

Directorate of Agriculture Development and Farmers' Welfare

Vikas Bhavan, Thiruvananthapuram – 695033

e-mail:cru.agridir@kerala.gov.in, Phone: 0471-2304481

No:ADFW/3498/2022-TD1

Date:24-03-2023

Circular

Sub:- Scheme on Crop Health Management – 2022-23–Revised Working Instructions issued – reg.

Ref:- 1) G.O.(Rt)No.457/2022/AGRI dtd 26-05-2022

2) Order No. ADFW/ 3646/2022-TP(2) dated 31/05/2022

3) G.O.(Rt)No.273//2023/AGRI Dated,22/03/2023

As the global population is growing rapidly and putting increased demand on food supply, poor soil quality, drought, flooding, increasing temperatures, and plant diseases and pests are negatively impacting yields worldwide. Sustainable agriculture is the need of the hour. Plant health monitoring, early detection of pests, diseases and nutrient deficiencies help in better management of the crop. Crop Health Management involves studying and developing innovative methods to manage pests and diseases that damage crops. Improvements in integrated pest management can lead to sound crop health management. Crop health management will bring together management towards sustainable ecosystems and people's health through Good Plant Protection Practices (GPPP). By continuous monitoring of the pest situation and weather parameters, it is possible to forecast the incidence of pest and diseases. This will help farmers in taking precautionary management measures even before pest population/disease intensity crosses the threshold level. This type of prophylactic management of biotic stresses coupled with improvement of plant health based on soil nutrient status reduces the need for chemical based pest management measures. The Crop Health Management scheme proposes to strengthen the pest surveillance project launched during 2013-14 through systematic surveillance activities and provision of timely advisories for which an amount of Rs.900.00 lakh is set apart in the Annual Plan 2022-23.

Government of Kerala, have accorded Administrative sanction for the implementation of the scheme 'Crop Health Management' as per reference 1st cited for the financial year 2022-2023 and there is a budget provision of Rs.900.00 lakh for the scheme 'Crop Health Management' under the Head of Account 2401-00-107-78 (P) for the financial year 2022-23. As per reference 2nd cited, detailed Working Instructions had been issued for the implementation of various components under the scheme. Vide reference 3rd cited, revised Administrative sanction was accorded to the scheme so as to enhance the budget provision earmarked for the payment of honorarium to contract staff employed under the scheme from Rs.500 Lakh to Rs.700 Lakh through component change without affecting the total budget provision of Rs.900.00 Lakh.

Efforts to improve plant health have been evolving with increased understanding of plant ecology and pest management. Excessive use of pesticides adversely affect public health and environment. Residues of pesticides in food crops are often been reported to exceed their acceptable limits. Many new pests which were controlled by their natural enemies present in the ecosystems have assumed the status of the major pests in some regions due to decline in the population of the natural enemies caused by the indiscriminate and excessive use of pesticides. Many interventions are aimed at supporting pest control often relying solely on the application of pesticides or the use of resistant/tolerant cultivars. In the long term this has been shown to be unsustainable as a result of pest overcoming host plant resistance and building up resistance

to pesticides or the improper and or excessive use of pesticides with undesirable impact on human and ecosystem. The new approach of plant health management will bring together management towards sustainable ecosystems and people's health through Good Plant Protection Practices (GPPP). The Crop Health Management scheme is an attempt to fill the gaps for evolving sound crop health management strategies and action plan.

The Scheme launched during 2013-14 will be continuing during 2022-23 also with an outlay of Rs.900.00 lakhs with the following components, the revised details of which are given below:-

Sl. No	Components of scheme	Amount (Rs.in Lakhs)
1.	Pest Forecasting and Advisory services and Strengthening of Plant Health Clinics and ICT based Pest Surveillance System through IIITMK	107.00
a)	Development of pests and disease surveillance system and advisories including use of GPS for pest and disease surveillance	73.667
b)	Establishment of new Plant Health Clinics at panchayath level (2 no) and Strengthening of existing Plant Health Clinics.	18.333
c)	ICT based pest surveillance system through IIITMK	15.00
2.	Development of 9 Parasite Breeding Stations	16.00
3.	Operational Expenses of KCPM	5.00
4.	Rodent control and Management of wild animal attack in cropped areas	72 .00
a)	Rodent Control	25.00
b)	Management of wild animal attack in cropped areas through technology support.	47.00
5.	Honorarium to District Plant Health Managers (DPHM) and Honorarium to Field Assistants (Pest Scouts in Plant Health Clinics & KCPM) and	700.00

	Research Associate of KCPM	
	TOTAL	900.00

OBJECTIVES:-

- Development of pests and disease surveillance system and advisories including use of GPS for pest and disease surveillance
- Development and use of pests and diseases diagnostic tool kit.
- Rodent control measures
- Strengthening of existing Plant Health Clinics & district referral plant health clinics
- Establishment of new Plant Health Clinics
- Development of 9 Parasite Breeding Stations
- Management of wild animal attack in cropped areas through technology support.

