

**CIRCULAR**

Sub:- Annual Plan 2018-19 – Scheme on “Integrated Pepper Development under Wayanad Package” – working instructions issued – reg.

Ref :- 1) GO.(Rt)No.1070/2017/AD dated 30.10.2017. of Agriculture(Agri) Department.

2) TP(2)15005/2018 dated 04.04.2018

As per the reference cited first, administrative sanction was accorded for Wayanad Package 2017-18 and during 2018-19 the scheme is continuing with a budget allocation of Rs.1900.00 lakhs under head of account **2401-00-800-27 Plan** vide reference 2<sup>nd</sup> cited.

**'Integrated Pepper Development'** is a major component under Wayanad Package and during 2018-19 administrative sanction is received for an amount of **Rs.1230.00 lakhs.**

**The project aims at restructuring pepper development activities incorporating new technologies for augmenting production and productivity in Wayanad district.**

**Components**

The scheme is proposed for implementation during 2018-19 with the following components.

1. Assistance for planting new standards
2. Area Expansion of Pepper
3. Whole farm Development
4. Integrated Management of Quick wilt of Pepper
5. Development of planting materials through orthotropic shoots & grafts.
6. Production of planting materials through decentralised nurseries
7. Application of secondary and micro nutrients
8. Support to maintenance of mother gardens
9. Establishing Farmer Field Schools (FFS)
10. Frontline Demonstration (FLD) of new technologies
11. Exposure visit to model farms

12. Documentation including ITK
13. External consultancy support
14. Constitution of expert committee & strengthening of multi Disciplinary Diagnostic Team
15. Untied funds for new local initiatives
16. Strengthening of Pepper samithies
17. Information/ Publicity
18. Operational expenses

**1) Assistance for planting of new standards (Rs.20.00 lakhs)**

In order to promote alternate standards like Glyricidia, Silver oak, Ailantus, Kilingil etc. which are more resistant to pest attack, assistance will be provided to the farmers @ **Rs.10/- per standard**. During 2018-19, it is proposed to distribute **2.00 lakh** numbers of planting materials to the farmers. The total amount earmarked is **Rs 20.00 lakhs**.

**2) Area expansion of pepper (310.00 lakhs)**

Establishment of new pepper garden with high yielding varieties of pepper can be undertaken for improving the productivity of pepper. The estimated cost for the establishment of one ha of pepper garden is ₹ 40000/- . An amount of ₹ 20000/- ( limited to 50% of the total cost) is given as assistance.

The planting materials required for new planting should be preferably from the Departmental farms, Kerala Agricultural University, Central Government Institutions and other approved nurseries. The quality of planting materials should be ensured if made available through approved nurseries or progressive farmers.

**Estimated cost for establishing new garden in one hectare**

Sl No	Item	Cost in Rs.
1	Land preparation and labour charge for planting	8000.00
2	Cost of planting materials and standards	20000.00
3	Organic manures	10000.00
4	Others including plant protection	2000.00
	<b>TOTAL</b>	<b>40000.00</b>

During the year 2018-19 a total area of **1550 ha** is to be brought under cultivation with improved varieties of pepper and an amount of **Rs. 310.00 lakhs** is set apart for this component.

### 3) Whole farm Development (Rs.300.00 lakhs)

Financial assistance will be provided for adoption of good management practices in 1500 Ha of pepper to rejuvenate pepper plantations through proper crop health management giving emphasis to organic methods.

#### Objectives

1. To provide financial assistance for adoption of good management practices in 1500 Ha. of pepper.
2. To rejuvenate pepper plantations through proper crop health management giving emphasis to organic methods.
3. To increase production and productivity of pepper.
4. To provide good financial returns to farmer.

