultivation of high yielding Cavendish cultivars. The farmers generally depend on the naturally produced suckers and therefore, the present investigation was carried out to determine the suckering behavior of different cultivars of banana of AAA genomic group.

2. MATERIALS AND METHODS

The sucker production behaviour of banana of ten promising cultivars of *Musa* AAA group namely; Jahaji, Barjahaji, Maanjahaji, Sutijahaji, Grand Naine, Giant Governor, Amritsagar, Sahabkal, Red Banana and Tulshi Manohar was studied in the Instructional cum Research Farm, Department of Horticulture, Biswanath College of Agriculture, Assam Agricultural University, Biswanath Chariali during 2013-2014. Healthy sword suckers of uniform size and age of each cultivar were selected for planting. The experiment was laid out in Randomized Block Design with three replications comprising 10 cultivars as treatments. There were thirty plots each having 9 numbers of plants. Recommended package of practices were followed throughout experimental period. Total number of suckers produced by each plant of different cultivars was recorded in three stages of growth viz., at vegetative stage, shooting and at harvest. The suckers which were fully emerged from the base of the mother plant were only considered for counting.

3. RESULTS AND DISCUSSION

Number of suckers produced by plants was recorded at vegetative stage, shooting and at harvest and is presented in Table 1. The highest number of suckers at vegetative stage was recorded in Barjahaji (6.53) followed by Jahaji (6.30) and they were at par with each other. At vegetative stage, sucker production was lowest (2.86) in both the cultivars of Amritsagar and Sahabkal. No significant difference in sucker production was observed at shooting stage among the cultivars. However, Barjahaji (6.66), Maanjahaji (6.21), Sutijahaji (6.53), Grand Naine (4.86) and Amritsagar (3.86)

produced maximum number of suckers as that of at vegetative stage and at harvest. At harvest, the highest number of suckers was produced by Red Banana (6.77) which was at par with Tulshi Manohar (6.66) and was significantly differed from other cultivars. The cultivar Amritsagar produced the lowest number of suckers (3.55).

The higher number of suckers recorded at harvest in Red Banana and Tulshi Manohar might be due to the production of higher metabolites because of higher photosynthetic areas resulting increased sucker production. The cultivars having increased leaf area produced higher number of suckers due to the maintenance of higher photosynthetic areas [3]. The higher production of suckers could be attributed to the presence of higher number of growing buds enclosed by layer of leaf sheath on the corm at the time of planting [2].

Table 1: Number of suckers per plant at different stages of growth of banana cultivars (AAA Group)

Cultivars	Sucker production (No./plant) at		
	Vegetative stage	Shooting	Harvest
Jahaji	6.30	5.33	4.77
Barjahaji	6.53	6.66	4.66
Maanjahaji	4.66	6.21	4.33
Sutijahaji	4.76	6.53	4.00
Grand Naine	3.86	4.86	4.66
Giant Governor	4.86	4.66	4.55
Amritsagar	2.86	3.86	3.55
Sahabkal	2.86	4.86	5.64
Red banana	3.06	5.33	6.77
Tulshi Manohar	3.70	5.26	6.66
CD (P=0.05)	0.76	NS	0.74

NS = Non-significant

REFERENCES

- [1] *Indian Horticulture Database*. Ed. By R. K. Tiwari. Ministry of Agriculture, Government of India, Gurgaon, 2013.
- [2] Balakrishnan, R. *Studies on growth, development, sucker production and nutrient uptake at different ploidy level in banana*. Tamil Nadu Agril. University, Coimbatore, Doctoral Thesis, 1980.
- [3] Chattopadhyay, P.K. and Raha, S. R. (1986). Physico-chemical composition of some important banana varieties of West Bengal. *Haryana J. Hort. Sci.* Vol. 15, No. 3 & 4, 1986, pp. 170-174.