The scheme will be implemented during 2022-23 with the following major components for an amount of Rs.900.00 lakhs.

1) PEST FORECASTING AND ADVISORY SERVICES (Rs. 107 Lakh)**(a) Development of Pests and Disease Surveillance System and Advisories including the use of GPS for pest and disease surveillance (Rs.73.667 Lakh)**

The pest surveillance activities will be implemented in all the 152 blocks, in 276 Krishi Bhavans where Plant Health Clinics are functioning. In addition to the existing 276 clinics, Plant Health Clinics will be established in the newly selected 2 (two) Krishi Bhavans. Surveillance plots will be selected in all these 278 panchayaths (existing 276+ 2 new) @ based on cropping pattern covering paddy, vegetables, coconut, pepper and banana. The number of surveillance plots will be reduced based on cropping pattern of the selected Panchayaths. Activities envisaged under the component such as surveillance units, training, software development, technical materials, plant health clinics and referral laboratories, community empowerment, farmer field schools, weather database recording and compilation and plant health advisory services will be continued in existing 276 Panchayaths and will be implemented in the newly selected 2 panchayaths. Technical officers should visit the surveillance units on scheduled days. For paddy and vegetables weekly visit, for banana fortnightly visits and for coconut and pepper monthly visit are to be scheduled. The field assistants (Pest Scouts) should conduct the visit as per the schedule and record observations on pest/disease incidence. Observations should be noted in a register to be maintained at Krishi Bhavan level. The field level observations and data collected should be uploaded in the CPSS (Crop Pest Surveillance System) website through the GPS enabled hand held devices supplied for the purpose. Necessary support / training for uploading the data should be provided by the PGDPHM officers working in the block area. If needed, a district level training can be arranged for the officers in consultation with IITMK.

a.1 Assistance to surveillance Units (Panchayath) (Rs.48.1125 Lakh)

Surveillance units will be established in 278 Panchayaths selected for the project during 2022-23 in farmer's field. The number of surveillance plots will be reduced based on cropping pattern of the selected Panchayaths. Plots should be selected in the panchayath for the crops paddy, coconut, banana, pepper and vegetables if the area under these crops is above 5 ha. Plot size is 1 acre for rice & coconut, 50 cents for banana & pepper and 10 cents for vegetables. 3849 plots can be selected from 278 panchayaths in 152 blocks of 14 districts based on the requirement and target assigned. Farmers will be provided assistance @ Rs.1250/- per plot. Observation and data collection It should be ensured that the pest surveillance activities are undertaken as per schedule and under strict monitoring and evaluation by the district level officers. Technical officers should visit the surveillance units on scheduled days. For paddy and vegetables weekly visit, for banana fortnightly visit and for coconut and pepper monthly visits are to be conducted. The field assistants (pest scouts) should conduct visit as per schedule and record observations on pest/disease incidence. Observations are to be recorded in a Register which is maintained in the Krishi Bhavan. The field level observations and data collected should be uploaded in the CPSS (Crop Pest Surveillance System) website through the GPS enabled hand-held devices supplied for the purpose. Necessary support/training for uploading data should be provided by the PGDPHM officers working in the block area. A district level training can also be arranged in consultation with IITMK if necessary.

a.2 Soil testing (Rs.2.66 Lakh)

From the selected Plant Health clinic , 885 samples are to be collected based on the requirement and target assigned .An amount of Rs 2.66 Lakh is needed @ Rs 300/sample for soil testing including micro nutrient analysis.

a.3 Internet charges for data uploading using hand held devices (Rs.4.02 Lakh)

The Agricultural Officers and Agricultural Assistants in charge of Plant health Clinics has been provided hand held devices to enable data collection and providing advisories to farmers. For facilitating the uploading of data from field itself, net connection will be allowed for the devices and the net charges will be reimbursed based on actual utilization limiting to Rs.200/- per month to the Agricultural Officers and Agricultural Assistants of 278 Panchayaths where Plant Health Clinics are already established. Amount will be allotted based on requirement.