**The activities will cover all the 23 grama panchayats and 3 municipalities in Wayanad district.**

Financial assistance will be provided to following activities in pepper gardens:

- (1) Terracing as per contour in uneven lands
- (2) Digging around the standards twice a year before the onset of the 2 monsoons
- (3) Pruning and training standards in March-April every year.
- (4) Under planting on steady yield reduction or after 20 years of planting with removal of old and senile vines 3-5 years after under planting
- (5) Organic manure application around basin @ 10kg/year with the onset of SW monsoon, application of lime 50g/vine during April-May and NPK application @50:50:150 NPK g/vine/year applied in 2 doses as a general recommendation.
- (6) Plant protection including phytosanitation - Removal and burning of infested vines, facilitating drainage in water stagnation areas, pruning of runner shoots or their tying back to the main trunk are some of the practices that can be adopted. Integrated Pest Management (IPM) is the most suitable way where chemical pest control methods are advocated only as a last resort and that too in a very judicious manner. Promotion of Integrated Pest /Disease Management involves a combination of various measures to ensure effective pest /disease management without disturbing the eco system, reducing environment pollution and eliminating direct and indirect health hazards to human beings. The methods employed are observation, prevention and intervention. Identification, surveillance and forecasting of pests/disease can be done through observation whereas scientific cultural operations like use of tolerant varieties, water management etc. can be used as preventive measures. Pest management can be done through intervention method like mechanical control, biological control and need based chemical control.

Against fungal diseases, drenching of the soil with 0.20 % Copper oxychloride 5-10 l/vine or 1% Bordeaux mixture twice a year is the general recommendation. Application of Biocontrol agents like Trichoderma and Pseudomonas around the basin of vines is also recommended. Kerala Agricultural University and Indian Institute of Spices Research has recommended IPM strategies for pepper which can be applied in the field to get desired results.

- (7) Replanting/rejuvenation: Under planting on yield reduction observed regularly or



after 20 years of planting can be done with replacement of standards wherever necessary. Removal of old and senile vines can be done 3-5 years after under planting.

As per cost norms and pattern of assistance under MIDH during 12<sup>th</sup> plan for NHM & HMNEM sub schemes, for rejuvenation of existing senile plantations, the total cost is estimated as **Rs.40,000/- per ha.** Assistance @**Rs.20,000 per Ha** limited to 50% of the total cost will be provided.

Following this pattern the total cost of management of existing pepper garden is estimated as follows:

Sl. No.	Components	Estimated cost (Rs. per ha)
1	Hired human labour, mainly for manure and fertilizer application, plant protection and harvesting	11000
2	Planting materials & standards	1000
3	Organic manures and chemical fertilizers	16000
4	Plant protection	10000
5	Other expenses	2000
	<b>Total</b>	<b>40000</b>

Financial assistance sanctioned is @ 50% of the above limited to Rs.20,000/- per Ha. An area of 1500 Ha. is to be covered with total budget outlay of Rs.300.00 lakhs.

#### 4) Integrated Management of Quick wilt of Pepper (Rs.425.00 lakhs)

Quick wilt, which is a fungal disease, is one of the main reasons for inflicting heavy losses in the pepper production in the traditional pepper producing areas of Wayanad. The fungus attacks both the root system as well as the aerial parts of the pepper plant. The attack on the root system causes complete damage of the plant within months.

During 2012-13, a massive programme has been implemented in Wayanad district for the management of quick wilt disease. Department proposes to continue the programme during 2018-19 as a prophylactic measure to protect pepper cultivation in Wayanad district.

The assistance for adopting integrated disease management practices including cost of lime, Copper sulphate, copper oxy chloride, bio control agents like Trichoderma and Pseudomonas and application charges (labour) will be given subject to a maximum of **Rs. 10000/- per hectare.** The total area to be covered is **4250 ha** and the total financial allocation is **Rs.425.00 lakhs.** The programme will be implemented on a campaign mode with the co-operation of LSG's, Kerala Agricultural University, Krishi Vigyan Kendra, pepper samithies, farmers, Karshika karmasena and Agro service centres etc.

