

Directorate of Agriculture Development and Farmers' Welfare

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CIRCULAR

Sub:- Annual Plan 2025-26- Scheme for Soil Health Management and Productivity Improvement -Working instruction issued – reg.

Ref:- 1)GO (Rt) No.531/2025/AGRI dated 31/05/2025.

2) ADFW/4382/2025-TA-1 dated 30.4.2025

3)MOU between Additional Director (CP) on behalf of Director of Agriculture and Registrar, NPHM , Hyderabad signed on 28/03/2024.

As per reference (1) cited ,Administrative sanction has been accorded for the implementation of the Scheme Soil Health Management and Productivity Improvement. During the financial year 2025-26, a budget provision of Rs. 3210 Lakh is earmarked for the implementation of the Scheme under the H/A 2401-00-800-28 Plan.

Objective

Long term sustainable agricultural production is aimed under this scheme by improving Physical, Chemical and biological features of the soil.

The following instructions are issued for compliance at field level for smooth and successful implementation of the scheme.

1. Support for Soil and Root Health Management and productivity Improvement through lime application for paddy crop(Rs. 2660 lakhs)

Soil is the basis of farming activity Soil health quality refers to the physical, chemical and biological features of a soil that are essential for long term sustainable agricultural production with minimal environmental impact. Healthy soils have optimal physical chemical and biological properties. Soil acidity is a major issue in Kerala soils and about 90% of the soil are acidic with over 50% strongly to extremely acidic. Application of soil ameliorants and nutrients based on soil testing, help in augmenting crop production. Correcting soil acidity is very much essential for getting optimum yield from our crops. Since soil acidity is a major issue in Kerala soils, amelioration of soil has to be given top priority and this component is

included as a systematic intervention in correcting soil acidity to improve soil fertility status.

Objectives:

1. To correct the soil acidity (pH) and improve the soil fertility status to enhance productivity of paddy.
2. To supplement Calcium and Magnesium deficiencies in the soils.
3. To improve the intake of primary, secondary and micro-nutrients by the crops by improving soil health status.
4. To sustain good soil health and improved agricultural practices.

Programme:

Support for Soil and Root Health Management and Productivity improvement of paddy crop will be done by providing assistance for lime application @ 75% of the total cost of lime limited to Rs. 5400/ha, including application charges. The general recommendation of lime for correction of soil acidity for paddy crop is 600 Kg/Ha. This will vary from place to place based on soil test data. If the quantity of lime required as per soil test data exceeds the general recommendation the cost for the excess quantity applied will be borne by the farmers themselves. **The farmers who avail any assistance from any other scheme for the same purpose will not be considered for subsidy under this scheme.**

An amount of Rs. 2650 lakh is set apart for subsidy of liming materials and an amount of Rs.10.00 lakh is set apart for transportation and handling charges.

The liming material like Dolomite Lime/powdered lime stone @ 600 kg/Ha should be arranged in the Primary Agricultural Co-op Banks/Societies and supplied to the farmers de linking the e-payment system. Necessary Store Purchase Rules are to be followed for arrangement of the materials at the Co-operative Societies Co-operative Banks.

The Agricultural Officer shall take necessary steps to test and ensure the quality of liming materials and only quality liming materials shall be distributed. This should be ensured by the Principal Agricultural Officer and Deputy Director of Agriculture (WM).

Neutralizing value (Calcium carbonate equivalent) of liming materials

Liming materials differ in their ability to neutralise soil acidity. The effectiveness or efficiency of liming material is expressed as Calcium Carbonate Equivalent or Neutralizing Value. Pure calcium carbonate is taken as the standard with a value of 100 percent. The neutralizing value of common liming materials is given in the Table below. The values mentioned are for pure materials and will change depending on the quality of the material. The highest neutralizing value for Calcium oxide is indicative of its superiority over other liming materials in terms of efficiency to neutralize acidity.

