PROCEEDINGS OF THE 52nd SCIENTISTS' MEET ON OILSEEDS HELD ON 12.05.2016 AT UNIVERSITY SEMINAR HALL, TNAU, COIMBATORE

The 52nd Scientists' Meet on Oilseeds was held on 11th and 12th of May, 2016 at TNAU, Coimbatore. The discipline wise concurrent sessions on crop improvement, management and protection was held under the chairmanship of the concerned technical directors during the first day of the meet.

The plenary session was held on 12th May, 2016 under the chairmanship of the Vice-Chancellor, TNAU. The Director of Research welcomed the participants. The highlights of the research achievements and action taken on the recommendations of the previous meet in the discipline of crop improvement, crop management and crop protection was presented by the respective lead scientists. The action plan for the year 2016-17 with respect to the above three discipline was presented by the Directors of CPBG, CMS and CPPS respectively. The Revered Vice-Chancellor, in his remarks offered suggestions and improvement in the action plan and technical programmes drawn for the year 2016-17.

At the end, the Director of Research, TNAU, Coimbatore proposed a vote of thanks. The Vice Chancellor, TNAU, Coimbatore offered the following suggestions for follow up by the concerned research centers/ departments of university.

Proceedings of the 52nd Oilseeds Scientists' Meet are in the following order.

1. Remarks on the ongoing University Research projects
2. Decision made on the entries for Variety Release/ART/MLT from breeders
3. Decision made on OFT evaluation for technologies from Crop Management and Crop protection Scientists
4. Remarks made by the Vice-Chancellor
5. Action Plan for 2016-2019: Crop Improvement, Crop Management and Crop Protection

1. Remarks on the ongoing University Research projects

Plant Breeding and Genetics

S. No.	URP Details	Remarks
	Groundnut	
1	**CPBG/VRI/PBG/GNT/2013/001** Production of genetically pure nucleus seeds of groundnut and sesame varieties released from Vridhachalam. **Dr. T. Ezhilarasi** **April 2013 to March 2016**	Project period is over for both the projects. New proposals may be sent through Director (CPBG) for the approval indicating project period June 2016 to May 2019. The proposals may be separate one for groundnut and sesame under the leadership of **Dr. Mothilal** and **Dr. T. Ezhilarasi**
2	**CPBG/VRI/PBG/GNT/2013/002** Breeder seed production of groundnut and sesame varieties released from TNAU **Dr. T. Ezhilarasi** **April 2013 to March 2016**	
3	**CPBG/VRI/PBG/GNT/2012/003** Breeding of improved Spanish Bunch/Virginia Bunch cultivar with inbuilt resistance/tolerance to foliar fungal disease and drought. **Dr. R. Ushakumari** **January 2012 to December 2016**	***Rabi* 2014-2015** How many true F_1s were identified for each cross? What is the need for making so many crosses? On what basis the parents were chosen? What was the size of the F_2 population for each cross? Of the 31 crosses how many F_3 families were maintained for each cross? In F_5 generation single plants were selected from varying numbers of families from eight different crosses. How many plants per family were evaluated? ***Kharif* 2015-2016** The materials selected during *rabi* were advanced to next generation during *kharif*. How the same numbers of plants were selected (see the Table) during *kharif* also?
4	**CPBG/TMV/PBG/GNT/2013/002** Evolution of bunch groundnut varieties tolerant to early stage drought situations	What is the need for making so many crosses without deciding right parental combinations? Was there equal number of true F_1s to evaluate