The details of components and estimate of expenditure is detailed below

Sl.No	Components	Rate(Rs)	Quantity (Kg)	Amount (Rs.)
1	Copper sulphate	190/-	5	950
2	Lime shell	12	5	60
3	Application of copper	500	6	3000

	oxychloride @ 2%			
4	Trichoderma application	105	20	2100
5	Pseudomonas (2times) talc based – 5g/l – 3 l per plant x 600 plants	75	20	1500
6	Spraying charges	4 MEN	600	2400
	Grand Total			<b>10,010</b>

The scheme should be implemented on a campaign mode in the affected area by Krishi bhavans including the farmers, pepper samithies, Agro service centers, KVK, Kerala Agricultural University, LSGs etc. Necessary steps would be taken from the part of the department to assure the supply of the required inputs for carrying out the spraying operations. The trichoderma and pseudomonas should be made available preferably from the State Biocontrol Lab Mannuthy , Kerala Agricultural University and KVKs.

#### **5) Development of planting materials using orthotropic shoots and grafts (Rs.5 lakhs)**

This method is used for production of quality planting materials. Orthotropic shoots are spread over a cylindrical metallic chicken mesh upto 3 metre height and vines will strike roots at every node and produce laterals and basal runners. This can be cut in suitable lengths and planted in portable tray in soilless medium and used as planting materials. Another promising method of planting material production is through grafting with *Piper colubrinum* as root stock. February and March are the ideal time for graft production and grafted plants are found to be resistant to soil borne pathogen like Phytophthora sp and shows good virility and high yield. This method is successful in bush pepper also. An amount of Rs. 5 lakhs is earmarked as assistance for the implementation of this component through Department farms or progressive farmers fields. The component will be implemented on a project mode with technical guidance of IISR/KAU.

#### **6) Establishment of decentralised nurseries (4.5 lakhs)**

One of the major problems faced by the pepper farmers is the non availability of good quality rooted pepper cuttings. Improved varieties play a significant role in augmenting the yields in any production programme. Effect of inputs applied and good practices followed can be fully realized only with the adoption of improved varieties. To achieve this , good quality planting material has to be made available to pepper farmers. Small scale nurseries with production capacity of 0.5 lakh cuttings per nursery per year can be operated through SHGs , Women Groups, Unemployed youths etc. with technical support from Department of Agriculture, Kerala Agricultural University and Research institutions, Central Government institutions, KVKs etc.

During 2018-19, a total of 15 decentralized nurseries will be established with an assistance of **Rs 30000 per nursery**. An amount of **Rs. 4.5 lakhs** is set apart for this purpose



**7) Support to secondary and micro nutrients and biopesticides for root health including labour charges. (Rs. 10.36 lakhs)**

Secondary and micronutrients play an important role in crop yield and quality particularly if the soil is deficient in Calcium, Magnesium, Sulphur, Zinc, iron etc. Application of biopesticides like Trichoderma and VAM increases root health of plant.

An assistance of **Rs.2000/ha** is given towards expenses involved like cost of nutrients and an area of **518 Ha** will be covered during 2018-19 for which **Rs. 10.36 lakhs** is set apart. Micronutrients will be supplied based on soil test data and this fund can be utilized for meeting expenses in connection with soil sample collection also.

**8) Support for maintenance of mother gardens (Rs.62.50 lakhs)**

Sufficient cuttings of popular varieties should be available for multiplication and also for research purpose. Maintenance and conversion of existing mother gardens of varieties assumes much importance in this perspective. It is proposed to maintain existing mother gardens of different varieties of pepper in an area of 25 Ha. An assistance of Rs.250/standard is proposed towards expenses involved for maintenance of mother gardens like cost of standards, cultural operations, cost of inputs etc.

Financial assistance will be provided for maintenance of **25 ha** of pepper mother garden @ **Rs.2.50 lakh/ha (Rs. 250/- per standard for 1000 standards)**. A total amount of **Rs.62.5 lakhs** is earmarked for implementing this component in an area of **25 ha**.

