

TF(2) 39703/2017

Directorate of Agriculture Development  
& Farmer's Welfare, Vikas Bhavan,  
Thiruvananthapuram  
Dated: 01/2018

## **CIRCULAR**

Sub: Annual Plan 2017-18- Scheme on " Soil Health Management and Productivity Improvement"-Root Health Management practices- Working Instructions for the component 'Establishment of onfarm production units of Vescicular Arbuscular Mycorrhizae(VAM)' issued-reg

Ref: 1. G.O. (Rt.). No. 634/17/AD dated 23.06.2017

2. Letter No. TP (2) 16107/17 dated 04/05/2017 of the Director of Agriculture

As per government Order cited above, Administrative Sanction has been accorded for the implementation of the scheme "Root Health Management practices" with components for providing assistance for application of biofertilizers/biopesticides and establishment of onfarm production units of Vescicular Arbuscular Mycorrhizae(VAM). The scheme is to be implemented during 2017-18 at a cost of Rs. 100 lakh from the total budget outlay of Rs. 2700 lakh set apart for " Soil Health Management and Productivity Improvement" under the H/A 2401-00-800-28 Plan.

### **Objectives**

- To introduce the concept of Root Health Management
- To promote cultural practices to support root development and growth like seed treatment using biofertilizers and biopesticides
- Application of Trichoderma
- Use of Vescicular Arbuscular Mycorrhizae(VAM)
- Application of Phosphate Solubilizing Bacteria (PSB)
- Organic manure application
- Plant Growth Promoting Rhizobacteria(PGPR)

### **Programmes**

Two components are included under the scheme., viz., providing assistance for application of biofertilizers/biopesticides and establishment of Onfarm Production Units of Vescicular Arbuscular Mycorrhizae(VAM). The working instructions for providing

assistance for application of biofertilizers/biopesticides will be issued separately.

**Establishment of Onfarm production units of Vesicular Arbuscular Mycorrhizae (VAM):**

Two no.s of onfarm production units of VAM should be established in every block of the State. The units established in a block should meet the requirement of all gramapanchayats in that block. Onfarm production units of VAM are to be established in selected Krishibhavans, preferably where Agricultural Officers who have completed PGDPHM course are posted. Mass production of VAM should be taken up by individual farmers/farmer groups.

**Infrastructure required including equipments and raw materials:**

For Mycorrhiza production at farm level, specific equipments, machines are not required. The multiplication can be done at farmers field with the following materials:

- I. Plastic pots or poly bags
- II. Soil
- III. Vermicompost
- IV. Starter inoculum
- V. Seed material (rice/ragi/maize/sorghum, etc)

**Methodology:**

Following steps have to be followed sequentially for farm level production of Mycorrhiza:

1. Sterilise soil by heating for 2-4 hours using a big metal pan or by drying under intense heat of the sun for 2-3 days.
2. Place the sterilised soil in thoroughly cleaned and dry clay pots.
3. After cooling the soil, place a pinch of root starter inoculant, then cover with a thin layer of soil.
4. Sow 3-5 seeds in each pot.
5. Grow the plants for three months under normal conditions.
6. Protect the plants from pests and diseases. Stop watering the plants after three months.
7. Do not use chemical fertilizer/ fungicide in pots/ seedbed before sowing if VAM is to be applied.
8. Cut the plants or stalk when they are completely dried. Allow the soil in the pot to

- dry further.
9. Remove the plant from the pot and remove the soil adhering to the roots.
  10. Cut the roots finely and save some root inoculant for future use. Mix the finely cut roots with the soil from the pot to produce VAM soil inoculants or 5% of cut roots mix with vermicompost for products.
  11. Store the root and soil inoculants in sealed plastic bags in a dry and cold place.

**Expenses proposed for mass production of VAM**

Sl. No.	Item	Quantity	Rate (Rs.)	Amount (Rs.)
1	Plastic pots of medium size	100 no.	50	5000
2	Starter inoculums	200g.	1000/200g.	1000
3	Seed material of rice/ragi/maize/sorghum	250g.		100
4	Carrier material-vermicompost	500 kg.	12/kg.	6000
5	Labour charges	10 mandays	500/manday	5000
6	Miscellaneous			2900
	<b>Total</b>			<b>20,000/-</b>

**Assistance provided:**

Under the scheme, assistance will be provided at the rate of Rs. 20000/- per unit.

**Mode of implementation:**

The field level implementation will be done by the Agricultural Officers of the concerned Krishi Bhavans. Individual farmers, farmer clusters, farm clubs, Kudumbasree/Janasree units can establish these production units. The Secretary/Convenor of the group will be incharge of the equipments and other assets created and the farmer himself, if it is an individual venture. Agricultural Officer should conduct periodic verification, give necessary technical guidance and see that the unit is running smoothly and assure that the equipments are well maintained and properly used.

The scheme will be implemented by the Deputy Directors of Agriculture (WM) at

District level and the Assistant Directors of Agriculture at block level.

**Monitoring:**

Additional Director of Agriculture (Planning) will be in charge of the programme at the State level. The Principal Agricultural Officers will monitor and co-ordinate the programme at the district level. Monthly progress reports should be furnished to the Director of Agriculture by the 5th of every month.

**Financial Outlay**

The financial outlay for this programme is Rs. 60 lakh. The total financial requirement of the programme of Rs.60.80 (rounded to 60.00) lakh can be met from the budget provision earmarked for the scheme 'Soil Health Management and Productivity Improvement 2017-18' under the head of account 2401-00-800-28 Plan.

Sd/-

**Director of Agriculture**

Copy to:

1. All Principal Agricultural Officers
2. TA to Director of Agriculture
3. All Additional Directors of Agriculture
4. DDA, IT Cell (for publishing in the website)
5. Accounts Section
6. Planning section for allotment of funds
7. Stock file/ Spare

**Additional Director of Agriculture (Planning)**

*C. K. SAJITHA*  
Addl. Director of Agriculture (Plg)  
Directorate of Agriculture  
Vikas Bhavan, Thiruvananthapuram

## Annexure

### Physical and financial target of Onfarm Production Unit of VAM

Rs. in lakh

SL. No.	Name of District	Physical target	Financial target
1	Thiruvananthapuram	22	4.4
2	Kollam	22	4.4
3	Pathanamthitta	16	3.2
4	Alappuzha	24	4.8
5	Kottayam	22	4.4
6	Idukki	12*	2.4*
7	Ernakulam	28	5.6
8	Thrissur	32	6.4
9	Palakkad	26	5.2
10	Malappuram	30	6
11	Kozhikkode	24	4.8
12	Wayanad	8	1.6
13	Kannur	22	4.4
14	Kasaragod	12	2.4
	<b>TOTAL</b>	<b>300</b>	<b>60</b>

\*-Due to limitation of funds, physical and financial target is limited to 12 and Rs. 2.4 lakh respectively

  
**C. K. SAJITHA**  
Addl. Director of Agriculture (Plg)  
Directorate of Agriculture  
Vikas Bhavan, Thiruvananthapuram