	Dr. M. Vaithiyalingan **June 2013- May 2018**	then under randomized block design? How one can have number of rows in F_2 generation when each individual of F_2 is a different genotype?
5	**CPBG/TMV/PBG/GNT/2015/003** Development of high yielding bold seeded groundnut variety suitable for confectionery purposes **Dr. P. Yogameenakshi** **January 2015 – December 2018**	Segregating materials with expected traits may be obtained other stations may be exploited. Crosses are to be made by identifying the right parents for the trait of interest.
6	**CPBG/TMV/PBG/BSP/2013/001** Production and supply of nucleus and breeder seeds of groundnut **Dr. M. Vaithiyalingan** **June 2013 to May 2018**	Project number may be changed as **CPBG/TMV/PBG/GNT/BSP/2013/001**
7	**DRES/BSR/PBG/012/001** Development of early maturing groundnut (*Arachis hypogaea* L.) genotypes with superior yield **Dr. P. S. Devanand** **September 2012 to August 2015**	Deletion proposal may be sent by the present plant breeder if there is no substantial outcome from the project
8	**DRES/BSR/PBG/013/001** Evaluation of superior genotypes for yield and yield components in millets, pulses, oilseeds, cotton and forage crops under multi location trials **Dr. P. S. Devanand** **April 2013- March 2016**	There need not be a separate project for conducting multi-location trials. Deletion proposal may be sent by the present plant breeder.
9	**CPBG/BSR/PBG/GNT/2015/002** Evolving Spanish bunch groundnut (*Arachis hypogaea* L.) genotypes with superior yield and evaluation of pre-release cultures of oilseed crops under MLT **Dr. K. N. Ganesan** **September 2015 to August 2018**	The title of the project may be changed as "Evolution and evaluation of Spanish bunch groundnut (*Arachis hypogaea* L.) genotypes with superior yield" Segregating materials obtained from Coimbatore belong to which generation? Segregating materials received from Vridhachalam had how many progenies (F_2) and how many families (F_3 and F_4)?
10	**CPBG/VGD/PBG/OIL/2013/SP002** Breeder seed production in groundnut varieties	Project number may be changed as **CPBG/VGD/PBG/GNT/BSP/2013/003**

	Dr. Madhan Mohan **October 2013 to September 2016**	

11	**CPBG/PKT/PBG/13/002** Breeder Seed Production in groundnut **Dr. A. Bharathi** **April 2013 to March 2016**	Project number may be changed as **CPBG/PKT/PBG/GNT/BSP/2013/004**
12	**New** Development of high yielding foliar disease resistance groundnut varieties better than CO7 **Dr. PL. Viswanathan** **October 2015 to September 2020**	Project number allotted is **CPBG/CBE/PBG/GNT/2015/001**
Sesame		
13	**CPBG/VRI/PBG/SES/2010/001** Development and characterization of stable cytoplasmic male sterile lines in sesame (*Sesamum indicum*) **Dr. T. Ezhilarasi** **October 2010 to September 2015**	Project period is over by September 2015. Completion report has to be sent along with new project proposal for approval indicating project period June 2016 to May 2019.
14	**CPBG/CBE/PBG/11/002** Evolution of improved varieties of sesame through induced mutation **Dr. B.Meena Kumari** **November 2010 to October 2015**	Project period is over by October 2015. Completion report has to be sent and all the materials generated should be handed over to the new breeder joined.
15	**CPBG/CBE/PBG/11/003** Evolution of high yielding sesame cultivars through intervarietal hybridization **Dr. B. Meena Kumari** **November 2010 to October 2015**	Project period is over by October 2015. Completion report has to be sent and all the materials generated should be handed over to the new breeder joined.
16	**CPBG/CBE/PBG/15/New** Development of ideal genotypes suitable for high density planting in sesame **Dr. R. Kalaiyarasi** **October 2015 to September 2020**	Project number allotted is **CPBG/CBE/PBG/SES/2016/001**
17	**CPBG/TMV/PBG/SES/2015/004** Evolution of high yielding/shy branching sesame varieties for mechanized harvesting **Dr. P. Yogameenakshi** **June 2015 – May 2018**	Collection and evaluation of mono-stemmed genotypes may be carried out to identify the right type of parents before making crosses.

