PROCEEDINGS OF THE 33rd CROP SCIENTISTS MEET – HORTICULTURE 2017
HELD AT SEMINAR HALL I, TNAU, COIMBATORE

16.05.2017 & 17.05.2017

The 33rd Crop Scientist's Meet on Horticulture was held on 17.05.2017 at Seminar Hall I, TNAU, Coimbatore under the chairmanship of Dr. K. Ramasamy, Vice Chancellor, TNAU, Coimbatore. In connection with the Crop Scientist Meet, on 16.05.2017 the pre review meeting of the University Research Projects (URP) on Crop Improvement and Crop Management of all horticultural crops was taken up by Dr. M. Maheswaran, Director of Research, TNAU at the Horticultural College & Research Institute, Coimbatore.The pre review meeting began with an introduction by Dr. M. Maheswaran, Director of Research, who narrated the experiences and the expectations of the University especially in relevance to need based research. The pre review meeting on University Research Projects (URP) on aspects of Crop Protection of horticultural crops was taken up at Centre for Plant Protection Studies, TNAU, Coimbatore by the Director (CPPS), TNAU, Coimbatore. The Deans of Horticultural Colleges, Coimbatore, Periyakulam and Trichy, Director (Crop Management), Director, (NRM) were present and exteneded assistance in reviewing the sub projects. Dr. M. Jawaharlal, Dean (Horticulture), HC&RI, Coimbatore presented the action taken on the recommendations made during the previous meet. It was followed by presentations of the compiled report on research achievements on horticultural crops by the Heads of the departments of Fruit Crops, Vegetable crops, Floriculture and Landscaping, Spices and Plantation crops and Medicinal and Aromatic Crops, HC&RI, TNAU, Coimbatore. Dr. V. Swaminathan, Dean, HC&RI, Periyakulam presented the action plan formulated for 2017–18 for fruits and vegetable crops while Dr. D. Saraladevi, Dean, HC&RI (W), Trichy presented the action plan for flower crops, Spices and plantation crops and Medicinal and aromatic crops.

After incorporating the suggestions made by Director of Research, presentations were made before the Vice Chancellor on 17.05.2017 during the Crop Scientist Meet. Similarly, Director (CPPS), TNAU, Coimbatore made presentations on action taken on recommendations of the previous meet, progress made during 2016 – 17 and action plan for 2017 – 18 on the aspects of crop protection. The Vice Chancellor, Deans, Directors and Special Officers, Scientists from Horticulture, Crop Protection and other disciplines attended the 33rd Crop Scientists Meet on Horticulture, 2017.

Observations and remarks made by the Vice Chancellor, TNAU and the Director of Research, TNAU during the presentations are as follows

Fruit Crops

- Crop specific active germplasm sites may be identified across the state.
- The prescribed standard format for representing the accessions of the germplasm collection should be followed
- In mango, for pulping purpose, the varieties viz., Alphonso and Banganappalli alone are being utilized. Other varieties may be screened and identified for pulping and pickling purposes (Action: RRS, Paiyur)
- Studies on root pruning may be taken up in mango in the centres working on high density planting system mango orchards. Relevant literatures may be referred before taking up the trial for diameter and depth at which the roots are to be pruned (Action: Dept. of Fruit Crops, HC & RI, PKM, RRS, Paiyur)

- In mango, the residual effect of paclobutrazol may be analyzed and the results furnished (Action: Prof. & Head, RRS, Paiyur)
- Separate blocks for different genomic groups of banana may be established (Action: Prof. & Head, Department of Fruit Crops, HC & RI, Coimbatore)
- For sex determination in papaya, the isozyme studies may also be taken up (Action: Prof. & Head, Department of Fruit Crops, Coimbatore)
- As CRS, Sankarakoil is specifically for Citrus improvement, projects on other aspects like breeding, root stocks, nutrition and water management, fertigation etc may be proposed in consultation with NRCC, Nagpur and Dean , Dept. of Fruit Crops, HC&RI, Periyakulam
- The jamun maintained in Administrative blocks may be used for multiplication of grafts (Action: Prof. & Head, Department of Fruit Crops, Coimbatore)
- Trials on gibberellic acid spray for inducing seedlessness in Jamun may be taken up in centres working on Jamun (Action: Prof. & Head, VRS, Palur, AC & RI, Killikulam)
- Efforts may be taken up for barcoding of varieties released from TNAU has to be taken up (All centres)
- Efforts may be taken up to characterize all the released varieties for profiling of primary and secondary metabolites (All centres)
- In Intercropping trial on sapota, short duration pulses may be tried (Prof. & Head, Dept. of Fruit Crops, HC & RI, PKM)
- Use of organic mulch for custard apple can be studied (Action: Prof. & Head, RRS, Aruppukottai)

Vegetable Crops

- The available germplasm should be enriched in all the vegetable crops.
- Cataloguing all the germplasm as per the NBPGR descriptors may be done to eliminate duplication of entries.
- While numbering the accessions, the place of the collection should also be mentioned
- The standard format for indexing and naming the accessions of the germplasm collection should be followed
- Moringa PKM1 and PKM2 varieties should be characterized using phenotypic descriptors and DNA finger printing (Action: HC&RI, Periyakulam)
- If a promising collection made from a farmer's field is proposed for release, due procedures are to be strictly followed as prescribed by PPVFRA
- In all trials where screening against biotic stresses are to be carried out, crop protection scientists must be included as co- project leaders.
- Parents selected for carrying out hybridization work should be properly maintained for genetic purity
- Breeding methodology should be clearly mentioned whenever breeding projects are proposed.
- Hybridization may be taken up at one centre where the germplasm is available and the seed materials so generated can be shared among different stations for carrying out research on various aspects like quality breeding, pest and disease resistance.
- The varieties / hybrids developed for release should have completed required Multi Location Trial for two years followed by Adoptive Research Trial in various districts of Tamil Nadu
- While conducting manurial / fertigation trial the soil scientists available in the centre/ nearby stations may be utilized for research.
- For drip and fertigation research trials, the scientists from centre of water technology should be included.

Spices and Plantation Crops

- Germplasm collection of ginger may be obtained from HRS, Ooty and maintained at CRS, Aliyar Nagar
- Germplasm collection of curry leaf be obtained from HC&RI(W), Trichy and maintained at HC&RI, Coimbatore
- Newly released varieties of Black pepper may be collected and added to germplasm for evaluation. (Action: Dr. M. Ananthan, Professor and Head, HRS,Thadiyankudisai)
- Multi Location Trial II (MLT II) may be conducted for the turmeric culture BS 9. (Action: Dr. P.Hemalatha, AP (Hort.), ARS, Bhavanisagar)
- The mutant population of v M1 generation turmeric var. CO 2 may be evaluated. (Action: Dr. B.Senthamizh Selvi, AP (Hort.), HC & RI, Coimbatore)
- Ginger germplasm may be enriched at CRS, Aliyarnagar and HREC, Gudalar (Action: Dr. M. Siva kumar AP (Hort.), CRS, Aliyarnagar, Dr. S. Karthikeyan, AP (Hort.), HREC, Gudalur)
- Coriander genotypes/ varieties may be collected and evaluated for leaf and seed purpose at HC & RI, Periyakulam. (Action : Dr. R. Chitra, AP (Hort.), HC & RI, Periyakulam)
- ART may be conducted for the leafy coriander type CS 38. (Action: Dr. B.Senthamizh Selvi, AP (Hort.), HC & RI, Coimbatore)
- Survey and collection of promising genotypes of curry leaf may be intensified. (Action: Dr. N. Shoba, Professor (Hort.), HC & RI, Coimbatore, Dr. D. Vidhya, AP (Hort.) HC & RI (W), Trichy)

Floriculture and Landscaping

- Naming of accessions in germplasm collections has to be done with the actual place of collection followed by the accession number
- If any project is not viable, the Professor and Head can write through Dean to close the project
- While conducting experiments, age of the plants has to be mentioned in case of perennial horticultural crops
- In case of studies related to salinity tolerance, whether the study was conducted in pot culture/open field condition has to be mentioned
- Ongoing sub-projects can be grouped according to the action plan; if the action plan doesn't relate to the ongoing sub-projects, new sub-projects may be proposed relating to action plan.
- Improvement in the germplasm collections has to be made through breeding before releasing it as a variety MLT / ART has to be conducted for all annual crops
- For clonal selections, variability in clones has to be confirmed first and then selection process to be made before releasing it as a variety
- Hybridisation work need not be carried out for the same crop across centres
- All germplasm materials have to be pooled and registered with NBPGR
- Scientists of other disciplines may be included in relevant sub-projects
- Varieties released from private firms need not be evaluated under University research sub-projects
- Germplasm of a crop need not be duplicated and maintained in many centers. For conducting breeding work, source materials may be collected from the resource centre in which a particular crop germplasm is maintained

Crop Protection

- All the survey data should accompany the GPS coordinates (Action: All Scientists).
- In the management trials, pesticides which are having CIB label claim alone should be tested. (Action: All Scientists).
- The scientists those who are not having university research sub projects are requested to propose new subprojects based on the action plan (Action: All Scientists)

Proceedings of the 33rd Horticulture Scientists meet are presented in the following order:

1. Staff pattern
2. Remarks on the individual university research projects.
3. Cultures under MLT/ART/FLD
4. Action plan: 2017 – 2019

a. Fruit Crops

I. Staff pattern

Station	Designation	Discipline										Total
		Hort.	ENT	PAT	ANM	SSAC	CRP	ABT	SST	AGR	HSC	
Coimbatore	Professor	2 (1 AICRP)										2
	Assoc. Prof			1 (AICRP)								1
	Asst.Prof	2 (1 AICRP)			1		1 (AICRP)					4
Periyakulam	Professor	2 (1 AICRP)										2
	Assoc. Prof	1 (AICRP)										1
	Asst.Prof	2 (1 AICRP)	1 (AICRP)	1 (AICRP)		1	1	1		1	1	9
Trichy	Professor											-
	Assoc. Prof	1										1
	Asst.Prof	2										2
Palur	Professor	1										1
	Assoc. Prof											-
	Asst.Prof				1				1			2
Madurai	Professor	1										1
	Assoc. Prof											-
	Asst.Prof	1										1
Yercaud	Professor											-
	Assoc. Prof											-
	Asst.Prof	1										1
HRS, TKD	Professor											-
	Assoc. Prof											-
	Asst.Prof	1										1
GRS, Theni	Professor	1										1
	Assoc. Prof											-
	Asst.Prof	1										1
CRS, Sankarankovil	Professor	1										1

	Assoc. Prof											-
	Asst.Prof	1										1
RRS, Paiyur	Professor											-
	Assoc. Prof											-
	Asst.Prof	1										1
HRS, Ooty	Professor											-
	Assoc. Prof											-
	Asst.Prof	1										1
AC&RI, KKM	Professor	1										1
	Assoc. Prof											-
	Asst.Prof											-
RRS, APK	Professor											-
	Assoc. Prof											-
	Asst.Prof	1										1
Total		**25**	**1**	**2**	**2**	**1**	**2**	**1**	**1**	**1**	**1**	**37**

Among the 37 scientists, 28 are in Non-Plan Main and 9 are under ICAR - AICRP.

Remarks on the ongoing university research projects

CROP IMPROVEMENT

a. Fruit Crops

A. MANGO			
I. Dept. of Fruit Crops, HC&RI, Coimbatore			
S.No.	**Project No & Title**	**Project Leader and duration**	**Remarks**
1.	**HCRI/CBE/HOR/FRU/ 2014/005** Studies on rootstock evaluation and exploitation of polyembryonic rootstocks in mango	Dr.R.M.Vijayakumar, Professor and Head (July, 2014 – June,2017)	Collections may be strengthened and project may be extended for two more years to get tangible results. Studies may be taken up with poly embryonic root stocks as envisaged in the programme
B. BANANA			
I. Dept. of Fruit Crops, HC&RI, Coimbatore			
1.	**HCRI/CBE/HOR/ FRU/ 2012/001** Crop Improvement in Banana	Dr.K.Soorianathasundaram Professor (Hort.) (Nov. 2012 – Oct. 2015)	The completion report may be submitted. Promising types identified in this project may be tested for yield, quality with resistance attributes along with standard checks in new proposal.
II. HC&RI(W), Trichy			
1.	**HCRI/TRY/FRU/BAN/2014/002** Screening of Banana genotypes for sodicity tolerance	Dr. A.Nithya Devi, Assistant Professor (Hort.) (Jan. 2014 – Dec. 2018)	The project may be continued with focus on parameters for sodicity tolerance.
C. PAPAYA			
I. Dept. of Fruit Crops, HC&RI, Coimbatore			
1.	**HCRI/CBE/HOR /FRU/2012/002** Crop Improvement in Papaya	Dr.K.Soorianathasundaram, Professor (Hort.) (Nov. 2012 – Oct. 2015)	Completion report may be submitted. Promising types identified in this project may be tested for high yield and quality with resistance attributes along with standard checks in new proposal.
2.	**HCRI/CBE/HOR/FRU/2014/006** Evaluation and selection of a thermo-stable gynodioecious papaya suitable for cultivation in Tamil Nadu	Dr.J.Auxcilia, Assistant Professor (Hort.) (Sep. 2014 - Oct. 2018)	The consistency for themostability may be tested on select genotypes from the evaluation taken up so far along with standard checks / popular commercial varieties . Proposal may be sent for change of project leader

II. ARS, Virinjipuram			
1.	**HCRI/VIJ/HOR/FRU/2014/001** Improvement of local papaya types for high yield and quality suitable to Vellore District	Dr.B.K.Savitha Assistant Professor (Hort.) (Nov.2014 - Oct. 2017)	The project may be closed with available data.
D. GRAPES			
I. Grapes Research Station, Anaimalayanpatty			
1.	**HCRI/TNI/HOR/FRU/2015/001** Collection, conservation and evaluation of grape *(Vitis sp.)* germplasm	Dr. A. Subbiah, Assistant Professor (Hort.) Dr. A.Vijaya Chamundeeswari, Asst. Prof. (Pl. Patho.) and Dr. S. Irulandi, Asst. Prof. (Agrl. Ento.) (June, 2015 - May, 2019)	The promising clones identified may be evaluated for stability and consistency of performance in the different seasons and compared with existing improved varieties for yield and quality.
E. GUAVA			
I. Dept. of Fruit Crops, HC&RI, Coimbatore			
1.	**HCRI/CBE/HOR/ FRU/2013/003** Improvement of guava (*Psidium guajava*) through selection and inter-varietal hybridization	Dr.M.Kavino, Assistant Professor (Hort.) (June, 2013 - July, 2021)	The hybridization programme may be intensified. The available OP seedlings may be planted in the main field and their performance assessed for yield and quality.
II. HC&RI(W), Trichy			
1.	**HCRI/TRY/HOR/FRU/2014/001** Screening and evaluation of guava (*Psidium guajava*) germplasm for sodicity tolerance	Dr. V.P.Santhi Assistant Professor (Hort.) (Jan. 2014 - Dec. 2018)	The prescribed standard format for representing the accessions of the germplasm collection should be followed. While looking for tolerance to abiotic stress, the dessert quality should also be taken into consideration. The project may be continued.

F. CITRUS			
I. HRS, Yercaud			
1.	**HCRI/YCD/HOR/FRU/2016/001** Survey, collection and evaluation of mandarin orange varieties under Shevaroy condition	Dr.P.S.Kavitha Assistant Professor (Hort.) (Jan.2017- June, 2021)	Since the project is in the initial phase , survey and collections may be intensified in consultation with NRCC, Nagpur. Improved mandarin accessions varieties may be procured in consultation with NRCC, Nagpur for further evaluation. Care must be taken to avoid introduction of planting materials infected with Greening disease.
G. JACKFRUIT			
I. Vegetable Research Station, Palur			
1.	**HCRI/ PLR/ HOR/ FRU/ 2013/ 001** Identification, evaluation and development of a gum-less jack fruit variety suitable for urban market in Tamil Nadu	Dr. L.Jeeva Jothi Professor and Head Nov. 2013 - Oct. 2016 (extended up to October, 2017)	Attempts may be made to release the Identified gumless type as farmer's variety through PPV & FRA. Efforts may be made to assemble the collections from other centres.
II. AC & RI, Kudimiyanmalai			
1.	**HCRI/KDM/HOR/FRU/2016/001** Identification and evaluation of high yielding good quality Jack genotypes suitable for dry tracts of Tamil Nadu	Dr. R. Jayavalli Assistant Professor (Hort.) (June, 2016 – May,2019)	Already identified promising types through PG research at Department of Fruit Crops, Coimbatore may be included in the study and followed up for evaluation. The project may be continued.
H. POMEGRANATE			
I. **HC&RI(W), Trichy**			
1.	**HCRI/TRY/FRU/2014/001** Screening and evaluation of Pomegranate (*Punica granatum)* accessions against sodicity tolerance under field conditions	Dr. V.P.Santhi Assistant Professor (Hort.) (July, 2014 – June, 2018)	The prescribed standard format for representing the accessions of the germplasm collection should be followed. Efforts may be taken to collect the accessions in other centres also with passport data.

II. Department of Horticulture, Agricultural College and Research Institute, Madurai – 625 104			
1.	**HCRI/MDU/HOR/FRU/2016/001** Collection and evaluation of pomegranate genotypes for high yield and quality	Dr. V. Krishnamoorthy Asst. Professor (Hort.) (Dec. 2016 – Nov. 2019)	Evaluation may be continued. Commercially viable varieties alone be included in the evaluation.
I. Jamun			
Department of Horticulture, AC&RI, Killikulam			
1.	**HCRI/KKM/HORT/FRU/2015/001** Collection and evaluation of jamun (*Eugenia jambolana* L.) varieties and eco types for higher yield and quality	Dr.P.Nainar Professor and Head (June, 2015 - May, 2020)	Efforts may be taken to add the new collections with good economic traits (bold fruits, seed less types etc) to the existing germplasm with passport data. The prescribed standard format for representing the accessions of the germplasm collection should be followed.
J. CUSTARD APPLE			
I. RRS, Paiyur			
1.	**HCRI/PAI/HOR/FRU/2010/002** Collection, maintenance and evaluation of custard apple (*Annona* sp.) germplasm under rainfed areas of North Western agro climatic zone of Tamil Nadu	Dr.A.Punitha Assistant Professor (Hort.) (March,2010 - Dec. 2016)	Completion report may be sent. The promising types identified may be further maintained and evaluated for consistency of performance. Proposal may be sent for change of project leader.

CROP MANAGEMENT

A. MANGO			
I. RRS, Paiyur			
S.No.	**Project No & Title**	**Project Leader**	**Duration**
1.	**HCRI/PAI/HOR/FRU/2010/001** Effect of different chemicals on Off-season flower induction in Mango	Dr. M. Ananthan, Professor (Hort.) (Aug. 2012 – Sep. 2016)	Completion report may be sent. Efforts may be taken to popularize the technology.
B. BANANA			
I. HRS, Pechiparai			
1.	**HCRI/PEC/HOR/FRU/2014/004** Studies to improve the fruit quality of banana cv. Matti (AA) at Kanyakumari District.	Dr. P. Rajarathinam, Asst.Prof.(Agronomy) (June, 2014 - May, 2017)	Completion report may be sent. Efforts may be taken to popularize the technology.
II. AC & RI, Eachangkottai, Thanjavur			
1.	**CPMB/EKT/BIT/FRU/2016/001** Establishment of disease free and quality planting materials through *in vitro* mass multiplication of rhizome bud of banana cultivar Poovan (AAB)	Dr.P.Sivakumar, Ph.D Asst. Prof. (Biotech.) Dr.M.Visalakshi Asst. Professor (Hort.) (May, 2016 - April, 2018)	Project may be continued.
III. Dept. of Plant Breeding and Genetics, AC & RI., Killikulam			
1.	**CPMB/KKM/BIT/FRU/2017/001** Micropropagation protocol development for banana cultivars *viz.*, Matti, Ney Poovan and Monthan.	Dr. S. Merina PremKumari Asst. Professor (Biotech.) (Feb. 2017- Jan. 2020)	Project may be continued.

C. GRAPES			
I. Dept. of Fruit Crops, HC&RI, Coimbatore			
1.	**HCRI/CBE/HOR/FRU/2014/007** Standardization of *in vitro* mass propagation protocol by micrografting in grapes (*Vitis vinifera* L.)	Dr.C.Kavitha Assistant Professor (Hort.) (May, 2014 - April, 2017)	As reliable protocol is required, extension proposal may be submitted to standardize and confirm the findings
2.	**HCRI/CBE/HOR/FRU/2015/008** Standardization of integrated nutrient management practice for enhancing productivity and quality in grape (*Vitis vinifera* L.) var. Red Globe	Dr.C.Kavitha Assistant Professor (Hort.) (June 2015 to May 2018)	Project may be continued.
II. Grapes Research Station, Anaimalayanpatty			
1.	**HCRI/TNI/HOR/FRU/2016/001** Quality improvement in grape *(Vitis vinifera* L.) var. Muscat Hamburg through special viticultural practices	Dr. S. Parthiban Professor and Head (April 2016 - March 2018)	Project may be continued.
2.	**HCRI/TNI/HOR/FRU/2016/002** Studies on berry cracking and its management in grape *(Vitis vinifera* L.) var. Muscat Hamburg	Dr. S. Parthiban Professor and Head Dr. R. Indirani Asst. Prof. (SSAC) (April 2016 - March 2018)	Project may be continued.
3.	**HCRI/TNI/HOR/FRU/2016/003** Studies on influence of season and bud level of pruning for double pruning and double cropping system in grape *(Vitis vinifera* L.) var. Muscat Hamburg	Dr. A. Subbiah Assistant Professor (Hort.) (April 2016 - March 2018)	The bud level for pruning as related to seasonal influence may be confirmed during 2017-1018 for both summer and winter crop.
4.	**NRM/TNI/SAC/FRU/2016/002** Effect of micro nutrients and biostimulants in grape (*Vitis vinifera* L.) var. Muscat Hamburg on vine vigour, yield and quality	Dr. R. Indirani, Ph.D., Asst. Professor (SSAC) (Feb. 2016 -March, 2018)	Since, Muscat is already a vigorous variety, focus may be given on quality aspects which is a priority issue to be addressed.

D. GUAVA			
I. Dept. of Fruit Crops, HC&RI, Coimbatore			
1.	**HCRI/CBE/HOR/FRU/2013/004** High density planting and canopy management in guava cv.Lucknow 49	Dr.M.Kavino Assistant Professor (Hort.) (June, 2013 - May, 2019)	Efforts may be taken to assess the different pruning levels on yield and quality of guava under different spacing levels. One more crop may be taken up before confirmation of the results.
I. HC&RI(W), Trichy			
1.	**HCRI/TRY/HOR/FRU/2014/002** Standardization of MAP and Vacuum packaging techniques in Guava var. Lucknow 49 for export	Dr. S. Easwaran Assistant Professor (Hort.) (Jan. 2014 – Dec. 2016)	The project leader was transferred. Completion report may be submitted with the findings made.
2.	**HCRI/TRY/HOR/FRU/2014/003** Standardization of fertigation schedule in High density planting of Guava cv. L – 49 under alkaline soil	Dr. A.Nithyadevi Assistant Professor (Hort.) (June 2014 – May 2017)	Already, 3 years of project duration has lapsed. It is reported that only from January 2017 the treatments are imposed. Since at least the treatment effects are to be studies for two years, extension proposal may be submitted.
3.	**HCRI/TRY/BIC/FRU/2017/001** Studies on nutritional and biochemical compositions of guava and mango varieties grown under salt affected soil	Dr.K. Gurusamy, Asst. Professor (Biochem.) (Jan. 2017 - Dec. 2018)	The project may be continued.
E. CITRUS			
I. Citrus Research Station, Sankarankovil			
1.	**HCRI/ SAN/HOR/FRU/2016/001** Effect of organic manures on growth and yield of acid lime in Tirunelveli District	Dr. S. Muthulakshmi Professor and Head (Jan. 2016 – Dec. 2019)	The basis for treatment dosages seems to be arbitrary. Inclusion of microbial inoculants is a must for INM studies. The title is misleading as it indicates that the study is pertaining to organic manures alone. But the treatment proposed indicates that the study is for INM. The treatments be modified after consultation with soil scientist at HC&RI, Periyakulam. Soil and foliar nutrient status prior to application and after application at new flush/ flowering and at harvest stage requires to be furnished.
2.	**HCRI/ SAN /HOR/ FRU/ 2016/002.** Effect of growth regulators on growth and yield of Acid lime *(Citrus aurantifolia* Swingle)	Dr. K. Sundharaiya Assistant Professor (Hort.) (June, 2016 – May, 2019)	Details of treatments were not indicated. The earlier findings from the AICRP 9 Fruits) project taken up at HC&RI, Periyakulam may be referred before imposition of treatments. The treatments may be finalized after

			consultation with Dean, HC &RI, Periyakulam
F. SAPOTA			
I. Post Harvest Technology Centre, TNAU, Coimbatore			
1.	New: Developing a process for uniform ripening and enhancing the shelf life and quality of Sapota (*Manilkara achras*)	Dr.K.Venkatesan Professor and Head CRS, Aliyar (Aug. 2016 – July, 2019)	Since the project leader is transferred, proposal may be sent for change of project leader. Project number to be obtained

G. OTHER FRUIT CROPS			
I. ARS, Virinjipuram			
1.	**NRM/VIJ/SAC/FRU/2014/001** Effect of nutrient foliar spray on growth, yield and quality of Major fruit crops in Vellore district	Dr. T. Balaji Asst. Professor (SS & AC) (Oct. 2014 –Sep. 2017)	Completion report may be submitted with salient findings.
H. TEMPERATE FRUITS			
I. HRS, Kodaikanal			
1.	**HCRI/KOD/HOR/FRU/2014/001** Standardization of propagation techniques in kiwi (*Actinidia deliciosa*) under Kodaikanal conditions	Dr. C. Thangamani Assistant Professor (Hort.) (June, 2014 -May, 2017)	Completion report may be submitted with salient findings.

