

TF(2)15225/2018

Directorate of Agriculture Development  
& Farmer's Welfare, Vikas Bhavan,  
Dated: 17.04.2018

### CIRCULAR

Sub: Annual Plan 2018-19- Scheme on "Soil and Root Health Management and Productivity Improvement"-Root Health Management practices- Working Instructions issued-reg  
Ref: 1. G.O. (Rt.) 634/2017/AD dated 23.06.2017  
2. Order No. TP (2) 7457/18 dated 11/04/2018 of the Director of Agriculture

As per the reference 1<sup>st</sup> cited, Government have accorded administrative sanction for the implementation of the scheme 'Soil Health Management and Productivity Improvement' during the year 2017-18 for an amount of Rs. 415 lakh under the Head of Account 2401-00-800-28(Plan), of which Rs. 100 lakh was set apart for the component 'Root Health Management practices'.

As per the reference 2nd cited, continuous sanction has been accorded for implementation of the scheme during 2018-19 for an amount of Rs. 360 lakh under the Head of Account **2401-00-800-28 (Plan)**, out of which Rs. 100 lakh is set apart for "Root Health Management Practices". The scheme is to be implemented during 2018-19 at a cost of Rs. 100 lakh from the total budget outlay of Rs. 2833 lakh set apart for "Soil and Root 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 Vesicular 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

Vesicular Arbuscular Mycorrhizae(VAM).

### **1. Providing assistance for application of biofertilizers/biopesticides:**

To support root development and growth, cultural practices like seed treatment using biofertilizers and biopesticides, application of Trichoderma, use of Vesicular Arbuscular Mycorrhiza(VAM), application of Phosphate Solubilising Bacteria(PSB), Organic manure application, Plant Growth Promoting Rhizobacteria(PGPR), etc are to be promoted, for which assistance is provided. Assistance can be provided for application in crops like vegetables, banana, paddy, spices, etc. The inputs should be purchased from approved sources like laboratories/ farms under the Department of Agriculture, Kerala Agricultural University, Central Government Institutions and approved private agencies.

#### **Assistance provided:**

Under the scheme, 50% assistance is to be provided on the cost of biofertilizers and biopesticides. Assistance @ 75% can also be provided on the cost of medium (FYM/cowdung, etc) for mixing of biofertilizers/biopesticides (eg.Trichoderma with FYM/cowdung) and the labour charge required for mixing and application. The financial outlay for this programme is Rs. 40 lakh, which can be met from the budget provision earmarked for the scheme 'Soil and Root Health Management and Productivity Improvement 2018-19' under the head of account 2401-00-800-28 Plan.

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

Two numbers of onfarm production units of VAM should be established in every block of the State. The units established in a block should meet the VAM requirement of all grama panchayats 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 Mychorrhiza 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. The financial outlay for this programme is Rs. 60 lakh, which can be met from the budget provision earmarked for the scheme 'Soil and Root Health Management and Productivity Improvement 2018-19' under the head of account 2401-00-800-28 Plan.

**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 in charge 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.

Since agriculture is a season based activity, timely implementation of the scheme has to be ensured by arranging the required inputs in advance and this should be reflected in the monthly booking of expenditure from April 2018 onwards.

Since the Government is giving emphasis to women participation and gender budgetting, maximum efforts have to be made to include women beneficiaries in the scheme.

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 report in the enclosed proforma (Annexure-1) should be submitted to the Director of Agriculture by the 5th of every month. Reporting and official

correspondence in respect of the scheme should be made in the email id: fertilizer2010@gmail.com

The crop wise physical achievement under the component 'Providing assistance for application of biofertilizers/biopesticides' should be reported to this office after implementation.

The Principal Agricultural Officer shall furnish a detailed completion report including number of beneficiaries (male, female, SC/ST, General) and Utilisation Certificate in proper format (Annexure-2) immediately on completion of the project.

**Financial Outlay:**


The district wise physical and financial target is provided in Annexure-3. The total financial outlay for this programme is Rs. 100 lakh. The total financial requirement of the programme of Rs.100 lakh can be met from the budget provision earmarked for the scheme 'Soil and Root Health Management and Productivity Improvement 2018-19' 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

  
**RAJASREE J.**  
Assistant Director of Agriculture  
Directorate of Agricultural Development  
& Farmers Welfare, Vikas Bhavan  
Thiruvananthapuram

# Annexure-1

## Monthly progress report of the Scheme 'Root Health Management' Head of account 2401-00-800-28 Plan

District:

Rs. in lakh

Sl. No.	Name of District	Physical		Financial		Details of beneficiaries		
		T	A	T	A	Men		Women
						No.	Financial assistance provided	No. Financial assistance provided
1	Establishment of Onfarm Production Unit of VAM							
2	Application of biofertilizer and biopesticides							
	Total							



Annexure-2  
Completion Report of the Scheme 'Root Health Management'  
Head of account 2401-00-800-28 Plan

**District:**

Rs. in lakh

Sl. No.	Name of District	Physical		Financial		No. of beneficiaries					
						Men			Women		
		T	A	T	A	General	SC	ST	Total	General	SC
1	Establishment of Onfarm Production Unit of VAM										
2	Application of biofertilizer and biopesticides										
	Total										

Principal Agricultural Officer

**Utilisation Certificate**

Certified that an amount of Rs.....( Rupees .....only) received under the H/a 2401-00-800-28 (P) for the Scheme "Soil and Root Health Management and Productivity Improvement" component 'Root Health Management' during the year 2018-19 has been fully utilised for the purpose for which it was allotted.

Principal Agricultural Officer

Annexure-3

ROOT HEALTH MANAGEMENT

Head of account 2401-00-800-28

Rs. in lakh

Sl. No.	Name of District	Establishment of Onfarm Production Unit of VAM		Application of biofertilizer and biopesticides		Total Financial
		Target		Target		
		Physical	Financial	Financial	Target	
1	Thiruvananthapuram	22	4.4	3	7.4	
2	Kollam	22	4.4	3	7.4	
3	Pathanamthitta	16	3.2	3	6.2	
4	Alappuzha	24	4.8	3	7.8	
5	Kottayam	22	4.4	3	7.4	
6	Idukki	12	2.4	2	4.4	
7	Ernakulam	28	5.6	3	8.6	
8	Thrissur	32	6.4	3	9.4	
9	Palakkad	26	5.2	3	8.2	
10	Malappuram	30	6	3	9	
11	Kozhikkode	24	4.8	3	7.8	
12	Wayanad	8	1.6	2	3.6	
13	Kannur	22	4.4	3	7.4	
14	Kasaragod	12	2.4	3	5.4	
	<b>TOTAL</b>	<b>300</b>	<b>60</b>	<b>40</b>	<b>100</b>	