18	**CPBG/TMV/PBG/SES/2014/002** Exploitation of heterosis (*Sesamum indicum*. L) in sesame for higher productivity **Dr. M. Jayaramachandran** **Dr. P. Yogameenakshi** **October 2014 – October 2017**	Project was initiated on 2014 and one more year is left. The progress made is not substantial. Needs to be modified based on the newer action plan to be prepared.
19	**CPBG/TMV/PBG/OIL/2013/SP001** Maintenance Breeding and Breeder Seed Production of Sesame, Castor and Pulses varieties released from TNAU **Dr. M. Jayaramachandran** **Dr. P. Yogameenakshi** **June 2013 – May 2016**	The project can be considered for continuation based on the breeders seed indent for the varieties released from Oilseeds Research Station, Tindivanam.
20	**New** Development of short duration high yielding white seeded sesame (*Sesamum indicum* L.) variety suitable for Southern Districts of Tamil Nadu **Dr. C. Parameswari** **October 2015 to September 2018**	The project number allotted is **CPBG/MDU/PBG/SES/2015/001** The origin of the cultures viz. outACMS 14-004, ACMS 14-005, ACMS 14-007 may be spelt out. Whether they are the products of crosses made at AC&RI, Madurai or from other sources. If they are from other sources, original names may be maintained.
Sunflower		
21	**CPBG/CBE/PBG/SNF/2015/003** Collection, Maintenance and Evaluation of Germplasm in Sunflower **Dr. R. Chandirakala** **January 2015 to December 2017**	The germplasm maintained has to be characterized based on the descriptor available from bioversity international. The cytoplasmic male sterile lines, maintainer lines and restorer lines may be maintained under the project for sunflower hybrid development.
22	**New Project** Evolution of high yielding sunflower hybrids **Dr. N. Manivannan** **June 2015 to May 2020**	The project is just initiated but the volume of work reported is enormous indicating the materials are from other sources.
Castor		
23	**DRES/YTP/PBG/013/001** Induced chemical mutagenesis for	Project number may be changed as **CPBG/YTP/PBG/CAS/2013/001**

	genetic diversification of pistillate and monoecious lines in castor. **Dr. S. R. Venkatachalam** **August 2013 to July 2018**	The objectives of the project are genetic diversification of pistillateness with wilt resistance using landraces using chemical mutagens. Nowhere in report, the land races and chemical mutagens used are mentioned. How the selections were made for all these traits. How one can expect the mutagenesis results in diversification?
24	**DRES/ YTP/PBG/011/001** Development of castor varieties with high yield and resistance to major pest and diseases through pedigree breeding for Tamil Nadu **Dr. P. Arutchenthil** **July 2011 –June 2016**	Project period is over by June 2016. Completion report has to be sent along with new project proposal for approval indicating project period June 2016 to May 2019. Progress of work reported do not indicate any substantial outcome from the project.
25	**CPBG/YTP/PBG/CAS/2015/001** Collection, Conservation, Evaluation, Characterization and Utilization of castor Germplasm. (*Ricinus communis L*) **Dr. P. Arutchenthil** **January 2015 - January 2020**	The project leader has to consolidate all the germplasm materials of castor and charcterised based on the castor descriptor. All the materials should be evaluated for pest and disease resistance in collaboration with scientist working in the AICRP on castor

Biotechnology

S. No.	URP Details	Remarks
26	**CPMB/CBE/PBT/GNT/2015/001** Development of an efficient *in vitro* regeneration protocol *via* somatic embryogenesis in groundnut (*Arachis hypogaea*) **Dr. S. Rajesh** **2015 to 2018**	The project is just started.