I. LIST OF CULTURES UNDER MLT / ART

S. No.	Crop	Name of the culture / Hybrid	MLT / ART	Centre
Fruit Crops				
1.	Banana	H 212	MLT II	HC&RI, Coimbatore
2.	Banana	H 96 / 7	MLT – I	HC&RI, Coimbatore
3.	Banana	NPH 02-01	MLT - I	HC&RI, Coimbatore
4.	Banana	H 531	MLT – I	HC&RI, Coimbatore

ACTION PLAN FOR 2017-2019

CROP IMPROVEMENT – FRUIT CROPS

Banana

Theme No 1: Improvement of banana through breeding approaches						
Theme Leader: Dr. K.Soorianathasundaram, Professor, (Horticulture) Dept. of Fruit Crops, HC &RI, Coimbatore						
Sub Theme 1: Enrichment , Characterization and Evaluation of Banana Germplasm						
S.No.	**Activity**	**Scientists and Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Collection and evaluation of banana varieties and genotypes and screening for salt tolerance.	Dr.A.Nithya Devi Horticulturist (5 hrs / week) Dr.H.Vijayaraghavan Physiologist (3 hrs / week) HC &RI, Trichy	• Assembling and planting of banana genotypes in salt affected soils • Observations on growth parameters	• Evaluation of genotypes for growth, yield and quality attributes • Initiation for confirmatory trial	• Evaluation of genotypes for growth ,yield and quality attributes In second crop	Identification of potential varieties with salt tolerance for commercial exploitation and as genetic resource for breeding programmes
Sub Theme 2: **Improvement of bananas through hybridization**						
2	Breeding and Crop Improvement	Dr. K.Soorianatha Sundaram (5 hrs / week) Dr.C.Kavitha Horticulturists (5 hrs / week) Dr.P.Muthulakshmi Pathologist (3 hrs / week) Dr.P Vetrivelkalai Nematologist (3 hrs / week) Dept of Fruit Crops TNAU, Coimbatore	• Continuing the ongoing MLT with promising hybrids viz., H. 96 / 7, H. 531 and NPH -02-01. • Multiplication of H.914 and H.916 • Proposal of H 212 for release • Initiation of new hybridization programme by involving Karpooravalli as female parent and with identified pollen parents having resistance attributes	• Continuing the ongoing MLT with promising hybrids viz., H. 96 / 7, H. 531 and NPH -02-01. • Placing proposal for release of new banana varieties based on performance in MLT • Initiation of new MLT for H.914 and H.916 • Hybridization programme to continue • Raising seedlings for phase -1 evaluation	• Continuing the ongoing MLT for H.914 and H.916 • Placing proposal for release of new banana varieties based on performance in MLT • Phase -1 evaluation and Initiation of Phase 2 evaluation	Evaluation of promising selections /new varieties with resistance / tolerance for commercial cultivation

PAPAYA

Theme 1: **Improvement of papaya through breeding approaches**

Theme Leader: Dr. K.Soorianathasundaram, Professor, (Horticulture) Dept. of Fruit Crops, HC &RI, Coimbatore

Sub Theme 1. Enrichment , Characterization and Evaluation of Papaya Germplasm

S. No.	Activity	Scientists and Centre	Year 1	Year 2	Year 3	Deliverables
1	Identification of thermostable gynodioecious genotypes	Dr.C.Kavitha Horticulturist (5 hrs / week) Dr.K.B.Sujatha Physiologist (3 hrs / week) Dept of Fruit Crops TNAU, Coimbatore	• Assessment of gynodioecious genotypes for floral variations in relation to weather changes in warmer season • Study of fruitset, yield and stamen carpellody	• Assessment of gynodioecious genotypes for floral variations in relation to weather changes in cooler season • Study of fruitset, yield and stamen carpellody	• Selection of thermo stable genotypes and confirmation study	Identification of thermostable gynodioecious genotypes for commercial exploitation

Sub Theme 2 : **Improvement of papayas through hybridization**

S. No.	Activity	Scientists and Centre	Year 1	Year 2	Year 3	Deliverables
2	Breeding and development of improved gynodioecious varieties for high yield, better quality attributes and PRSV tolerance	Dr.K.Soorianatha sundaram (5 hrs / week) Dr.C.Kavitha Horticulturist s (5 hrs / week) Dr.P.Muthulakshmi Pathologist (3 hrs / week) Dept of Fruit Crops TNAU, Coimbatore	• Raising of F_6 family of intergeneric hybrids • Evaluation of F_5 family of intervarietal selection along with checks and further purification • Inter generic & intervarietal hybridization for further evaluation	• MLT with promising selections from the hybridization programme & submission of release proposals • Identification of potential intergeneric hybrds with PRSV tolerance • Evaluation of F1 hybrids	• Evaluation of segregating progenies • Evaluation of advanced selections from Intergeneric crosses	• Improved gynodioeious and dieocious papaya varieties with better yield, fruit quality and PRSV tolerance

Mango

Theme No 1: Development of coloured varieties in mango						
Sub Theme 1: Enrichment of existing germplam with traditional and exotic cultivars						
Theme Leader: Dr. S. Srividhya, Assistant Professor (Horticulture)						
Sl.No.	Activity	Scientist & centre	Year 1	Year 2	Year 3	Deliverables
1.	Collection of exotic cultivars and initiation of hybridization programme with traditional varieties like Mulgoa	Dr. S. Srividhya, Assist. Prof.(Hort.) (5 hrs / week) Dr. Dhandapani Assist. Prof.(PBG) (3 hrs / week) RRS, Paiyur	Enriching the existing germplasm with traditional and coloured varieties	Initiation of hybridization programme	Continuing the hybridization programme and evaluating the progenies	Assembling the coloured varieties Evaluation of F_1 progenies
Theme No 2: Rootstock breeding against abiotic stresses						
Sub Theme 1: Assembling the polyembryonic rootstocks						
Theme Leader: Dr. L.Rajangam, Professor and Head (Horticulture) (5 hrs / week)						
Sl.No.	Activity	Scientist & centre	Year 1	Year 2	Year 3	Deliverables
1.	Assuming the polyembryonic types and conducting pot trials against abiotic stresses	Dr. L.Rajangam, Professor and Head (Fruits) (5hrs/week) Dr.Venkatesan Prof.(CRP) (5 hrs / week) Dr. Muthumanikam Soil Scientist (3 hrs / week) HC & RI Periyakulam Dr. R.M.Vijayakumar Professor and Head (5 hrs / week) Dr.K.B.Sujatha Physiologist (3 hrs / week)	Assembling the polyembryonic types	Continuing the assembling of polyembryonic types Initiation of pot culture studies	Confirming the pot culture results	Potential polyembryonic types will be identified

ACID LIME

Theme No 1: Improvement of Acid lime through breeding approaches						
Sub Theme 1 : Enrichment , Characterization and Evaluation of Acid lime Germplasm for 'year round' production						
Theme Leader: Dr. S. Muthulakshmi, Professor and Head (Horticulture) (20 hrs / week)						
Sl.No.	Activity	Scientist & centre	Year 1	Year 2	Year 3	Deliverables
1.	Survey and identification of suitable genotypes for year round production	Dr. S.Muthulakshmi, Professor and Head (20 hrs / week) Dr.K.Sundharaiya Asst. Prof (Hort.) (5 hrs / week) Citrus Research Station, Sankarankovil	Surveying of acid lime growing areas	Assessing the flowering phenology for year round production	Identification of the genotypes with year round production habit	Assembling the genotypes with potential of year round production

GUAVA

Theme No 1: Improvement of guava through breeding approaches						
Sub Theme 1: Enrichment, characterization and evaluation of guava genotypes						
Theme Leader: **Dr.R.M.Vijayakumar, Professor and Head, Department of Fruit Crops, HC & RI, TNAU, Coimbatore-3**						
Sl.No.	Activity	Scientist & Centre	Year 1	Year 2	Year 3	Deliverables
1.	Screening of open pollinated (OP) progenies and hybrid derivatives for red pulp, less / soft seededness and yield.	Dr. M.Kavino , AP (Hort.) (5 hrs / week) Dr.K.Soorianathasundaram Professor (Hort.) (3 hrs / week) Dr.R.M.Vijayakumar, Professor and Head (3 hrs / week) HC &RI, TNAU, Cbe	• Generation of OP progenies from Red flesh varieties • Hybridization work with Allahabad Safeda, Lucknow 49 with red pulped Arka Kiran and Lalit .	• To continue	Evaluation for red pulp, less / soft seededness and yield	Superior OP progeny / New hybrid combinations will be made available for further evaluation
Sub Theme 2 : Evaluation of genotypes for salt tolerance						
Theme Leader: Dr.R.M.Vijayakumar, Professor and Head, Professor and Head, Department of Fruit Crops, HC & RI, TNAU, Coimbatore-3						
Sl.No	**Activity**	**Scientists and Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Screening of guava varieties and genotypes for salt tolerance	Dr.V.P. Santhi (5 hrs / week) Horticulturist Dr. H. Vijayaraghavan (3 hrs / week) Physiologist HCRIW, Trichy	Comparative performance evaluation of 34 Guava genotypes/ varieties	Comparative performance evaluation of the Guava genotypes/ varieties	Highlighting the Best performing types with supportive bio-chemical studies	Identification of Guava genotype with sodicity tolerance

GRAPES

Theme No1 : Improvement of grapes through breeding approaches						
Theme Leader: Dr.S.Parthiban, Professor and Head, GRS, Theni (10 hrs / week)						
Sub Theme 1: Evaluation of grape germplasm						
Sl.No.	**Activity**	**Scientist In-charge& Centre**	**Year - I**	**Year - II**	**Year - III**	**Deliverables**
1.	Assembling the grapes varieties/ genotypes	Dr. A. Subbiah (20 hrs / week) Dr.S.Parthiban, Professor and Head, (10 hrs / week) Grapes Research Station, Theni Dr.A.Vijayachamundeeswari (2 hrs / week) Pathologist Dr. S. Irulandi (2 hrs / week) Entomologist HC & RI, Periyakulam	• Establishment of collected genotypes by grafting on Dog Ridge rootstock	Studying the performance of the genotypes for yield	Studying the performance of the genotypes for yield and resistance to major pests and diseases	Possible outcome for improved variety

JACK FRUIT

Theme No 1: Collection, evaluation and identification of high yielding and quality jackfruit						
Theme Leader: Dr. L. Jeeva Jothi, Professor & Head, Vegetable Research Station, Palur						
Sub Theme 1: Survey and evaluation of jackfruit trees with high yield and quality						
S.No	**Activity**	**Scientists and Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Collection and evaluation of jackfruit genotypes	Dr. L. Jeeva Jothi Horticulturist (3 hrs / week)	• Collection and Identification of high yielding and good quality natural genotypes of jackfruit • Assessment of identified jackfruit genotypes for their yield and quality		Yield and quality analysis of promising jackfruit genotypes	Identification of high yielding jackfruit genotypes with good quality

POMEGRANATE

Theme No 1: Collection and evaluation of pomegranate germplasm						
Theme Leader: **Dr.T.N.Balamohan,** Professor and Head, Dept. of Horticulture, AC &RI, Madurai						
Sub Theme 1: Yield and quality assessment of collected germplasms						
Sl.No.	**Activity**	**Scientist /s and Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Evaluation of pomegranate genotypes for high yield and quality suitable for Southern Zone of Tamil Nadu	Dr.T.N.Balamohan Prof. and Head (5 hrs / week) Dr.V.Krishnamoorthy Horticulturist (10 hrs / week) AC & RI, Madurai	Collection and establishment of pomegranate genotypes	Recording the growth parameters of pomegranate genotypes	Recording the growth parameters and yield	The high yielding identified type will be useful for commercial cultivation in Southern Districts of Tamil Nadu.

JAMUN

Theme No 1: Collection, evaluation and identification of high yielding and quality seedless jamun						
Theme Leader: Dr. J. Rajangam, Professor and Head, HC & RI, Periakulam						
Sub Theme 1: Collection of seedless jamun accessions through survey at Northern districts of Tamil Nadu and assembling from other known resources.						
S.No.	**Activity**	**Scientists and Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Collection and evaluation of elite / seedless jamun genotypes	Dr. J. Rajangam, Prof. and Head (2 hrs / week) Dr. C. Ravindran, Asst. Prof.(Hort.) (4 hrs / week) Dr. C.Subesh Ranjith Kumar, Assistant Professor (Hort.) (4 hrs / week) HC & RI, PKM	Identification and collection of natural genotypes of seedless jamun		Quality analysis of the identified seedless jamun Multiplication of promising seedless genotypes	Identification of high yielding quality seedless jamun variety suitable for commercial cultivation
Sub Theme. 2: Collection of seedless jamun accessions through survey at Southern districts of Tamil Nadu and assembling from other known resources.						

S.No.	Activity	Scientists and Centre	Year 1	Year 2	Year 3	Deliverables
1.	Survey and collection of elite seedless accessions of jamun	Dr. J.Prem Josua Horticulturist (5 hrs / week) AC&RI, Killikulam	Survey will be under taken in potential Jamun growing areas of in Southern districts and identified plus trees of seedling origin will be assembled by means of collections of scion woods from the plus trees.		Quality analysis of the identified seedless jamun Multiplication of promising seedless genotypes	Identification of high yielding quality seedless jamun variety suitable for commercial cultivation

MANDARIN ORANGE

Theme No 1: Collection and enrichment of Mandarin orange germplasm						
Theme Leader: Dr.K.Nageswari, Professor and Head, HRS, Yercaud						
Sub Theme 1: Evaluation of germplasm for yield and quality attributes						
Sl.No.	**Activity**	**Scientist /s and Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Survey, collection and evaluation of mandarin orange varieties	Dr.K.Nageswari, Professor and Head (8 hrs / week) Dr. P.S. Kavitha Horticulturist (5 hrs / week) HRS, Yercaud	Collection of mandarin orange varieties (Khasi, Sikkim, Nagpur and Coorg) from different locations	Evaluation of varieties based on their morphological characters	Evaluation of varieties based on their morphological characters	Identification of high yielding mandarin orange varieties suitable for Tamil Nadu hilly tracts.

AVOCADO

Theme No 1: Collection and enrichment of avocado genotypes						
Theme Leader: Dr.M.Anandan, Professor and Head,HRS,Thadiyankudisai						
Sub Theme 1: **Evaluation of germplasms for Yield and quality attributes for lower Pulney Hills**						
Sl.No.	**Activity**	**Scientists and Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Collection and evaluation of avocado varieties and genotypes suitable for lower Pulney hills	Dr.M.Anandan, Professor and Head (20 hrs / week) Dr.Muthuramalingam Horticulturist (30 hrs / week) HRS, Thadiyankudisai	Collection and evaluation of varieties	Evaluation of varieties and genotypes	Validating the results	Identification of best performing varieties based on yield and quality parameters

STRAWBERRY

Theme No 1: Collection and enrichment of strawberry genotypes						
Theme Leader: Dr. S. Karthikeyan Asst Professor (Hort), HRS, Ooty						
Sub Theme 1: **Evaluation of germplasms for yield and quality attributes for the Nilgris**						
Sl.No.	**Activity**	**Scientists and Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Collection and evaluation of varieties/ genotypes	Dr. S. Karthikeyan Asst Prof. (Hort) (5 hrs / week) Dr.Anand Asst Prof. (Hort), (5 hrs / week) HRS, Ooty	Collection and evaluation of varieties	Evaluation of genotypes for yield and quality	Validating the results	Identification of best performing genotypes based on yield and quality parameters

MANILA TAMARIND

Theme 1: Identification of Manila Tamarind accessions for high yield and quality						
Team Leader: Dr. J. Rajangam, Professor and Head, Dept. of Fruit Crops, HC & RI, Periakulam						
Sub theme I: Collection and evaluation of Manila Tamarind accessions for high yield and quality						
S.No	**Activity**	**Scientist and centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1	Survey, collection and evaluation of Manila Tamarind accessions	Dr. K.Rajadurai Asst. Prof.(Hort.) (10 hrs / week) Dr. J. Rajkumar Asst. Prof.(CRP) (10 hrs / week) RRS, Aruppukkottai Dr. J. Rajangam, Professor and Head (2 hrs / week) Dr. C. Ravindran, Assistant Professor(Hort.) (4 hrs / week) Dr. C.Subesh Ranjith Kumar, Assistant Professor (Horticulture) (4 hrs / week)	Survey will be under taken in the potential Manila Tamarind growing areas of Tamil Nadu and identified plus trees will be assembled by means of grafting.	Continuing collection of desirable progenies	Evaluation of grafts for various vegetative parameters	Germplasm bank of Manilla Tamarind will be established. If project is continued, promising types with desirable yield and quality attributes will be identified.

CROP MANAGEMENT-FRUIT CROPS

BANANA

Theme 1: Nutrient management strategies for high yield and quality in banana
Theme Leader: Dr.K.Soorianathasundaram, Professor (Hort.), HC &RI, TNAU, Coimbatore - 3
Sub theme 1: Evolving technologies for yield and quality improvement for choice banana cv. Quintal Nendran (AAB)

Sl.No	Activity	Scientists and centre	Year 1	Year 2	Year 3	Deliverables
1	Standardization of spacing and fertigation schedule for banana cv. Quintal Nendran (AAB)	Dr.C.Kavitha , Asst.Prof.(Hort.) (3 hrs / week) Dr.K.B.Sujatha Asst.Prof.(CRP) (3 hrs / week) HC & RI, Cbe.	Raising of Quintal Nendran in the field and imposing treatments	Recording data on yield and quality	Confirmation trial	Optimizing spacing and fertigation dose for Quintal Nendran to maximize productivity

PAPAYA

Theme: Standardization of technologies for maximizing production in papaya
Theme Leader: Dr.K.Soorianathasundaram, Professor (Hort.), HC &RI, TNAU, Coimbatore - 3
Sub Theme 1: Improvement of yield and quality in TNAU papaya Co.8 through INM approach

Sl. No	Activity	Scientists and centre	Year 1	Year 2	Year 3	Deliverables
1.	Development of nutrient formulation for improving growth, yield and quality of papaya	Dr.C.Kavitha, Asst.Prof. (Hort.) (3 hrs / week) Dr.K.B.Sujatha Asst.Prof.(CRP) (3 hrs / week) HC & RI, Cbe.	Raising the crop in the field and imposing treatments	Recording data on yield and quality	Confirmation trial	An effective nutrient formulation for enhancing yield and quality of papaya will be developed

MANGO

Theme: Optimizing the factors responsible for maximizing the production with quality fruits
Theme Leader: Dr.V.Swaminathan**,** Dean, HC & RI, Periyakulam
Sub Theme 1: Canopy management in HDP & UHDP in mango

S.No	Activity	Scientists and centre	Year 1	Year 2	Year 3	Deliverables
1.	Standardization of canopy management practices for mango in HDP & UHDP	Dr.V.Swaminathan Dean (Hort.) (4 hrs / week) Dr. J. Rajangam Professor and Head (4 hrs / week) Dr.K. Venkatesan Prof(CRP) (4 hrs / week) Dr. D. Janaki Asst.Prof(SS & AC) (2 hrs / week) HC & RI, Periyakulam	Planting and establishment	Training and framing	Practicing the Pruning levels	Optimum pruning intensity for higher yield and productivity

ACID LIME

Theme No. 1 : Optimizing the factors responsible for maximizing the production with quality fruits						
I. **Theme leader :** Dr. S.Muthulakshmi ,Professor and Head, Citrus Research Station, Sankarankovil						
Sub Theme 1 : Optimizing the nutrient requirement for maximizing the yield and quality in Acid Lime						
S.No.	**Activity**	**Scientists & Centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Standardization of nutrient requirement for Acid lime	Dr. S.Muthulakshmi Professor and Head (5 hrs / week) Dr. K.Sundharaiya Asst.Prof.(Hort.) (5 hrs / week)	Layout of the trial	Establishment and maintenance	Establishment and maintenance Imposition of treatments	Optimum nutrient requirement for high yield and quality will be standardized if the project is continued further

GUAVA

Theme No 1 : Optimizing the factors responsible for maximizing the production with quality fruits						
Theme Leader : Dr. V. Swaminathan, Dean i/c, HC & RI, Periyakulam						
Sub Theme 1 : Canopy management in HDP & UHDP						
S.No	**Activity**	**Scientists and centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Training and pruning in different growth stages	Dr.V.Swaminathan Dean (Hort.) (3 hrs / week) Dr. J. Rajangam Prof. and Head (4 hrs / week) Dr. I. Muthuvel Asso.Prof.(Hort.) (4 hrs / week) Dr. D. Janaki, Asst. Prof.(SS&AC) (2 hrs / week) HC & RI, Periyakulam Dr.M.Kavino Asst.Prof.(Hort.) (5 hrs / week) Dr.R.M.Vijayakumar Prof. and Head (5 hrs / week) HC & RI, Cbe	Planting and establishment	Training and framing	Imposing different pruning levels	Optimum pruning intensity for higher productivity

Sub Theme 2 : Standardization of nutrients for fertigation as well as plant growth regulators for yield improvement						
Theme Leader : Dr.J.Auxcilia, Associate Professor (Hort.) HC & RIW, Trichy						
Sl.No	**Scientist and centre**	Scientist and centre	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1	Standardization of fertigation schedule for HDP in guava cv. Lucknow-49	Dr.J.Auxcilia Asso.Prof.(Hort.) (5 hrs / week) Dr. A.Nithya Devi Asst.Prof.(Hort.) (3 hrs / week) Dr. D. Jayakumar Soil Scientist (3 hrs / week) HC&RIW, Trichy Dr.M.Kavino Asst.Prof.(Hort.) (5 hrs / week) Dr.R.M.Vijayakumar Prof. and Head (5 hrs / week) HC & RI, Cbe	Conducting field trial to study the effect of fertigation in HDP Guava	Conducting field trial to study the effect of fertigation in HDP Guava	Validating the results	Development of comprehensive protocol for guava production under normal and UHDP system of planting
2.	Standardization of plant growth regulators and nutrients in Guava under Sodic condition	Dr.H.Vijayaraghavan Prof.(CRP) (3 hrs / week) Dr.D.Vidhya, Asst.Prof(Hort.) (4hrs / week) HC&RIW, Trichy	Imposing the treatments and study the effect of foliar spray of PGR and nutrients	Imposing the treatments and study the effect of foliar spray of PGR and nutrients	Confirmatory trial	Suitable foliar spray schedule of PGR and nutrients will be developed for guava under sodic condition

GRAPES

Theme No 1 : Quality improvement in grapes						
Theme Leader : Dr. S.Parthiban, Professor and Head, GRS, Theni						
Sub Theme 1 : Quality improvement in grape var. Muscat Hamburg through special viticulture practices						
S.No	**Activity**	**Scientists and centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Quality improvement in grapes var. Muscat Hamburg (Panneer) through special viticulture practices	Dr. S.Parthiban Prof. and Head (10 hrs / week) Dr. A. Subbiah Asst.Prof.(Hort.) (8 hrs / week) Dr.Venkatesan Prof.(CRP) (5 hrs / week)	Identification of grape vineyard and imposing the treatments	Continuation of the field experiment and observation	Confirmation of the results	The influence of special viticultural practices *viz.,* cluster clipping, no. of bunches retained per vine, leaf removal on yield and quality in Muscat Hamburg (Panneer) grape can be assessed. The effect of growth regulators *viz.*, gibberellic acid and brassinolide on berry size, yield and quality can be assessed
Sub Theme 2 : Management of berry cracking in grape var. Muscat Hamburg						
Theme Leader : Dr. S.Parthiban, Professor and Head, GRS, Theni						
Sl.No	**Scientist and centre**	**Scientist and centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1	Management of berry cracking in grapes with the use of calcium, boron, other secondary and micronutrients	Dr. S. Parthiban Prof. and Head (10 hrs / week) Dr.Venkatesan Prof.(CRP) (5 hrs / week)	Identification of grape vineyard and imposition of treatments	Continuation of the field experiment	Confirmation of the results	The outcome will be highly useful for reducing the crop loss due to berry cracking and enhancing the marketable fruits and storage life of grape variety Muscat Hamburg.

