

Proceedings of the 5th Scientists Meet on Home Science held on 19.5.2017

The Fifth Scientists Meet on Home Science was held at Tamil Nadu Agricultural University, Coimbatore on 19.05.2017 under the chairmanship of Dr.R.Anandha Kumar, Registrar, TNAU, Coimbatore and the Director of Research, Director (WTC), Dean, AEC&RI, Coimbatore and Dean, AEC&RI, Kumulur were gave suggestions. Pre-review meeting of the University Research Projects was taken up by Dr.S.Parvathi, Dean (Home Science) on 18.05.2017 at TNAU, Coimbatore with all the scientists. The list of participated scientists in Home Science meet is given below:

Scientists from HSC&RI, Madurai

1. Dr.S.Amutha, Professor & Head (HDT)
2. Dr.S.Kanchana, Professor and Head (FSN)
3. Dr.P.Parimalam, Professor and Head (FRM)
4. Dr. P.Vennila, Professor and Head (HEX)
5. Dr.A.Manjula, Professor and Head (AFT)
6. Dr.M.Murugan, Professor and Head (DAS)
7. Dr.G.Hemalatha, Professor (FSN)
8. Dr.G.Sashidevi, Assistant Professor (FSN)
9. Dr.P.S.Geetha, Assistant Professor (FSN)
10. Dr. T.UmaMaheswari, Asst .Professor(Agrl.Micro)
11. Dr.S.Kamalasundari, Assistant Professor (FSN)
12. Dr.V.Meenakshi, Asst.Professor (FSN)
13. Dr.V.VeerananArunGiridhari, Asst.Professor (FSN)
14. Dr.M.Illamaran, Assistant Professor (FSN)
15. Dr.B. Nallakurumban, Assistant Professor (FSN)
16. Dr. E.TamilSelvi, Assistant Professor (FSN)

Scientists from other Department / Station

17. Dr. P.Banumathi, Professor (FSN) , PHTC, AEC &RI, TNAU, Coimbatore
18. Dr. G.Gurumeenakshi, Associate Professor, PHTC, AEC &RI, TNAU, Coimbatore
19. Dr.K.Shanthi, Assoc. Professor (FSN), Dept. of Horticulture , AC & RI, Killikulam
20. Dr.S. JesupriyaPoornakala, Assistant Professor (FSN), DARS, Chettinad
21. Dr.V. Vani, Assistant Professor, Department of fruit science, AC&RI, Madurai

1. Remarks on the ongoing University Research Projects

Sl.No.	Project Number, Title and Name of the Scientists	Remarks
A.	Theme I: Food Processing and Value Addition	
1.	HSCRI/MDU/HSC/2015 009 Assessing the physico-chemical, nutritional and functional properties of traditional unpolished rice varieties suitable for the preparation of ethnic foods of Tamil Nadu Dr.G.Sashidevi, Assistant Professor (FSN)	The project may be closed and the completion report may be submitted within stipulated time. New project may be proposed.
2.	HSCRI/CTN/FSN/2016/001 Optimization of processing techniques and	On going Effect of processing on the