a.4 Expenses for Rowing survey (Rs.11.68 Lakh)

In addition to fixed plot survey, rowing survey will be given emphasis covering all the hot spots of pests/ diseases in the block, based on the action plan and route-map finalized at block level. An amount of Rs.500/- per month can be expended for rowing survey to meet hire charges of vehicle based on actual expenses. The surveillance and rowing survey data will be analyzed and monthly reports at district level will be prepared with the help of District Plant Health Managers appointed on contract basis. For analyzing the data and preparation of district level reports, the service and technical support of PGDPHM officers should also be utilized.

a.5 Operational expenses (Rs. 2.93 Lakh)

A Multi-Disciplinary District Team (MDDT) will be constituted with one specialist each from Entomology, Pathology & Soil Science, one representative from Krishi Vigyan Kendra, one representative from Research Station, Project Director ATMA & Deputy Director (E&T). MDDT proposed as a part of pest and disease surveillance could also be utilized for diagnostic services in Plant Health Clinics and development of advisories. The

team will make need based field visit and recommend suitable remedial measures. It can be utilized to meet other miscellaneous expenses including expenditure in connection with field visit, group meetings etc. An amount of Rs.2.93 Lakh is allotted under this component.

a.6 Printing and publishing Krishi Bhavan, block and district level advisories (Rs.4.12 Lakh)

An amount of Rs.4.12 Lakh is set apart for providing assistance to 278 plant health clinics for printing and publishing crop health advisories/ pest bulletins.

Crop health management advisories should be released according to necessity once in a month. It should be distributed to selected progressive farmers, farmer groups, clusters, Padasekhara Samithis, Panchayaths, Co-op-Societies, Agro Service Centres & other need based technology dissemination centres. Special attention should be given to deliver the material in good quality, both in terms of content and printing. Hard copies of the bulletins released should be submitted to the Directorate.

a.7 -Capacity building to field staff –(Rs 0.15 Lakh)

An amount of Rs 0.15 Lakh is earmarked for providing training to field staff on pest surveillance,data capturing,data uploading etc. based on the requirement and target assigned to districts.

b) Establishment of new Plant Health Clinics at panchayath level (2 no) and Strengthening of existing Plant Health Clinics. (Rs.18.333 Lakh)

b.1 Establishment of new 2 nos of Plant Health Clinics at panchayath level (Rs.10 Lakh)

In addition to the 276 Plant Health Clinics already established in 152 blocks, it is proposed to establish 2 new Plant Health Clinics during 2022-23.

For establishing new clinics, an amount of Rs.10.00 Lakh is set apart at the rate Rs.5.0 lakhs per clinic. The service of Field Assistants / Pest Scouts available under the scheme can be utilized for functioning of clinics. The charge of the clinic should be assigned to one Agricultural Assistant and he/she will assist the Agricultural Officer and will be responsible for functioning of the clinic in the absence of Agricultural Officer.

A sign board should be exhibited in front of the clinic for public awareness. The technical materials, equipment and components required for establishing a plant health clinic at the Panchayath level are shown below. Minor variations in the items and costs can be sanctioned by Principal Agricultural officers to suit local requirements within the ceiling limit of Rs.5.0 lakhs / clinic.

Items	Amount (in Rs)
Magnifiers	15000
pH Meter, salinity, EC box	10000
Insect showcase box	

/84616/2023

Hand lens	10000
Digital camera	15000
Tablet PC	10000
LCD projector and laptop	80000
Display board	100000
Exhibits	125000
Microscope	40000
Furniture	30000
Miscellaneous	30000
Books, periodicals and journals	20000
Portable PA system	15000
Total	5,00,000

b.2 Strengthening of existing Plant Health Clinics (Rs.8.333 Lakh)

An amount of Rs.8.333 Lakh is set apart for providing additional support including infrastructure support and to meet critical gaps of existing plant health clinics like maintenance cost, operational cost, charges for mobility etc. The amount will be allotted based on requirement.

c) ICT based pest surveillance system through IITMK(Rs.15.00 Lakh)

Continuous monitoring of pest situation and weather parameters is very effective in forecasting the incidence of pests and diseases and help farmers to take up prophylactic management measures before pest population/ disease intensity crosses threshold levels. Farmers can also be advised to improve plant health based on soil nutrient status. ICT can play a major role in observing and capturing field data from farmers field and process, analyze and generate dynamic and timely pest/disease management advisories. The major objectives proposed to be attained by the implementation of this component are development of new version of android mobile application CROPSS with AI enabled pest, disease diagnosis with added features, and continuous development and maintenance of mobile web based pest surveillance system. Training and capacity building programmes for various officers in the Agriculture Department on the applications of the software are also proposed to be conducted under this component. . An amount of Rs.15.00 Lakh is set apart for providing financial support to The Kerala University of Digital Sciences, Innovation and Technology for the implementation of this programme.