**9) Establishing Farmers Field School (FFS) (Rs.5.60 lakhs)**

Farmers Field Schools is a successful tool of Agricultural Extension in educating farmers on various aspects of cultivation. FFS started under 'ATMA' has been very effective in the transfer of agricultural technology. FFS shall be conducted for a period of 14 working days in a model farm of a selected farmer following integrated farming practices with emphasis on organic farming methods. 25 farmers selected from various grama panchayats of the block shall be brought to the farm to attend classes on various farming activities conducted by experts in the field.

*Critical stages of crop growth and activities to be undertaken at each stage, which are listed below, can be explained in detail in the FFS and also demonstrated to the farmers attending the FFS.*

**Critical stages of crop growth, viz.**

**☐☐ For new planting**

- ❖ **Planting** – season, quality of planting material, method of planting, mulching, shade regulation etc.
- ❖ Basal application of manures and fertilizers
- ❖ Prophylactic spraying with Bordeaux mixture 1%, Trichoderma application in plant base
- ❖ Irrigation during summer months

**☐☐ For Adult pepper Vines**

- ❖ With the onset of rains, removal of runner shoots, manure and fertilizer application at critical stages of nutrient requirement
- ❖ As preventive measures, cleaning the garden, removal of dead vines of previous years, pruning of standards for sunlight and aeration, removal of mulch to improve soil aeration,

- ❖ application of Trichoderma/COC at base, spraying Bordeaux mixture etc.
- ❖ Irrigation at critical stages like spike emergence and fruit set
- ❖ In General - important local and HYV in pepper with their special characteristics, availability, research findings in pepper cultivation that can be adopted by farmers for cultivation, harvesting and processing etc.

*Expenses for conducting the school can be met from the provision of Rs.70000/- per FFS which is earmarked for the purpose @ Rs.200/- per farmer per day (for 25 farmers for 14 days) including refreshment charges, honorarium to experts, TA to farmers and miscellaneous expenses. There are 4 blocks in Wayanad district and 2 FFS/ block will be conducted totaling 8 nos for which a total amount of Rs.5.60 lakhs is set apart.*

#### **10) Frontline Demonstration (FLD) of new technologies (Rs.0.80 lakhs)**

Demonstration of technologies is the best way of making farmers convinced of their benefits. FLD gives an opportunity for farmers to visit and learn on his own, the merits of innovations demonstrated. New varieties, new agronomic and plant protection practices etc. can be demonstrated in FLDs of plot size 0.20 Ha. **FLDs (8 No.s)** will be established with assistance @Rs.10000/ each for which the total amount of **Rs.0.80 lakhs** is earmarked.

*Frontline demonstrations shall be done in farms where FFS are organized, with the involvement of research institutions.*

#### **11) Exposure Visit to Model Farms (Rs.20.00 lakhs)**

Farmers can be grouped into batches of 50 each and taken for exposure visits to model farms within the state and also to neighbouring states to give an opportunity to interact with the model farmer and among themselves regarding the practices carried out in the farm. This help them to get information on newer technologies which can be adopted in their farms as well. Thus Exposure Visit helps in effective technology transfer to more number of farmers within a short period. An amount of **Rs.25,000/ per visit @ Rs. 500/- per person will be given for exposure visits. In the district as a whole, 80 such visits will be carried out for which a total amount of Rs.20.00 lakhs is earmarked.**

#### **12) Documentation including Indigenous Technical Knowledge (ITK) (Rs.2.00 lakhs)**

Documentation of activities carried out under a project helps in evaluating the project and also in future reference. An amount of Rs.0.50 lakhs will be allotted per block for documentation of the project activities including digital documentation. **A total amount of Rs.2.00 lakhs will be utilised for this purpose.**

#### **13) External consultancy support (Rs.25.00 lakhs)**

Monitoring and evaluation of a project by an external agency helps in assessment of project effectiveness in an unbiased manner. An amount of Rs.25 lakhs is set apart for external consultancy support for regular field visit for advising specific solution and publication of leaflets and reference materials. Services of reputed institutions like Kerala Agricultural University, M.S Swaminathan Research Foundation (MSSRF) etc will be availed for this purpose on a project mode.