	assessment of nutritional and cooking qualities of traditional rice varieties (<i>Oryza sativa</i> L.) grown in Sivagangai district. Dr. E. Tamilselvi, Assistant Professor (FSN)	nutritional and cooking quality of traditional rice varieties may be assessed.
3.	HSCRI/MDU/FSN/2016/002 Assessing the suitability of TNAU released varieties of Sorghum and Bajra for product development. Dr. M. Ilamaram, Assistant Professor (FSN)	On going The suitability of TNAU released varieties of sorghum and bajra for value added products may be studied.
4.	HSC MDU FSN 013-001 Evaluation of Antioxidant potential of fresh and processed fruits Dr.S.Amutha, Professor and Head (HDT)	The project may be closed and the completion report may be submitted within stipulated time. New project may be proposed.
5.	HSC & RI/MDU/HSC/2015/006 Development and standardisation of neoxanthin rich fruit powder from egg fruit (<i>Pouleriacomepechiana</i>) Dr. S. Kanchana, Professor and Head (FSN)	The project may be closed and the completion report may be submitted within stipulated time. New project may be proposed.
6.	HSCRI/MDU/FSN/2016/001 Formulation and storage stability of functional foods from noni fruit (<i>Morindacitrifolia</i> Linn.) Dr. P.Vennila , Professor and Head (HEX)	On going Storage stability of the functional foods developed from noni fruits may be undertaken.
7.	HSCRI/MDU/HSC/2015/010 Processing and evaluation of probiotic fruit lassi Dr.V.Meenakshi, Assistant Professor (FSN)	The project may be closed and the completion report may be submitted within stipulated time. New project may be proposed.
8.	HCRI/MDU/HSC/2015/007 Development of non-dairy probiotic Ready-To-Serve Juices Dr.T.UmaMaheswari, Asst. Professor (AGM)	On going The viability of the probiotics in the probiotic RTS beverage during storage maybe studied.
9.	HC&RI/PKM/HSC/2015/001 Effect of packaging technologies with suitable packaging materials to extend shelf life and quality of Guava (<i>Psidiumguajava</i> L.) var. Red flesh. Dr. V. Vani, Assistant Professor (HSC)	On going Intensified research on quality assessment and packaging studies on red flesh guava may be taken up.
10.	HSCMDUFSN014002 Formulation of probiotic millet fruit bar Dr. R.viajayalakshmi, Assistant Professor	The project may be closed and the completion report may be submitted within stipulated time. New project may be proposed. Technology may be taken up for technology release
B.	Theme II: Nutrition and Health	
1.	HSC MDU FSN 014 001 Quality evaluation and product development of Kavuni rice (<i>Oryza sativa</i>) Dr. G. Hemalatha, Professor (FSN)	The project may be closed and the completion report may be submitted within stipulated time. New project may be proposed.

2.	HSCRI/ MDU/ HSC/ 2015/013 Effect of processing on the bioactive carbohydrates and dietary fiber of selected cereals Dr.S. JesupriyaPoornakala, Asst. Prof. (FSN)	The project may be closed and the completion report may be submitted within stipulated time. New project may be proposed.
4.	HSCRI/KKM/FSN/2015/001 Development of banana flour based health mixes incorporated with millets, pulses and oilseeds Dr. K. Shanthi, Associate Professor (FSN)	On going The quality assessment of banana based health mixes in terms of physical, chemical, nutritional and therapeutic value may be assessed.
5.	HSCRI/MDU/HSC/2015/017 Effect of Processing on antinutritional factors and assessing the bio active components of proteins in selected TNAU pulse varieties. Dr. S.Kamalasundari, Asst. Professor (FSN)	On going The digestibility of starch and bioavailability of protein from the selected TNAU pulse varieties may be assessed.
6.	HSCRI/MDU/HSC/2015/016 Assessing the quality parameters of red chillies in different stages of food chain Dr. B. Nallakurumban, Assistant Professor (FSN)	On going Laboratory study may be undertaken to study the critical moisture content of the chilli. The chilli samples may be drawn at different stages of the food chain and assessed for moisture content and microbial load.
7.	HSCRI/MDU/HSC/2015/018 Studies on nutritional and phyto-chemical components of <i>Cocosnucifera</i> vegetative bud. Dr. L.Karpagapandi, Assistant Professor (FSN)	On going Quantitative assessment of phytochemicals present in fresh and dry samples of <i>Coconusnucifera</i> vegetative bud during storage may be studied.
8.	HSC/RIMDU/HSC/2015/015 Estimation of heavy metals in children foods and street food available in Madurai market Dr.P.S.Geetha, Assistant Professor (FSN)	On going Commonly consumed snacks may be assessed for presence of heavy metal contamination.
9.	HSCRI/MDU/HSC/2015/012 Assessment of microbial and heavy metals contamination in commonly consumed selected species of marine and inland fresh and dry fish. Dr.V. VeerananArunGiridhari, Asst. Professor	The project may be closed and the completion report may be submitted within stipulated time. New project may be proposed.
10.	HSCRI/MDU/HSC/2015/011 Assessing the health and nutritional profile of the workers in small scale fruit and vegetable processing and bakery and confectionery units in Madurai District. Dr. P. Parimalam, Professor and Head (FRM)	Interventions to minimize the health hazards may be given by organizing health and nutritional awareness programme to the workers. The project may be continued.

2. Decision made on entries for variety / Technology release

The outcome of the project entitled “Formulation of probiotic millet fruit bar” may be taken up for technology release for the year 2018.