Agronomy

S. No.	URP Details	Remarks
Groundnut		

1	**DCM/VRI/AGR/GNT/2014/001** Intercropping of groundnut in sugarcane **Dr. P. Parasuraman** **December 2014 to January 2018**	Three varieties of groundnut were used for intercropping with groundnut. Just based on the pod yield the variety suitable for intercropping was identified. None of the agronomic parameters of intercropping were studied. How valid the results could be? First suitability of groundnut for intercropping has to be studied.
2	**DCM/VRI/AGR/GNT/2014/002** Developing nutrient management practices for oilseed – pulse cropping system **Dr. C. Harisudan** **July 2014 to June 2017**	Parameters pertinent to nutrient management practices for oilseed-pulses cropping system are studied. The title should be groundnut-blackgram cropping system. Only the yield of groundnut and blackgram are used for decision making.
Sesame		
3	**DCM/VRI/AGR/SES/2014/001** Organic production of confectionary sesame. **Dr. C. Harisudan** **July 2014 to June 2017**	The treatment where in *Azospirillum* + Phosphobacteria + PGPR are given as seed treatment and soil application along with 12.5 t/ha of FYM and Panchakavya as foliar spray gave better results. Critical intrepretations on the effect components of treatment are not made.
4	**New** Agronomic evaluation of pre-release culture VS 07 023 **Dr. C. Harisudan** **June 2015 to May 2018**	Pre-release culture is VS 07 023 in ART. This culture evaluated with standard checks with single fertilizer dose and single spacing. Except yield other no parameter was observed for making agronomic evaluation. What are the other agronomic practices introduced to enhance the yield potential of the pre-release culture?
Castor		
5	**DRES/YTP/AGR/014/New** Exploring the maximum yield potential of hybrid castor under irrigated	The project number is not obtained. The aim should be the identification optimum resources for getting

	condition **Dr. S. Manickam** **August 2014 to July, 2016**	better yield. The experimental approach does not meet the requirement of bridging the actual and potential yield of the hybrid castor. The project period is going to be over by July 2016. Completion report may be submitted with project number **DRES/YTP/AGR/014/001**
6	**DCM/YTP/AGR/CAS/2015/001** Effect of spacing, nipping primary shoot and pruning on growth and yield of perennial castor variety TCRS 1205 under irrigated condition **Dr. D. Raja** **July, 2015 to April, 2018**	Substantial progress is not available since the project is just started
7	**DCM/YTP/AGR/CAS/2015/002** Integrated weed management for castor under irrigated condition **Dr. D. Raja** **October 2015 to September 2017**	Substantial progress is not available since the project is just started
8	**DCM/YTP/AGR/CAS/2015/New** Effective resource management to increase the productivity of Groundnut + Castor intercropping system under rainfed condition **Dr. D. Raja** **July, 2015 to April, 2017**	Substantial progress is not available since the project is just started
9	**DCM/ARS/KPT/AGR/SNF/2015/001** Agronomic strategies to enhance radiation use efficiency in sunflower hybrid under dry land **Dr. J. Sundersingh Rajapandian** **Dr. B. Arthirani** **October 2015 to June 2018**	Substantial progress is not available since the project is just started
10	**DCM/ARS/KPT/AGR/SNF/2015/002** Bio-amelioration for stress management and yield maximization in sunflower hybrid under dry land farming **Dr. J. Sundersingh Rajapandian** **October 2015 – June 2018**	Substantial progress is not available since the project is just started