Table. Calcium carbonate equivalent of pure forms of liming materials

Liming materials	Neutralizing value (%)
Calcium Oxide (Burnt lime/ quick lime)	179
Calcium hydroxide (Slaked lime)	136
Dolomite (Calcium Magnesium Carbonate)	109
Calcium Carbonate (powdered lime stone)	100
Calcium Silicate	86

(Source. Outcome of Soil Based Plant Nutrient Management Plan for Agro Ecosystems of Kerala)

In the case of dolomite, materials of different quality and different price tags are available in the local market. To ensure supply of quality materials to the farmers at fair prices, it is absolutely necessary to enforce standards already fixed by the Bureau of Indian Standards (BIS).

Pricing:

The neutralizing value requirement (minimum) for dolomite is 70 and this shall be taken as the basis for fixing maximum price. Materials with neutralizing value less than 60% shall be rejected. Price of materials with NV in between may be fixed using the following formula:

$$\text{Price (calculated)} = (A \times B)/70$$

where A= market price, B= NV as per analytical report.

For example, Sample with NV 65% and market price for standard material

is Rs. 12 per Kg. the price for the sample can be calculated as follows.

$$\text{Price} = (12 \times 65) / 70 = \text{Rs. } 11.14/-$$

This scheme component will be implemented in all districts of Kerala.

Mode of Implementation:

The field level implementation will be done by the Agricultural Officers of the concerned Krishi Bhavans. The quality of soil ameliorants should be ensured before distribution. The required soil ameliorants will be stocked and distributed by the Co-operative Societies/Co-operative Banks to Padasekhara Samithies farmers as per the permits issued by the Agricultural Officers of Krishi Bhavans. After completion of the distribution, the subsidy amount utilized for such beneficiaries (component wise) should also be separately shown in the monthly progress report.

Timeline for implementation:

Period	Progress (%)
April-September	75
April-Decemeber	90
April-March	100

The district wise target for lime distribution is as follows :

Sl No	District	Area (ha)	Target for Lime		Transportation charge (Rs in lakh)
			Physical (ha)	Financial (lakh)	
1	Thiruvananthapuram	1316.31	327	17.658	0.09000
2	Kollam	1463.86	363	19.602	0.03007
3	Pathanamthitta	3156.83	783	42.282	0.40000
4	Alappuzha	36875.58	4149	224.046	0.000
5	Kottayam	17659.74	4381	236.574	1.00000
6	Idukki	305	76	4.104	0.05000
7	Ernakulam	3585	890	48.06	0.32000

8	Thrissur	23715	9000	486	3.00000
9	Palakkad	65603	18165.674	980.946396	3.44486
10	Malappuram	9165	2274	122.796	1.52757
11	Kozhikode	1322	328	17.712	0.05000
12	Wayanad	6804	1688	91.152	0.02000
13	Kannur	3564	884	47.736	0.04750
14	Kasargode	1984	492	26.568	0.02000
	Total	176519.32	43800.674	2365.2364	10.000

The committed expenditure for the sub components “Liming Material” and “Transportation and Handling Charges” during 2024-25

Sl No	District	Physical(ha)	Financial(lakh)	Transportation(lakh)	Total (Rs in lakh)
1	Thiruvananthapuram	0	0	0.09	0.09
2	Kollam	152	8.35212	0	8.35212
3	Pathanamthitta	311	16.794	0.075	16.869
4	Alappuzha	2234.398	120.6575	0	120.6575
5	Kottayam	22	1.1862	0	1.1862
6	Idukki	0	0	0	0
7	Ernakulam	1013.6	55.74588	0.2894	56.03528
8	Thrissur	784.1	43.12714	0	43.12714
9	Palakkad	0	0	0	0
10	Malappuram	295.2	16.23519	0.23	16.46519
11	Kozhikode	274.8	14.8392	0.04	14.8792
12	Wayanad	0	0	0	0
13	Kannur	0	0	0.0095	0.0095
14	Kasargode	129	7.09247	0	7.09247
	Total	5216.098	284.0297	0.7339	284.7636

2. Support for Secondary and micro nutrients (except lime for Rice)

(421.67119 lakhs)

(a) Soils in Kerala are generally deficient in essential secondary and micro nutrients.