#### **14) Constitution of Expert Committee and strengthening of Multi Disciplinary Diagnostic Team (MDDT) (Rs.0.24 lakhs)**

An expert committee will be formed to act as MDDT involving 3 experts, one each from KAU, IISR and Department of Agriculture to conduct field visits and suggest remedies for field problems which cannot be solved at the district level. The Technical Committee already



constituted under Wayanad Package Scheme can take up this role also. **An amount of Rs. 4000/expert/visit is proposed, total coming to Rs.12000/ visit. Two such visits will be conducted per year. A total of Rs.0.24 lakhs is allotted for this purpose.**

**15) Untied funds for new local initiatives (Rs.12.00 lakhs)**

Innovations and local initiatives by farmers in pepper cultivation may be encouraged and taken up for evaluation and adoption as per the merit and suitability of the initiative. This can be a new method of propagation, new cultivation/ crop management method, variety etc. An amount of **Rs.1.00 lakh/grama panchayat/municipality** is earmarked to assist one or more of such initiatives in 3 panchayaths per block. The amount will be disbursed on a project mode. The projects prepared by Agricultural Officers should be approved by a District level committee comprising Principal Agricultural Officer, DDA (H) and Assistant Directors of the concerned blocks. Three such projects will be implemented in each block. **An amount of Rs.12.00 lakhs (3 lakhs\*4 blocks) is set apart for this purpose.**

**16) Strengthening Pepper Development samithies (Rs.20.00 lakhs)**

There are 200 Pepper Development samithies working at the grass root level in various grama panchayats of Wayanad district. They are actively involved in arranging and distributing planting materials and other inputs received from various government agencies like Department of Agriculture, KAU and IISR to pepper cultivators. Also they act as a link between such institutions and farmers in transfer of technology. At present these samithies have no fund of their own to carry out their activities. It is therefore proposed to give **an assistance of Rs.10,000/- per samithy** for carrying out basic functions like registration, maintenance of records, for meeting expenses in organising meetings, arranging inputs etc. Expenditure for activities related to organic farming can also be met from this provision. **An amount of Rs.20.00 lakhs is earmarked for 200 samithies @ Rs.10000/- per samithy.**

**17) Information/publicity materials, advisories and campaigns (Rs.4.00 lakhs)**

Implementation of such a massive project involves transfer of technical information and publicity materials regarding activities under the project. **An amount of Rs.4.00 lakhs @ Rs.1.00 lakh/block is earmarked for this purpose.**

**18) Operational Expenses (Rs.3.00 lakhs)**

For effective implementation of the project, operational expenses including fuel charge and hiring of vehicles are to be provided from the project funds. **An amount of Rs.1 lakhs at district level and 0.5 lakh/ block, totalling to Rs.3.00 lakhs is set apart for the purpose.**

**Mode of implementation**

The Principal Agricultural Officer Wayanad will take necessary steps to implement the scheme successfully. Small and marginal farmers only should be considered for providing assistance. Ten percent of the total assistance should be extended to SC/ST farmers. Wide publicity should be given for collecting eligible applications. Proper publicity is to be made for the success of the programme as the spraying against quick wilt of pepper is to be carried out in a campaign mode involving local leadership in definite time frame.

The scheme will be implemented effectively by the Agricultural officer at Krishibhavan level, Asst Director of Agriculture at block level and Deputy Director of Agriculture(H) and the Principal Agricultural Officer at the district level. Participation of all the stake holders including research institutions, Indian Institute of Spice Research(IISR), Kerala Agricultural University,



NGO's, pepper samithies etc should be ensured. The details of the scheme should be maintained in separate register in the Krishibhavan where the scheme is implemented. Assistance under the programme should be given to the beneficiaries through e-payment to the bank account of the beneficiary. The scheme should be implemented through mobilising Pepper Samithies and Local leadership in a campaign mode.