Soil Science and Agricultural Chemistry

S. No.	URP Details	Remarks
1	**NRM/VRI/SAC/GNT/2015/001** Permanent manurial studies on cropping sequences (groundnut - blackgram - sesame) in alfisols of irrigated garden land condition for Cuddalore District **Dr. C. Harisudan** **June 2011 to May 2016**	The project period is over by May 2016. A compilation on the outcome of the PME from the inception should be made along with completion report.
2	**TRRI/TVM/SAC/10/003** Permanent Manurial Experiment (PME) on Rainfed Groundnut and Cold weather Gingelly **Dr. K. M. S. Ananadan** **October 2010 to June 2015**	The project period is over by June 2015. A compilation on the outcome of the PME from the inception should be made along with completion report.
3	**New** Effect of different amendments on sodic soils management in groundnut: pulses cropping system **Dr. T. Balaji** **October 2014 to September 2017**	**Project number is not obtained.** What is going to be the pulse crop to be grown? Whether the treatments were decided based on the assessment of sodicity?
4	**DRES/CTN/SAC/015** Permanent manurial experiment on groundnut in red sandy loam soil (*Typic Haplustalf*) of Sivaganga under rainfed situation **Dr. P. Kannan** **April 2014 to March 2019**	**Project number is not obtained.** The results of PME, Chettinad may be compared with other two PMEs maintained at RRS, Vridhachalam and ORS, Tindivanam.
5	**NRM/CBE/SAC/13/004** Permanent Manurial Experiment of Coimbatore Under irrigated Tropical Agro Ecosystem Dr. M. Malarkodi **November 2013 to October 2018**	**Project number should be NRM/CBE/SAC/2013/004** 160^{th} crop is completed. A compilation on the outcome of the PME from the inception should be made to know about the significance of PMEs.

Agricultural Microbiology

S. No.	URP Details	Remarks
1	**NRM/MDU/AGM/GNT/2014/001** Impact of VAM and Phosphobacteria on yield of oilseed crops Groundnut and	Substantial progress is not made in the project

	Gingelly **Dr. N. Ramalingam** **April 2014 – March 2017**	
2	**DCM/TMV/AGM/2014/002** Studies on the nutrient dissolution potential and yield enhancement of *Paenibacillus mucilaginosus* (KRB-9) in groundnut **Dr. R. Brindavathy** **July 2014 to August 2016**	The project is for assessing the nutrient dissolution potential and yield enhancement of *Paenibacillus mucilaginosus* in groundnut. But in the experiments conducted the targeted nutrients and their dissolution are not assessed.

Seed Science and Technology

S. No.	URP Details	Remarks
Groundnut and Sesame		
1	**SEED/TMV/SST/2015/001** Standardization of seed storage techniques in Groundnut and Sesame **Dr. V. Vijaya Geetha** **October 2015 to September 2017**	What are the possible approaches to be followed for the storage of groundnut and sesame over the existing practices?
Castor		
2	**SEED/YTP/CAS/2013/001** Studies on the effect of time of sowing and spacing on seed yield and quality of hybrid seed production in castor variety YRCH-1 **Dr. P. Arutchenthil** **August 2015 to July 2016**	This project was handled by the seed technologist and is over by July 2016. The work need not be continued. Project leader is requested to submit the completion report

Crop Physiology

S. No.	URP Details	Remarks
Groundnut and Sesame		
1	**New** Hormonal manipulations of source-sink relationship through foliar sprays in groundnut (*Arachis hypogaea* L.) **Dr. S. Vincent** **September 2015 - August 2018**	**Project number should be obtained.** Substantial progress is not available since the project is just started
2	**New** Phenotyping of groundnut (*Arachis hypogaea* L.) germplasm based on the physiological traits for drought tolerance	**Project number should be obtained.** Substantial progress is not available since the project is just started

	Dr. S. Vincent **September 2015 - August 2018**	
3	**New** Physiological basis for improving yield potential of Sesame (*Sesamum indicum L.*) under *rabi-summer* condition of North Eastern Tamil Nadu **Dr. S. Vincent** **November 2015 - October 2018**	**Project number should be obtained.** Substantial progress is not available since the project is just started