Why Secondary Nutrient Analysis is Important in Kerala:

1. **Soil Depletion:** Intensive agriculture, heavy rainfall (leaching), and use of chemical fertilizers focused on NPK have led to depletion of secondary nutrients.
 2. **Acidic Soils:** Many soils in Kerala, particularly in high-rainfall areas, are acidic. This affects the availability of secondary nutrients like Ca and Mg.
 3. **Sulfur Deficiency:** With reduced use of sulfur-containing fertilizers (like single super phosphate), S deficiency is becoming more common.
 4. **Crop Sensitivity:** Plantation crops like rubber, coconut, arecanut, and spices are sensitive to deficiencies in Mg and S.
- The **Indian Council of Agricultural Research (ICAR)** and **State Agricultural Universities (like Kerala Agricultural University)** recommended secondary and micro nutrient analysis for soil health as part of comprehensive soil health evaluation.
 - The **Soil Health Card (SHC) scheme** of the Government of India encourages inclusion of secondary and micro nutrient analysis for holistic nutrient management.

Micro nutrient availability generally decreases as the soil pH increases with the exception of Molybdenum. There are seven micro nutrients which are needed for proper growth and productivity of crops namely. Zinc, Copper, Boron, Iron, Manganese, Molybdenum and Chlorine. The essential secondary nutrients are Calcium, Magnesium and Sulphur. This component of the scheme is to provide assistance for the use of secondary and micro-nutrients.

(b) It is hereby sanctioned to provide assistance for micro nutrients and secondary nutrients under the scheme. The scheme component applies to all crops other than paddy. Assistance to the tune of maximum Rs. 500.00 per hectare or 50% of the cost whichever less is allowed. Soil test results are necessary and the deficient element / (s) are only permitted.

(c) The materials shall be supplied in kind and no direct cash subsidy for the beneficiaries are allowed.

The district wise target for support of Secondary & Micro nutrient is as

follows:

Sl. No.	Name of District	Phy. Target (Area in ha)	Financial Target (lakh)
1	Thiruvananthapuram	6023	30.115
2	Kollam	6023	30.115
3	Pathanamthitta	6023	30.115
4	Alappuzha	6023	30.115
5	Kottayam	6023	30.115
6	Idukki	6035.238	30.17619
7	Ernakulam	6023	30.115
8	Thrissur	6023	30.115
9	Palakkad	6023	30.115
10	Malappuram	6023	30.115
11	Kozhikode	6023	30.115
12	Wayanad	6023	30.115
13	Kannur	6023	30.115
14	Kasargode	6023	30.115
	Total	84334.238 ha	421.67119 lakh

3. Conduct of Soil Testing Campaigns (1 Lakh)

(a). Soil testing is an important tool to practice balanced fertilization, which differs from region to region and from crop to crop. Farmers would be able to know the type and quantity of fertilizers and nutrients which are to be applied to the field for improving the efficiency and reducing the cost of production.

(b) All the Krishi bhavans of the State shall conduct a soil test campaign during the Rabi Season of 2024-25 without fail. The Chief Chemist is here by directed to issue orders to all Mobile Soil Testing units to conduct such campaigns in consultation with respective AOS/AFOs. The campaign shall have live soil testing sessions, short classes and demonstrations. The campaigns can also be arranged in consultation with the officials of the Soil Survey and Soil conservation Department.

(c) The maximum amount sanctioned for one such campaign is Rs. 3500 per Krishi bhavan. The amount can be used for light refreshments, honorarium for experts (@ 500 per person/campaign), small banner,

materials for demonstration and any other connected expenses. A minimum of Rs. 1000 per campaign as fuel charges can be utilized form the above amount of the mobile unit. The minimum number of participant farmers shall be 25.

