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K Dhanalakshmi
Tamil Nadu Agricultural
University, Krishi Vigyan
Kendra, Vamban, Pudukkottai,
Tamil Nadu, India

K Chitra
Tamil Nadu Agricultural
University, Krishi Vigyan
Kendra, Vamban, Pudukkottai,
Tamil Nadu, India

K Karthikeyani Vijakumari
Tamil Nadu Agricultural
University, Krishi Vigyan
Kendra, Vamban, Pudukkottai,
Tamil Nadu, India

C Bali Sasikumar
Tamil Nadu Agricultural
University, Krishi Vigyan
Kendra, Vamban, Pudukkottai,
Tamil Nadu, India

Economics of banana cultivation

K Dhanalakshmi, K Chitra, K Karthikeyani Vijakumari and C Bali Sasikumar

Abstract

KVK, Vamban conducted Front Line demonstration on IIHR Banana special during 2016-17 and 2017-18. For rectifying micro nutrients deficiencies in horticultural crops especially in Banana in this context, the study has been conducted in Tiruvaranklam block of Pudukkottai district. Micro nutrients or trace elements are essential for plant growth but it is needed in very small quantity for the plant system. Banana special is crop specific micronutrient formulation technology through foliar application exclusive for higher yield in banana crop up to 20%. 6kg of Banana Special recommended for an acre as a foliar application recommended by IIHR. Mix 50 grams of Banana special along with one lemon juice and 1 shampoo pocket in 10 liters of water are added and mix thoroughly before spraying. Drenching of solution was 250ml /plant after of 15 days of plantation in case of tissue culture plants. Start from 4 months of plantation once in 30 days continues up to 8 months as foliar application. Last two sprays done both on bunch and leaves 30 days and 60 days after bunch emergence. Spray should be done preferably 6am to 11am and 4pm to 6.30pm and spray should be done mainly 60-70% on lower surface and 30% on upper surface.

Keywords: Economics, banana cultivation, Vamban conducted

Introduction

Banana is a globally important fruit crop with the annual production of 97.5 million tons. India is in 2nd after China with the annual production of 16.91 million tons from 490.70 thousands hectares. Banana contributes 32% to the total fruit production of the country. Maharashtra, Tamil Nadu, Kerala, Karnataka, Gujarat, Andhra Pradesh and Assam are the major state growing banana. Micronutrient disorders are most common in this region of Tamilnadu.

Micro Nutrient Mixture of Banana Special

Methodology

Demonstration of Banana special was carried out by Krishi Vigyan Kendra in Thiruvarankulam block of Pudukkottai district in order to enhance the production potential of exportable bunch of banana. Out of twelve blocks in Pudukkottai district, two blocks namely, Gandarvakottai and Thirvaranklam

Were selected to conduct this study. A total of ten farmers from these blocks were selected randomly for this study purpose. A well-structured interview schedule was used to collect data for documenting of Banana Special on productivity with marketable bunch.

Step-By-Step Approach for the Study

Step-By-Step approach adopted in Banana special.

Step 1: Development of indicators.

Step 2: Measurement.

Step 3: Analysis.

Step 1-Development of Indicators

Conducting demonstration is one of the important components for the dissemination of any Agricultural technologies. KVK decided to work on "Banana Special" for the better marketable bunches.

KVK decided to introduce the concept called Front Line Demonstration on Banana special in participatory approach method. In a participatory manner KVK had involved in conducting the demonstration. Based on the study the following indicators were drafted

Correspondence

K Dhanalakshmi
Tamil Nadu Agricultural
University, Krishi Vigyan
Kendra, Vamban, Pudukkottai,
Tamil Nadu, India

- Indicator – 1: Experience in Banana cultivation
 Indicator – 2: Knowledge in adoption of technologies
 Indicator – 3: Foliar application of micro nutrient
 Indicator – 4: Knowledge about Banana special
 Indicator – 5: Application of Banana special
 Indicator – 6: Adoption and time of Banana special
 Indicator – 8: Cost details and Benefit Cost Ratio with yield

Indicators

Krishi Vigyan Kendra Farming communities and Technology
 The data collected from the farmers are consolidated and furnished as below

Table 1: Questionnaire Response

S. No	Question	Percent
1	Knowledge about KVK	80
2	Experience in Banana cultivation	15-45 Years
3	Knowledge in adoption of technologies	45
4	Knowledge on Micro Nutrient	15
5	Knowledge about Banana special	10
6	Application of Banana special	10
7	Knowledge about Time of application	95

Step 3-Analysis

Indicator-1 & 2 Experience and knowledge in Banana cultivation

It was noticed that, all farmers are practicing the Banana

cultivation as a primary work. All the farmers are enrolled their name in Banana cultivation. All the farmers started cultivating banana in their land. But the technology about Banana cultivation and other quality improving techniques are not having sufficient knowledge.