3. Action plan for 2017-2020 on the Identified themes

Theme No. 1 : **Exploitation of Tamarind varieties for product diversification**

Theme Leaders : Dr. S. Amutha, Professor and Head (HDT) (4 hrs/ week)
Dr.R.Vijayalakshmi Assistant Professor (FSN) (10 hrs / week)

Sl. No.	Objectives	Activities			Deliverables / Expected Out come
		2017-2018	2018-2019	2019-2020	
	<ul style="list-style-type: none"> Collection and analysis of proximate composition, bioactive components and antioxidant properties of tamarind fruit and kodampuli. Process optimization and development of value added products (Paste, Powder, spice candy etc) from tamarind fruit and kodampuli. Analysis of chemical constituents, shelf life and sensory properties of tamarind fruit and kodampuli based products. 	<ul style="list-style-type: none"> Collection and analysis of chemical properties of tamarind fruit and Kodampuli Process optimization for extraction of tamarind fruit extract and Kodampuli 	<ul style="list-style-type: none"> Analysis of physicochemical properties of tamarind fruit extract and Kodampuli Standardization and development of value added food products from tamarind pulp extract and Kodampuli 	<ul style="list-style-type: none"> Analysis of chemical constituents and bioactive components in developed value added products Shelf life and consumer acceptability study of developed value added products. 	Convenience foods from tamarind varieties will be developed.

Theme No. 2 : **Development of Ready to Eat Millet based ethnic foods using retort pouch**

Theme Leaders : Dr. S. Kanchana Professor and Head (FSN) (5 hrs / week)
 Dr.V. Thirupathi, Professor (AFPE) (3 hrs / week)
 Dr.T.Umamaheswari Assistant Professor (AGM) (8 hrs / week)

Sl. No.	Objectives	Activities			Deliverables / Expected Out come
		2017-18	2018-19	2019-20	
	<ul style="list-style-type: none"> To standardize the thermal process parameters of RTE Millet based ethnic foods using retort pouch packaging. To assess the nutritional, microbial and organoleptic parameters of the processed products. To analyze shelf stability of the RTE foods 	<ul style="list-style-type: none"> Preparation and standardization of millet based RTE foods (sambar rice, biriyani, tomato rice, pongal and kitchadi) Optimizing the thermal process (retort temperature, heating log factor, heating rate, indoor process time) of the standardized food 	<ul style="list-style-type: none"> Studying the physico-chemical, nutritional, organoleptic parameters and microbial load in the developed RTE foods. 	<ul style="list-style-type: none"> Studying the shelf stability of the products in terms of <ul style="list-style-type: none"> Chemical constituents Microbial load Organoleptic evaluation 	Diversified use of millets for value addition, promotion as an income generation activity and for better nutrition.

Theme No. 3 : **Fortification of micronutrients (iron and folate) in commonly consumed food products**

Theme Leaders : Dr.V.VeerananArunGiridhari, Assistant Professor, (FSN) (10 hrs / week)
Dr. P. Vennila, Professor and Head (HEX) (4 hrs / week)

Sl. No.	Objectives	Activities			Deliverables / Expected Out come
		2017-18	2018-19	2019-20	
	<ul style="list-style-type: none"> Standardization of fortificants of (iron and folate) in the commonly consumed foods. Assessing the storage stability, microbial and organoleptic quality of the fortified foods. Assessing the efficacy of the fortified foods by <i>in-vivo</i> method. Organizing buyer seller meet, consumer meet to popularize the fortified foods 	<ul style="list-style-type: none"> Standardization of fortificants (iron and folate) in the commonly consumed foods such as idli batter, wheat flour, milk @1/3 of RDA. 	<ul style="list-style-type: none"> Analyzing the storage stability of the fortified foods in different packaging materials Assessing the microbial and organoleptic quality of the fortified foods. 	<ul style="list-style-type: none"> Assessing the efficacy of the fortified foods by <i>in-vivo</i> study. Organizing buyer seller meet, consumer meet to popularize the fortified foods 	Development of feasible strategies to alleviate iron deficiency and megaloblastic anaemia.