2) DEVELOPMENT OF NINE PARASITE BREEDING STATIONS (Rs.16.00 Lakh)

There are nine Parasite Breeding Stations in the State engaged in the production of parasitoids of Coconut leaf eating caterpillar such as *Bracon brevicornis*, *Goniozus nephantidis*, *Trichogramma chilonis* effective against Diamond Back Moth, Bethylids effective against beetles and lepidopterans, predators such as Reduvids, etc . These are located in the districts of Thiruvananthapuram, Kollam, Alappuzha, Kottayam, Ernakulam, Thrissur, Malappuram, Kozhikode Kasaragode. The activities of these nine Parasite Breeding Stations will be strengthened by developing them as stocking centres for bio control agents as well as through promoting parasite breeding during 2022-23.

The man power available at present in these stations is quite inadequate to enhance the activities. The present staff pattern comprises of only one technical assistant and one or two gardener cum lab cleaner. Hence the service of a technically qualified officer with B.Sc (Agri) and one labourer is proposed in these stations on contract basis with an honorarium of Rs.25000/- per month and Rs.8000/- per month respectively. An amount of Rs. 16.00 lakhs is set apart for providing the purchase of essential items and equipment for the production of bio control agents and other infrastructure development including renovation/ construction of building for the proper functioning of the PBS-and for providing honorarium to contract staff.

Financial allocation for nine Parasite Breeding Station are as follows:-

Sl.No	Parasite Breeding Station	Total Amount (in lakhs)
1	PBS , Thiruvananthapuram	1.0
2	PBS, Kollam	3.5
3	PBS, Alapuzha	1.40286
4	PBS, Kottayam	3.85714
5	PBS,Ernakulam	2.46
6	PBS, Thrissur	1.68
7	PBS, Malapuram	0.1
8	PBS, Kozhikode	1.0
9	PBS, Kasargod	1.0
	TOTAL	16.0

3) OPERATIONAL EXPENSES OF KERALA CENTRE FOR PEST MANAGEMENT, MONCOMPU (Rs.5.00 Lakh)

Kerala Centre for Pest Management (KCPM) is an independent unit under Agriculture Development and Farmers' Welfare Department involved in pest management activities of Kuttanad area. It functions with the objective of helping farmers with early detection of pests and diseases by conducting pest surveillance to avoid pest and disease outbreak. Data regarding pest and disease symptoms as well as abiotic stress are collected, processed, interpreted and released to farming community through various media during the planting season of paddy in Kuttanad region. Timely intervention during pest and disease outbreaks is also done by this Centre. KCPM was started in 1999 as Operational Research Project with head quarters at Moncombu, Alappuzha district and later renamed as Kerala Centre for Pest Management in 2005. The intervention of Kerala Centre for Pest Management has resulted in control of pest incidence in Kuttanad without much economic loss and has also helped in reducing the pesticide consumption in rice cultivation in the area. The Kerala Centre for Pest Management (KCPM) carries out pest surveillance activities in the entire Kuttanad region spread across three districts of Alappuzha, Kottayam and Pathanamthitta in an area of 45,000 hectares. KCPM has a bio-inputs production centre where crop growth promoters, insect repellents, rodent repellents, pathogen repellents and lures are produced and supplied to farmers. It also acts as an agency in coordinating the crop health management programme of Department of Agriculture along with ATMA. In addition, KCPM conducts training to farmers, Extension officers (Agricultural Officers, Agricultural Assistants and Pest Scouts) and farm laborers. An amount of Rs.5.00 lakh is proposed as operational expenses of KCPM.

4) RODENT CONTROL AND MANAGEMENT OF WILD ANIMAL ATTACK IN CROPPED AREAS THROUGH TECHNOLOGY SUPPORT (Rs.72.00 Lakh)

4.a Rodent Control (Rs.25.00 Lakh)

Rodent control campaign will be continued during 2022-23 also with a budget outlay of Rs. 25.00 Lakhs for conducting 100 campaigns. It should be conducted on a campaign mode covering the whole area (say panchayaths/ municipal wards etc.). Wide publicity should be given and rodent control campaign should be arranged with the involvement of all local self-government institutions, government and non-government institutions & agencies, people's representatives, public organizations, farmers' organizations etc. of the area. Rodent control campaigns will be conducted in the grama panchayath/municipality and corporation identified as hot spots for major communicable diseases (including Leptospirosis) by 'Ardram Mission' of Health Department.