Sub Theme.3: **Standardization of pruning practices in grape var. Muscat Hamburg**						
Theme Leader: Dr. S.Parthiban, Professor and Head, GRS, Theni						
Sl.No	**Scientist and centre**	**Scientist and centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
2.	Studies on season and bud level of pruning for double pruning / double cropping system in grape var. Muscat Hamburg	Dr. S.Parthiban, Prof. and Head (10 hrs / week) Dr. A. Subbiah Asst.Prof.(Hort.) (8 hrs / week) GRS, Theni	Identification of grape vineyard and imposition of treatments	Continuation of the field experiment	Confirmation of the results	Identification of optimum season and bud level for high fruitfulness and yield in grape var. Muscat Hamburg (Panneer)

PEAR

Theme No. 1: Optimizing the factors responsible for maximizing the production with quality fruits						
Theme Leader: Dr. T. Saraswathi, Professor and Head, HRS, Kodaikanal						
Sub Theme 1: Standardizing HDP in pear						
S.No	**Activity**	**Scientists and centre**	**Year 1**	**Year 2**	**Year 3**	**Deliverables**
1.	Standardizing HDP for higher productivity in pear	Dr. T. Saraswathi, Prof. and Head (8 hrs / week) Dr.C.Thangamani Asst.Prof.(Hort.) (5 hrs / week)	Planting and establishment	Training and framing	Training and framing	Optimum planting density for higher yield and productivity

WORK LOAD OF SCIENTISTS FOR THE YEAR 2017-18
Crop Improvement

S.No.	Scientist Name	Banana		Papaya		Mango		Acid Lime	Guava		Grapes	Jackfruit	Pomegranate	Jamun		Mandarin	Avocado	Strawberry	Manila Tamarind
		Theme 1		Theme 1		Theme 1	Theme 2	Theme 1	Theme 1		Theme 1	Theme 1	Theme 1	Theme 1		Theme 1	Theme 1	Theme 1	Theme 1
		Sub theme 1	Sub theme 2	Sub theme 1	Sub theme 2	Sub theme 1	Sub theme 1	Sub theme 1	Sub theme 1	Sub theme 2	Sub theme 1	Sub theme 1	Sub theme 1	Sub theme 1	Sub theme 2	Sub theme 1	Sub theme 1	Sub theme 1	Sub theme 1
		(Hours / Week)																	
I	**HC&RI, Coimbatore**																		
1.	Dr.R.M.Vijayakumar						5		3										
2.	Dr.K.Soorianathasundaram		5		5				3										
3.	Dr.P.Muthulakshmi		3		3														
3.	Dr.M.Kavino								5										
4.	Dr.C.Kavitha		5	5	5														
5.	Dr.P.Vetrivelkalai		3																
6.	Dr.K.B.Sujatha			3			3												

II	**HC&RI, Periyakulam**																		
1.	Dr. Venkatesan						5												
2.	Dr.J.Rajangam						5							2					2
3.	Dr.C.Subesh Ranjith Kumar													4					4
4.	Dr.C.Ravindran													4					4
5.	Dr.A.Vijayasamundeeswari										2								
6.	Dr.S.Irulandi										2								
7.	Dr. Muthumanikam						3												
III	**HC&RI(W), Trichy**																		
1.	Dr.H.Vijayaraghavan	3								3									
2.	Dr.V.P. Santhi									5									
3.	Dr.A.Nithya Devi	5																	
IV	**AC & RI, Madurai**																		
1.	Dr.T.N.Balamohan												5						
2.	Dr.V.Krishnamurthy												10						
V	**AC&RI, Killikulam**																		
1.	Dr. J.Prem Josua														5				
VI	**GRS, Theni**																		
1.	Dr.S.Parthiban										10								
2.	Dr.Subbiah										20								

VII	**RRS, Paiyur**																		
1.	Dr. S. Srividhya					5													
2.	Dr. Dhandapani					3													
VIII	**VRS, Palur**																		
1.	Dr.L.Jeeva Jothi											3							
IX	**HRS, Ooty**																		
1.	Dr. S. Karthikeyan																	5	
2.	Dr.Anand																	5	
X	**HRS, Yercaud**																		
1.	Dr.K.Nageswari															8			
2.	Dr. P.S. Kavitha															5			
XII	**HRS, Thadiyankudisai**																		
1.	Dr. S. Anandan																20		
2.	Dr.Muthuramalingam																30		
XIII	**CRS, Sankarankovil**																		
1.	Dr. S. Muthulakshmi							20											
2.	Dr.K.Sundharaiya							5											
XIV	**RRS, Aruppukkotai**																		
1.	Dr. K.Rajadurai																		10
2.	Dr. J. Rajkumar																		10

Crop Management
(Hours / Week)

Sl.No.	Name	Theme1									
		Banana	Papaya	Mango	Acid lime	Guava		Grape			Pear
						Sub Theme1	Sub Theme 2	Sub Theme1	Sub Theme 2	Sub Theme3	
1.	C. Kavitha	3	3								
2.	Dr.K.B.Sujatha	3	3								
3.	Dr.V.Swaminathan			4		3					
4.	Dr. J. Rajangam			4		4					
5.	Dr.K. Venkatesan			4							
6.	Dr. D. Janaki			2							
7.	Dr. S.Muthulakshmi				5						
8.	Dr. K.Sundharaiya				5						
9.	Dr. I. Muthuvel					4					
10.	Dr. D. Janaki					2					
11.	Dr. M. Kavino					5	5				
12.	Dr. R.M. Vijayakumar					5	5				
13.	Dr.J.Auxcilia						5				
14.	Dr. A.Nithya Devi						3				
15.	Dr. D. Jayakumar						3				
16.	Dr.H.Vijayaraghavan						3				
17.	Dr.D.Vidhya						4				
18.	Dr. S.Parthiban							10	10	10	
19.	Dr. A. Subbaiah							8		8	
20.	Dr. K. Venkatesan							5	5		
21.	Dr. T. Saraswathy										8
22.	Dr. C. Thangamani										5

WORK LOAD OF SCIENTISTS FOR THE YEAR 2017-18

S.No.	Scientist Name	Univ. Sub Projects	AICRP/ external funded projects	Teaching	Student guidance	Other activities Administration, farm/ ODL courses/lab in-charge	Total
I	**HC&RI, Coimbatore**						
	(% of work load)						
1.	Dr.R.M.Vijayakumar	15	-	25	20	40	100
2.	Dr.K.Soorianathasundaram	10	40	15	20	15	100
3.	Dr.P.Muthulakshmi	10	40	15	20	15	100
3.	Dr.M.Kavino	20	10	30	20	20	100
4.	Dr.C.Kavitha	10	30	20	25	15	100
5.	Dr.P.Vetrivelkalai	20	20	25	10	25	100
6.	Dr.K.B.Sujatha	15	40	30	10	5	100
II	**HC&RI, Periyakulam**						
1.	Dr.J.Rajangam	15	30	20	10	25	100
2.	Dr.A.Solamalai	40	-	40	-	20	100
3.	Dr.I.Muthuvel	15	40	20	10	15	100
4.	Dr.N.Manikanda boopathi	20	-	40	15	25	100
5.	Dr.C.Subesh ranjith Kumar	15	40	25	10	10	100
6.	Dr.C.Ravindran	20	-	40	-	40	100
7.	Dr.A.Vijayasamundeeswari	20	40	15	-	25	100
8.	Dr.V.Vani	20	-	40	-	40	100
9.	Dr.S.Irulandi	15	40	20	-	25	100
10.	Dr.D.Janaki	15	15	40	-	30	100
11.	Dr. R.Pooraniammal	20	-	40	-	40	100
III	**HC&RI(W), Trichy**						
1.	Dr.H.Vijayaraghavan	15	-	30	-	55	100
2.	Dr.J.Auxcilia	-	-	50	20	30	100
3.	Dr.V.P. Santhi	15	-	40	-	45	100
4.	Dr.A.Nithya Devi	15	-	40	-	45	100
IV	**AC & RI, Madurai**						
1.	Dr.T.N.Balamohan	15	-	25	20	40	100
2.	Dr.V.Krishnamurthy	40	-	40	-	20	100
V	**GRS, Theni**						
1.	Dr.S.Parthiban	40	-	-	10	50	100
2.	Dr.Subbiah	40	-	10	-	50	100
VI	**RRS, Paiyur**						
1.	Dr. S. Srividhya	30	-	-	-	70	100
VII	**VRS, Palur**						
1.	Dr.L.Jeeva Jothi	35	-	-	-	65	100
2.	Dr. I.Cannayane	60	-	-	-	40	100
VIII	**HRS, Ooty**						

1.	Dr. S. Karthikeyan	30	-	-	-	70	100
2.	Dr.Anand	30	-	-	-	70	100
IX	**HRS, Yercaud**						
1.	Dr.K.Nageswari	10	-	-	-	90	100
2.	Dr. P.S. Kavitha	30	-	-	-	70	100
X	**HRS, Kodaikanal**						
1.	Dr.T.Saraswathi	30	-	-	10	60	100
2.	Dr.N.Seenivasan	30	-	-	-	70	100
3.	Dr.C.Thangamani	30	-	10	-	60	100
XI	**HRS, Thadiyankudisai**						
1.	Dr. S. Anandan	25				75	100
2.	Dr.Muthuramalingam	20	-	20	-	60	100
XII	**CRS, Sankarankovil**						
1.	Dr. S. Muthulakshmi	20	-	-	-	80	100
2.	Dr.K.Sundharaiya	30	-	-	-	70	100

b. Vegetable Crops

1. Staff pattern

Station	Designation	Discipline									Total
		Hort	Ento	Patho	Namato	Soil Sci	Physio	Biotech	PI breed	Nano	
Coimbatore	Professor	3	-	-	-	-	-	2	-	1	6
	Assoc. Prof	-	-	-	-	-	-	-	-	-	-
	Asst.Prof	3 + 2 AICRP	1	1 AICRP	1	-	1	-	-	1	10
Periyakulam	Professor	3	1	1	-	-	-	-	-	-	5
	Assoc. Prof	1	-	-	-	-	-	-	-	-	1
	Asst.Prof	2	-	-	-	-	-	1	-	-	3
Trichy	Professor	1	-	-	-	-	1	-	-	-	2
	Assoc. Prof	-	-	-	-	-	-	-	-	-	-
	Asst.Prof	1	1	1	-	-	-	-	-	-	3
Palur	Professor	1	-	-	-	-	-	-	-	-	1
	Assoc. Prof	-	-	-	-	-	-	-	-	-	-
	Asst.Prof	-	-	-	1	-	-	-	1	-	2
Yethapur	Professor	-	-	-	-	-	-	-	-	-	-
	Assoc. Prof	-	-	-	-	-	-	-	-	-	-
	Asst.Prof	1 AICRP	-	-	-	2	-	-	-	-	3
Yercaud	Professor	1	-	-	-	-	-	-	-	-	1
	Assoc. Prof	-	-	-	-	-	-	-	-	-	-
	Asst.Prof	-	-	-	-	-	-	-	-	-	-
Total		**19**	**3**	**3**	**2**	**2**	**2**	**3**	**1**	**2**	**37**

Among the 37 scientists, 33 are in Non-Plan Main and 4 are under ICAR - AICRP; Among the 33 scientists borne under Non Plan Main, 6 are Professors and Head.

b. VEGETABLE CROPS

2. Projectwise Remarks

CROP IMPROVEMENT

S. No.	Project Number, Title and Period	Project Investigator, Centre and Period	Remarks
I	**TOMATO**		
1.	HCRI/CBE/HOR/VEG/2015/007 Development of pre breeding lines in tomato resistant / tolerant to peanut bud necrosis virus through interspecific hybridization	Dr. A. Beaulah, Assoc. Prof. (H) Dept. of Horticulture, AC&RI, MDU **Jan 2015 to Dec 2017**	Further evaluation to be continued to develop pre breeding lines resistant to PBNV. Proposal may be sent for change of project leader.
2.	HCRI/CBE/HOR/VEG/2015/008 Development of indeterminate high yielding, hybrid/variety in Tomato (*Solanum lycopersicon* Mill) suitable for Poly House/Open filed Condition	Dr. V. Premalakshmi, Asst. Prof. (H) O/o the Open & Distance Learning TNAU, CBE **June 2015 to May 2018**	Work to be continued to develop indeterminate F_1 hybrids suitable for poly House/ Open field condition
II	**BRINJAL**		
3.	HCRI/CBE/HOR/VEG/2010/014 Development of F1 hybrids in brinjal with cluster bearing habit, striped fruit, shoot and fruit borer resistance and high yield,	Dr. P. Irene Vethamoni Professor (Hort.) Department of Vegetable Crops, HC &RI, Coimbatore **April 2014 to March 2017**	Completion report may be submitted
4.	HCRI/CBE/HOR/VEG/2014/006 Development spineless brinjal hybrid akin to VRM 1 Mullukathiri,	Dr. P. Irene Vethamoni Professor (Hort.) Department of Vegetable Crops, HC &RI, Coimbatore **Dec 2014 to Dec 2017**	Spineless brinjal hybrids akin to Mullukathiri shall be developed using identified parents
5.	HCRI/CBE/HOR/VEG/2016/001 Development of brinjal F1 hybrid with purple and green striped fruits for high yield and shoot and borer fruit resistance,	Dr.S.Praneetha, Professor (Hort) Department of Vegetable Crops, HC &RI, Coimbatore **May 2016 to April 2019**	Best performing parents and parental combinations shall be identified for the development of F_1 hybrids
6.	HCRI/MDU/HOR/VEG/2010/002 Development of hybrid derivative in Brinjal using local types,	Dr. P.Balasubramanian Asst. Prof. (Horticulture) Department of Horticulture, AC&RI, Madurai **July 2013 to June 2016**	Completion report may be submitted
7.	CPBG/PAL/PBG/VEG/2017/NEW Development of brinjal hybrids with high yield and nematode resistance	Dr. K. Sakthivel, Asst. Prof. (PBG) Dr. I. Cannayane, Asst. Prof. (Nematology)	Germplasm shall be collected and evaluation shall be initiated to identify high yielding and nematode resistant lines

		Dr. L. JeevaJothi; Professor (Horticulture) and Head VRS, Palur, **March 2017 to February 2022**	Project number to be obtained
8.	HCRI/VIJ/HOR/VEG/2014/001 Evolution and evaluation of high yielding non-spiny brinjal types with the quality characters of spiny Brinjal,	Dr. B. K. Savitha Asst. Prof. (Horticulture) ARS, Virinjipuram. **Nov 2014 to Oct 2017**	The best thornless hybrid derivative identified may be forwarded for MLT 1
9.	HCRI/TRY/HOR/VEG/2015/001 Collection, screening and breeding of brinjal under salt affected soils,	Dr.G.Malathi, Asst. Prof. (Hort.) Dr.H. Vijayaraghavan, Prof. (Plant physiology) HC&RI (W), Trichy **April 2015 to Mar 2019**	Collected genotypes shall be evaluated both under field and artificial condition for yield, quality and salt tolerance
III	**CHILLI**		
10.	HCRI/TRY/HOR/VEG/2014/001 Collection, screening and breeding of chilli (*Capsicum annuum* L.), genotypes under salt affected soils,	Dr.G.Malathi, Asst. Prof. (Hort.) Dr. T. Kalaimagal Professor (PBG) HC&RI (W), Trichy **April 2014 to March 2018**	Efforts may be taken up to protect the crop from peacock damage. Collected genotypes shall be screened both under field and artificial condition for yield, quality and salt tolerance .
11.	HCRI/CBE/HOR/VEG/2016/002, Screening of chilli germplasm for yield, quality and tolerance to Leaf Curl Virus,	Dr. H.Usha Nandhini Devi, Asst. Professor (Hort.) Dr. S. Harish, Asst. Professor (Pl. Patho.) Dr. M.Suganthi, Asst. Professor,(Ento.) Department of Vegetable Crops, HC&RI, TNAU, Coimbatore **Dec 2016 to Nov 2019**	The F_1 seeds available in the Vegetable Department, HC&RI, Coimbatore shall be screened for LCV resistance besides new germplasm shall be collected and screened for LCV resistance. Proposal for change of project leaders may be submitted.

IV	**OKRA**		
12.	HCRI/MDU/HOR/VEG/2014/003 Development of F_1 hybrids in okra (*Abelmosches esculentus* L.) for yield, quality and resistance to YVMV,	Dr. R.ArunKumar, Asst. Prof. (Hort.) KVK, AC&RI, Madurai **July 2014 to June 2017**	The project shall be closed and new project shall be proposed to continue the work and confirmatory evaluation.
V	**BOTTLE GOURD**		
13.	CPBG/PAL/PBG/VEG/2015/004, Development of bottle gourd hybrids with small to medium sized cylindrical fruits suitable for local and export markets,	Dr. K. Sakthivel, Asst. Prof. (PBG) VRS, Palur **Oct 2015 to Sep 2018**	Collected genotypes shall be evaluated for selection of parents to develop hybrids
VI	**RIDGE GOURD**		
14.	HCRI/CBE/HOR/VEG/2014/003, Development of RIL's (Recombinant Inbred Lines) of cluster bearing, small fruited hermaphrodite ridge gourd [*Luffa acutangula (Roxb.)L]*,	Dr. V.Rajashree, Asst. Prof. (Hort.) Department of Vegetable Crops, HC&RI, TNAU, Coimbatore **Dec 2014 to Nov 2017**	Work shall be continued to identify the best RIL's with cluster bearing, small fruited hermaphrodite ridge gourd
VII	**CUCUMBER**		
15.	HCRI/KKM/HOR/VEG/2015/001 Survey, Collection and Evaluation of salad cucumbers (*Cucumis* sp),	Dr. J. Prem Joshua Professor (Hort.) Department of Horticulture, AC&RI, Killikulam. **Dec 2014 to Nov 2017**	The performance of the accessions shall be evaluated further to identify superior genotypes
VIII	**ONION**		
16.	HCRI/EKT/HOR/VEG/2014/001, Evaluation of onion varieties suitable for New Cauvery Delta Zone,	Dr. M. Visalakshi Asst. Prof. (Hort.) AC&RI, Eachangottai, Thanjavur **Dec. 2014 to Nov 2016**	Completion report shall be submitted. The findings may be confirmed by MLT with promising genotypes
IX	**CLUSTER BEAN**		
17.	HCRI/TRY/HOR/VEG/2014/001 Collection and evaluation of Cluster bean (*Cyamopsis tetragonoloba*) genotypes under salt affected soils.,	Dr. R. Jagadeesan Asst. Prof. (Hort.), HC&RI (W), Trichy. **Aug 2014 to July 2017**	Collected genotypes shall be evaluated both under field and artificial condition along with MDU 1 and Pusa Naubahar for yield, quality and salt tolerance

X	**GARDEN BEAN**		
18.	HCRI/PKM/HOR/VEG/2013/001 Development of high yielding, short duration, bush type vegetable garden bean *(Lablab purpureus var. typicus)*,	Dr. S. Juliet Hepziba, Professor (PB&G), HC&RI, Periyakulam. **Sep 2013 to Aug 2016**	Completion report shall be submitted. The work may be continued by proposing a new sub project
XI	**FRENCH BEAN**		
19.	HCRI/TDK/HOR/VEG/2013/001, Collection and evaluation of French bean (*Phaseolus vulgaris*) genotypes with high yield, quality and suitable for commercial cultivation at lower pulney hills,	Dr. S. Muthuramalingam, Asst. Prof. (Hort.) HRS, Thadiyankudisai. **Aug 2013 to July 2016**	Yield per plot may be included. The performance of genotypes for pest and diseases may be reported. Completion report shall be submitted
XII	**BUTTER BEANS**		
20.	HCRI/PKM/HOR/VEG/2014/003 Developing a high yielding variety of butter beans through mutation breeding,	Dr. B. Senthamizh Selvi Asst. Prof. (Hort.), HRS, Kodaikanal **July, 2014 to June 2018**	The identified mutants (both Pole and Bush type) shall be further evaluated for yield and quality along with standard checks. Name of the project leader shall be changed.
XIII	**CASSAVA**		
21.	HCRI/YTP/HOR/VEG/2015/001 Breeding of cassava for high tuber yield and starch content,	Dr. L. Pugalendhi, Professor (Hort.) Dr.S.R.Venkatachalam Professor (PB&G) Dr.M.Velmurugan, AP (Horticulture) TCRS, Yethapur **Dec 2015 to Nov 2018**	Name of the project leader shall be changed and the project shall be continued
XIV	**AMARANTHUS**		
22.	**HCRI/TRY/HOR/VEG/2016/001,** Evaluation of underutilized leafy vegetables in salt affected soils for leaf yield and phytoremediation effect,	S.Jeeva, Professor (Horticulture) HC&RI (W), Trichy. **Jan 2016 to March 2019**	The project work shall be continued
XV	**AROIDS AND YAMS**		
23.	HCRI/PEC/HOR/VEG/2016/001 Collection, Characterization and Screening of Edible Tuber Crops, Aroids and Yams,	Dr.C.Vijulan Harris, Professor (Hort.) HRS, Pechiparai. **Jan 2016 to Dec 2019**	The project work shall be continued

CROP MANAGEMENT

S. No.	Project Number, Title and Period	Project Investigator and Centre	Remarks
I.	**TOMATO**		
1.	NRM/MDU/SAC/VEG/2016/001, Effect of different EC levels of irrigation water on the yield and quality of tomato,	Dr.G.Sridevi, Assistant Professor (SS&AC) Department of Soil and Environment, AC & RI, Madurai **June 2016- May 2019**	It has taken more than an year to standardize the salinity levels and yet the treatments have not been imposed. The research work shall be initiated immediately.
2.	NRM / PAI / SAC / VEG / 2015 / 001, Studies on plant tissue analysis as a diagnostic tool for correcting nutrient deficiency and higher productivity in tomato,	Dr. A. Renukadevi, Assistant Professor (SS &AC) RRS, Paiyur **October 2015 to October 2017**	A concise and clear recommendation based on the study may be furnished as envisaged in the objectives proposed. Completion report shall be submitted
3.	DCM / PAI / CRP / VEG / 2016 / 001, Physiological manipulation of source sink relationship in tomato,	Dr. K. Krishna Surendar, AP (CRP) RRS, Paiyur **June 2016 to June 2018**	Work shall be continued as per the approved programme of work.
4.	DCM / PAI / AGR / VEG / 2014 / 002, Critical period of crop and weed competition in Tomato at North Western Agro climatic Zone of Tamil Nadu,	Dr. P. Ayyadurai Assistant Professor (Agronomy) RRS, Paiyur **November 2014 to August 2016**	Completion report shall be submitted
II.	**CHILLI**		
5.	NRM /CBE/SAC/VEG/2014/001 (URP 202) , Studies on the yield and quality of chillies and onion as influenced by S fertilization in S deficient soils,	Dr. J. Balamurugan,AP (SS&AC) Dept. of SS&AC, TNAU, Coimbatore **July 2014 – June2017**	Extension proposal shall be submitted to continue the work
6.	SEED/CBE/SST/VEG/2013/006 Effect of drying methods on seed germination and storability in chillies,	Dr.R.Vijayan, Asst. Prof. (SS&T) Dept. of Seed Science and Technology , TNAU, Coimbatore **November 2013 to October 2016**	Completion report shall be submitted
III.	**ASH GOURD**		
7.	SEED/VGD/SST/VEG/2015/001, Effect of after ripening period and seed after ripening treatments on seed germination and seedling emergence of Ash gourd cv. CO 1,	Dr. D.Thirusendura Selvi Assistant Professor (SS&T) Dr. S.Saraswathy Professor (Hort.), ARS, Vaigai Dam **October 2015-September 2017**	The project work shall be continued for confirmation of findings and then concluded.

IV.	**CUCUMBER**		
8.	HCRI/CBE/HOR/VEG/2014/004, Studies on training systems in cucumber under poly house,	Dr. G.V. Rajalingam, Assistant Professor (Hort.) Department of Vegetable Crops, HC &RI, TNAU, Coimbatore. **August 2014– July 2017**	Completion report shall be submitted after consolidation of findings from the trials conducted and ongoing trial.
V.	**COCCINIA**		
9.	HCRI/CBE/HOR/VEG/2014/001 Standardization of nutrient requirement through fertigation for Coccinia (*Coccinia grandis*) variety TNAU Coccinia CO1,	Dr. K.Shoba Thingalmaniyan Assistant Professor(Hort.) Dept. of Veg. Crops, HC &RI, TNAU, Coimbatore Dr. P.Malathi, AP (Soil Science) Dept. of Soil Science & Agrl. Chemistry, TNAU, Coimbatore **October 2014-September'2017**	Completion report shall be submitted after consolidation of findings from the trials conducted and ongoing trial.
VI.	**ONION**		
10.	HCRI/VGD/HOR/VEG/2015/001, Seasonal influence on growth and seed yield of small onion cv. CO (On) 5 under Vaigaidam conditions,	Dr. S.Saraswathy , Professor (Horti) Dr. D.Thirusendura Selvi Assistant Professor (SS&T) ARS, Vaigai Dam **October 2015 – September 2017**	The project work shall be continued
11.	SEED/VGD/SST/VEG/2015/002, Management Practices to improve the seed yield and productivity in small onion cv. CO (On) 5,	Dr. D.Thirusendura Selvi Assistant Professor (SS&T) Dr. S.Saraswathy, Professor (Hort.) ARS, Vaigai Dam **May 2015- April 2018**	The project work shall be continued
12.	HCRI/KKM/HOR/VEG/2015/001 Studies on influence of growth retardants in increasing yield and quality of Bellary onion (*Allium cepa* var.cepa),	Dr.J.Prem Joshua, Professor (Hort.), Dept. of Horticulture, AC & RI, Killikulam **December 2015 to November 2018**	The project work shall be continued
VII	**GARLIC**		
13.	DCM/OTY/AGR/SPC/2015/001, Integrated weed management in garlic (*Allium sativum* L.) under rainfed condition,	Dr. K. Ramamoorthy, Professor (Agronomy), HRS, Ooty **May 2015 - February 2018**	The project work shall be continued

VIII.	**COW PEA**		
14.	DCM/PKM/AGR/VEG/2015/003, Study of foliar spray and fertilizer levels on yield of Vegetable Cowpea (PKM 1),	Dr. M.P. Kavitha, AP (Agronomy) Dept. of Veg. Crops, HC&RI, PKM **April – 2015 to June - 2017**	Completion report shall be submitted
15.	HCRI/PKM/HOR/VEG/2013/001, Influence of sowing time on seed yield and quality of vegetable cowpea PKM 1,	Dr. P. Geetharani, Prof. (SS&T) Dept. of Veg. Crops,HC & RI, PKM **September – 2013 to August – 2016**	Completion report shall be submitted
IX	**LAB LAB**		
16.	HCRI/CBE/HOR/VEG/ 2015 /008, Studies on effect of growth regulators on growth, flowering and yield of bush type lab lab (*Lablab purpureus (L.)*),	Dr. K. Kumanan, AP (Hort.), HC&RI(W), Trichy **February, 2015 to January, 2018**	The project shall be closed and completion report shall be submitted based on the findings of the trials conducted so far. Proposal may be sent for change of project leader.
X.	**CASSAVA**		
17.	NRM/YTP/SAC/VEG/2013/001, Soil Test Crop Response based IPNS for Sustainable Cassava production,	Dr. S. Suganya, AP (SS&AC) TCRS, Yethapur **Dec. 2013 – November, 2016**	Completion report shall be submitted
18.	NRM/YTP/SAC/VEG/2013/002, Permanent Manurial Experiment on cassava in red sandy loam soil (*Typic Rhodustalf*) of Yethapur under Irrgiated situation,	Dr. S. Suganya,AP (SS&AC) TCRS, Yethapur **Dec., 2013 – Nov. 2018**	The project work shall be continued
19.	NRM/YTP/SAC/VEG/2017/00, Evaluation of New Micronutrient Fertilizer Mixture for increasing the productivity and starch content in cassava,	Dr. S. Suganya, AP (SS&AC) Dr. D. Jegadeeswari, Assistant Professor (SS&AC), TCRS, Yethapur **March 2017 to February, 2019**	The project work shall be continued
20.	HCRI/YTP/HOR/VEG/2013/001 Standardization of Rapid Multiplication Technique (RMT) for cassava through protray system,	Dr.L.Pugalendhi, Professor (Hort.) TCRS, Yethapur **December 2013 to November 2016**	Completion report shall be submitted
XI	**MORINGA**		
21.	HCRI/PKM/HOR/VEG/2013/003 Effect of foliar application of bio stimulants on yield and quality of annual moringa for leaf production,	Dr.R.Balakumbahan, AP (Hort.) Dept. of Vegetable Crops, HC & RI, Periyakulam **October 2013 – September 2016**	Completion report shall be submitted