Theme No. 4 : **Phytochemical and therapeutic profile of conventional foods (*Solanumtorvum*, *Hibiscus sabdariffa*, *Cocciniaindica*)**

Theme Leaders : Dr. V. Meenakshi, Assistant Professor, (FSN) (10 hrs / week)
Dr. G. Hemalatha, Professor and Head (FSN) (4 hrs / week)

Sl. No.	Objectives	Activities			Deliverables / Expected Out come
		2017-18	2018-19	2019-20	
	<ul style="list-style-type: none"> To estimate the nutritional and phytochemical composition of selected underutilized vegetables (<i>Solanumtorvum</i> (sundakkai), <i>Hibiscus sabdariffa</i> (pulichakeerai) and <i>Cocciniaindica</i>(kovakkai). Studying the therapeutic properties of selected underutilized vegetables (fresh and processed form) To determine the effect of processing on the nutritional, phytochemical content and antioxidant activity of the selected underutilized vegetables 	<ul style="list-style-type: none"> Estimating the phytochemical composition (phenolic compounds, flavonoids, tannins, saponins, alkaloids, terpenoids) by qualitative and quantitative analysis and therapeutic profile in fresh and processed foods 	<ul style="list-style-type: none"> Analysing the nutritional composition in different processing techniques like minimal processing, brining and drying 	<ul style="list-style-type: none"> Popularizing the health benefits of selected foods by organizing nutritional education programmes. 	The project will help in identification of phytochemicals present in <i>Solanumtorvum</i> , <i>Hibiscus sabdariffa</i> and <i>Cocciniaindica</i> and their therapeutic profile to establish the health claim.

Theme No. 5 : **Assessing the glycemic response of selected medicinal plants for Type II diabetics**

Theme Leaders : Dr.L.Karpagapandi, Ph.D., Assistant Professor (FSN) (10 hrs / week)
 Dr.P.Parimalam, Ph.D., Professor and Head (FRM) (3 hrs / week)
 Dr.Chidambaranathan, Scientist, KM College of Pharmacy (3 hrs / week)

Sl. No.	Objectives	Activities			Deliverables / Expected Out come
		2017-18	2018-19	2019-20	
	<ul style="list-style-type: none"> To assess the efficacy of the formulated herbal mixes in Type II diabetics by <i>in – vitro</i> and <i>in-vivo</i> model. To estimate the sub-chronic toxicity of compounds by <i>in-vivo</i> model 	<ul style="list-style-type: none"> Collection of herbals such as <i>Cocciniaindica</i>leaves, <i>Scopariadulcis</i> whole plant (leaves, flowers and fruits) Sarkaraivembu, <i>Andrographispaniculata</i>, (Nilavembu) and <i>Zingiberofficinale</i>(Ginger) Processing and preparation of herbal mixes from the selected herbals Herbal Mix 1 - <i>Cocciniaindica</i>leaves (Kovakai), Herbal Mix 2 - <i>Scopariadulcis</i>whole plant (leaves, flowers and fruits) (Sarkaraivembu) Herbal Mix 3 - <i>Andrographispaniculata</i>leaves (Nilavembu) and <i>Zingiberofficinale</i>(Ginger) 	<ul style="list-style-type: none"> Analysing the phytochemical and mineral (<i>potassium, calcium, iron, magnesium and sodium</i>) of herbal mixes 	<ul style="list-style-type: none"> Assessing the efficacy of prepared herbal mix by <i>in-vitro</i> and <i>in-vivo</i> models. Sub-chronic toxicity study of herbal mix by <i>in-vivo</i> model. 	The glycemic index of formulated foods from the selected medicinal plants will be determined for advocating in the management of Diabetes millets.

Theme No. 6 : **Development of ready to eat rice based foods from traditional rice varieties (*Oryza sativa L.*)**

Theme Leaders : Dr.S.JesupriyaPoornakala
Assistant Professor (FSN) (15 hrs / week)
Dr.V. Thirupathi
Professor (AFPE) (5 hrs / week)

Sl. No.	Objectives	Activities			Deliverables / Expected Out come
		2017-18	2018-19	2019-20	
	<ul style="list-style-type: none"> To assess the nutritional composition and bioactive compounds of traditional rice varieties. To optimize process for development of ready to eat rice based foods. To determine the storage behavior of the developed products. 	<ul style="list-style-type: none"> Collection of traditional rice varieties from farmers of Sivagangai district Determination of nutritional compounds such as protein, fat, carbohydrate, energy, vitamin and minerals and bioactive compounds responsible for therapeutic properties 	<ul style="list-style-type: none"> Preparation and standardization of rice based Ready to eat food (Sambar rice, tomato rice, tamarind rice, rice flakes, pongal) using hurdle technology Determination of physico-chemical, nutritional, organoleptic parameters and microbial load in the developed rice based ready to eat foods. 	<ul style="list-style-type: none"> Assessment of storage behavior such as change in the profile of nutrients, bioactive compounds, organoleptic characteristics and microbial load of the developed products 	The development of ready to eat traditional rice based foods is a promising technology which can be promoted in the convenience food sector.