District wise target of Soil Testing Campaign is as follows :

Sl. No.	Name of District	Number of Campaigns	Financial Target (Rs)
1	Thiruvananthapuram	2	7000
2	Kollam	2	7000
3	Pathanamthitta	2	7000
4	Alappuzha	2	7000
5	Kottayam	2	7000
6	Idukki	3	9000
7	Ernakulam	2	7000
8	Thrissur	2	7000
9	Palakkad	2	7000
10	Malappuram	2	7000
11	Kozhikode	2	7000
12	Wayanad	2	7000
13	Kannur	2	7000
14	Kasargode	2	7000
	Total	15 Nos	1,00,000

4. Committed Expenditure of 2024-25 under SRHM Scheme

Sl. No.	Name of District	Committed Expenditure of 2024-25 (Amount in Rs)
1	Thiruvananthapuram	1234500
2	Kollam	729500
3	Pathanamthitta	691500
4	Alappuzha	453000
5	Kottayam	10000
6	Idukki	550500

7	Ernakulam	1441000
8	Thrissur	1510335
9	Palakkad	35000
10	Malappuram	63000
11	Kozhikode	644500
12	Wayanad	259346
13	Kannur	523850
14	Kasargode	456450
15	Balance payment to NIPHM*	4130400
	Total	127,32,881
	<i>Rupees One Crore Twenty Seven lakh Thirty Two Thousand Eight Hundred Eighty one only</i>	

* Production of On-farm production technology for mass production of *Trichoderma* spp. And *Pseudomonas* spp using the NIPHM low-cost technology (**Committed Rs.41.304 lakh**)

Trichoderma & *Pseudomonas* are effective bio control agents against various plant like *Phytophthora* spp, *Pythium* spp, *Fusarium* spp, *Rhizoctonia* spp, etc. By utilizing on farm production technology for mass production of these bio control agents, farmers can efficiently produce and utilize *Trichoderma* and *Pseudomonas* to improve crop health, increase yield and promote sustainable farming practices

As per the MOU signed between NIPHM & Director of Agriculture, Kerala NIPHM will undertake the programme at a total cost of Rs. 75 lakhs (Rupees Seventy Five Lakhs only) for the supply of brown and white media and inoculum of *Trichoderma* spp and *Pseudomonas* spp as part of implementing the scheme. Necessary technical support guidance will be provided by NIPHM in this regard

NIPHM has already supplied the growth medium and inoculum in 12 districts and had already accomplished Master Training for our officers at NIPHM. The remaining portion of distribution and field level implementation will be accomplished during 2025-26 . Out of Rs. 75 Lakh, an amount of Rs. 33.696 lakh was already given the NIPHM as first installment. Remaining 41.304 Lakh need to be given to NIPHM during the current year.

NIPHM shall supply the growth medium and inoculum to concerned districts for which the cost will be met from the fund provided to NIPHM at actuals. The details of receipt of product in good condition will have to be intimated to directorate by the district offices. The material shall be supplied to block offices as tested by district head quarters in larger packets containing smaller packing required for one unit ie. one hectare.

The targets given to districts given during 2024-25 which need to be accomplished during 2025-26. Once the implementation is over , the districts need to report the accomplishment of the scheme and the documental evidence to the undersigned . Then only the Second Installment for NIPHM can be transferred. The details of target given to districts for mass production during 2024-25 is given below .

Physical and Financial target for the establishment of mass production units of *Trichoderma spp* and *Pseudomonas spp* using NIPHM low cost technology (80 Lakhs)