Indicator-3 Application of Micro Nutrient

The study revealed that, farmers are not applying recommended dose or soil based micro nutrients application, since they are not exposed on the importance of micro nutrients in enhancing in banana productivity and the marketable bunch. Banana special is a foliar micronutrient produced by IIHR Bangalore for enhancing the productivity.

Indicator-6 Adoption and time of Banana special application

Though the technology was helpful for increasing the productivity, the study shows that, the Banana special application is promoted by Krishi Vigyan Kendra, Pudukkottai.

Farmers applied the banana special during the morning time or in the evening time which results in enhanced the efficiency of the micro nutrient uptake of the crop

Indicator – 7 Spread of technology

The technology spread through the KVK

Indicator-8 Cost details and Benefit Cost Ratio with yield:

Table 2: Check plot details

Farmer	Bunch weight (kg)	Number of marketable Bunch/ha	Yield (quintal)	Gross Cost	Gross Cost	Net Return	Benefit Cost Ratio
1	15.2	2015	380	113000	403000	290000	3.6
2	19.6	1879	368	113000	375800	262800	3.3
3	20.4	1887	385	113500	377400	263900	3.3
4	13.8	1990	275	113000	398000	285000	3.5
5	18.3	1990	364	113000	398000	285000	3.5
6	19.2	1890	363	103000	378000	275000	3.7
7	21.9	1902	417	113000	380400	267400	3.4
8	20.8	1800	418	115000	360000	245000	3.1
9	14.3	1890	270	117000	378000	261000	3.2
10	15.8	1997	316	116500	399400	282900	3.4
Average	17.9	1924.0	355.5	113000.0	384800.0	271800.0	3.4

Table 3: Demonstrated plot details

Farmer	Bunch weight (kg)	Number of marketable Bunch/ha	Yield (quintal)	Gross Cost	Gross Cost	Net Return	Benefit Cost Ratio
1	22.5	2100	420	110000	420000	310000	3.82
2	24.5	2076	450	109000	415200	306200	3.81
3	21.3	2150	458	110500	430000	319500	3.89
4	27.6	2168	430	113000	433600	320600	3.84
5	22.8	2090	477	111200	418000	306800	3.76
6	29.6	1970	380	113000	394000	281000	3.49
7	24.7	2050	460	110000	410000	300000	3.73
8	28.9	1990	440	150000	398000	248000	2.65
9	29.5	2153	450	112000	430600	318600	3.84
10	22.6	2200	450	115000	440000	325000	3.83
Average	25.4	2094.7	441	115370	418940	303570	3.70

Result and Discussion

Cost of Cultivation

The study shows (Table 1 and 2) that, the Cost of Cultivation was increased in banana special applied field in terms of Rs. 115370/ha (Singh Verma 2001) when compared to the existing farming practices 113000. By adopting this technology 24 % yield increased was recorded.

The average incremental benefit reaped from the banana special was recorded Rs. 303570/ha Umagowri, Chand

rasekaran, 2011. The marketable quantity is high in treated area. It indicates that the Micro Nutrients directly or indirectly influencing the marketable bunches.

Gross cost and Net Return (Table 1 and 2)

In control the maximum Gross cost recorded the 1,17,000 and the minimum Gross Cost value of 1,03,000 was recorded and the average Gross Cost is 1,13,000.

For demonstrated method the maximum Gross Cost 1, 50,000

was recorded and the minimum Gross Cost recorded the value of 1, 09,000.

Regarding the Net Return in demonstrated plot the maximum was recorded 3, 25,000 and the average net return was 3, 03, and 570. In check the minimum Net Return recorded 2, 45,000 and the average net return was 2, 71,800. For demonstrated method the average net return was 303570

Benefit Cost Ratio (Table 1 and 2)

The benefit cost ratio for demonstrated method was 3.7 for check it was 3.4.

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