Agricultural Entomology

S. No.	URP Details	Remarks
	Groundnut	
1	**TRRI/VRI/AEN/13/001** Evaluation of newer molecules against sucking pests in groundnut **Dr. P. Indiragandhi** **January 2013 - September 2015**	Project period is over by September 2015. Completion report should be submitted
2	**CPPS/TMV/ENT/GNT/2013/001** Eco-friendly management of stored product pest, *Caryedon serratus* (Ol.) in groundnut **Dr. S. Suganya Kanna** **June 2013 - May 2016**	Project period is over by May 2016. Completion report should be submitted
3	**HORT/ALR/AEN/ 015/** New Screening groundnut breeding materials against insect pests for exploitation of resistance **Dr. K. Rajamanickam** **June 2015 - July 2018**	**Project number should be obtained.** Substantial progress is not available since the project is just started. The project should be sent through the Technical Director concerned.
4	**DRES/BSR/AEN/014/001** Management of sucking pests of groundnut **Dr. P. Karuppuchamy** **January 2014 - December 2015**	Project period is over by December 2015. Completion report should be submitted
5	**CPPS/YTP/AEN/CAS/2015/001** Bio-ecology and management of castor whitefly (*Trialeurodes ricini*) and castor thrips (*Retithrips syriacus*) in *Rabi* castor **Dr. M. Senthilkumar** **August 2015 - September 2018**	Substantial progress is not available since the project is just started

Plant Pathology

S. No.	URP Details	Remarks
1	**CPPS/TMV/PAT/GNT/2014/001** Identification of suitable integrated disease management approach for the management of major diseases of groundnut **Dr. Sangeetha Panicker** **May 2014 to April 2017**	Why two different projects are having the same number? Necessary corrections should be made. Will it possible to deal all the major diseases of groundnut?
2	**CPPS/TMV/PAT/GNT/2014/001** Identification of suitable bio control + organic management approach for the management of major diseases of groundnut **Dr. Sangeetha Panicker** **April 2014 to March 2017**	
3	**CPPS/TVM/PAT/GNT/2011/002** Evaluation of groundnut AVT/Zonal varities/genotypes resistant to leaf spot and rust under natural and artificial conditions **Dr. M. Rajakumar** **August 2014 to July 2017**	Both the projects were started in 2014. But in the project number year of the start is mentioned as 2011.
4	**CPPS/TVM/PAT/GNT/2011/003** Screening of elite and popular groundnut genotypes against soil borne disease of root rot **Dr. M.Rajakumar** **August 2014 to July 2017**	
5	**DRES/ALR/PAT/014/New** Field evaluation of groundnut breeding materials against rust and late leaf spot diseases **Dr. S. Sundravadana** **June 2014 to May 2017**	Project number has to be obtained. IN what this project work is different from the work of AICRP on groundnut?
6	CPPS /CBE /PAT / GNT / 2014/ 001 Development of IDM technologies for the Management of soil borne diseases of groundnut **Dr. K. Eraivan Arutkani Aiyanathan** **May 2015 - April 2017**	While evolving Integrated Disease Management technologies, whether the inherent host plant resistance is also involved as component?

2. Decision made on the entries for Variety Release/ART/MLT from breeders

Cultures in Pipeline for release

Groundnut: ALG 06-320 (Spanish Bunch)

The Spanish bunch groundnut culture has already been identified by the Variety Identification Committee of the AICRP during 2014. It is exclusively suitable for *rabi*/summer seasons. It is recommended to Zone IIIb which includes Tamil Nadu, Andhra Pradesh and Karnataka. It recorded a mean pod yield of 2741 kg/ha which is 33.0 per cent superior to the National Check TAG 24 (2060 kg/ha) and 29.0 per cent superior over the Zonal Check R 8808 (2124 kg/ha).

Parentage	:	(J 11 x CG 52) x ICGV 86015
Duration (in days)	:	115 days
Yield (kg/ha)	:	2741 kg/ha
Per cent increase over TAG 24 (NC)	:	33.0
Percent increase over R 8808 13 (ZC)	:	29.0
Shelling percentage	:	70.0
Oil content (per cent)	:	49.0
100 kernel weight	:	51.0 g
Special features	:	Resistant to rust and moderately resistant to late leaf spot diseases

Castor: YRCH 1116

The castor hybrid YRCH 1116 is a semi-dwarf hybrid with high basal branching. The proportion of female flowers (95%) is high. It is a non-lodging, non-shattering hybrid highly suitable for rainfed situations. The compact plant type is also suitable for intercropping. The incidence of *Spodoptera* and semilooper is almost nil in the hybrid. It recorded a mean seed yield of 2080 kg/ha which is 18.8 per cent superior over the check YRCH 1.