Principal Agricultural Officer should take utmost vigil in implementing the programme through effective monitoring and should assure the reach of inputs to individual farmers and proper adoption. Agricultural Assistants should verify all the plots before releasing of assistance to ensure proper adoption of technology. Agricultural Officers should inspect 30% of the plots and Assistant Director of Agriculture should inspect 20% of the plots at block level . Deputy Director of Agriculture ( H ) will inspect 10% of the plots at district level .

Additional Director of Agriculture (CP) will be in charge of the programme at the state level. The Principal Agricultural Officer , Wayanad will do the district level monitoring of the scheme. The Assistant Directors of Agriculture at block level will be monitoring the implementation of the programme through respective Krishibhavans. The field level implementation will be done by the Agricultural Officers of the concerned Krishibhavans. The supervision of the spraying programme is to be carried out by deploying Agricultural Assistants in the field and necessary certificates in this regard is to be obtained as and when the claim is entertained for sanctioning financial assistance.

Progress of implementation should be reported to the Director of Agriculture in on or before 1st of every month. The Principal Agricultural Officer should take maximum effort for the effective and timely implementation of the scheme.

Principal Agricultural Officer should implement the scheme with the technical guidance of the expert committee and quarterly meetings are to be conducted for the purpose.

### **Abstract of the Project**

<b>Sl No</b>	<b>Components</b>	<b>Rate(Rs)</b>	<b>Phy .target</b>	<b>Fin.Target (Rs. in lakhs)</b>
1	Assistance for planting new standards	10/-	2 lakhs	20.00
2	Area Expansion of Pepper	20000/- per ha	1550 ha	310.00
3	Whole Farm Development	20000/- per ha	1500 ha	300.00
4	Integrated Management of Quick Wilt of Pepper	10000/- per ha	4250 ha	425.00
5	Development of planting materials using Orthotropic shoots and grafts	-	-	5.00
6	Establishment of	30000/- per	15 nos	4.5

	decentralised nurseries	nursery		
7	Application of secondary and micro nutrients and biopesticides including labour charges	2000/- per ha	518 ha	10.36
8	Support for maintenance of mother gardens	250/std.	25 Ha. (25000 stds.)	62.50
9	Establishing Farmers Field School (FFS)	70000/FFS	8 no.s	5.60
10	Frontline Demonstration (FLD) of new technologies	10000/- per FLD	8 nos	0.80
11	Exposure Visit to Model Farms	25000/- per visit @Rs,500/- per person	80 visits	20.00
12	Documentation including ITK	50000/block	4 blocks	2.00
13	External Consultancy support	LS		25.00
14	Expert Committee/ MDDT	4000/- per Expert / Visit for 3 experts	2 visit	0.24
15	Untied funds for new local initiatives	1 lakh / panchayat	3 panchayat / block	12.00
16	Strengthening of Pepper samithies	10000/- per samithi	200 nos	20.00
17	Information / Publicity	1 lakh/ block	4 block	4.00
18	Operational expenses			
	a. District			1.0
	b. Blocks			2.0
	<b>TOTAL</b>			<b>1230</b>



### Financial outlay

The expenditure of **Rs.1230.00 lakhs** will be met from the Budget provision of **Rs.1900.00 lakhs** under the head of account **2401-00-800-27 OC Plan** from the current year's budget provision

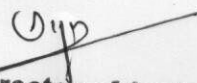
### Budget


During 2018-19, an amount of **Rs.1900.00 lakhs** has been set apart for the implementation of Wayanad Package under the head of account **2401-00-800-27(Plan)**. The amount required for implementing this scheme **Rs.1230.00 lakhs** will be met from the budget provision under the above head.

The receipt of the circular should be acknowledged by return.

Sd/-  
Director of Agriculture

To  
Principal Agricultural Officer, Wayanad

  
Additional Director of Agriculture (CP) (2/c)

  
Copy to

1. TA to Director of Agriculture
2. CA to all Additional DAs
3. All JDAs at HQ / SFO
4. Finance section
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8. IT Cell for publishing in web site