4. Work contribution by each Scientists

Theme 1 : Exploitation of Tamarind varieties for product diversification

Theme 2 : Development of Ready to Eat Millet based ethnic foods using retort pouch

Theme 3 : Fortification of micronutrients (iron and folate) in commonly consumed food products

Theme 4 : Phytochemical and therapeutic profile of conventional foods (*Solanum torvum*, *Hibiscus sabdariffa*, *Coccinia indica*)

Theme 5 : Assessing the glycemic response of selected medicinal plants for Type II diabetics

Theme 6 : Development of ready to eat rice based foods from traditional rice varieties (*Oryza sativa L.*)

Workload of Scientists (hours / week)

Sl.No.	Name Scientist	Theme - 1	Theme - 2	Theme - 3	Theme - 4	Theme - 5	Theme - 6
1.	Dr.S. Amutha	4					
2.	Dr.R.Vijayalakshmi	10					
3.	Dr.S.Kanchana		5				
4.	Dr.T.Umamahewari		8				
5.	Dr.V.VeerananArunGiridhari			10			
6.	Dr.P.Vennila			4			
7.	Dr.V.Meenakshi				10		
8.	Dr.G.Hemalatha				4		
9.	Dr.L.KarpagaPandi					10	
10.	Dr. P. Parimalam					3	
11.	Dr.Chidambaranathan					3	
12.	Dr.S.Jesupriya						15
13.	Dr.V.Thiruppathi		3				5

WORK LOAD OF SCIENTISTS (FSN / HSC) FOR THE YEAR 2017-18

Sl. No.	Name of the Scientists and their work load	% of Time
1.	Dr. S.Amutha	
	Teaching / Student guide	20
	Univ. Sub Project	20
	Ex. Funded Projects & AICRP	30
	Administration	20
	Other Activities	10
2.	Dr.Vennila	
	Teaching / Student guide	20
	Univ. Sub Project	20
	Ex. Funded Projects & AICRP	25
	Administration	20
	Other Activities	15
3.	Dr. G.Hemalatha	
	Teaching / Student guide	20
	Univ. Sub Project	20
	Ex. Funded Projects & AICRP	35
	Administration	25
	Other Activities	5
4.	Dr.P.Parimalam	
	Teaching	15
	Univ. Sub Project	15
	Ex. Funded Projects & AICRP	35
	Administration	25
	Other Activities	10
5.	Dr. M. Murugan	
	Teaching / Student guide	15
	Univ. Sub Project	20
	Ex. Funded Projects	40
	Administration	15
	Other Activities	10

Sl. No.	Name of the Scientists and their work load	% of Time
6.	Dr.R.Saravanakumar	
	Teaching / Student guide	25
	Univ. Sub	15
	AICRP	15
	Administration	25
	Other Activities	20
7.	Dr.G.Sashidevi	
	Teaching	30
	Univ. Sub Project	20
	Students guide	15
	Administration	15
	Other Activities	20
8.	Dr.P.S.Geetha	
	Teaching	30
	Univ. Sub Project	20
	Students guide	15
	Administration	15
	Other Activities	20
9.	Dr.B.Nallakurumban	
	Teaching	25
	Univ. Sub Project	20
	Ex. Funded Projects & Students guide	25
	Administration	20
	Other Activities	10
10.	Dr.S. Kamalasundari	
	Teaching	30
	Univ. Sub Project	20
	Students guide	20
	Administration	10
	Other Activities	20

Sl. No.	Name of the Scientists and their work load	% of Time
11.	Dr. R.Vijayalakshmi	
	Teaching	30
	Univ. Sub Project	25
	Students guide	15
	Administration	10
	Other Activities	20
12.	Dr.M. Ilamaran	
	Teaching	25
	Univ. Sub Project	20
	Students guide	15
	Administration	10
	Other Activities	20
13.	Dr.VeerananArunGiridhari	
	Teaching	25
	Univ. Sub Project	20
	Students guide	15
	Administration	10
	Other Activities	20
14.	Dr.V.Meenakshi	
	Teaching	30
	Univ. Sub Project	20
	Students guide	15
	Administration	15
	Other Activities	20
15.	Dr.L.Karpagapandi	
	Teaching	30
	Univ. Sub Project	20
	Students guide	15
	Administration	20
	Other Activities	15
16.	Dr.E.TamilSelvi	
	Teaching	30
	Univ. Sub Project	20
	Administration	20
	Other Activities	30