3. Cultures under MLT / ART

Vegetable Crops				
4.	Cassava	Me 681	MLT II	TCRS, Yethapur
5.	Tomato	Hybrid CTH 1	MLT – II	HC&RI, Coimbatore
6.	Onion	Aca 15	MLT – II	HC&RI, Coimbatore
7.	Brinjal Hybrid culture	IC 374928-1 x ABSR-2	MLT 1	HC&RI, Coimbatore
8.	Brinjal Hybrid Derivative	HD 10-6-5-3	MLT 1	Dept. of Horticulture, MDU
9.	Ribbed gourd	Hybrid CRgH1	ART	HC&RI, Coimbatore
10.	Bottle gourd	Culture LS 44	ART	VRS, Palur
11.	Garlic	Accession No. 72	ART	HRS, Ooty

4. Action Plan (2017 – 19)

Vegetable Crops – Crop Improvement

Tomato

Theme No. 1: Germplasm characterization, evolving trait specific genotypes and development of hybrids for open field and polyhouse condition					
Theme Leader: Dr. T. Arumugam, Prof. and Head, Dept. of Vegetable Crops, Coimbatore					
Sub theme 1: Screening of germplasm for yield, quality, processing and biotic tolerance.					
S. No	**Activity**	**Centers and Scientists**	**2017-18**	**2018-19**	**Deliverables**
1	Characterization and field screening of tomato germplasm for yield, quality (TSS, Lycopene, Ascorbic acid) and biotic stress tolerance (TLCV and nematodes)	**Coimbatore** **Horticulturist** Dr. V. Premalakshmi (4 hours/ week) Dr. P. Irene Vethamoni (1 man hour/ week) **Pathologist** Dr. M. Karthikeyan (2 hours/ week) **Entomologist** Dr. T. Ilaya Bharathi (2 hours/ week) **Nematologist** Dr. Vetrivel kaalai (2 hours/ week) **Biotechnologist** Dr. M. Raveendran (5 hours/ week)	Characterization and performance assessment Artificial screening for TLCV and nematode tolerance	Assessment and identification of the best performing genotypes with high yield, quality, TLCV and nematode tolerance	Identification of trait specific genotypes
Sub theme 2: Evolving PBNV tolerant inbreds					
2	Evolving PBNV tolerant inbreds from the segregating population	**Coimbatore** **Horticulturist** Dr. P. Irene Vethamoni (0.5 hours/ week) **Pathologist** Dr. M. Karthikeyan (2 hours/ week) **Entomologist** Dr. T. Ilaya Bharathi, AP	Performance assessment of F_4 and F_5 population	Performance assessment of F_6 and F_7 population	Identification of superior inbreds with PBNV tolerance

Sub theme 3: Development of high yielding hybrids for polyhouse cultivation					
No	**Activity**	**Centers and Scientists**	**2017-18**	**2018-19**	**Deliverables**
1	Evolving high yielding hybrids suitable for polyhouse cultivation	**Coimbatore** **Horticulturist** Dr. V. Premalakshmi (8 hours/ week) **Pathologist** Dr. M. Karthikeyan (1 hour/ week) **Entomologist** Dr. T. Ilaya Bharathi (1 hour/ week)	Evaluation of hybrids under polyhouse condition	Confirmatory evaluation of hybrids for growing under polyhouse condition	Identification of superior hybrid with high yield and suitable for polyhouse cultivation

Chilli

Theme No. 1: Germplasm characterization, evolving trait specific genotypes and development of hybrids/varieties					
Theme Leader: Dr. T.Arumugam, Professor and Head (Hort.), Dept. of Veg Crops, HC&RI, Coimbatore					
Sub theme 1: Screening of germplasm for yield, quality and biotic tolerance					
S. No	**Activity**	**Centers and Scientists**	**2017-18**	**2018-19**	**Deliverables**
1	Characterization and field screening of chilli germplasm for yield, quality (capsaicin and ascorbic acid) and biotic tolerance (thrips, mites, LCV and anthracnose)	**Coimbatore** **Horticulturist** Dr. T. Arumugam (1.2 hours/ week) Dr. H. Usha Nandhini Devi (14.5 hours/ week) **Entomologist** Dr. T. Ilaya Bharathi (2 hours/ week) **Pathologist** Dr. M. Karthikeyan (2 hours/ week) **Physiologist** Dr.K.B. Sujatha (0.5 hours/ week) **Biotechnologist** Dr. Raveendran (2 hours/ week)	Characterization and performance assessment for yield, quality and thrips, mites, LCV and anthracnose tolerance under irrigated condition	Assessment and identification of the best performing genotypes with high yield, quality, tolerance to thrips, mites, LCV and anthracnose under irrigated condition	Identification of trait specific genotypes suitable for irrigated conditions

Subtheme 2: Development of high yielding and drought tolerance varieties/ inbreds					
1	Evolving drought tolerant inbreds from the segregating population	**Coimbatore** **Horticulturist** Dr. T. Arumugam (1.2 hours/ week) Dr. P.Irene vethamoni (0.5 hours/ week) **Entomologist** Dr. T. Ilaya Bharathi (0.5 hours/ week) **Pathologist** Dr. M. Karthikeyan **Physiologist** Dr.K.B. Sujatha (1 man hour/ week)	Performance assessment of F_3 population	Performance assessment of F_4 population	Identification of superior genotypes to be forwarded for further generation and selection of high yielding and drought tolerant inbreds

Brinjal

Theme No 1: Germplasm characterization, evolving trait specific genotypes and development of hybrids/varieties					
Theme Leader: Dr. L.JeevaJothi, Prof & Head, Vegetable Research Station, Palur					
Sub theme 1: Screening of germplasm for yield, quality, biotic and abiotic resistance					
S. No	**Activity**	**Centers and Scientists**	**2017-18**	**2018-19**	**Deliverables**
1	Characterization and field screening of brinjal germplasm for yield, special morphological traits (shape, size, colour, glossiness, plain/stripes and thorn less), quality (devoid of bitterness) shoot and fruit borer tolerance	**Coimbatore** **Horticulturist** Dr. S. Praneetha (12.6 hours/ week) Dr. P. Irene Vethamoni (0.5 man hour/ week) **Entomologist** Dr. T. Ilaya Bharathi (5 hours/ week) **Pathologist** Dr. M. Karthikeyan (2 hours/ week) **Biotechnologist** Dr. M. Raveendran (2 hours/ week)	Performance assessment for yield, quality and biotic stress tolerance of selected genotypes	Confirmatory evaluation	Identification of trait specific genotypes

2	Evolving high yielding hybrids with nematode tolerance	**Palur** **Horticulturist** Dr. L. JeevaJothi (3 hours/ week) **Breeder** Dr. K.Sakthivel (5 hours/ week) **Nematologist** Dr. K. Senthamizh (5 hours/ week)	Evaluation and selection of tolerant parents and effecting crosses Evaluation of hybrids under open field condition and artificial screening for nematode tolerance	Confirmatory evaluation	Identification of superior hybrids with nematode tolerance
3	Characterization and field screening of brinjal germplasm for yield, quality and salt tolerance	**Trichy** **Horticulturist** Dr. G. Malathi (5 hours/ week) **Physiologist** Dr. H. Vijayaraghavan (1.5 hours/ week) **Pathologist** Dr. A. Sangeetha (1 man hour/ week) **Entomologist** Dr. M. Chandrasekaran (1.5 hours/ week) **Soil scientist**	Artificial screening for yield, quality and salt tolerance	Confirmatory evaluation for yield, quality and salt tolerance	Identification of superior genotypes with high yield, quality and salt tolerance
Sub theme 2: Developing high yielding hybrids with salt tolerance					
1	Evolving high yielding hybrids for salt tolerance	**Trichy** **Horticulturist** Dr. G. Malathi (5 hours/ week) **Physiologist** Dr. H. Vijayaraghavan (1.5 hours/ week) **Soil scientist** (1.5 hours/ week)	Evaluation of hybrids under open field condition	Confirmatory evaluation	Identification of superior hybrids with salt tolerance

Bhendi

Theme No 1: Germplasm characterization and identification of trait specific genotypes					
Theme Leader: Dr. T.N. Balamohan, Prof & Head, Dept of Horticulture, AC&RI, Madurai					
Sub theme 1: Screening of germplasm for yield, quality, and biotic stress					
S. No	**Activity**	**Centers and Scientists**	**2017-18**	**2018-19**	**Deliverables**
1	Characterization and field screening of bhendi germplasm for yield, special morphological traits (slender, medium size, dark green pods and less pubescence), quality (less sliminess) and Yellow Vein Mosaic resistance	**Madurai** **Horticulturist** Dr. R. Arun Kumar (5 hours/ week) **Pathologist** **Coimbatore** **Horticulturist** Dr. T. Arumugam (1.2 hours/ week) Dr. K. Shoba Thingalmaniyan (18 hours/ week) **Pathologist** Dr. M. Karthikeyan (2 hours/ week) **Biotechnologist** (2 hours/ week)	Characterization and performance assessment **(Madurai and Coimbatore)**	Confirmatory evaluation **(Madurai and Coimbatore)**	Identification of trait specific for high yield and YVMV resistance

Moringa

Theme No 1: Screening of superior genotypes for leaf yield and quality in moringa					
Theme Leader: Dr.V. Lakshmanan, Professor (Hort), Dept. of Vegetable Crops, HC&RI, Periyakulam					
Sub theme 1: Evaluation of moringa germplasm					
S. No	**Activity**	**Centers and Scientists**	**2017-18**	**2018-19**	**Deliverables**
1	Characterization and field screening of moringa germplasm for leaf yield and quality	**Periyakulam** **Horticulturist** Dr. V. Lakshmanan (15 hours/ week) Dr. K.R. Vijayalatha (10 hours/ week) **Biotechnologist** Dr. N. Manikandaboopathi (5 hours/ week)	Performance assessment and identification of superior genotypes for leaf yield and quality	Large scale evaluation of identified genotypes for leaf yield and quality	Identification of genotypes with high leaf yield and quality

Cassava

Theme No 1: Evolving alternate cassava variety suitable for hilly areas of Tamil Nadu					
Theme Leader: Dr. M. Velmurugan, Assistant Professor (Hort.), TCRS, Yethapur					
Sub theme 1: Screening of cassava accessions under rainfed ecosystem					
S. No.	**Activity**	**Center and Scientists**	**2017-18**	**2018-19**	**Deliverables**
1.	Evolving alternate cassava variety suitable for hilly areas of Tamil Nadu	**TCRS, Yethapur** **Horticulturist** Dr. M. Velmurugan (25 hours/ week) **Physiologist** (5 hours/ week)	Compare the performance of identified accessions/ pre-release cultures with the ruling varieties for high tuber yield and starch content.	Conducting confirmatory trials	Replacement of the existing low yielding and mosaic susceptible variety (*i.e*) H 165.
Sub theme 2: : Screening of cassava accessions with high tuber yield, starch content and tolerance to salt injury					
S. No.	**Activity**	**Center and Scientists**	**2017-18**	**2018-19**	**Deliverables**
	Screening of cassava accessions with high tuber yield, starch content and tolerance to salt injury	**TCRS, Yethapur** **Horticulturist** Dr.M.Velmurugan (15 hours/ week) **Soil Scientist** Dr. S. Suganya (15 hours/ week) **Physiologist** Dr. M. K. Kalarani (25 hours/ week)	Comparing the performance of identified accessions/ pre-release cultures with released varieties for salt tolerance	Confirmatory trial	Identification of suitable cassava accessions for tolerance to salt injury

Gourds					
Theme Leader: Dr. P. Paramaguru, Prof (Hort.) Dept. of Vegetable Crops, HC&RI, Periyakulam					
Sub theme 1a: Screening of germplasm (Bitter gourd) and development of F1 hybrids					
Sl. No.	**Activity**	**Centers and Scientists**	**2017-18**	**2018-19**	**Deliverables**
1.	Characterization and field screening of bittergourd germplasm (Long and dark green fruits with prominent tubercles) and development of hybrids	**Periyakulam** **Horticulturist** Dr. P. Paramaguru (10 hours/ week) Dr. R. Balakumbahan (15 hours/ week)	Characterization and performance assessment. Selection of parents and making crosses	Evaluation of F1 hybrids and confirmation	Identification of high yielding hybrids
Sub theme 1b: Developing high yielding hybrids with small and cylindrical fruits (Bottle gourd)					
1.	Evolving high yielding hybrids with small and cylindrical fruits	**Palur** **Horticulturist** Dr. L. JeevaJothi (3 hours/ week) **Breeder** Dr. K. Sakthivel (5 hours/ week)	Selection of parents and effecting crosses	Confirmatory evaluation	Identification of high yielding hybrids in bottle gourd
Sub theme 1c: Developing high yielding small sized hybrids with high flesh thickness and beta carotene in pumpkin					
1.	Developing high yielding small sized hybrids with high flesh thickness and beta carotene	**Coimbatore** **Horticulturist** Dr. V.Rajasree (12.6 hours/ week) **Biotechnologist** Dr. Ramalingam (3 hours/ week)	Selection of parents and effecting crosses	Evaluation of hybrids	Evolving high yielding hybrids

CROP MANAGEMENT

Theme No. 1: Organic cultivation practices for vegetables					
Theme Leader: Dr. S. Jeeva, Professor (Horticulture), HC&RI (W), Trichy.					
Sub theme 1: Standardization of organic production technology for greens					
S. No	**Activity**	**Centers and scientists**	**2017-18**	**2018-19**	**Deliverables**
1	Organic production of green leafy vegetables	**Horticulturist** Dr.S.Jeeva (15 hours/ week) Dr.P.Irene Vethamoni (1 man hour/ week) **Soil scientist** (5 hours/ week)	Application of organic manures and inputs and assessment of growth and yield	Confirmatory trial and OFT	Standardization of organic production technology for green leafy vegetables

Sub theme 2: Standardization of organic production technology for Solanaceous vegetables					
2	Organic production of Solanaceous vegetables	**Coimbatore** **Horticulturist** Dr. G.V. Rajalingam (5.5 hours/ week)	Application of organic manures and inputs and assessment of growth and yield	Confirmatory trial and OFT	Standardization of organic production technology for Solanaceous vegetables

Sub theme 3: Standardization of growth promoting nutrient mixture to enhance the starch content and yield of cassava					
4.	Development and evaluation of micro nutrient mixture for increasing the productivity and starch content of cassava	**TCRS,Yethapur** **Soil scientist** Dr.S.Suganya (25 hours/ week) Dr. D. Jegadeeswari, AP (SS&AC) (5 hours/ week)	Micro nutrient mixture development and assessing their performance for increasing the productivity and starch content of cassava	Assessment of micro nutrient mixture s performance for increasing the productivity and starch content of cassava	Standardization of growth promoting nutrient mixture to enhance the starch content and yield in cassava

Theme No. 3 : Grafting techniques for biotic and abiotic stress tolerance in vegetables					
Theme Leader: Dr.P.Irene Vethamoni, Professor (Hort.)					
Sub theme 1: Standardizing grafting techniques for salinity tolerance in tomato					
No	**Activity**	**Centres and scientists**	**2017- 18**	**2018- 19**	**Deliverables**
1	Salinity tolerance and grafting studies	**Coimbatore** **Horticulturist** Dr. P. Irene Vethamoni, (1 man hour/week) Dr. T. Arumugam (1 man hour/week) **Soil scientist** (2 hours/week) **Physiologist** Dr. K. B. Sujatha Asst. Prof.(CRP) (1 man hour/ week)	Making grafts with selected saline tolerant root stocks, performance assessment and study the biochemical basis of resistance in rootstocks and scions	Confirmatory trial to assess the performance of grafts	Identification of saline tolerant root stocks and standardization of grafting technology
Sub theme 2: Standardization of grafting technology in watermelon for root knot nematode and *Fusarium* wilt tolerance					
2	Root knot nematode and Fusarium wilt tolerance and grafting studies	**Coimbatore** **Horticulturist** Dr.T.Arumugam (1 man hour/ week) Dr.P.Irene Vethamoni, (1 man hour/ week) **Pathologist** Dr.M.Karthikeyan (1 man hour/ week) **Nematologist** Dr.Vetrivel Kalai (1 man hour/ week)	Making grafts with selected nematode and wilt resistant root stocks and performance assessment and study the biochemical basis of resistance in rootstocks and scions	Confirmatory trial to assess the performance of grafts	Identification of root knot nematode and Fusarium wilt tolerant root stocks and standardization of grafting technology

Theme No. 4 : Standardization of agro-techniques for high value vegetable crops under protected condition					
Theme Leader: Dr.K.Nageswari, Professor and Head, HRS, Yercaud.					
Sub theme 1: Standardization of fertigation and training in capsicum					
No	**Activity**	**Centres and scientists**	**2017- 18**	**2018- 19**	**Deliverables**
1	Fertigation and training studies in capsicum under polyhouse	**HRS,Yercaud** **Horticulturist** Dr.K.Nageswari (5 hours/ week) Dr.P. Irene Vethamoni (1 man hour/ week)	Fertigation scheduling, training and assessment of yield	Confirmatory trial and On Farm Trial	Standardization of technologies on fertigation and training under poly house for capsicum
Sub theme 3 : Standardization of fertigation, training and pruning in tomato					
3	Fertigation, training and pruning studies in tomato under polyhouse	**Coimbatore** **Horticulturist** Dr.P.Irene Vethamoni (1 hour/ week) **Soil scientist** (2 hours/ week)	Fertigation scheduling, training and pruning and assessment of yield	Confirmatory trial and On Farm Trial	Standardization of technologies on fertigation, pruning and training under poly house for tomato

Sub theme 2 : Standardization of fertigation, training and pruning in cucumber					
2	Fertigation, training and pruning studies in cucumber under polyhouse	**Coimbatore** **Horticulturist** Dr.G.V. Rajalingam (5.5hours/ week) **Soil scientist** (2 hours/ week)	Fertigation scheduling, training and pruning and assessment of yield	Confirmatory trial and On Farm Trial	Standardization of technologies on fertigation, pruning and training under poly house for cucumber

Theme No. 5 : Post harvest technologies for shelf life improvement of vegetables					
Theme Leader: Dr. T.Arumugam, Prof. & Head, Dept.Veg.Crops, HC & RI, TNAU, Coimbatore.					
Sub theme 1: Standardization of post harvest treatments, packing and storage technologies for shelf life improvement					
No	**Activity**	**Centres and scientists**	**2017- 18**	**2018- 19**	**Deliverables**
1	Post harvest treatments, Packing and storage studies in vegetables	**Coimbatore** Dr. T.Arumugam (0.5 man hour/ week) **Horticulturist** Dr.P.Irene Vethamoni (0.5 man hour/ week)	Evaluation of identified post harvest treatments, packing and storage technologies	Confirmatory trial on post harvest treatments packing and storage technologies	Standardization of post harvest technologies for shelf life enhancement of vegetables

Sub theme 2 : Standardization of nano coating technologies to improve the shelf life of vegetables					
2	Nano coating of vegetables	**Coimbatore** **Horticulturist** Dr.P.Irene Vethamoni (1 man hour/ week) **Nano Technologist** Dr.G.Janavi (2 hours/ week) Dr.Haripriya (2 hours/ week)	Evaluation of identified nano coating technology for different vegetables	Confirmatory trial on nano coating technology for different vegetables	Standardization of nano coating technology for different vegetables

Theme wise work load for each scientist
(Hours/week)

Crop : Tomato
Themes

1. Screening of germplasm for yield, quality, processing and biotic tolerance
2. Evolving PBNV tolerant inbreds
3. Development of high yielding hybrids for polyhouse cultivation
4. Development of high yielding hybrids with resistance to TLCV in tomato

S. No	Name of the scientists	Theme 1	Theme 2	Theme 3	Theme 4	Total
1	Dr. V. Premalakshmi	4		8		**12**
2	Dr. P. Irene Vethamoni	1	1.0			**2.0**
3	Dr. M. Karthikeyan	2	2	1	5	**10**
4	Dr. T. Ilaya Bharathi	2		1		**3**
5	Dr.Vetrivel kaalai	2				**2**
6	Dr. M. Raveendran	5				**5**
7	Dr. L. Pugalendhi				10	**10**
8	Dr. V. A. Sathiyamurthy				15	**15**
9	Dr. J. Sheela				10	**10**
10	Dr. V. Balasubramani				10	**10**

Crop : Chilli
Themes

1. Screening of germplasm for yield, quality and biotic tolerance
2. Development of high yielding and drought tolerance varieties/ inbreds

S. No	Name of the scientists	Theme 1	Theme 2	Total
1	Dr. T. Arumugam	1.2	1.2	**2.4**
2	Dr. H. Usha Nandhini Devi	14.5		**14.5**
3	Dr. P. Irene Vethamoni		1.0	**1.0**
4	Dr. T. Ilaya Bharathi	2		**2**
5	Dr. M. Karthikeyan	2		**2**
6	Dr.K.B. Sujatha		5	**5**
7	Dr. M. Raveendran	2		**2**

Crop: Brinjal
Themes

1. Screening of germplasm for yield, quality, biotic and abiotic resistance
2. Evolving high yielding hybrids with nematode tolerance
3. Characterization and field screening of brinjal germplasm for yield, quality and salt tolerance
4. Developing high yielding hybrids with salt tolerance.

(Hours / Week)

S. No	Name of the scientists	Theme 1	Theme 2	Theme 3	Theme 4	Total
1	Dr. S. Praneetha,	12.6				**12.6**
2	Dr. P. Irene Vethamoni	1.0				**1.0**
3	Dr. T. Ilaya Bharathi	5				**5**
4	Dr. M. Karthikeyan	2				**2**
5	Dr. M. Raveendran	2				**2**
6	Dr. L. JeevaJothi		3			**3**
7	Dr. K.Sakthivel		5			**5**
8	Dr. K. Senthamizh		5			**5**
9	Dr. G. Malathi		5	5	5	**15**
10	Dr. H. Vijayaraghavan		1.5	1.5	1.5	**4.5**
11	Dr. A. Sangeetha			1	1	**2**
12	Dr. M. Chandrasekaran			1.5	1.5	**3**

Crop : Bhendi
Theme
1. Screening of germplasm for yield, quality and biotic stress

(Hours / Week)

S. No	Name of the scientists	Theme 1	Total
1	Dr. R. Arun Kumar	5	**5**
2	Dr. T. Arumugam	1.2	**1.2**
3	Dr. K. Shoba Thingalmaniyan	18	**18**
4	Dr. M. Karthikeyan	2	**2**

Crop : Moringa

Theme

1. Evaluation of moringa germplasm

S. No	Name of the scientists	Theme 1	Total
1	Dr. V. Lakshmanan	15	**15**
2	Dr. K.R. Vijayalatha	10	**10**
3	Dr. N. Manikandaboopathi	5	**5**

Crop : Cassava

Themes

1. Screening of germplasm for yield, quality and biotic stress
2. Screening of cassava accessions with high tuber yield, starch content and tolerance to salt Injury.

S. No	Name of the scientists	Theme 1	Theme 2	Total
1	Dr. M. Velmurugan	25	15	40
2	Dr.S. Suganya		15	15
3	Dr. M.K. Kalarani		25	25

Crop : Gourds

Themes

1. Screening of germplasm (Bitter gourd) and development of F1 hybrids
2. Developing high yielding hybrids with small and cylindrical fruits (Bottle gourd)
3. Developing high yielding small sized hybrids with high flesh thickness and beta carotene in pumpkin.