Parentage	:	M 619-1 x SKI 215
Duration (in days)	:	180 days
Yield (kg/ha)	:	2101 kg/ha
Per cent increase over YRCH 1	:	19.7
Oil content (per cent)	:	49.0
Special features	:	Wilt and green leaf hopper resistant;

Sesame: VS 07-023

The white seeded sesame culture VS 07-023 is a cross derivative of SVPR 1 X TKG87. The culture recorded a mean seed yield of 697 kg/ha which is 13.1 per cent superior over the check SVPR 1 (616 kg/ha). The incidence of root rot is low (18%) when compared to the check SVPR 1 (20%).

Parentage	:	SVPR 1 X TKG 87
Duration (in days)	:	75-80 Days
Yield (kg/ha)	:	697 kg/ha
Per cent increase over SVPR 1	:	13.1
Oil content (per cent)	:	49.0
Special features	:	White seeded

Cultures identified for ART

Groundnut-Spanish Bunch
Season : *Kharif* 2016

Spacing: 30 x 10 cm

Sl. No	Entries/ Checks	Pedigree	Duration (Days)	Pod yield (kg/ha)	% increase over CO 7	Special attributes
1	ICGV 07222 (I)	[(ICGV 92069 x ICGV 93184)SIL 4 x (ICGS 44 x ICGS 76)]	110-115 days	2350 kg/ha	35.5	Acceptable pod traits
2	BSG 0912 (I)	VRI 2 X TVG 0004	110-115 days	2520	22.8 %	Resistant to LLS and Rust
3	ICGV 06146(II)	(ICGV 92069 x ICGV 93184) x ICGV 96246 x 92 R/75	110	2040	39.3	High yield
4	TVG 0856 (II)	VRI 6 x R 2001-2	103	2130	25.2	High yield
Checks : CO7 and VRI 8						

Season : *Rabi/*Summer 2016-17

Sl. No	Entries/ Checks	Pedigree	Duration (Days)	Pod yield (kg/ha)	% increase over CO 7	Special attributes
1	ICGV 07222 (I)	[(ICGV 92069 x ICGV 93184)SIL 4 x (ICGS 44 x ICGS 76)]	110-115	2350	35.5	Acceptable pod traits
2	BSG 0912 (I)	VRI 2 X TVG 0004	110-115	2520	22.8	Resistant to LLS and Rust

3	ICGV 06146(II)	(ICGV 92069 x ICGV 93184) x ICGV 96246 x 92 R/75	110	2040	39.3	High yield
4	TVG 0856 (II)	VRI 6 x R 2001-2	103	2130	25.2	High yield
Checks : CO7 and VRI 8						

Groundnut- Virginia Bunch

Season : *Kharif* 2016 **Spacing:** 30 x 15 cm

Sl. No	Entries/ Checks	Pedigree	Duration (Days)	Pod yield (kg/ha)	% increase over CO 6	Special attributes
1	ICGV 07245 (I)	(ICGV 92069 X ICGV 93184) X SIL 4 X (ICGS 44 X ICGS 763)	115-125	2170	21.1	Tolerant to drought
2	ICGV 07247 (I)	(ICGV 92069 X ICGV 93184) X SIL 4 X (ICGS 44 X ICGS 763)	115-125	2133	19.8	Tolerant to drought
Checks : CO 6 and VRI Gn 7						

A total of 40 OFTs may also be organized during *kharif* 2016 and *rabi*/summer 2016-17 seasons to get additional data for variety release.

Sunflower

Season : *Kharif* 2016

S.No	Entries/ Checks	Pedigree	Duration (Days)	Pod yield (kg/ha)	% increase over CO 2	Special attributes
1	CSFH 12205 (II)	COSF 6A x IR 6	85-90	2010	17.3	High yield
Checks : Sunbred 275, Hybrid CO 2						

A total of 40 OFTs may also be organized during *kharif* 2016 season to get additional data for variety release.

