

Directorate of Agriculture Development and Farmers' Welfare

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CIRCULAR

Sub:- Annual Plan 2022-23 - Soil and Root health Management and Productivity Improvement - Support for Secondary and Micro Nutrients and Green Manure Working Instructions Issued - Reg.

Ref:- 1) GO (Rt) No 673/2022/AGRI dated 26/07/2022

As per the reference cited above, Government have accorded administrative sanction for the implementation of the scheme 'Soil and Root Health Management and Productivity Improvement' during the year 2022-23 for an amount of Rs. 2210 lakh under the Head of Account 2401-00-800-28(Plan), of which Rs.50 lakh was set apart for the component **“Support to Secondary and Micronutrients and Green Manure.”**

Kerala soils are generally deficient in essential secondary and micro nutrients. These are nutrients used in small quantities and there are seven micro nutrients viz. Zinc, Copper, Boron, Iron, Manganese, Molybdenum and Chloride, which are needed for proper growth and productivity of crops. Calcium, Magnesium and Sulphur are the three essential secondary nutrients. Through soil testing and plant analysis, micro nutrient deficiencies can be identified.

The deficiency of Boron is acute and extensive, requiring immediate intervention through Boron supplements. Copper and Zinc are also required in small quantities in most of the soils. Government of Kerala has notified the use of Zinc, Copper and Boron in Kerala Soils and its application level for foliar and soil applications. The joint survey conducted by the State Planning Board and the Department of Agriculture under the “Soil Based Plant Nutrient Management Plan for Agro-Eco Systems of Kerala” reveal that Kerala Soils are deficient in micro nutrients. High-yielding crops remove more micro nutrients from the soil; hence application of micro-nutrients is essential to achieve full balanced nutrition for crops.

Soil factors that affect the availability of secondary and micronutrients are organic matter content, soil texture and soil pH. Soils very low in organic matter will usually be deficient in micronutrients. Sandy soils are more likely to show micronutrient deficiencies than clay soils. Micronutrient availability generally decreases as the soil pH increases, with the exception of Molybdenum.

The practice of growing green manure crops and incorporating the same to the soil is advised for enhancing the organic matter content of the soil. Most of the pulses grown in Kerala can be used can easily be grown for this purpose. The use of Green Manure crops can be promoted in the areas where BPKP scheme is being implemented.

Objectives:

- 1) The main objective of the scheme is to apply sufficient quantity of Secondary and Micronutrients to overcome their deficiency. Boron deficiency can be avoided by the use of borax (20 kg / ha), Magnesium deficiency by the use of Magnesium Sulphate (80 kg/ha) and Zinc deficiency by the use of Zinc Sulphate (10 kg/ ha). For coconut, 50 gms of Borax, 500 gms of Magnesium sulphate and 50 gms of Zinc Sulphate can be used.
- 2) To assist farmers in the application of Secondary and micro nutrients thereby increasing the productivity of paddy, coconut, vegetables and spice crop.

- 3 To promote the application of Green Manure to improve the general condition of the soil in BPKP area.

Programme:

This programme will be implemented to promote the use and application of Secondary and micro nutrients and green manure for better soil status and crop productivity. Among micronutrients, Zinc, Copper and Boron are the only nutrients which are notified by the State Government and so, subsidy can be given only to these micronutrients and secondary nutrients viz., Calcium, Magnesium and Sulphur under the scheme. The financial outlay for this programme is Rs. 25 lakh. Assistance @ Rs.500 per ha will be provided for Secondary and Micro nutrient fertilizers and the component will be implemented in an area of 5000ha.

The practice of growing green manure crops and incorporating the same in the soil is advised for enhancing the nitrogen and organic matter content of the soil and improving soil properties. Pulses crops such as which can be grown as intercrop/covercrop may be grown as green manure crops. As per the guidelines of Janakeeyasoothranam, 100% assistance can be provided for seeds. The green manure seeds should be arranged by the implementing officers. Assistance should be limited to Rs 2000 per ha for Green Manure seeds. The component will be implemented in an area of 1250 ha.

The programme will be implemented in farmer clusters of paddy/vegetable/coconut/spices. Soil/plant analysis will be undertaken in the field of the farmers involved in these cluster groups. Since the Department Soil Testing Labs are equipped with Atomic Absorption Spectrophotometer for analysing micronutrients, the soil samples under the scheme will be analysed at the Soil Testing Laboratories of the Department free of cost.

Supply will be arranged through Agencies like (FACT), Government or quasi Government institutions like Kerala Agro Industries Corporation, RAIDCO and through approved agencies, etc. As the actual input materials are supplied to the farmers through the cooperative societies/banks or other agencies who are willing to stock and distribute the micronutrient fertilizer / green manure to the farmers, the normal issue of subsidy to the farmers through e-payment system will be delinked for the implementation of this scheme. The farmers who avail any assistance from any other scheme for the same purpose will not be considered for this scheme. Micro nutrient mix developed by IIHR Bangalore can also be considered.

Mode of Implementation:

The field level implementation will be done by the Agricultural Officers of the concerned Krishi Bhavans. The purchase of the Secondary and Micro nutrient fertilizers / Green Manure seeds will be arranged by Co-operative Societies/Banks and supplied through farmer cluster, coconut clusters, vegetable clusters and padasekhara samithies through permit system by Krishi Bhavans. Agricultural Officer of the Krishi Bhavan will ensure the quality of the material supplied. The scheme will be implemented by the Deputy Directors of Agriculture (WM) at the District level and the Assistant Director of Agriculture at Block level.

Monitoring:

Additional Director of Agriculture (CP) 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 should be furnished to the Director of Agriculture by the 5th of every month.

Financial Outlay:

The financial outlay for this programme is Rs. 50 lakh. Assistance @ Rs.500 per ha will be provided for Secondary and Micro nutrient fertilizers and Rs 2000 per ha for Green Manure seeds will be given to farmers and this programmes will be implemented in an area of 2750 Ha. The total financial requirement of the programme of Rs. 50 lakh can be met from the current years' budget provision under the head of account 2401-00-800-28 Plan.

Sl. No.	Name of District	Micro and Secondary Nutrients		Green Manure		
		Area in Ha	Financial (Rs. in lakh)	Area in Ha	Financial (Rs. in lakh)	Total
1	Thiruvananthapuram	300	1.50	100	2.00	3.50
2	Kollam	300	1.50	75	1.50	3.00
3	Pathanamthitta	350	1.75	75	1.50	3.25
4	Alappuzha	400	2.00	100	2.00	4.00
5	Kottayam	400	2.00	100	2.00	4.00
6	Idukki	300	1.50	75	1.50	3.00
7	Ernakulam	350	1.75	75	1.50	3.25
8	Thrissur	450	2.25	100	2.00	4.25
9	Palakkad	400	2.00	100	2.00	4.00
10	Malappuram	400	2.00	100	2.00	4.00
11	Kozhikode	350	1.75	100	2.00	3.75
12	Wayanad	350	1.75	100	2.00	3.75
13	Kannur	350	1.75	75	1.50	3.25
14	Kasaragod	300	1.50	75	1.50	3.00
	Total	5000	25.0	1250	25.0	50.0

Project management and Duration

The project will be managed by the Additional Director of Agriculture (Crop Production) at the Directorate of Agriculture, and project implementation will be completed by 31/03/2023.

SUBHASH T.V. IAS
DIRECTOR
Director of Agriculture

To 1) All Principal Agricultural Officers
Copy to: 1) All Additional Directors of Agriculture
2) All Project Directors, ATMA
3) All Deputy Directors of Agriculture (WM)
4) Stock File / Spare