Sl No	Districts	Physical Target (Ha)	Financial Target to NIPHM (in Lakh)	Financial Target to Districts (in Lakh)	Total Target(in Lakh)
1	Thiruvananthapuram	650	4.875	0.325	5.2
2	Kollam	650	4.875	0.325	5.2
3	Pathanamthitta	700	5.25	0.35	5.6
4	Alappuzha	650	4.875	0.325	5.2
5	Kottayam	700	5.25	0.35	5.6
6	Idukki	900	6.75	0.45	7.2
7	Ernakulam	650	4.875	0.325	5.2
8	Thrissur	700	5.25	0.35	5.6
9	Palakkad	700	5.25	0.35	5.6
10	Malappuram	700	5.25	0.35	5.6
11	Kozhikode	700	5.25	0.35	5.6
12	Wayanad	900	6.75	0.45	7.2
13	Kannur	700	5.25	0.35	5.6
14	Kasargode	700	5.25	0.35	5.6
	TOTAL	10000 Ha	75 Lakh**	5 Lakh	80 Lakh

****Rs 75 Lakh (Rupees Seventy Five Lakh only) payable to NIPHM as per the MoU between NIPHM & Director of Agriculture, Kerala.**

Directions for Mass production of *Trichoderma* and *Pseudomonas* using low cost technology of NIPHM

(a) The National Institute of Plant Health Management (NIPHM) has a revolutionary and patented low-cost technology for the on-farm mass production of *Trichoderma spp* and *Pseudomonas spp*. This technology uses the specific growing media such as ' Brown media' for *Pseudomonas* and 'White media' for *Trichoderma*.

(b) The mass production of bio control agents need to be undertaken by individual farmers, *KrishiKootams*, *Uthama Krishi Kdumbam* etc. The amenities and service of Plant Health Clinics and its working capital can be utilized wherever possible. Proper storage of the prepared cultured solutions could be done in refrigerated conditions. DD(WM) have to monitor the smooth accomplishment of mass production procedures in Plant Health Clinics in concerned districts.

(c) Top priority for implementation should be given to the panchayaths under “Jaiva karshika mission” and “ Krishi Samurdhi”.

(d) An amount of Rs,. 50/- (Rupees Fifty only) will be provided per unit for purchase of trays.

(e) The maximum assistance for the adoption of this technology is limited to maximum Rs. 750.00 per hectare.

Financial Abstract of Mass production unit of *Trichoderma spp* and *Pseudomonas spp* using NIPHM low cost technology

Sl. No.	Component	Amount earmarked (in Lakh)	Payable to whom
1	Cost of inoculum and media, Training of master trainers & Other expenses	75	NIPHM, Hyderabad
2	Cost of trays	5	To beneficiary farmers/Agency
	TOTAL.	80 lakh	

Financial Abstract of the Scheme

Sl No	Component	Financial Allocation (lakh)
1	Lime application for Rice (including committed expense 2024-25)	2660.00
2	Support for Secondary & Micronutrient (including committed expense 2024-25)	421.67119
3	Soil Testing Campaign	1.00
4	Committed Expenditure SRHM 2024-25	127.32881
	Total	3210.00 Lakhs

Scheme Management

a). The scheme shall be managed by the Additional Director (CP) at the State level. The Principal Agricultural Officers of the Districts shall closely watch the progress of implementation of the scheme. The DDA (WM) shall be the district level monitoring official.

(b). The Chief Soil Chemist shall assure that the campaigns are taking place in time. The DSTLs shall be given directions for conducting soil testing campaigns wherever MSTLs are not available.

(c). All formalities regarding Store Purchase Rules shall be followed for purchases and procurements.

(d) Do not park funds at any level.

(e). Implementation of the scheme shall be strictly in accordance with the instructions issued and as per release of funds.

(f). Progress report of the same shall be submitted to the undersigned.

Monitoring of the Scheme

The scheme will be monitored at the state level by Additional Director (Crop Production).

Dr Sriram Venkitaraman IAS
DIRECTOR

For Director of Agriculture

To 1)All Principal AgriculturalOfficers

Copy to: 1)All Deputy Directors of Agriculture (WM)

2)Chief Soil Chemist

3)CA to Director of Agriculture

4)CA to all Additional Directors of Agriculture

5)IT Cell (for publishing in the website)

6)Planning section - to allot funds to PAOs

7)SW section

8)Stock File