(Hours / Week)

S. No	Name of the scientists	Theme 1	Theme 2	Theme 3	Total
1	Dr. P. Paramaguru	10			**10**
2	Dr. R. Balakumbahan	15			**15**
3	Dr. L. JeevaJothi		3		**3**
4	Dr. K. Sakthivel		5		**5**
5	Dr. V.Rajasree			12.6	**12.6**
6	Dr. Ramalingam			3	**3**

Crop management

Themes

1. Standardization of organic production technology for greens
2. Standardization of organic production technology for Solanaceous vegetables
3. Standardization of growth promoting nutrient mixture to enhance the starch content and yield of cassava
4. Standardizing grafting techniques for salinity tolerance in tomato
5. Standardization of grafting technology in watermelon for root knot nematode and *Fusarium* wilt tolerance
6. Standardization of fertigation and training in capsicum
7. Standardization of fertigation, training and pruning in cucumber
8. Standardization of fertigation, training and pruning in tomato
9. Standardization of post harvest treatments, packing and storage technologies for shelf life improvement
10. Standardization of nano coating technologies to improve the shelf life of vegetables

Crop management

S. No	Name of the scientists	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6	Theme 7	Theme 8	Theme 9	Theme 10	Total
		(% of Work load)										
1	Dr.S.Jeeva	5										**5**
2	Dr.P. Irene Vethamoni	1			1		1	1	1	1	1	**7**
3	Dr. D. Jayakumar	5										**5**
4	Dr. G.V. Rajalingam		5.5			5.5						**11**
5	Dr.S.Suganya			25								**25**
6	Dr. D. Jegadeeswari			2								**2**
7	Dr. T. Arumugam							1.2	1.2	1.2		**3.6**
8	Dr. K. B. Sujatha									5		**5**
9	Dr.M.Karthikeyan								2			**2**
10	Dr.Vetrivel Kalai								2			**2**
11	Dr.K.Nageswari				5							**5**
12	Dr.G.Janavi									2		**2**
13	Dr.Haripriya									2		**2**

WORK LOAD OF VEGETABLE SCIENTISTS FOR THE YEAR 2017-2018

I. Department of Vegetable Crops, HC&RI, TNAU, Coimbatore

S.No	Scientists	% of time
1.	**Dr.T.Arumugam**	
	Research	20
	Teaching	20
	Extension	10
	Student guidence	20
	Administration	20
	Other Activities	10
2.	**Dr.P.Irenevethamoni**	
	Research	25
	Teaching	25
	Extension	15
	Student guidence	25
	Other Activities	10
3.	**Dr.S.Praneetha**	
	Research	35
	Teaching	25
	Extension	10
	Student guidence	15
	Other Activities	15
4.	**Dr.G.V.Rajalingam**	
	Research	25
	Teaching	30
	Extension	25
	Student guidence	10
	Other Activities	10
5.	**Dr.V.Rajasree**	
	Research (AICRP)	60
	Teaching	15
	Extension	5
	Student guidence	10
	Other Activities	10

S.No	Scientists	% of time
6.	**Dr.K.Shoba Thingalmaiyan**	
	Research	50
	Teaching	20
	Extension	5
	Student guidence	5
	Other Activities	20
7.	**Dr.P.R.Kamalkumaran**	
	Research	50
	Extension	10
	Teaching	10
	Student guidence	5
	Other Activities	25
8.	**Dr.H.Usha Nandhini Devi**	
	Research	40
	Teaching	25
	Extension	5
	Student guidence	-
	Other Activities	30
9.	**Dr.M.Karthikeyan**	
	Research	50
	Teaching	20
	Extension	10
	Student guidence	5
	Other Activities	15

II. Department of Vegetable Crops, HC&RI, Periyakulam

S.No	Scientists	% of time
1.	**Dr. L. Pugalendhi**	
	Research	30
	Teaching	20
	Extension	10
	Student guidence	10
	Administration	30
	Other Activities	-
2.	**Dr.P. Paramaguru**	
	Research	30
	Teaching	20
	Extension	10
	Student guidence	10
	Other Activities	30
3.	**Dr.V. Lakshmanan**	
	Research	30
	Teaching	30
	Extension	10
	Student guidence	20
	Other Activities	10
4.	**Dr. P. Geetharani**	
	Research	30
	Teaching	30
	Extension	10
	Student guidence	-
	Other Activities	30
5.	**Dr. J. Sheela**	
	Research	30
	Teaching	30
	Extension	10
	Student guidence	-
	Other Activities	30

S.No	Scientists	% of time
6.	**Dr.V. Balasubramani**	
	Research	45
	Teaching	35
	Extension	10
	Student guidence	-
	Other Activities	-
7.	**Dr. V.A. Sathiyamurthy**	
	Research	30
	Teaching	30
	Extension	20
	Student guidence	10
	Other Activities	10
8.	**Dr. R. Balakumbahan**	
	Research	30
	Teaching	30
	Extension	10
	Student guidence	-
	Other Activities	30
9.	**Dr.M.P. Kavitha**	
	Research	40
	Teaching	30
	Extension	10
	Student guidence	-
	Other Activities	20
10.	**Dr. K. R. Vijayalatha**	
	Research	30
	Teaching	40
	Extension	-
	Student guidence	-
	Other Activities	30

III. HC&RI, Trichy

S.No	Scientists	% of time
1.	**Dr. S. Jeeva**	
	Research	28
	Teaching	57
	Extension	5
	Student guidence	-
	Other Activities	10

S.No	Scientists	% of time
2.	**Dr. G. Malathi**	
	Research	55
	Teaching	35
	Extension	5
	Student guidence	-
	Other Activities	5

IV. Vegetable Research Station, Palur

S.No	Scientists	% of time
1.	**Dr. L. JeevaJothi**	
	Research	20
	Teaching	-
	Extension	15
	Student guidence	-
	Administration	40
	Other Activities	25
2.	**Dr. V. Paramasivam**	
	Research	30
	Teaching	-
	Extension	20
	Student guidence	-
	Other Activities	50

S.No	Scientists	% of time
3.	**Dr. K. Senthamizh**	
	Research	30
	Teaching	-
	Extension	10
	Student guidence	-
	Other Activities	60
4.	**Dr. K. Sakthivel**	
	Research	60
	Teaching	-
	Extension	20
	Student guidence	-
	Other Activities	20

V. Tapioca and Castor Research Station, Yethapur

S.No	Scientists	% of time
1.	**Dr. M. Velmurugan**	
	Research	70
	Teaching	10
	Extension	-
	Student guidence	5
	Other Activities	15

c. Spices and Plantation Crops

1. Staff pattern

Station	Designation	Discipline								Total
		Hort	PAT	ANM	ENT	PBG	AGR	SSAC	CRP	
Dept. of Spices and Plantation Crops, HC & RI, Coimbatore	Prof	3								3
	AP	3 (1AICRP)	1 (1AICRP)							4
Dept. of Spices and Plantation Crops, HC & RI, Periyakulam	Prof	1								1
	AP	1		1		1				3
HC & RI(W), Trichy	Prof								1	1
	AP	1			1					2
HRS, Ooty	AP	1	1							2
HRS, Yercaud	Prof	1 (1AICRP)								1
	AP	1								1
HRS, Pechiparai	Prof	1								1
	AP	1 (1AICRP)								1
HRS, Thadiyankudisai	Prof	1	1		1					3
	AP	1								1
CRS, Aliyarnagar	Prof	1								1
	AP	1 (1AICRP)	1 (1AICRP)		1 (1AICRP)		1	1 (1AICRP)		5
ARS, Bhavanisagar	AP	1								1
CRS, Veppankulam	AP	1 (1AICRP)								1
RRS, Vridhachalam	Prof	1 (1AICRP)								1
	AP	-			1				1	2
Dept. of SS&AC, TNAU, Coimbatore	Prof							1		1
Total		**21**	**4**	**1**	**4**	**1**	**1**	**2**	**2**	**36**

Among the 36 Scientists, 26 are in Non Plan main and 4 are working in ICAR-AICRP on spices and 6 are ICAR – AICRP on plantation crops. Among the 26 scientist working in non-plan 5 are Professor and Head 2 are Professors in horticulture, 1 in Pathology, 1 in soil science and 1 Entomology,1 in CRP. 8 are Asst. Professors in Horticulture, 1 in Plant breeding and genetics, 1 in Nematalogy 1 in pathology, 2 in entomology and 2 in Crop physiology.

2. Projectwise Remarks

Crop Improvement

S.No.	Project no. &title	Name of the Scientist & Period	Remarks
Crop Improvement			
1.	HCRI/BSR/HOR/SPC/2015/003 Breeding of **turmeric** for high yield and quality	Dr. P. Hemalatha, Asst. Prof. (Hort.) ARS, Bhavanisagar July 2015 to June 2018	• Standard procedure may be followed in numbering the germplasm collection by specifying the place of collection. • MLT II may be conducted for turmeric culture BS-9 with check varieties BSR 1, BSR 2 & CO 2. • Project may be continued.
2.	HCRI/CBE/HOR/SPC/2016/007 Induction of variability in **turmeric** (*Curcuma longa* L.) through gamma rays	Dr. B. Senthamizh Selvi Asst. Professor (Hort.) Dept. of Spices & Plantn. Crops,HC&RI, Coimbatore June 2016 to May 2019	• More rhizomes may be subjected to mutagenic treatments as LD 50 dosage has been fixed. • The variants induced through mutation may be studied • Project may be continued
3.	HCRI/CBE/HOR/SPC/2016/004 Evaluation of mutant lines in **ginger** (*Zingiber officinale* Rosc.) for yield and quality	Dr. A. Ramar, Professor(Hort.) Dept. of Spices & Plantn Crops, HC&RI, Coimbatore October 2016 to September 2019	• Evaluation of mutants for yield and quality attributes may be done in the VM_3 and VM_4 generations. • Project may be continued
4.	HCRI/CBE/HOR/SPC/2015/003 Evaluation of **ginger** (*Zingiber officinale*) genotypes for high yield and resistance to soft rot suitable for Gudalur regions in Nilgiris district	Dr. S. Karthikeyan, Asst. Prof. (Hort.) & Dr. S. Malathi, Asst. Prof. (Pl. Path.) HRS, Ooty November 2014 to October 2017	• Rhizome rot incidence in the field may be recorded. • Germplasm available at HRS, Ooty maybe given to CRS, Aliyarnagar for conducting trial on ginger under coconut ecosystem • Extension proposal may be submitted
5.	CPBG/ALR/ PBG/ SPC/ 2013/ 001 Evaluation of **ginger** genotypes under Coconut ecosystem	Dr. A. Subramanian, Asst. Prof. (CPBG) CRS, Aliyar & Dr. N. Shoba Professor & Head, CRS, Aliyar December 2014 to November 2018	• The best performing ginger genotypes Athira, Rajeetha and Maran may be evaluated under replicated trial along with other genotypes during the ensuing season for assessing the stability. • B: C ratio may be worked out. • Change of Project leader may be proposed

6.	HCRI/CBE/HOR/SPC/2016/006 Induction of mutagenesis in coriander *(Coriandrum sativum* L.) through gamma ray and EMS for variability and quality improvement.	Dr. R. Chitra, Asst. Prof. (Hort.) Dept. of Spices & Plantation Crops,HC&RI, Coimbatore June 2016 to May 2019	• M_2 generation may be evaluated for variability and further selection • Change of project leader may be proposed • Project may be continued
7.	HCRI/CBE/HOR/SPC/2014/004 Studies on the performance of **nutmeg** (*Myristica fragrans* Houtt.) ecotypes in coconut based cropping system in Tamil Nadu	Dr. P. Paramaguru, Professor (Hort.) Dept. of Spices & Plantn Crops, HC&RI, Coimbatore June 2014 to May 2017	• Completion report may be submitted. • The identified superior genotypes may be propagated and maintained under Coconut intercropping system
8.	HCRI/PKM/HOR/SPC/2010/001 Collection, evaluation and documentation of **tamarind** (*Tamarindus indica* L.)	Dr. P. Jansirani, Professor and Head (SPC) Dept. of Spices&Plant.Crops, HC&RI, PKM March 2010 to May 2017	• Completion report may be submitted. • The identified superior genotypes may be propagated and maintained further for comparison with PKM 1 Tamarind
9.	HCRI/CBE/HOR/SPC/2014/003 Germplasm collection, evaluation and assessment of **curryleaf** genotypes for yield and quality parameters	Dr. P. Paramaguru, Professor (Hort.) Dept. of Spices & Plantn Crops, HC&RI, Coimbatore June 2014 to May 2017	• Germplasm may be enriched by adding more collections. The collections may be made along with passport data and characterization • Reaction to pest and disease may be studied. • Proposal for extension of the research sub project & change of project leader proposal may be submitted.
10.	HCRI/TRY/HOR/SPC/2015/003 Collection and evaluation of **curryleaf** (*Murraya koenigii* Spreng.) genotypes for saline soil	Dr. D. Vidhya, Asst. Prof. (Hort.) HC&RI (W), Trichy May 2015 to March 2018	• Standard procedure may be followed in numbering the germplasm collection by specifying the place of collection. • The collections may be made along with passport data and characterization. • Newer genotypes may be collected and added to the existing germplasm and evaluated for their performance for Trichy condition
11.	HCRI/CBE/HOR/SPC/2014/005 Evaluation and characterization of **coconut** genotypes for yield and quality	Dr. M. Mohanalakshmi, Asst. Prof. (Hort.) Dept. of Spices & Plantn. Crops HC&RI, Coimbatore December 2014 to November 2018	• Project may be continued

12.	HCRI/TRY/HOR/SPC/2014/005 Evaluation of **coconut** hybrids for high quality tender coconut	Dr. K.S. Vijayselvaraj, Asst. Prof. (Hort.) CRS, Veppankulam October 2014 to September 2019	• The yield of nuts and quality of tender coconut water of the identified hybrids may be recorded. • The project may be continued
CROP MANAGEMENT			
1.	HCRI/CBE/HOR/SPC/2014/002 Standardization of fertigation schedule for **turmeric** (*Curcuma longa* L.) transplants	Dr. S.Balakrishnan , Professor and Head Dept. of Spices & Plantn. Crops HC&RI, Coimbatore & Dr. R. Chitra, Asst. Prof. (Hort.), July 2014 to June 2017	• The nutrient and water use efficiency and economics of fertigation practice may be studied in the ensuing season • One soil scientist may be included as CO-PI • Extension proposal for one more year may be submitted
2.	NRM/CBE/SAC/SPC/2015/001 Developing and evaluating new micronutrient mixtures for improving the yield and quality of **turmeric**	Dr. T.Chitdeshwari, Professor (SS&AC), TNAU, Coimbatore October 2015 to September 2019	• Project may be continued
3.	HCRI/PEC/HOR/SPC/2011/001. Studies on the evaluation of different standards for the growth, yield and quality of **black pepper**	Dr. R. Swarnapriya, Professor and Head HRS, Pechiparai December 2011 to November 2016	• Completion report may be submitted • The research finding may be tested under OFT
4	HCRI/PEC/HOR/SPC/2014/001 Studies on yield intensification in **bush pepper (** *Piper nigrum***)**	Dr. R. Swarnapriya, Professor and Head HRS, Pechiparai October 2014 to September 2017	• Completion report may be submitted for this project • A new project on bush pepper may be proposed for standardizing nutrient schedule. • A soil scientist may be involved as Co-PI
5.	HCRI/TKD/HOR/SPC/2013/002 Effect of organic inputs on yield and quality of **black pepper** (*Piper nigrum*) in coffee based plantations of lower Pulney hills.	Dr. S. Muthuramalingam, Asst. Prof. (Hort.), HRS, Thadiyankudisai August 2013 to July 2016	• Completion report may be submitted • A need based new research sub project may be proposed
6	HCRI/TKD/HOR/SPC/2013/003 comparative study on non conventional method of bush management on yield and quality of **black pepper** (*Piper nigrum*) under lower pulney hills	Dr. S. Muthuramalingam, Asst. Prof. (Hort.), HRS, Thadiyankudisai August 2013 to July 2016	• Extension proposal may be submitted for studying the yield performance and quality parameters

7.	HCBE/YCD/HOR/SPC/2014/ 001 Development of foliar nutrient mixture for boosting up the yield and quality in **pepper** (*Piper nigrum*) in different elevations	Dr. K. Nageswari, Prof. and Head HRS, Yercaud June 2014 to May2017	• Completion report may be submitted
8	HCRI/ALR/HOR/ SPC/2013/001 Standardization of planting material in **pepper** to grow as intercrop in coconut garden	Dr. N. Shoba, Professor & Head, CRS, Aliyar October 2013 to July 2016	• Extension proposal may be submitted for studying yield performance and quality parameters as influenced by the planting materials. Proposal may be sent for change of project leader.
9.	HCRI/PEC/HOR/SPC/2010/001 High density planting in **clove**	Dr. M. Palanikumar, Asst. Prof. (Hort.) HRS, Pechiparai July 2010 to March 2017	• The project is in operation for nearly seven years. • Proper nutrient and canopy management may be carried out for inducing flowering • Extension proposal may be submitted for studying yield performance and quality parameters.
10.	DCM/ALR/AGR/SPC/2014/001 Effect of water soluble fertilizer and shredded coconut waste on **dwarf coconut**	Dr. S. Rani, Asst. Prof. (Agro.) CRS, Aliyarnagar June 2016 to May 2018	• The project may be continued
11.	HCRI/CBE/HOR/SPC/2016/003 Evaluation of **cocoa** (*Theobroma cacao* L.) under different coconut system	Dr. V. Jegadeeswari, AP (Hort.), Dept. of Spices & Plantn. Crops, HC&RI, Coimbatore June 2016 to May 2018	• The project may be continued
12.	NRM / ALR / SAC / SPC / 2015 / 001 Standardization of micronutrient recommendation for **cocoa** under coconut intercropping systems	Dr. C. Sudhalakshmi, Asst. Prof. (SS&AC), CRS, Aliyarnagar April 2015 to May 2019	• Based on the observations made and data generated, suitable micronutrient combination may be formulated and evaluated as envisaged in the objective. The project may be continued
13	HCRI/VRI/HOR/SPC/2016/001 Studies on canopy management in ultra high density planting system of **cashew**	Dr.D.Keisar Lourdusamy Asst. Prof. (Hort.) RRS , Virudhachalam June 2016 to May 2019	• The project may be continued • Proposal for change of project leader may be submitted

1. Cultures under MLT/ART/FLD

Spices and Plantation Crops				
1..	Turmeric	BS 9	MLT – II	ARS, Bhavanisagar
2.	Leafy Coriander	CS 38	ART	HC&RI, Coimbatore

4. Action Paln (2017-19)

Crop improvement

Theme No.1 : Development of varieties in spices for high yield and quality								
Sub theme I : Germplasm enrichment, evaluation and screening of black pepper genotypes and varieties suitable for Shevroys and lower Pulney hills								
Theme leader : Dr. K.Nageswari, Professor and Head, Horticultural Research Station, Yercaud								
S. No.	**Activity**	**Scientists and centres**	**Year1 2016-17**	**Year2 2017-18**	**Year 3 2018-19**	**Year 4 2019-20**	**Year 5 2020-2021**	**Deliverables**
1	Assembling and screening of promising black pepper genotypes and varieties through clonal selection	**HRS, Yercaud** Dr.K.Nageswari, Horticulturist, YCD (15 hours/week) **HRS, Thadiyankudisai** Dr.M. Ananthan, Horticulturist,TKD (15 hours/week) Dr.S.Muthuswami Entomologist, TKD (6 hours/week) Dr. I.Yesuraja, Pathologist,TKD (6 hours/week)	Survey and collection of promising genotypes and recently released varieties	Evaluation of promising pepper genotypes and varieties for morphological traits under field conditions	Studies on the performance of promising pepper genotypes and varieties	Screening of pepper genotypes and varieties for high yield, quality, pest & disease tolerance	Assessment of yield and quality of different genotypes and varieties suitable for Shevroys and lower Pulney hills	Identifying promising genotypes and varieties for high yield and quality suitable for Shevroys and lower Pulney hills.

Theme No.1 : Development of varieties in spices for high yield and quality						
Sub theme II : Development of varieties of turmeric for high yield and high curcumin content through selection and mutation breeding						
Theme leader : Dr. S. Balakrishnan, Professor and Head, Department of Spices and Plantation Crops, HC&RI, Coimbatore						
S. No.	**Activity**	**Scientists and centres**	**Year1 2016-17**	**Year2 2017-18**	**Year 3 2018-19**	**Deliverables**
1	Evaluation and clonal selection	**HC&RI, Coimbatore** Dr.S. Balakrishnan, Horticulturist (6 hours/week) Dr.B. Senthamizh Selvi, Horticulturist, (10 hours /week) Dr. C. Ushamalini, Pathologist, (6 hours/week) Dr. T. Elaiyabharathi, Entomologist, (6 hours/week) **ARS, Bhavanisagar** Dr. P. Hemalatha, Horticulturist, BSR (15 hours/week)	Evaluation of genotypes and varieties for high yield and curcumin content **(HC&RI, Coimbatore)**	Clonal selection and evaluation of selected genotypes and varieties **(HC&RI, Coimbatore)**	Conducting confirmatory trial **(HC&RI, Coimbatore)**	Developing high yielding varieties / mutants with high curcumin content
			Conducting MLT with promising genotype BS - 9 along with check BSR-1, BSR-2 and CO 2. **(ARS, BSR)**	Conducting MLT-2 with the promising genotype BS -9 **(ARS, BSR)**	Conducting ART **(ARS, BSR)**	
2.	Mutation breeding		Evaluation of genotypes and varieties for high yield and curcumin content **(HC&RI, Coimbatore)**	Induction of mutation in selected genotypes and evaluation of mutant population (vM_1 generation) **(HC&RI, Coimbatore)**	Evaluation of vM_2 generation **(HC&RI, Coimbatore)**	

Theme No.1 : Development of varieties in spices for high yield and quality						
Sub theme III : Development of ginger varieties for high yield and tolerance to soft rot through selection and mutation breeding						
Theme leader : Dr. K. Venkatesan, Professor and Head, CRS, Aliyarnagar						
S. No.	**Activity**	**Scientists and centres**	**Year1 2016-17**	**Year2 2017-18**	**Year 3 2018-19**	**Deliverables**
1	Assembling and screening of promising ginger genotypes and varieties through clonal selection	**HREC, Gudalur** Dr. S. Karthikeyan, Horticulturist,HRS, Ooty (15 hours/week) Dr. S. Malathi, Pathologist, HRS, Ooty (6 hours/week) **CRS, Aliyarnagar** Dr. K. Venkatesan,Horticulturist, Aliyarnagar (15 hours/week) Dr. M. Sivakumar, Horticulturist, Aliyarnagar (15 hours /week)	• Evaluation of genotypes and varieties for high yield and field tolerance to soft rot • Enriching the germplasm **(HREC, Gudalur)**	Enrichment of ginger genotypes and further evaluation. **(HREC, Gudalur)**	Conducting confirmatory trial **(HREC, Gudalur)**	Developing high yielding varieties / mutants with high field tolerance to soft rot disease
			• Evaluation of genotypes and varieties for high yield and field tolerance to soft rot under coconut ecosystem • Enriching the germplasm **(CRS, Aliyarnagar)**	Enrichment of ginger genotypes and further evaluation. **(CRS, Aliyarnagar)**	Conducting confirmatory trial **(CRS, Aliyarnagar)**	
2.	Mutation breeding	**HC&RI, Coimbatore** Dr.A. Ramar, Horticulturist, Coimbatore (10 hours/week)	Evaluation of vM_1 and vM_2 mutant population of ginger cv. Rio –de-Janeiro and cv. Maran **(HC&RI, Coimbatore)**	Evaluation of mutant population (vM_3 generation) **(HC&RI, Coimbatore)**	Evaluation of vM_4 generation **(HC&RI, Coimbatore)**	

Theme No.1 : Development of varieties in spices for high yield and quality						
Sub theme IV : Development of coriander varieties for high yield and quality						
Theme leader : Dr. P. Jansirani, Professor and Head, Dept. of Spices and Plantation Crops, HC&RI, Periyakulam						
S. No.	**Activity**	**Scientists and centres**	**Year 1 2016 – 17**	**Year2 2017-18**	**Year 3 2018-19**	**Deliverables**
1	Evaluation of promising coriander genotypes and varieties for seed and leaf purpose	**HC& RI, Coimbatore** Dr. B. Senthamzih Selvi, Horticulturist, Cbe (10 hours /week) Dr. C. Ushamalini, Pathologist , Coimbatore **(**6 hours /week)	• Evaluation of available genotypes and varieties for seed and leaf purpose • Conducting ART for the identified high yielding leafy coriander culture CS 38 **(HC&RI, Coimbatore)**	Conducting ART for the identified high yielding leafy coriander culture CS 38 **(HC&RI, Coimbatore)**	Proposing for variety release **(HC&RI, Coimbatore)**	Identification of promising types of coriander for high yield and quality
		HC&RI, Periyakulam Dr. P. Jansirani, Horticulturist, Periyakulam (10 hours/week) Dr. R. Chitra , Horticulturist, Periyakulam (10 hours/week)		Evaluation of genotypes and varieties for yield and quality under rainfed condition **(HC&RI, Periyakulam)**	Continued **(HC&RI, Periyakulam)**	
2.	Mutation breeding	**HC& RI, Coimbatore** Dr.S.Balakrishnan, Horticulturist, Cbe (6 hours/week) Dr. B. Senthamzih Selvi, Horticulturist, Cbe (6 hours/week)	Induction of mutation in CO (CR) 4 and evaluation of mutant population (M_1) **(HC&RI, Coimbatore)**	Evaluation of mutant population (M_2 and M_3) **(HC&RI, Coimbatore)**	Evaluation of mutant population (M_4 and M_5) **(HC&RI, Coimbatore)**	

Theme 1 : Development of varieties in spices for high yield and quality

Sub theme V : Germplasm collection, evaluation and selection of curry leaf genotypes for high yield and quality						
Theme leader : Dr. N. Shoba, Professor (Hort.)						
S. No.	**Activity**	**Scientists and centres**	**Year1 2016-17**	**Year2 2017-18**	**Year 3 2018-19**	**Deliverables**
1	Collection, evaluation and selection of curry leaf genotypes for high yield and quality	**HC&RI, Coimbatore** Dr. N. Shoba, Horticulturist (10 hours/week) Dr. C. Ushamalini, Pathologist (6 hours/week)	• Survey and collection of promising genotypes of curry leaf • Scoring for biotic stress tolerance	• Assessing the performance of the genotypes • Scoring for biotic stress tolerance	• Assessing the performance and selection of promising genotypes for high yield and quality • Scoring for Biotic stress tolerance	Selection of promising curry leaf genotypes for high yield and quality
2.	Collection, evaluation and selection of curry leaf genotypes for high yield and quality suitable for sodic soil condition of Trichy	**HC&RI (W), Trichy** Dr.D.Vidhya, Horticulturist (10 hours/week) Dr. H. Vijayaraghavan, Physiologist (6 hours/week) Dr. M. Chandrasekaran, Entomologist (10 hours /week)	• Survey and collection of promising genotypes and varieties • Scoring for biotic stress tolerance	• Evaluation of promising genotypes for sodicity tolerance • Scoring for biotic stress tolerance	Assessing the performance and selection of promising genotypes for sodicity and field tolerance to pest and disease	Identifying superior genotypes suitable for sodic soil

Theme 1 : Development of varieties in spices for high yield and quality								
Sub theme VI : Germplasm collection, evaluation and selection of nutmeg genotypes for high yield and quality								
Theme leader : Dr. R. Swarnapriya, Professor and Head, Horticultural Research Station, Pechiparai								
S. No.	**Activity**	**Scientists and centres**	**Year1 2016-17**	**Year2 2017-18**	**Year 3 2018-19**	**Year 4 2019 -20**	**Year 5 2020-21**	**Deliverables**
1	Collection, evaluation and selection of nutmeg genotypes for high yield and quality	**HRS, Pechiparai** Dr. M. Palanikumar, Horticulturist, PPI (10 hours/week) **HRS, Yercaud** Dr. P. S. Kavitha, Horticulturist,YCD (10 hours/week) **HRS, Thadiyankudisai** Dr. S. Muthuramalingam , Horticulturist, TKD (10 hours/ week) Dr. I.Yesuraja, Pathologist, TKD (6 hours/ week)	• Germplasm enrichment and evaluation of available genotypes for high yield and quality • Conducting MLT for the culture MF4	Continued Continued	Continued Continued	Continued Continued	Continued Continued	Identification of elite genotypes for high mace yield and quality

Theme 2 : Development of varieties / hybrids in coconut for high yield and quality						
Sub theme I : Evaluation of existing germplasm and selection of superior genotypes / varieties for high yield and quality						
Theme leader : Dr. K.Venkatesan , Professor and Head , ARS, Aliyarnagar						
S. No.	**Activity**	**Scientists and centres**	**Year1 2016-17**	**Year2 2017-18**	**Year 3 2018-19**	**Deliverables**
1	Evaluation and characterization of coconut genotypes and varieties for yield and quality	**CRS, Aliyarnagar** Dr. M. Sivakumar, Horticulturist (10 hours/week) Dr. R. Ramjegathesh,Pathologist (6 hours/week) Dr. T. Srinivasan, Entomologist (6 hours/week) **CRS,Veppankulam** Dr.K.S.Vijay Selvaraj, Horticult., VPM (10 hours /week)	• Evaluation and characterization of coconut genotypes for yield and quality • Scoring for biotic stress tolerance	Continued	Continued	Identifying superior genotypes for high nut and copra yield with quality