An amount of Rs.25000/- is earmarked for each rodent control campaign for the following items :-

Sl. No.	Items	Amount (Rs.)
1.	Publicity charges	2000
2.	Cost of rodenticides, baiting materials etc	23000
	Total	25,000

	(for one campaign)	
	Total	
	(for 100 campaigns)	25 Lakh

4.b Management of Wild Animal Attack In Cropped Areas Through Technology Support (Rs.47.00 lakhs)

The farmers residing in the forest bordering areas are facing serious threats from wild animals. Presently elephants cause great amount of damage to field crops. Farmers use indigenous as well as technical methods to minimize the damages. Construction of trenches and electric fences is the common practice. But these methods are less effective. Bee hive fencing is a new method adopted to prevent the entry of elephants. Other successful local systems and practices prevalent for protection against wild animals and birds would also be assisted on a project mode. An amount of Rs.47.00 lakhs is earmarked for this purpose.

5) HONORARIUM TO FIELD ASSISTANTS (PEST SCOUTS IN PLANT HEALTH CLINICS & KCPM)), DISTRICT PLANT HEALTH MANAGERS & RESEARCH ASSOCIATE OF KCPM- (Rs.500.00 Lakh)

Pest scouts working in the existing 276 Plant Health Clinics are to be paid Honararium @Rs.19,280/month and District Plant Health Managers posted in the districts and headquarters will be paid an Honorarium of Rs.29,785/month as per G.O(Rt) No.34/2021/Agri dated 11/01/2021, Thiruvananthapuram. Research Associate employed on contract basis can be paid Honorarium @ Rs.30000/- per month from this component.

The Pest Scouts should conduct fixed plot survey based on visit schedule and also rowing survey at regular intervals, in the remaining Krishi Bhavans of the block. District Plant Health Managers will consolidate the progress reports of the scheme, do the documentation works and also give required technical support to the pest scouts.

An amount of Rs.700.00 lakhs is set apart for the purpose

FINANCIAL OUTLAY

The total financial outlay of the project is Rs.900 Lakh (Rupees Nine Hundred Lakh Only) and the amount can be met from the provisions under the Head of Account 2401-00-107-78 (P) during 2022-23.

IMPLEMENTATION OF THE PROJECT

The Deputy Director of Agriculture (E& T) should take a lead role in implementation of the scheme at district level. A minimum of one plant health Clinic should be visited by DDA (E&T) per month and detailed report to be submitted to this office. Monthly review meetings should be conducted to monitor the scheme. A minimum of 10 days field visit focusing on Plant Health clinics should be assigned to DPHM for which a visit schedule is to be prepared and it should be monitored by DDA (E&T). Principal Agricultural officer will coordinate all the activities at the district level for the effective implementation of the project. Block and panchayat level physical and financial targets should be submitted soon after the receipt of the circular. At the state level the Additional Director (CP) will be in charge of the project. The multi institutional project will be co-ordinated by Chief (Agriculture), State Planning Board.

REPORTING

Principal Agricultural officers should furnish monthly progress report to the Director of Agriculture on 5th of every month. Monthly progress report should contain component wise

/84616/2023

physical and financial targets and achievements, number of beneficiaries and stage of implementation of each component. Since Government is giving emphasis to women participation and gender budgeting, maximum efforts have to be made to include women beneficiaries in farmer participatory components of the scheme .The number of women beneficiaries and the amount utilized for such beneficiaries(component wise)should also be separately shown in the monthly progress report.

-Sel-
ANJU K S IAS
DIRECTOR

Copy to:

- 1)All Principal Agricultural Officers and Project Directors, ATMA
- 2)Project Director, KCPM, Moncompu
- 3)Director General, NIPHM, Hyderabad
- 4)Director, IITM-K

Copy to:

1. TA to Director of Agriculture
2. CA to all Additional DAs
3. All JDAs at HQ / SFO
4. Finance section
5. Planning section
6. SW Section
5. Stock file/Spare
6. IT Cell for publishing in web site

Jyothi K. I
PEN: 600834
Plant Protection Officer
Directorate of Agriculture Development
and Farmers' Welfare
Vikas Bhavan, Thiruvananthapuram - 33