Theme 2 : Development of varieties / hybrids in coconut for high yield and quality								
Sub theme II : Development of DXT and DXD hybrids for tender nut								
Theme leader : Dr. K.Venkatesan , Professor and Head , ARS, Aliyarnagar								
S. No.	**Activity**	**Scientists and centres**	**Year1** 2016-17	**Year2** 2017-18	**Year 3** 2018-19	**Year 4 2019-20**	**Year 5 2020-21**	**Deliverables**
1	Development of D x T and D x D hybrids for tender coconut through hybridization and evaluation	**D X T – CRS, Aliyarnagar** Dr. M. Sivakumar, Horticulturist,ALR (10hours/week) Dr. R. Ramjegathesh,Pathologist,ALR (6 hours/week) Dr. T. Srinivasan, Entomologist,ALR (6 hours/week) **D X D – CRS,Veppankulam** Dr.K.S.Vijay Selvaraj, Horticultist., VPM (10 hours/ week)	Evaluation of suitable D x T and D x D crosses of coconut	Evaluation of D x T and D x D crosses for tender nut Scoring for biotic stress tolerance	Continuous evaluation of developed crosses for tender nut Scoring for biotic stress tolerance	Continued Continued	Continuous evaluation of developed crosses for tender nut and laboratory analysis for quality parameters Scoring for biotic stress tolerance	Identifying suitable hybrid for tender nut

Crop Management

Theme No.3 : Developing improved agrotechniques for increasing the productivity of spices						
Sub theme I : Developing agrotechniques for Bush pepper under HDP system						
Theme leader : Dr. R. Swarnapriya, Professor and Head, Horticultural Research Station, Pechiparai						
S. No.	**Activity**	**Scientists and centres**	**Year1** 2016-17	**Year2** 2017-18	**Year 3** 2018-19	**Deliverables**
1	Standardization of agrotechniques for Bush pepper under HDP	**HRS, Pechiparai** Dr. M. Palanikumar, Horticulturist, (10 hours /week)	Planting bush pepper under HDP	Adopting improved agrotechniques *viz.,* Training, Pruning, Canopy management, Drip fertigation, Foliar spray of Micronutrients	Assessing the yield and quality	Developing improved techniques for increasing the productivity of bush pepper under HDP system
Theme No.3 : Developing improved agrotechniques for increasing the productivity in spices						
Sub theme II : Standardization of fertigation schedule for turmeric transplants						
Theme leader : Dr..S. Balakrishnan , Professor and Head, Dept. of Spices and Plantation Crops, HC&RI, Coimbatore						
S. No.	**Activity**	**Scientists and centres**	**Year1** 2016-17	**Year2** 2017-18	**Year 3** 2018-19	**Deliverables**
1.	Standardization of fertigation schedule for turmeric transplants	**Coimbatore** Dr.S. Balakrishnan,Horticulturist (6 hours/week) Dr.B.Senthamizh Selvi, Horticulturist (6 hours/week) Dr. R. Shanthi, Soil Scientist (6 hours/week)	Scheduling of drip fertigation and standardization of fertigation intervals	Continued	Conducting confirmatory trials	Standardizing the fertigation schedule for turmeric transplants

Theme 4 : Development of improved agrotechniques for increasing the productivity of plantation crops *viz.,* coconut and cashew						
Theme leader : Dr. K. Venkatesan , Professor and Head , CRS, Aliyarnagar						
Sub theme I : Standardization of optimum doses of NPK fertilizers for dwarf coconut						
S. No.	**Activity**	**Scientists and centres**	**Year1** 2016-17	**Year2** 2017-18	**Year 3** 2018-19	**Deliverables**
1.	Imposing graded doses of NPK fertilizers	**CRS, Aliyarnagar** Dr. K. Venkatesan, Horticulturist , ALR (6 hours/week) Dr.C.Sudhalakshmi, Soil scientist, ALR (10 hours/week) Dr.S.Rani,Agronomist , ALR (10 hours/ week)	Collection of past yield data of the dwarf palms and imposing the treatments	Analysis of soil and index leaf samples and recording the growth, yield attributes and nut yield. Studying nutrient dynamics in the fertilizer applied zones.	Recording the differential effect of treatments on the growth, yield attributes and yield of coconut Working out nutrient balance sheet and arriving at the fertilizer recommendation	Standardizing the fertilizer (NPK) recommendation for dwarf varieties of coconut.
Theme 4 : Development of improved agrotechniques for increasing the productivity of plantation crops viz., coconut and cashew						
Sub theme II : Standardization of optimum doses of water soluble fertilizers (WSF) through drip and fertigation for dwarf coconut						
Theme leader : Dr. K. Venkatesan , Professor and Head , CRS, Aliyarnagar						
S. No.	**Activity**	**Scientists and centres**	**Year1** 2016-17	**Year2** 2017-18	**Year 3** 2018-19	**Deliverables**
1.	Studying the efficiency of water soluble fertilizers (WSFs) through drip fertigation	**CRS, Aliyarnagar** Dr.K. Venkatesan, Horticulturist,ALR (6 hours /week) Dr.C.Sudhalakshmi, Soil scientist, ALR (10 hours/week) Dr.S.Rani, Agronomist,ALR (10 hours/week)	• Laying out the field experiment • Imposing the treatments through drip fertigation at monthly intervals. • Recording growth and yield attributes of dwarf coconut.	• Laying out the field experiment • Imposing the treatments through drip fertigation at monthly intervals. • Recording growth and yield attributes of dwarf coconut.	Working out the Fertilizer use efficiency and economic viability of drip fertigation	Standardizing the quantity of WSF through drip irrigation

Theme 4 : Development of improved agrotechniques for increasing the productivity in coconut and cashew						
Theme leader : Dr. M.S. Aneesarani, Professor and Head , RRS, Vridhachalam						
Sub theme III : Standardization of optimum plant density and canopy management in cashew						
S. No.	**Activity**	**Scientists and centres**	**Year1** 2016-17	**Year2** 2017-18	**Year 3** 2018-19	**Deliverables**
1	Studying the yield performance of cashew under HDP & UHDP system	**RRS, Viridhachalam** Dr.M.S.Aneesarani, Horticulturist, VRI (10 hours/week) Dr. S. Jayaprabhavathi, Entomologist,VRI (6hours/week) Dr. S. Vincent, Crop physiologist,VRI (6 hours /week)	• Studying the yield performance under HDP & UHDP system	• Confirming the consistency in yield performance	• Confirming the consistency in yield performance	Standardizing the Optimum planting density and canopy management in cashew
2.	Standardizing the level of pruning and season of pruning		• Pruning the plants after the harvest at different levels and seasons	• Studying the canopy spread	• Standardizing the level of pruning and season for high yield	

Load of each scientist (Theme wise)

Crop Improvement

Theme 1 : Development of varieties in spices for high yield and quality
Sub theme I : Germplasm enrichment, evaluation and screening of black pepper genotypes and varieties suitable for Shevroys and lower Pulney hills
Sub theme II : Development of varieties of turmeric for high yield and high curcumin content through selection and mutation breeding
Sub theme III : Development of ginger varieties for high yield and tolerance to soft rot through selection and mutation breeding
Sub theme IV : Development of coriander varieties for high yield and quality
Sub theme V : Germplasm collection, evaluation and selection of curry leaf genotypes for high yield and quality
Sub theme VI : Germplasm collection, evaluation and selection of nutmeg genotypes for high yield and quality
Theme 2 : Development of varieties / hybrids in coconut for high yield and quality
Sub theme I : Evaluation of existing germplasm and selection of superior genotypes / varieties for high yield and quality
Sub theme II **:** Development of DXT and DXD hybrids for tender nut
Crop Management
Theme 3: Developing improved agrotechniques for increasing the productivity of spices
Sub theme I : Developing agrotechniques for Bush pepper under HDP system
Sub theme II **:** Standardization of fertigation schedule for turmeric transplants
Theme 4: Development of improved agro techniques for increasing the productivity of plantation crops viz., coconut and cashew
Sub theme I : Standardization of optimum doses of NPK fertilizers for dwarf coconut
Sub theme II : Standardization of optimum doses of water soluble fertilizers (WSF) through drip and fertigation for dwarf coconut
Sub theme III : Standardization of optimum plant density and canopy management in cashew

S. No.	Name of the scientist	Theme 1						Theme 2		Theme 3		Theme 4			Total
		Hours / Week													
		Sub Theme						Sub Theme		Sub Theme		Sub Theme			
		1	2	3	4	5	6	1	2	1	2	1	2	3	
1.	Dr.K.Nageswari,	15													15
2,	M. Ananthan,	15													15
3.	S.Muthuswami	6													6
4.	I.Yesuraja,	6					6								12
5.	S. Balakrishnan		6		6						6				18
6.	B. Senthamizh Selvi		10		16						6				32
7.	C. Ushamalini		6		6	6									18
8.	P. Hemalatha		15												15
9.	S. Karthikeyan			15											15
10.	S. Malathi			6											6
11.	K. Venkatesan			15								6	6		27
12.	M. Sivakumar			15				10	10						35
13.	A. Ramar			10											10
14.	P.Jansirani,				10										10
15.	R. Chitra				10										10
16.	N. Shoba					10									10
17.	H. Vijayaraghavan					10									10
18.	D.Vidhya					10									10
19.	M. Chandrasekaran					6									6
20.	R.Swarnapriya						10								10
21.	M. Palanikumar						10			10					20
22.	P. S. Kavitha						10								10
23.	S. Muthuramalingam						10								10
24.	R. Ramjegathesh							6	6						12
25.	T. Srinivasan							6	6						12
26.	K.S.Vijay Selvaraj							10	10						20
27.	R.Shanthi										6				6
28.	C. Sudhalakshmi											10	10		20
29.	S.Rani											10	10		20
30.	M.S. Aneesarani													10	10
31.	S.Jayaprabhavathi													6	6
32.	S. Vincent													6	6

WORK LOAD OF SPICES AND PLANTATION CROPS SCIENTISTS FOR THE YEAR 2017-18

Scientists	% of time			
HC & RI, Coimbatore				
Dept. of Spices and Plantation Crops, HC & RI, Coimbatore				
Dr. S. Balakrishnan, Professor and Head			**Dr. V. Jegadeeswari, Asst. Prof. (Hort.)**	
Univ.Sub Project-I	10		Univ.Sub Project-1	15
Theme 1-Sub theme II	6		External funded scheme	30
Theme 1-Sub theme IV	6		Teaching	20
Teaching	20		Guiding the student	10
Guiding the student	20		Other Activities	25
Administration	30			
Other Activities	8			
Dr.A. Ramar, Prof.(Hort.)			**Dr.B. Senthamizh Selvi, Asst. Prof. (Hort.)**	
Univ.Sub Project-1	20		Univ.Sub Project-I	10
Teaching	20		Theme 1-Sub theme II	16
Guiding the student	20		Theme 3: Sub theme II	6
Farm professor	25		AICRP	30
Other Activities	15		Teaching	20
			Guiding the student	10
			Other Activities	8
Dr.N. Shoba, Prof. (Hort.)			**Dr.C. Ushamalini, Asst. Prof. (PI.Path.)**	
Univ.Sub Project-1	20		Univ.Sub Project-I	10
Teaching	20		Univ.Sub Project-II	10
Guiding the student	20		Univ.Sub Project-III	10
PG Co-ordinator	25		AICRP	25
Other Activities	15		Teaching	20
			Guiding the student	20
Dr. M. Mohanalakshmi Asst. Prof. (Hort.)			Other Activities	5
Univ.Sub Project-1	15			
Teaching	25		**Dr.R.Shanthi , Prof. (SSAC)**	
Guiding the student	10		Univ.Sub Project-1	20
Farm Manager	30		Teaching	20
VCS Scheme	10		Guiding the student	20
Other Activities	10		Other Activities	40

HRS, Yercard				
Dr.K.Nageswari, Professor and Head			**Dr. P. S. Kavitha Asst. Prof. (Hort.)**	
Univ.Sub Project-1	10		Univ.Sub Project-1	10
AICRP	40		Teaching	10
Teaching	5		Guiding the student	5
Guiding the student	5		Farm	20
Administration	20		Other Activities	55
Other Activities	20			
HRS, Ooty				
Dr.S. Karthikeyan, Asst. Prof. (Hort.)			**Dr.S. Malathi, Asst. Prof. (Hort.)**	
Univ.Sub Project-1	40		Univ.Sub Project-1	50
Extension activity	10		Extension activity	5
Other Activities	50		Other Activities	45
CRS, Aliyarnagar				
Dr.K. Venkatesan, Professor and Head			**Dr.M. Sivakumar, Prof.(Hort.)**	
Univ.Sub Project-1	20		Univ.Sub Project-1	25
Externally funded scheme	20		AICRP (Palms)	50
Guiding the student	20		Revolving fund	10
Administration	30		Other Activities	15
Other Activities	10			
Dr.R. Ramjegathesh, Asst. Prof. (Pl.Patho.)			**Dr.T. Srinivasan, Asst. Prof.(Ento.)**	
University Research Projects - 2	20		Univ.Sub Project-1	20
Guiding the student	15		AICRP (Palms)	50
AICRP (Palms) trials	35		Venture capital scheme	10
Venture Capital Scheme	10		Other Activities	20
Other Activities	20			
Dr. R.M. Jayabalakrishnan, Asst. Prof. (ENS)			**Dr. K. Rajamanickam, Asst.Prof.(Ento.)**	
Univ.Sub Project-1	25		Univ.Sub Project-1	50
Externally funded scheme	30		ODL & MOOCH Co-ordinator	10
Teaching	10		Administration	10
Guiding the student	15		Other Activities	30
Other Activities	20			

Dr.C. Sudhalakshmi Asst. Prof. (SSAC)			Dr. S.Rani, Asst. Prof (Agronomy)	
University Research Projects - 2	45		University Research Project - 2	25
Externally Funded scheme - 1	15		AICRP (Palms) trials	45
Guiding the student	10		Venture Capital Scheme	10
Venture Capital Schemes	10		Other Activities (Farm)	20
Other Activities	20			
HC & RI, Periyakulam				
Dept. of Spices and Plantation Crops				
Dr. P.Jansirani, Prof.& Head			Dr.R. Chitra, Asst. Prof. (Hort.)	
Univ.Sub Project-1	30		Univ.Sub Project-1	20
Teaching	20		Teaching	40
Guiding the student	10		Guiding the student	
Administration	30		Extension activity	20
Other Activities	10		Other Activities	20
Dr. S. Santha, Asst. Prof. (PB&G)			Dr. S. Prabhu, Asst. Prof. (Nema.)	
Univ. Sub Project	30		Univ. Sub Project	20
Teaching	40		Teaching	40
Extension activities	30		Extension activities	20
			Other activities (VCS biocontrol agents and Deputy Warden)	20
HRS, Thadiyankudisai				
Dr.M. Ananthan, Professor & Head			**Dr.I.Yesuraja, Professor (Pl. Pathology)**	
Univ.Sub Project-1	40		Univ.Sub Project-1	60
Teaching	5		Guiding the student	15
Guiding the student	10		Administration	20
Administration	25		Other Activities	05
Other Activities	20			
Dr.S.Muthuswami Professor (Ento.)			**Dr.S. Muthuramalingam,Asst. Prof. (Hort.)**	
Univ.Sub Project-1	50		Univ. Sub Project	60
Guiding the student	10		Extension activities	10
Administration	20		Other activities (Farm Manager)	30
Other Activities	20			

HRS, Pechiparai				
Dr.R. Swarnapriya Prof. & Head			**Dr.M. Palanikumar Asst.Prof. (Hort)**	
Univ.Sub Project-1	30		Univ.Sub Project-1	30
Teaching	30		Teaching	30
Administration	20		Extension activities	20
Other Activities	20		Other Activities	20
HC &RI(W), Trichy				
Dr. H. Vijayaraghavan,Prof.(CRP)			**Dr. M. Chandrasekaran , Asst. Prof. (Ento.)**	
Teaching	36		Research	31
Other activities	64		Teaching	44
Dr. D.Vidhya Asst. Prof (Hort.)			Extension activities	11
Research	28		Other Activities	14
Teaching	51		**AC & RI, Killikulam**	
Other Activities	21		**Dr. T. Prabhu, Asst.Prof. (Hort.)**	
ARS, Bhavanisagar			Teaching	20
Dr.P. Hemalatha, Asst. Prof. (Hort.)			Research AICRP	50
Univ.Sub Project-1	40		Externally funded scheme	10
Teaching	20		Extension activities	15
Other Activities	40		Other activities	5

CRS, Veppankulam				
Dr. K.S.Vijay Selvaraj Asst. Prof. (Hort.)			**Dr.A.Selvarani, Asst. Prof (Agronomy)**	
Univ.Sub Project-1	25		AICRP (Palms) trials	50
AICRP	50		Revolving fund scheme	10
Farm	15		Venture Capital Scheme	10
Other Activities	10		Other activities	30
Dr.S.Thangeswari, Asst. Prof. (Plant Path.)				
AICRP (Palms) trials	50			
Venture Capital Scheme	10			
Other activities	40			
RRS Vridhachalam				
Dr.M.S. Aneesarani , Prof. &Head			**Dr.S.Jayaprabhavathi , Asst. Prof. (Ento)**	
Univ.Sub Project-1	20		Univ.Sub Project-1	20
AICRP	30		AICRP	50
Administration	40		Farm	15
Other Activities	10		Other Activities	15
S. Vincent, Asst. Prof. (CRP)			**ARS, Pattukottai**	
Univ.Sub Project-1	20		**Dr. T. Sumathi, Asst. Prof.(Hort.)**	
Extension Activities	40		Research (AICRP)	75
Other Activities	40		Extension	10
			Other activities	15

d. Floriculture & Landscaping

1. Staff Pattern

Station	Designation	Horticulturist	Biotechnologist
Floriculture and Landscaping, HC & RI, Coimbatore			
	Professor (Hort)	2 (Main)	
	Associate Professor (Hort)	1(AICRP)	
	Assistant Professor (Hort)	1(AICRP) 2 (Main)	1 (Main)
HRS, Ooty			
	Associate Professor (Hort)	1(AICRP)	
	Assistant Professor (Hort)	1(AICRP)	
	Assistant Professor (Hort)	1 (Main)	
Floriculture and Medicinal Crops, HC&RI, Periyakulam			
	Professor	1 (Main)	
	Associate Professor	-	
	Assistant Professor (Hort)	1 (Main)	
FRS, Thovalai			
	Professor (Hort)	1 (Main)	
	Assistant Professor (Hort)	1 (Main)	

Among the 14 scientists, 5 are in Non-Plan Main and 9 are under ICAR AICRP. Out of 14 in Non plan main, 4 scientists are Professors in horticulture and one Asst. Professor in biotechnology. One Assoc. Professor and 3 Asst. Professors are working under AICRP on Floriculture.

2. Projectwise Remarks
Crop Improvement

S.No.	Project No & Title	Project Leader and duration	Remarks
1.	HCRI/CBE/HOR/FLO/2012/001 Evaluation of unexploited jasmine genotypes for economic value	Dr.M.Ganga, Asst. Prof. (Hort.) Dept. of Floriculture & Landscaping, TNAU, CBE April 2012 - May 2017	The subproject may be closed and the completion report submitted with the salient findings. The MLT and ART of *Jasminum nitidum selection* may be continued
2.	HCRI/THO/HOR/FLO/2015/002 Breeding for developing a high yielding tuberose variety with white flowers suitable for Kanyakumari District	Dr. G. Ashok Kumar, Asst. Prof. (Hort.), FRS, Thovalai June 2015 to May 2018	The sub-project title may be revised as 'Evaluation of Tuberose varieties for high yield and quality' as per the objectives proposed. The project may be continued with additional collection of single /double types with pure white flowers for further evaluation.
3.	HCRI/CBE/HOR/FLO/2014/003 Breeding of marigold (*Tagetes erecta*) for high flower yield and quality	Dr.M.Ganga, Asst. Prof. (Hort.) Dept. of Floriculture & Landscaping, TNAU, CBE Dr. M. Kannan, Prof. (Hort.) Dept. of Floriculture & Landscaping, TNAU, CBE June 2014 to May 2017	The subproject may be closed and the completion report may be submitted along with the salient findings.
4.	HCRI/CBE/HOR/FLO/2015/010 Breeding of crossandra (*Crossandra infundibuliformis L.)* for high flower yield coupled with novel colour, and quality through selection	Dr. P. Aruna, Asst. Prof. (Hort.) Dept. of Floriculture & Landscaping, TNAU, CBE September 2015 to August 2018	Proposal may be sent for revising the sub-project title as 'Evaluation of crossandra genotypes (*Crossandra infundibuliformis L.)* for superior yield and quality.' Seeds / planting materials from different sources may be added to the germplasm and to be evaluated further. The sub-project may be continued.
5.	HCRI/CBE/HOR/FLO/2015/009 Breeding of cockscomb for yield and quality through mass selection	Dr. P. Aruna, Asst. Prof. (Hort.) Dept. of Floriculture & Landscaping, TNAU, CBE June, 2015 to March 2018	Proposal may be sent for revising the sub-project title as 'Evaluation of Cockscomb genotypes (*Celosia* spp) for superior yield and quality.' Additional collections may be added to the germplasm and to be evaluated further. The sub-project may be continued.
6.	HCRI/CBE/HOR/FLO/2013/006 Development of varieties in hibiscus (*Hibiscus rosa- sinensis*) for high yield, quality and enhanced pigment content	Dr.K.R.Rajadurai, Asst. Prof. (Hort.) Dept. of Floriculture & Landscaping, TNAU, CBE June 2013 to May 2017	The extension proposal may be sent with the change of project leader and title. Proposal may be sent for revising the sub-project title as 'Evaluation of hibiscus genotypes for yield, quality and pigment content.
7.	HCRI/THO/HOR/FLO/2015/001 Collection and evaluation of lotus and lily genotypes suitable for loose flowers and for landscaping	Dr. G. Ashok kumar, Asst. Prof. (Hort.), FRS, Thovalai Jan 2015 to Dec 2017	The sub-project may be continued. Additional collections of Lotus and Lily genotypes may be added. Evaluation may be done for loose flower production and novel types may be identified for landscaping.
8.	HCRI/OTY/HOR/FLO/2014/001	Dr.A.Sankari, Asst. Prof. (Hort.)	Completion report shall be submitted along with the salient findings.

	Collection and evaluation of open field cut flowers under Nilgiris	HRS, Ooty October 2014 to March 2017	Planting materials of the superior genotypes may be maintained and multiplied for distribution
9.	HCRI/PKM/HOR/FLO/2013/001 Identification, domestication and commercial exploitation of wild ornamental species	Dr.S.Murugesan Sep. 2013 to Aug. 2018 HC&RI, Periyakulam	IC number may be obtained from NPBGR, New Delhi for the five native ornamental species reported. The sub-project may be continued.
10.	HTRY/TRY/HOR/FLO/2014/001 Collection, maintenance and evaluation of flower (annuals & perennials) and filler crops under salt affected Soils	Dr.R.Arulmozhiyan, Prof. (Hort.) AC&RI, Trichy Jan. 2014 to Dec. 2016	Completion report may be submitted. The flowers and foliage crops recommended for salt affected soils may be multiplied for distribution.
11.	HCRI/ CBE/ HOR/ FLO/ 2015/ 008 Evaluation of warm season turf grasses for salinity tolerance under open field conditions	Dr.M.Prabhu, Asst. Prof. (Hort.) Dept. of Floriculture & Landscaping, TNAU, CBE Oct.2015 to Sep.2018	The sub-project may be continued. The salinity levels may be verified with the Dept. of Soil Science and Agricultural Chemistry. The sub-project may be continued for further confirmation of results.

Crop Management

S.No.	Project No & Title	Project Leader and duration	Remarks
1.	HCRI/CBE/HOR/FLO/2014/002 Optimization of fertigation schedule, Irrigation regime, bio-stimulant and micronutrient spray for improved growth, flower yield and quality bulb production in tuberose (*Polianthes tuberosa* L) cv. Prajwal	Dr.M.Kannan, P&H, Dept. of Floriculture & Landscaping, TNAU, CBE July 2016 to June 2017	Completion report may be submitted along with salient findings.
2.	HCRI/CBE/HOR/FLO/2015/005 Standardization of *in vitro* propagation protocol for mass multiplication in tuberose (*Polianthes tuberosa*)	Dr.Hemaprabha, Asst. Prof. (Bio.), Dept. of Floriculture & Landscaping, TNAU, CBE January 2015 to March 2018	The sub-project may be continued. Hardening techniques for *in-vitro* plantlets of tuberose may be standardized and they may be further evaluated under open field /pot conditions.
3.	HCRI/PAI/HOR/FLO/2012/001 Influence of plant growth regulators and anti oxidants on spike yield and bulb production of tuberose	Dr. A.Punitha, Asst. Prof. (Hort.), RRS, Paiyur Jul 2012 to July 2016	The sub-project may be completed and the completion report may be submitted. OFT may be taken up to validate the finding from the study.
4.	HCRI/THO/HOR/FLO/2015/001 Standardization of agro techniques for commercial cultivation of orchids under Thovalai conditions	Dr. G. Ashok Kumar, Asst. Prof. (Hort.), HRS, Thovalai June 2015 to May 2018	The sub-project may be continued. The flowering and yield parameters may be studied and reported.
5.	HCRI/MDU/HOR/FLO/2014/001 Influence of different rootstocks on management and yield of Ixora	Dr. P. Arul Arasu, AP (Hort.) Dept. of Horticulture, AC&RI, MDU Feb. 2014 to March 2017	Completion report may be submitted along with salient findings.

6.	HCRI/OTY/HOR/FLO/2015/001 Studies on the effect of calcium and boron on upper leaf necrosis in oriental lilium	Dr.S.Karthikeyan, Asst. Prof. (Hort.), HRs, Ooty June 2015 to May 2018	The sub-project may be continued. The revised treatments may be imposed in consultation with the crop physiologists.
7.	HCRI/OTY/HOR/FLO/2015/002 Standardization of spacing and nutrition management in Bird of paradise (*Sterlitiza reginae*) under open condition in Nilgiris	Dr.M.Anand, Asst. Prof. (Hort.), HRs, Ooty September 2015 to March 2017	The sub-project may be continued for one more year for further confirmation. The extension proposal may be submitted.
8.	HCRI/PEC/HOR/FLO/2014/001 Intercropping in rubber with flowering and foliage filler crops	Dr. S. T. Bini Sundar, Asst. Prof. (Hort.), HRS, PPI April 2015 to October 2018	The sub- project may be continued with the revised flowering and foliage filler crop components.

3. CULTURES UNDER MLT/ART/FLD

Floriculture & Landscape Gardening				
1.	Jasmine (*Jasminum nitidum*)	Acc.Jn.1	MLT & ART	HC&RI, Coimbatore

4. Action paln (2017-19)
CROP IMPROVEMENT

Theme 1: Germplasm collection, characterization and breeding in flower crops

Sub Theme 1 : Screening of germplasm to identify promising types in *Jasminum* sp.
Project No : HCRI/CBE/HOR/FLO/2012/001

	Activity	Scientists and Centre	Year 1 (2016-17)	Year 2 (2017-18)	Year 3 (2018-19)	Deliverables
1.	Screening of underutilized *Jasminum* sp.	Dr. M. Ganga (5 hrs/week) Dr. A. Sankari (5 hrs/week)	Collection and evaluation of underutilized *Jasminum* species for flowering behaviour and yield	Evaluation of underutilized *Jasminum* species for flowering behaviour, yield and quality	- Evaluation of underutilized *Jasminum* species for flowering behaviour, yield, quality and marketability - Selection of superior clones	Developing superior clonal selections of underutilized jasmine species for year round flowering and quality

Sub Theme 1 : Screening of germplasm to identify promising types in *Jasminum* sp.
Project No : HCRI/CBE/HOR/FLO/2012/001

S. No	Activity	Scientists and Centre	Year 1 (2016-17)	Year 2 (2017-18)	Year 3 (2018-19)	Deliverables
2.	Evaluation of the performance of clonal selection of Acc.Jn-1 (*Jasminum nitidum*) through MLT and ART	Dr. M. Ganga (5 hrs/week) Dr. S. P. Thamaraiselvi (5 hrs/week)	Conducting MLT in Periyakulam, Trichy, Paiyur, Madurai, Bhavanisagar and Thovalai	• Conducting MLT in 6 centres • Conducting ART in 30 farmers' fields	• Conducting MLT in 6 centres • Conducting ART in 30farmers' fields	Development of clonal selection of Acc.Jn-1 *Jasminum nitidum* for commercial cultivation

Theme : Germplasm collection, characterization and breeding						
Sub Theme 1 : Screening of germplasm to identify promising types in *Jasminum* sp.						
S. No	**Activity**	**Scientists and Centre**	**Year 1 (2016-17)**	**Year 2 (2017-18)**	**Year 3 (2018-19)**	**Deliverables**
3.	Screening of *J. grandiflorum* clones	Dr. A. Jaya Jasmine (10 hrs/week) Dr. G. Ashok Kumar (5 hrs/week)	Collection and characterization of *J. grandiflorum* clones	Collection and characterization of *J. grandiflorum* clones	Selection of superior clones	Identification of pure white clone with high yield and concrete content

Theme : Germplasm collection, characterization and breeding						
Sub Theme 1 : Screening of germplasm to identify promising types in *Jasminum* sp.						
S. No	**Activity**	**Scientists and Centre**	**Year 1 (2016-17)**	**Year 2 (2017-18)**	**Year 3 (2018-19)**	**Deliverables**
4.	Mutation breeding in commercial (*J. grandiflorum, J. auriculatum)* and underutilized (*J. multiflorum)* *Jasminum* species	Dr. A. Sankari (10 hrs/week) Dr. P. Aruna (10 hrs/week) Dr. K. Hemaprabha (5 hrs/week)	Analysis of sensitivity of *Jasminum* species to mutagens	• Confirmation of LD_{50} values • Evaluation of mutated populations	• Evaluation of mutated populations and identification of desirable putative mutants	Identification of desirable putative mutants

Theme : Germplasm characterization and evaluation - Celosia

Sub Theme 2: Collection, characterization and evaluation of genotypes in *Celosia* spp.
Project No : HCRI/CBE/HOR/FLO/2015/009

S.No	Activity	Scientists and Centre	Year 1 (2016-17)	Year 2 (2017-18)	Year 3 (2018-19)	Deliverables
1.	Survey, collection, characterization and evaluation of genotypes for yield and quality	Dr. T. Thanga Selvabai (5 hrs/week) Dr. P. Aruna (10 hrs/week)	Survey and collection of genotypes	• Characterization of genotypes • Identification of superior genotypes for yield, quality and pigment content	Confirmatory trials for pigment content in different genotypes	Identification of promising types for yield and quality

Theme : Germplasm characterization and evaluation -Hibiscus

Sub Theme 3: Collection and evaluation of hibiscus genotypes
Project No : HCRI/CBE/HOR/FLO/2013/006

S.No.	Activity	Scientists and Centre	Year 1 (2016-17)	Year 2 (2017-18)	Year 3 (2018-19)	Deliverables
1.	Collection and evaluation of hibiscus genotypes for high yield and pigment content	Dr. M. Kannan, (10 hrs/week) Dr. S.P. Thamaraiselvi (10 hrs/week)	Collection and evaluation of hibiscus genotypes	Screening of genotypes for high yield and pigment content	Identification quantification of pigments	Identification of promising genotypes for high yield and pigment content

Theme : Germplasm characterization and evaluation – Lotus and Lily						
Sub Theme 4: Identification of novel Lily and Lotus types Project No : HCRI/PKM/FLO/LOT/2015/001						
S.No.	**Activity**	**Scientists and Centre**	**Year 1** (2016-17)	**Year 2** (2017-18)	**Year 3** (2018-19)	**Deliverables**
1.	Identification of novel lily and lotus types for waterscaping	Dr. A. Jaya Jasmine (5 hrs/week) Dr. G. Ashok Kumar (15 hrs/week) **FRS, Thovalai**	Exploration and collection of lily and lotus types	Assembling and Evaluation of lily and lotus types	Evaluation of superior types for flower form and colour	Identification of novel types with flower form and colour

CROP MANAGEMENT

Theme 2: Development of agro techniques in Nerium *(Nerium oleander)*						
Sub Theme 1 : Development of drip and fertigation techniques for Nerium						
S.No	**Activity**	**Scientists and Centre**	**Year 1** (2016-17)	**Year 2** (2017-18)	**Year 3** (2018-19)	**Deliverables**
1.	Effect of drip and fertigation on growth, yield and quality of Nerium (*Nerium oleander* L.)	Dr. T. Thangaselvabai (10 hrs/week)	Standardization of water and nutrient requirement through drip & fertigation system.	Standardization of water and nutrient requirement through drip & fertigation system.	Confirmation trial and assessment of cost economics	Optimization of drip and fertigation techniques for nerium

Work Load of each scientist (Theme wise)

Theme 1: Germplasm collection, characterization and breeding in flower crops
Sub Theme 1: Screening of germplasm to identify promising types in *Jasminum* sp.
Sub Theme 2: Collection, characterization and evaluation of genotypes in *Celosia* spp.
Sub Theme 3: Collection and evaluation of hibiscus genotypes
Sub Theme 4: Identification of novel Lily and Lotus types

Theme 2: Development of agro techniques in Nerium *(Nerium oleander)*
Sub Theme 1 : Development of drip and fertigation techniques for Nerium

(hours / week)							Total
S.No.	Name of the Scientist	Theme 1				Theme 2	
		Sub Theme 1	Sub Theme 2	Sub Theme 3	Sub Theme 4	Sub Theme 1	
1.	Dr. M. Kannan			10			10
2.	Dr. T. Thanga Selvabai		5			10	15
3.	Dr. A. Jaya Jasmine	10			5		15
4.	Dr. M. Ganga	5					5
5.	Dr. A. Sankari	10					10
6.	Dr. P. Aruna	10	10				20
7.	Dr. S.P. Thamaraiselvi	5		10			15
8.	Dr. K. Hemaprabha	5					5
9.	Dr. G. Ashok Kumar	5			15		20

WORK LOAD OF SCIENTISTS FOR THE YEAR 2017-18

(% of Work load)

S.No.	Scientist Name	Univ. Sub Projects	AICRP/ external funded projects	Teaching	Student guidance	Other activities Administration, farm/ ODL courses/lab in-charge	Total
I	**HC&RI, Coimbatore**						
1.	Dr. M. Kannan	15	-	20	20	45	100
2.	Dr.A.Sankari	10	30	20	10	30	100
3.	Dr.P.Aruna	15	20	20	20	25	100
4.	Dr.S.P.Thamaraiselvi	10	30	20	20	20	100
5.	Dr.M.Prabhu	10	-	30	10	50	100
6.	Dr.K.Hemaprabha	20	-	30	20	30	100
II	**HC&RI, Periyakulam**						
1.	Dr.Thangaselvabai	10	15	30	20	25	100
2.	Dr.Preethi	10	20	40	10	20	100
III	**HRS, Ooty**						
1.	Dr. M. Ganga	20	35+10 (Externally funded)	-	20	15	100
2.	Dr. M. Anand	10	40 + 30 (AINOG)	-	-	20	100
3.	Dr. S. Karthikeyan	40	10 (Externally funded)	-	-	50	100
IV	**FRS, Thovalai**						
1.	Dr. A. Jaya Jasmine	40	-	-	5	55	100
2.	Dr. G. Ashok Kumar	50	20 (GOI-MIDH)	-	-	30	100

e. Medicinal & Aromatic Crops

1. Staff Pattern

Station	Designation	Number
Dept. of Medicinal & Aromatic Cops, HC & RI, TNAU, Coimbatore		
	Professor (Hort.)	1(Main)
	Assistant Professor (Hort.)	1(Main) 1(ICAR)
	Assistant professor (Plant pathology)	1(ICAR)
	Assistant professor (Agricultural Entomology)	1(ICAR)
Floriculture and Medicinal Crops ,HC&RI, Periyakulam		
	Professor (Hort.)	2 (Main)
	Professor (Plant pathology)	1 (Main)
	Assistant Professor (Hort.)	1(Main)
Horticultural College & Research Institute for Women, Trichy		
	Assistant Professor (Hort.)	1(Main)

Among the 10 scientists, 7 are in Non-Plan Main and 3 are under ICAR AICRP. Out of 10, 3 scientists are Professors and 5 Asst. Prof. in horticulture and one Asst. Professor each in Agrl. Entomology and Pl. Pathology.

2. Projectwise Remarks

Crop Improvement

S.No.	Title of the project	Project Leader & Project Period	Remarks
1.	HCRI/CBE/HOR/MED/2015/001 Studies on induced mutation in glorylily (*Gloriosa superba* L.)for compact plant stature and high seed yield	Dr. S. Padmapriya, AP (Hort.) February, 2015 to March, 2018	Evaluation of third generation mutant progenies of *Gloriosa superba* L. for compact growth may be done and the project completed at Coimbatore.
2.	HCRI/CBE/HOR/MED/2016/002 Characterization and evaluation of *Gymnema sylvestre*	Dr. L. Nalina, AP (Hort.) January-2016 to January 2019	Gymnemic acid content has to be estimated for all the high yielding accessions.

Crop Management

S.No.	Project No. & Centre with project leaders	Title of the subproject	Duration	Remarks
1.	SEED/KKM/SST/MED/2015/001 AC&RI, Killikulam Dr.B.Venudevan, Assistant Professor (SST) Dr.R.Geetha, Professor (SST)	Influence of post harvest handling techniques on seed quality and storability of Senna KKM (Se) 1 (*Cassia angustifolia*Vahl)	July 2015 to June 2017	The project may be continued
2.	DCM/MDU/AGR/MED/2017/001 AC&RI, Madurai Dr.T.Rangaraj, Professor (Agronomy)	Effect of sowing methods and seed rate on growth and yield of senna (*Cassia angustigfolia*) in rice fallow condition	Jan 2017 to May 2019	The project may be continued

3.Cultures under MLT/ART/FLD

Medicinal & Aromatic Crops				
1.	*Solanum nigrum*	Sn 19	MLT I	HC&RI, Coimbatore

4.Action Plan (2017-19)
CROP IMPROVEMENT

Theme 1: Development of a variety with high yield and quality traits						
Sub Theme 1: **Screening of germplasm to identify promising types**						
	Activity	**Scientists and Centre**	**Year 1 (2016-17)**	**Year 2 (2017-18)**	**Year 3 (2018-19)**	**Deliverables**
1.	Collection, characterization and evaluation of *Salacia*germplasm for root yield and quality traits	Dr.K.Rajamani, (10hrs/week) & Dr.R.Renuka	Collection of germplam	• Establishment of germplasm based on salacinol content in root (Horticulture) • Standardisation of protocol for *in vitro* propagation (CPMB)	• Morphological characterization of accessions • Study on plant growth and maturity of root • Mass propagation through *in vitro (*CPMB) • Biotechnological approach for extraction of secondary metabolites(CPMB)	Identification of elite genotype based on root yield and quality (salacinol and mangiferin)
	Characterization and evaluation of genotypes to identify promising ones in Gymnema (*Gymnemasylvestre)* **HCRI/CBE/HOR/MED/2016/002**	Dr.L.Nalina, (10hrs/week)	Morphological and yield characterization	• Estimation of gymnemic acid in leaves • Multiplication of elite genotypes	Molecular characterization	Identification of promising types for yield and quality traits
	Collection, characterization and evaluation of vetiver (*Cryzopogonzizanioides*) germplasm for yield and quality traits	Dr.K.Rajamani, Professor and Head (5hrs/week)	Collection of germplam	Morphological characterization of germplasm Observation on yield and quality traits	Molecular characterization of germplasm	Development of a variety with high root yield and oil content

	Screening of germplasm to identify promising types in Ocinmum and Graviola	Dr. T. Thangaselvabai, (7hrs/week) Dr. R. Richard Kennedy, (7hrs/week) Dr. M. Theradimani, (3.5hrs/week)				

Sub Theme 2: Breeding for yield and quality traits
HCRI/CBE/MED/GLO/2015/001

S. No	Activity	Scientists and Centre	Year 1 (2016-17)	Year 2 (2017-18)	Year 3 (2018-19)	Deliverables
1.	Mutation breeding in gloriosa (*Gloriosasuperba*)	Dr.S.Padmapriya (11hrs/week)	Induced mutagenesis under *in vivo* condition	Evaluation of third generation tubers for ensuring the stability of economic mutants.	Evaluation of economic mutants	Development of a short statured mutant with high seed yield
2.	Mutation breeding in periwinkle *(Catharanthusroseous)*	Dr.K.Rajamani (5hrs/week)	Induced mutagenesis under *in vivo*condition	Evaluation of M_2 progenies for yield and quality	Evaluation of economic mutants	Identification of promising mutants for leaf and root yield and quality traits

CROP MANAGEMENT

Theme : Plant growth regulators for higher yield and quality						
Sub Theme 1: Studies on plant growth regulator consortia for higher yield of herbage and oil						
S.No	**Activity**	**Scientists and Centre**	**Year 1** (2016-17)	**Year 2** (2017-18)	**Year 3** (2018-19)	**Deliverables**
1.	Development of ideal plant growth regulator consortia to improve the productivity and quality of herbage and oil in Davana	Dr. K. Venkatesan, Professor (CRP) (5hours/week) Dr.T.Thangaselvabai, Professor and Head (3hours/week)	Evaluation of different plant growth regulatorsconsortia	Evaluation of different plant growth regulatorsconsortia	Large scale confirmation trial for technology adoption	Development of a cost effective plant growth regulator consortia for improving herbage yield

Work Load of each scientist (Theme wise)

Crop Improvement

Theme 1: Development of a variety with high yield and quality traits

Sub Theme 1: Screening of germplasm to identify promising types

Sub Theme 2: Breeding for yield and quality traits

Theme 2: Plant growth regulators for higher yield and quality

Sub Theme 1 :Studies on plant growth regulator consortia for higher yield of herbage and oil

(hours / week)					
S.No.	**Name of the Scientist**	**Theme 1**		**Theme 2**	**Total**
		Sub Theme 1	**Sub Theme 2**	**Sub Theme 1**	
1	Dr.K.Rajamani	20	5	-	25
2	Dr.L.Nalina	10	-	-	10
	Dr. T. Thangaselvabai,	7			
4	Dr. N. Richard Kennedy	7	-	-	7
5	Dr. M. Theradimani	3.5	-	-	3.5
6	Dr.S.Padmapriya	-	11	-	11

CROP MANAGEMENT

Theme : Plant growth regulators for higher yield and quality

Sub Theme 1: Studies on plant growth regulator consortia for higher yield of herbage and oil

(hours / week)		
S.No.	**Name of the Scientist**	**Theme 1**
1.	Dr. K. Venkatesan, Professor (CRP)	5
2.	Dr.T.Thangaselvabai, Professor and Head	3

WORK LOAD OF SCIENTISTS FOR THE YEAR 2017-18

(% of Work load)

S.No.	Scientist Name	Univ. Sub Projects	AICRP/ external funded projects	Teaching	Student guidance	Other activities Administration, farm/ ODL courses/lab in-charge	Total
I	**HC&RI, Coimbatore**						
1.	Dr.K.Rajamani	15	10	20	30	25	100
2.	Dr.L.Nalina	10	30	30	10	20	100
3.	Dr.I.Geethalakshmi	10	-	30	20	40	100
4.	T.Elaiyabharathi	10	30	30	20	10	100
5.	Dr.G.Thiribhuvanamala	10	30	30	20	10	100
II	**HC&RI, Periyakulam**						
1.	Dr.Thangaselvabai	10	10	20	10	30(Administration) 20(Warden)	100
2.	Dr. N. Richard Kennedy	30	-	30	20	20	100
3	Dr. M. Theradimani	25	25	30	-	20	100
4	Dr.S.Padmapriya	30	-	-	-	50(Farm manager) 30(Extension)	100

Crop Protection

The general remarks, project wise remarks, details of OFT and the action plan along with work load of the crop protection scientists are furnished below.

I. General Remarks

1. All the survey data should accompany the GPS coordinate (Action: All Scientists).
2. In the management trials, pesticides which are having CIB label claim alone should be tested. (Action: All Scientists).
3. The scientists those who are not having university research sub projects requested to propose new subprojects based on the action plan (Action: All Scientists)

I. Remarks on the ongoing Research Projects

S.No	URP details	Project Leader and Duration	Remarks offered
1	**CPPS/CBE/ENT/FLO/2016/001** Leaf miner diversity on cut flowers under protected cultivation of Tamil Nadu	**Dr.T. Elaiyabharathi** **Dept. of Medicinal Plants, CBE** June 2015 – May 2018	Infestation levels recorded is to be related to the yield loss in terms of quantity and quality.
2	**CPPS/TRY/ENT/FRU/2014/001** Bio-ecology and Management of Pest Complex in Guava (*Psidiumguajava* L.)	**Dr. V. Ambethgar** **HC&RI (W), Trichy** June 2014 – May 2017	Recommended for completion report as the project period ends as on May 2017
3	**CPPS/CBE/ENT/FRU/2015/001** Development and validation of LC/MS/MS method for the simultaneous determination of neonicotinoid pesticides in fruits and vegetables	**Dr.A.Suganthi** Dept. of Entomology, CBE June 2015 – May 2018	Action to be taken to communicate the information to Commissioner of Horticulture through proper channel
4	**CPPS / YCD / ENT / MED/ 2015/001** Documentation of insects, diseases and nematodes of Medicinal plants and their management	**Dr. C. Durairaj** **Dr.V.Jayalakshmi** HRS, Yercaud June 2014 to May 2017	Data collected on documentation of insects and diseases shall be compiled and completion report submitted. The part left on management of pests shall be taken up in new university research projects.
5	**CPPS/ ALR / ENT/ SPC / 2015/ 002** Reaction of location specific new coconut hybrids (D x T, T x D & T x T), Exotic, local Tall ecotypes and dwarf cultivars against coconut pests for exploitation of resistance.	**Dr K. Rajamanickam** CRS, Aliyarnagar July 2015 – June 2018	Assessment of reaction of location specific new coconut hybrids for the major pests to be continued as per the approved programme. Details on pest load may be recorded for each pest separately
6	**CPPS/TKD/ENT/SPC/2015/001** Studies on seasonal incidence and management of shoot/panicle/capsule borer, *Conogethes* (= *Dichocrocis*) *punctiferalis* (Pyraustidae: Lepidoptera) on cardamom	**Dr.M.Muthuswami** HRS, Thadiyankudisai January 2015 to December 2017	Strain variation in the *Conogethes* population between cardamom and castor to be explored in consultation with entomologist at TCRS, Yathapur.

7	**CPPS/MDU/ENT /VEG /2016 /001** Agro ecosystem analysis and eco-friendly management practices against major insect pests of brinjal	**Dr.V.A.Vijayashanthi** AC&RI, Madurai 2016-2019	Results of one year survey do not satisfy the requirement. More farmers field experiments to be conducted.
8	**CPPS/CBE/ENT/2015/004** Smart delivery of *Bacillus thuringiensis* through nano encapsulation for enhanced self-life and toxicity against the Diamondback moth, *Plutella xylostella* L.	**Dr. M. Kannan** Dept. of Agrl. Entomology, CBE January 2015 to December 2017	Sericin incorporation with Bt to be evaluated under laboratory and field condition. Sericin to be included as one of the standard check in the field trials.
9	**CPPS/CBE/ENT/VEG/2015/005** Fate of insecticides applied on chillies from farm to fork	**Dr. B. Vinothkumar** Dept. of Agrl. Entomology, CBE April 2015 to March 2018	Residues of the proposed insecticides are to be assessed in the value chain of chillies as proposed in the proposal.

Plant Pathology

S.No	URP details	Project leader and Period	Remarks
1.	**CPPS/TRY/PAT/FRU/2014/006** Studies on integrated management of wilt disease in guava	**Dr. D. Dinakaran** **HC&RI (W), Trichy** April 2014 to March 2017	The progress of work has not been presented The project may be closed and new project may be prepared
2.	CPPS/BSR/PAT/FRU/2014/001 Management of Sigatoka leaf spot disease of banana through foliar spraying and pseudostem injection	**Dr.S.Maruthasalam** **ARS, Bhavanisagar** October 2014 – September 2017	The data has not been presented due to non occurrence of the disease during the season One more field trial during kharif may be conducted and after that the project may be closed.
3.	**CPPS/APK/PAT/FRU/2013/001** Development of management strategies against damping off in custard apple, ber, manila tamarind, bael, aonla and wood apple.	**Dr. P. Mareeswari** **RRS, Arupukottai** August 2013 to July 2016	The completion report may be sent for closing the project A new University Research Project may be proposed
4.	**CPPS/PAI/PAT/VEG/2015/003** Chemical and biological management of tomato early blight caused by *Alternaria solani* (Ellis & Martin) Jones & Grout.	**Dr.T. Anand** **RRS, Paiyur** June 2015 to May 2018	Concentrate on new aspect, since *Trichoderma* may not be used for *Alternaria* leaf blight Use CIB registered and label claim chemicals only for testing. Commercial chitoson formulation may be compared with raw chitosan

5.	**CPPS/PKM/PAT/VEG/2013/001** Integrated disease management of chilli anthracnose caused by *Colletotrichum*	**Dr. J. Sheela** **HC&RI, Periyakulam** September 2013 to October 2016	Completion report may be sent to close the project
6.	**CPPS/CBE/PAT/VEG/2014/001**. Management of wilt disease in bitter gourd	**Dr. S. Harish** **HC&RI, Coimbatore** July, 2014 to June, 2017	All the biocontrol agent isolates should be submitted to the department with MTCC/ITCC accession number
7.	**CPPS/OTY/PAT/VEG/2015/001** Development of integrated disease management practices for root rot of beans growing in the Nilgiris district	**Dr. S. Malathi** **HRS, Ooty** June 2015 to May 2018	The project may be continued
8.	**CPPS/YCD/PAT/VEG/2014/001** Collection and identification of high yielding, pests and diseases resistant bean accessions suitable for Shevaroys region	**Dr. V. Jayalakshmi** **Dr. C. Durairaj** **Dr. K.Nageswari** **HRS, Yercaud** June 2014 to May 2017	Completion report may be sent to close the project
9	**CPPS/OTY/PAT/VEG/2015/002** Ecofriendly management of major fungal diseases (damping off and head rot) ofcabbage in hill areas of Nilgiris November	**Dr. S. Malathi** **HRS, Ooty** 2014 to October 2017	The project may be continued
10	**CPPS/CBE/PAT/SPC/2015/001** Development of management practices for ginger rhizome rot by bio control agents and fungicides	**Dr.C.Ushamalini** **Dept. of Spices and Pl. Crops, HC&RI, CBE** June 2015 - May 2018	Whether the treatment is rhizome dip or rhizome treatment Proposal may be sent for mid-term corrections for the treatment schedule.
11	**CPPS/ALR/PAT/SPC/2014/001** Evaluation of fungicides and different methods of application for the management of leaf blight disease of coconut	**Dr.R.Ramjegathesh** **CRS, Aliyarnagar** July 2014 to June 2017	The project may be closed in time. A new proposal for URP may be sent. An externally funded project may be submitted for leaf blight disease.

12	**CPPS/ALR/PAT/SPC/2016/001**. Survey and management of root (wilt) disease	**Dr.R.Ramjegathesh** CRS, Aliyanagar January 2016 – January 2019	The project may be continued.
13	**CPPS/CBE/PAT/MED/2016/001** Assessment of mycoflora and their toxins in medicinal plants and spice Products	**Dr.V.Paranidharan** **Dept. of Plant Pathology, CBE** March-2016 to April-2019	Since a separate Project was obtained From NMPB, Senna crop may be removed from this project
14	**CPPS/CBE/PAT/FLO/2015/001** Development of water soluble formulations of *Bacillus* spp. for the management of foliar diseases of anthurium under protected cultivation	**Dr.S.Nakkeeran** **Dept. of Plant Pathology, CBE** May 2015 to April 2018	The compatibility of *Bacillus thuringiensis* + *Brevibacillus lateroporus* and *Bacillus subtilis* has to be assessed A minimum of three field trials have to be conducted by reducing the number of sprays
15.	CPPS/PKM/PAT/FLO/2013/003 Management of Tuberose root rot caused by *Sclerotium rolfsii* by biocontrol agents and fungicides	**Dr.M.Theradimani** **HC&RI, Periyakulam** December 2013-November 2016	The native isolates of *Trichoderma* spp and *Pseudomonas* spp. have to be identified and the cultures have to be deposited at MTCC/ITCC and with the Department of Plant Pathology, TNAU, Coimbatore for getting accession number. A new project proposal may be submitted
16.	**CPPS/TRY/PAT/FLO/2015/001** Studies on the management of major diseases of tuberose and Ixora	**Dr. K.Karunanithi** **HC&RI (W), Trichy** October 2015 to September 2018	The project may be continued
17.	**CPPS/MDU/PAT/FLO/2014/003** Biological control of wilt disease of chrysanthemum incited by *Fusarium oxysporum f.sp. chrysanthemi*	**Dr.E.G. Ebinezar** **AC&RI, Madurai** June,2014-May,2017	The project may be closed with the available data A new proposal may be sent for a new University Research Project

Nematology

S.No	URP details	Project Leader and Period	Remarks
1	**CPPS/CBE/ANM/FRU/2014/003** Root knot nematode management in guava	Dr. P. Vetrivelkalai Dept. of Fruit Crops, HC&RI, CBE Jan. 2015 - Dec. 2017	The best dose of bioagents along with organic amendments may be conducted as field experiment. The project may be continued.
2	**CPPS/CBE/ANM/VEG/2014/030** Evaluation of biocontrol potential of Arbuscular Mycorrhizal Fungi *viz*., *Glomus* spp., *Acaulospora levis* and *Gigaspora margarita* against root-knot nematode, *Meloidogyne incognita* on tomato	Dr. A.Shanthi Dept. of Nematology, TNAU, CBE July 2014 - June 2017	The objectives are completed as per the approved technical programme. The completion report may be submitted at the earliest.
3	**CPPS/MDU/NEM/VEG/2015/001** Management of root-knot nematode, *Meloidogyne incognita* on tomato using bioinoculants	Dr. K. Devrajan AC&RI, Madurai April 2015 - March 2017	The promising strains of *Trichoderma* spp. may be tested under pot culture and field conditions. Since the project period is two years, extension proposal for one more year may be submitted.
4	**CPPS/PAI/NEM/VEG/2015/001** Integrated approach for the management of root knot nematode, *Meloidogyne incognita* in tomato under precision farming system	Dr.P. Senthilkumar RRS, Paiyur June 2015- May 2018	The best treatments from microplot experiment may be conducted as field study. The project may be continued.
5	**CPPS/PAI/NEM/VEG/2015/002** Assessment and management of root knot nematode (*Meloidogyne incognita)* and bacterial wilt (*Ralstonia solanacearum*) complex in brinjal at North Western zone of Tamil Nadu.	Dr. P. Senthilkumar Dr.T.Anand RRS, Paiyur June 2015- May 2018	The hot spot area for nematode and bacterial wilt may be identified for conducting the field experiment. The project may be continued.
6	**CPPS/PKM/NEM/VEG/2016/001** Management of brinjal pests using native entomopathogenic nematode and its symbiotic bacteria.	Dr. S. Prabhu HC&RI, Periyakulam May 2016- Feb. 2019	The efficacy of *Steinernema siamkayai* may be compared with other available EPN species. The project may be continued.
7	**CPPS/PLR/NEM/VEG/2013/001** Screening brinjal germplasm for nematode resistance	Dr. I. Cannayane Dr. M.S. Aneesa Rani VRS, Palur Nov. 2013 Oct. 2016	The project period is already over. The completion report may be submitted at the earliest.

8	**CPPS/PLR/NEM/VEG/2013/002** Devising formulation and application technologies of entomopathogenic nematodes for the control of melon fruit fly and brinjal shoot and fruit borer	Dr. I. Cannayane Dr.M.S.Aneesa Rani Dr. S. Douressamy VRS, Palur Nov. 2013 Oct. 2016	The project period is already over. The completion report may be submitted at the earliest.
9	**CPPS/PLR/NEM/VEG/2013/003** A system biology approach in preparing nematode and disease suppressive media for vegetable nurseries and elite plant tree seedlings	Dr. I. Cannayane Dr. M.S. Aneesa Rani VRS, Palur Nov. 2013 Oct. 2016	The project period is already over. Three years work may be compiled and completion report submitted at the earliest.
10	**CPPS/CBE/NEM/VEG/2016/001** Enhancement of performance of nematode antagonistic bioagents, *Pochonia chlamydosporia* and *Pasteuria penetrans* for the management of sedentary endoparasitic nematodes of polyhouse cucumber	Dr. N.Swarnakumari Dept. of Nematology, TNAU, CBE Oct. 2016 - Sep. 2019	Suitable formulations may be developed and efficacy tested under poyhouse conditions. The project may be continued.
11	**CPPS/OTY/NEM/VEG/2013/101** Development of integrated nematode management module for carrot in the	Dr.B.Anita HRS, Ooty Aug. 2013- Sept. 2016	The best treatment along with standard check may be proposed for OFT.
12	**CPPS/CBE/NEM/VEG/2016/002** Biochemical basis of root knot nematode resistance in tomato and tuberose	Dr. P. Kalaiarasan Dept. of Nematology, TNAU, CBE Oct. 2016 - Sep. 2018	The enzyme based mechanism may be studied for resistant / tolerant lines. The project may be continued.
13	**CPPS/TRY/NEM/FLO/2014/001** Eco-friendly approaches for the management of root knot nematode in tuberose.	Dr. T. Senthilkumar HC&RI (W), Trichy June 2014 -May 2017	The field experiments may be conducted for two seasons and the pooled data submitted for ensuing CSM. The project period is over. The completion report may be submitted.
14	**CPPS/PAI/NEM/FLO/2015/001** Physiological and bio chemical modification through bio inducer in tube rose infected with root knot nematode,	Dr. P. Senthilkumar Dr. K. Krishnasurender RRS, Paiyur June 2015- May 2018	Mechanism of bioinducer against nematodes may be studied. The best treatments from pot culture experiment will be conducted at field level. The project may be continued.

Agricultural Entomology

Of the 13 University Research Projects, Project leaders of 9 only attended and presented the findings, while the rest of four projects from AC & RI, Madurai (Dr. C. Chinniah) and HRS, Yercaud (Dr. J. S. Kennedy) were not presented. The project leaders should have taken steps to either present in person or through other scientists. In general, the Project leaders are advised to take care to present the salient findings in brief.

3. Details of OFT

a. OFT -1 Management of root knot nematode, *Meloidogyne incognita* infesting tomato under polyhouse conditions **(Centers: Coimbatore and Paiyur)**

On farm trial on management of root knot nematode, *Meloidogyne incognita* infesting tomato under polyhouse conditions with the following treatments;

T_1**-** Application of *Purpureocillium lilacinum* @10 g/kg seed and soil application @ 50g/m^2

T_2**-** *Trichoderma harzianum* @10 g/kg seed and soil application @ 50g/m^2

T_3**-** carbofuran @ 1kg a.i./ha

T_4**-** Untreated control

Replications : 6
Plot size : 1 x 1 m
Variety : Local variety
Design : RBD

Observations:

- INP per 200 cc of soil
- Final population per 200 cc of soil and 5g root
- Root knot index
- Yield: kg/m^2

b. OFT 2. Management of root knot nematode, *Meloidogyne hapla* in carrot **(Centers: Coonoor and Kodaikanal)**

On farm trial on management of root knot nematode, *Meloidogyne hapla* in carrot with the following treatments;

T_1 **-** Mustard biofumigation+ Neem cake @ 625 kg/ha + *Purpureocillium lilacinum* @ 5kg /ha

T_2 **-** Neem cake @1250kg/ha + *P.lilacinum* @ 10kg/ha

T_3 **-** carbofuran @ 1 kg a.i/ha

T_4 **-** Untreated control

Replications : 6
Plot size : 1 x 2 m
Variety : New Kuroda
Design : RBD

Observations to be made

- Initial Nematode population per 200cc soil
- Final Nematode population per 200cc soil
- Root Knot Index
- Yield: kg/m^2 to be transformed into t/ha

Proposed Locations:

CBE scientist will take up trial at Coonoor, PKM scientist will take up trial at Kodaikanal

IV. **Action plan for 2016-2019 on the identified themes**

I. Agricultural Entomology

Theme 1: Ecology and pest dynamics

Documentation of insects of medicinal plants and their management			
Theme leader	**Dr. J. Samuel Kennedy, Professor (Agrl. Ento.), HRS, Yercaud** (5hours/week)		
Activity	**2016-17**	**2017-18**	**Deliverables**
Documentation of insects, diseases of Medicinal plants and their management	Documentation of major pest, diseases of high altitude and tropical medicinal plants	• Identification of potential pest and diseases of Stevia *Stevia rebaudiana* (sugar supplement) and Mint *Mentha arvensis* (Carminative, stimulant, diuretic) • Evaluation of eco-friendly packages for the management of pests of above crops	List of potential key pests and their management in Stevia and Mint

Leaf miner diversity on cut flowers under protected cultivation of Tamil Nadu				
Theme leader	Dr.T.Elaiyabharathi, Asst. Professor (Agrl. Entomology), TNAU, Coimbatore (5hours/week)			
Activity	2016-17	2017-18	2018-19	Deliverables
Studies on leaf miner diversity on cut flowers under protected cultivation. Developing food based attractants for their management.	Biosystematics and documentation of leaf miner complex in protected cut flower cultivation	Screening and evaluation of food attractants for leaf miner management	Validation of IPM strategies	Major leaf miner species identified under cut flowers. Food based attractants for their management reduces the pesticide usage under protected cut flowers production.

Theme 2: Host Plant Resistance – screening of germplasm and identification of mechanism of resistance

Reaction of location specific new coconut hybrids (D x T, T x D & T x T), Exotic, local Tall ecotypes and dwarf cultivars against coconut pests for exploitation of resistance				
Theme leader	**Dr K. Rajamanickam, Professor (Agrl. Entomology), CRS, Aliyarnagar** (5hours/week)			
Activity	**2016-17**	**2017-18**	**2018-19**	**Deliverables**
To evaluate the location specific new coconut hybrids (*Viz.,* Tall x Tall, Dwarf x Tall and Tall x Dwarf) , new exotic coconut Tall , local Tall ecotypes and Dwarf cultivars against Rhinoceros beetle, Red Palm Weevil and sucking pests	Tall X Tall hybrids BGR x ADOT ADOT x ECT ECT X LCOT recorded low RSW damage No significant Spiraling White Fly damage in WCT x TPT and LCOT X ADOT hybrids RB damage was low	Confirmation of reaction of test entries / lines against major pests	Mechanism of resistance for sucking pests	Coconut cultures with field resistance to major arthropod pests.

Theme 3: Integrated pest management in open and protected cultivation

	Bio-ecology and Management of Pest Complex in Guava (*Psidium guajava* L.)			
Theme leader	**Dr. V. Ambethgar, Professor of Entomology, HC&RI for Women, Tiruchirappalli** (3hours/week)			
Activity	**2016-17**	**2017-18**	**2018-19**	**Deliverables**
Study on the seasonal incidence of key pests and natural enemies on guava plantings. Evaluate mulching (semi decomposed leaf litre) and biorational pesticides against major pests.	Assessed seasonal incidence of key pests and natural enemies Evaluated mulching and biorational pesticides	Confirmation on the seasonal incidence of key pests and natural enemies	Confirmation on efficacy of mulching and biorational pesticides	Ecofriendly management practise for guava sucking pests

Smart delivery of *Bacillus thuringiensis* through nano encapsulation for enhanced self-life and toxicity against the Diamondback moth, *Plutella xylostella* L				
Theme leader	**Dr. M. Kannan, Asst Professor (Agrl. Entomology), DNST, TNAU, Coimbatore** (5hours/week)			
Activity	**2016-17**	**2017-18**	**2018-19**	**Deliverables**
Isolation, characterization, culturing and mass production of native *Bacillus thuringiensis* (*Bt*) for encapsulation	Extraction of biopolymer (sericin) was done from waste water of silk reeling and characterized with FTIR, UV-Vis, DSC and TGA.	synthesis and characterization of *Bt* encapsulates using biopolymers/ core cell nano particles	Assessment of toxicity and persistence of *Bt* encapsulated formulation against Diamondback moth, *Plutella xylostella* L. under laboratory and field condition	Encapsulation of native *Bt* with biopolymer having desirable toxicity and persistence against encapsulated formulation against Diamondback moth, *Plutella xylostella* L.

Theme 4: Pesticide dynamics in horticultural ecosystems

Development and validation of LC/MS/MS method for the simultaneous determination of neonicotinoid pesticides in fruits and vegetables				
Theme leader	**Dr. A. Suganthi, Assistant Professor (Agricultural Entomology), TNAU, Coimbatore** (5hours/week)			
Activity	**2015-16**	**2016-17**	**2017-18**	**Deliverables**
Development and validation of LC/MS/MS method for the determination of neonicotinoid pesticides in grapes and tomato.	Optimization of chromatographic instrument conditions for each neonicotionoid analyte and mix containing five analytes.	• Method validation using grapes and tomato as representative matrices and assessed LOD, LOQ, recovery and precision. • Recovery within acceptable criteria of 70 to 120 % and relative standard deviation less than 20 %. • Developed method applied for real market samples to find out the residues.	• Monitoring of market samples of grapes and tomato for neonicotinoid residues.	Awareness creation among stakeholders on contamination level of market samples with neonicotinoid residues

Fate of insecticides applied on chillies from farm to fork			
Theme leader	**Dr. B. Vinothkumar, Assistant Professor (Agrl. Entomology), TNAU, Coimbatore** (5hours/week)		
Activity	**2016-17**	**2017-18**	**Deliverables**
• Survey on pesticide use pattern in chillies • Dissipation, Decontamination and supply chain process pattern of commonly used insecticides in chillies.	• Survey conducted in 5 Districts - Coimbatore, Dindugal, Karur, Madurai, Sivagangai. • Method validation, measurement uncertainty and dissipation pattern of imidacloprid, λ-cyhalothrin, bifenthrin, thiamethoxam, acetamiprid, quinalphos and chlorpyriphos were completed	Dissipation pattern of Flubendiamide, thiodicarb, Triazophos, and decontamination techniques and supply chain process will be studied	Dissipation pattern of major insecticides used in chilli ecosystem and half life and safe waiting period for major insecticides used in chilli ecosystems.

Isolation and characterization of insecticidal principles from the leaf and seed of *Annona muricata*			
Theme leader	**Dr. D Uma, P&H (Biochemistry), TNAU, Coimbatore** (3hours/week)		
Activity	**2016-17**	**2017-18**	**Deliverables**
Identification and purification of insecticidal principles of *Annona muricata*	Two compounds purified by column chromatography and characterized by ^{13}C and ^{1}H NMR are identified as acetogenins. Compound 1 (AM5) belongs to acetogenin type F. Compound 2 (AM9) may be a mixture of acetogenins type A and D.	Purification and confirmation by 2D NMR and mass spectroscopy	Effective insecticide molecule from *Annona muricata*

Theme 5. Invasive and emerging pests

Bioecology and management of Rugose spiralling whitefly (RSW) in coconut			
Theme leader	**Dr. T. Srinivasan, Assistant Professor (Agrl. Entomology), CRS, Aliyarnagar** (5 hours/week)		
Activity	**2016-17**	**2017-18**	**Deliverables**
•Bioecology and management of RSW in coconut	• Survey and species identification done • Alternate host plants were recorded. • Natural parasitism by *Encarsia guadeloupae* observed and documented.	• Continuous monitoring of the incidence of RSW • Evaluation and validation of IPM strategies.	Ecofriendly management of new Rugose spiralling whitefly in coconut

Plant Pathology:

Horticulture crops	**Theme I: Integrated disease management**
Theme leader	Dr. P. Muthulakshmi, Assoc. Professor (Pl.Path), Dept. of Fruit Crops, TNAU, Coimbatore
Sub theme-1	Integrated disease management in banana/tomato/citrus/onion/cucurbits/turmeric/coconut/senna/Gloriosa

Activity	**Scientists and centre**	**2017-18**	**2018-19**	**2019-20**	**Deliverables**

Effect of fungicides, plant products, soil amendments, nutrients and bio control agents on major horticulture crop diseases	HC&RI, Coimbatore Dr. P. Muthulakshmi (banana) (5hours/week) Dr. M. Karthikeyan (Cucurbits) (3hours/week) Dr. C. Ushamalini (Turmeric) (5hours/week) Dr.G.Thiribhuvaamala (Gloriosa/senna) (5 hours/week) HC & RI, Periyakulam (Citrus) Dr.A. Vijayasamundeeswari (3hours/week) AC&RI, Madurai (Tomato) Dr. S. Harish (5hours/week) Dr. T. Anand RRS, Paiyur (Tomato) (3hours/week) Dr. P. Mareeswari, RRS, Aruppukottai (Onion) (4hours/week) Dr. R. Ramjegadhesh (Coconut), CRS, Aliyar (5hours/week) Dr. S. Thangeshwari (Coconut) CRS,Veppankulam (5hours/week)	Screening of bioproducts, botanicals and cost effective fungicides against pathogen	Effective components will be tested under controlled conditions.	IDM field trial	Validated IDM practices will be made available to the farmers.

Horticulture crops	**Theme 1: Integrated disease management**				
Theme leader	Dr. S. Maruthasalam, Asst. Professor (Pl.Path), ARS, Bhavanisagar				
Sub theme-2	Management of Sigatoka leaf spot using new fungicide molecules				
Activity	**Scientists and centre**	**2017-18**	**2018-19**	**2019-20**	**Deliverables**
Effect of new fungicide molecules for the management of Sigatoka leaf spot	Dr.S. Maruthasalam ARS, Bhavanisagar (4hours/week)	Raising of highly susceptible variety in the field and imposing treatments	Recording data on disease intensity and yield attributes	Confirmation trial	The effective fungicide molecules will be identified

Horticulture crops	Theme II: Pests and disease monitoring under High density planting/ ultra Highdensity planting
Theme leader	Dr. T. Anand, RRS, Paiyur
Sub theme	Pest and disease monitoring and management under HDP

Activity	Scientists and centre	2017-18	2018-19	2019-20	Deliverables
Monitoring and management of pest and diseases under High density planting/ ultra High density planting, drip irrigation	Dr. T. Anand (4hours/week) Dr. P. Thilagam (3hours/week) RRS, Paiyur (Mango) Dr. S. Irulandi (2hours/week) Dr.A.Vijayasamundeeswari (2hours/week) HC & RI, Periyakulam (Guava) Dr. P. Mareeswari (3hours/week) RRS, Aruppukottai (Aonla) Dr. S. Sangeetha (2hours/week) HC&RI (W), Trichy (Guava)	Identification documentation of major pest and disease underHigh density planting	Development of management strategies for the major pest and disease under High density planting/ ultra High density planting	Effective management strategies will be confirmed	Suitable effective management practices will be developed for High density planting/ ultra High density planting

Horticulture crops	Theme III: Development of Pest and disease management strategy under protected cultivation
Theme leader	Dr. S. Nakkeeran, Professor (Plant Pathology) TNAU, Coimbatore
Sub theme	Pest and disease monitoring and management under protected cultivation

Activity	Scientists and centre	2017-18	2018-19	2019-20	Deliverables
Monitoring and management of pest and diseases under protected cultivation	Dr. S. Nakkeeran (3hours/week) TNAU, Coimbatore (Anthurium) Dr. M. Theradimani (3hours/week) HC&RI,Periyakulam (Tuberose) Dr. K. Karunanithi (3hours/week) HC&RI (W), Trichy (Tuberose)	Identification documentation of major pest under protected cultivation	Development of management strategies for the major pest	Effective management strategies will be confirmed	Suitable effective management practices will be developed

Nematology

Horticultural crops	**Theme 1. Host plant resistance - screening of germplasm and identification of mechanism of resistance against nematodes**				
Theme Leader	Dr. P.Kalaiarasan, Dept. of Nematology, TNAU, Coimbatore				
Activity	**Scientist and centre**	**2017 - 2018**	**2018-2019**	**2019-2020**	**Deliverables**
Screening of germplasm and identification of mechanism of resistance against nematodes	Dr.P.Kalaiarasan Coimbatore (2hours/week) Dr.I.Cannayane (4hours/week) Dr.K.Senthamizh VRS, Palur (4hours/week)	Early detection of nematode resistance in vegetables and tuberose	Enzyme based studies for identification of nematode resistance in vegetables and tuberose	Confirmation of resistance in tomato, brinjal and tuberose varieties.	Identification of resistant sources and suggesting poor host to nematodes for cultivation

Horticultural crops	**Theme 2. Identification of nematodes and development of management strategies under protected cultivation**				
Theme Leader	Dr. B. Anitha , HRS, Ooty				
Activity	**Scientist and centre**	**2017 – 2018**	**2018-2019**	**2019-2020**	**Deliverables**
Identification and development of management strategies under protected cultivation	Dr. P.Kalaiarasan (2hours/week) Dr. N.Swarnakumari Coimbatore (2hours/week) Dr. B. Anitha HRS, Ooty (3hours/week)	Identification of suitable vegetables and cut flowers cultivars	Testing of efficacy of bioagents and organic amendment against nematodes	Formulating management package for nematodes in vegetable and cut flowers	Development of effective methods for management of nematodes

Horticultural crops	**Theme 3. Integrated nematode management (INM) for crops grown in under drip irrigation and pandal vegetables**				
Theme Leader	Dr. K.Devrajan, AC &RI, Madurai				
Subtheme-1	INM for drip irrigated crops and pandal vegetables				
Activity	**Scientist and centre**	**2017 – 2018**	**2018-2019**	**2019-2020**	**Deliverables**
Integrated nematode management in drip irrigated crops and pandal vegetables	Dr.P.Vetrivelkalai Coimbatore (6hours/week) Dr. K.Devrajan AC &RI, Madurai (3hours/week) Dr. K.Senthamizh VRS, Palur (3hours/week) Dr. P.Senthilkumar RRS, Paiyur (3hours/week)	To test efficacy of bioagents and organic amendments against nematodes	Evaluation of selected bio-agents and organic amendments against nematodes	Confirmatory experiments	Deriving an Integrated nematode management strategies for nematodes

Subtheme-2	**Entomopathogenic nematodes (EPNs) for pest management in vegetables**				
Scientist	Dr. I.Cannayane, VRS, Palur				
Activity	**Scientist and centre**	**2017 – 2018**	**2018-2019**	**2019-2020**	**Deliverables**
Identification and test efficacy of EPNs species for pest management in vegetables	Dr.I.Cannayane VRS, Palur (2hours/week) Dr.S.Prabhu HC &RI, Periayakulam (2hours/week)	To study the efficacy of EPN under *in vitro*	Evaluation of selected EPNs against insect pest	Confirmatory experiments	Identification of suitable EPNs for insect pest management

Load of each scientist (Theme wise)

Agricultural Entomology

Theme 1: Ecology and pest dynamics
Theme 2: Host Plant Resistance – screening of germplasm and identification of mechanism of resistance
Theme 3: Integrated pest management in open and protected cultivation
Theme 4: Pesticide dynamics in horticultural ecosystems
Theme 5: Invasive and emerging pests

S.No	Name of the scientist	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Total (hrs.)
	(**hours / week)**						
1	Dr. J.Samuel Kennedy, Professor (Agrl. Ento.), HRS, Yercaud	5					5
2	Dr.T.Elaiyabharathi, Asst. Professor (Agrl. Entomology), TNAU, Coimbatore	5					5
3	Dr K. Rajamanickam, Professor (Agrl. Entomology), CRS, Aliyarnagar		5				5
4	Dr. V. Ambethgar, Professor of Entomology, HC&RI for Women, Tiruchirappalli			5			5
5	Dr. M. Kannan, Asst Professor (Agrl. Entomology), DNST, TNAU, Coimbatore			3			3
6.	Dr. A. Suganthi, Assistant Professor (Agricultural Entomology), TNAU, Coimbatore				5		5
7.	Dr. B. Vinothkumar, Assistant Professor (Agrl. Entomology), TNAU, Coimbatore				5		5
8.	Dr. D Uma, P&H (Biochemistry), TNAU, Coimbatore				3		3
9.	Dr. T. Srinivasan, Assistant Professor (Agrl. Entomology), CRS, Aliyarnagar					5	5

Plant Pathology

Theme I: Integrated disease management
Theme II: Pests and disease monitoring under High density planting/ ultra Highdensity planting
Theme III: Development of Pest and disease management strategy under protected cultivation

S.No	Name of the scientist	Theme 1		Theme 2	Theme 3	Total (hrs.)
		Sub theme1	Sub theme2			
		(Hours/week)				
1	Dr. P. Muthulakshmi	5				**5**
2	Dr. M. Karthikeyan	3				**3**
3	Dr. C. Ushamalini	5				**5**
4	Dr.G.Thiribhuvaamala	5				**5**
5	Dr.A. Vijayasamundeeswari	3		5		**5**
6.	Dr. S. Harish	5				**5**
7.	Dr. T. Anand	3		4		**7**
8.	Dr. P. Mareeswari	4		3		**7**
9.	Dr. R. Ramjegadhesh	5				**5**
10.	Dr. S. Thangeshwari	5				**5**
11.	Dr.S. Maruthasalam			3		**3**
12.	Dr. P. Thilagam			3		**3**
13.	Dr. S. Irulandi			2		**2**
14.	Dr. S. Sangeetha			2		**2**
15.	Dr. S. Nakkeeran				3	**3**
16.	Dr. M. Theradimani				3	**3**
17.	Dr. K. Karunanithi				3	**3**

Nematology

Theme 1: Host plant resistance - screening of germplasm and identification of mechanism of resistance against nematodes

Theme 2: Identification of nematodes and development of management strategies under protected cultivation

Theme 3: Integrated nematode management (INM) for crops grown in under drip irrigation and pandal Vegetables

(Hours / Week)

S.No	Name of the scientist	Theme 1	Theme 2	Theme 3		Total (hrs.)
				Sub theme1	Sub theme2	
1.	Dr.P.Kalaiarasan	2				**2**
2.	Dr.I.Cannayane	4			2	**6**
3.	Dr.K.Senthamizh	4				**4**
4.	Dr. P.Kalaiarasan		2			**2**
5.	Dr. N.Swarnakumari		2			**2**
6.	Dr. B. Anitha		3			**3**
7.	Dr.P.Vetrivelkalai			6		**6**
8.	Dr. K.Devrajan			3		**3**
9.	Dr. K.Senthamizh			3		**3**
10.	Dr. P.Senthilkumar			3		**3**
11.	Dr.S.Prabhu				2	**2**

Note: Work load of the individual scientist is included in details furnished by the concerned department / station.