Castor
Season : *Kharif* 2016

Sl. No	Culture	Pedigree	Duration (Days)	Seed yield (kg/ha)	% increase over YRCH 1	Special attributes
1.	YRCS 1205 (II)	TMV 6 x Salem Local	180	1345	60.5 (CO 1)	Resistant to wilt
Checks: YRCH 1, CO 1						

A total of 40 OFTs may also be organized during *kharif* 2016 season to get additional data for variety release.

Cultures identified for MLT: 2016-17

Groundnut-Spanish Bunch
Season: *Kharif* 2016 and *Rabi*/summer 2016-17 **Replications: Four**
Spacing: 30 x 10 cm **Plot Size : 4.0 x 1.8 m^2**

Culture	Pedigree	Duration (Days)	Pod yield (Kg/ha)	Remarks	Proposed Centre
VG 13153 (I)	VG 420 x TVG 0004	105-110	2220	High yield	Vridhachalam
VG 13154 (I)	VG 420 x TVG 0004	105-110	3020	High yield	Vridhachalam
VG 13127 (I)	CTMG 6 x TVG 004	105-110	2885	High yield	Vridhachalam
BSG 0912 (III)	VRI 2 x TVG 004	105	1920	High yield	Bhavanisagar
VG 13163 (II)	VG 420 x VRI (Gn) 6	105	2230	High yield	Vridhachalam
TVG 0924 (II)	ICGV 00351 x RG 426	105	2430	High yield	Tindivanam
COG 0424 (II)	TMV 7 x ICGV 94118	110	2860	High yield	Coimbatore
Checks	CO 7 and VRI 8				

Testing centres: Vridhachalam, Tindivanam, Coimbatore, Bhavanisagar, Aliyarnagar, Chettinad (*Kharif*) and Paiyur (*Kharif*).

Sesame

Season: *Rabi*/Summer 2016-17 **Replication: Four**

Spacing: 30 x 30 cm **Plot size: 4.0 x 3.0 m^2**

Cultures	Pedigree	Duration (Days)	Seed yield (kg/ha)	Remarks	Proposing centre
VS 10-57 (III)	TMV 6 x Gopi	85	970	Brown seed	Vridhachalam
VS 10-99(III)	TKG 22 x SVPR 1	80	920	White seed	Vridhachalam
CBS 13006 (II)	Mutant from TMV 4 (GY 500)	85	1130	Brown seed	Coimbatore
CBS 13015 (II)	Mutant from Paiyur 1 (GY 600)	85	805	White seed	Coimbatore
COS 14001 (I)	*S. malabaricum* x VRI SV 1	95-100	1075	Dark brown	Coimbatore
COS 14025 (I)	*S. malabaricum* x VRI SV 2	100-105	1325	Brown	Coimbatore
TVS 1401 (I)	Mutant of TMV 5 (15 mM)	70-75	503	White	Tindivanam
Checks: TMV 7, VRI (SV) 2 and SVPR 1					

Testing centres: Vridhachalam, Tindivanam, Coimbatore, Srivilliputhur, Killikulam, Madurai and Kattuthottam.

Sunflower (Hybrids)

Season: *Kharif* 2016 and Rabi/summer 2016-17 **Replication: Four**

Spacing: 60 x 30 cm **Plot size:4.0 x 3.0 m^2**

Cultures	Pedigree	Duration (Days)	Seed yield (kg/ha)	Remarks	Proposing centre
CSFH 13018 (II)	COSF 2A X CSFI 8002	85-90	2220	High seed yield	Coimbatore
CSFH 10375 (II)	COSF 7A X HO 5-13	85-90	2480	High oleic	Coimbatore
CSFH 14608 (I)	COSF 7A x IR 6	85-90	1914	High seed yield	Coimbatore
CSFH 14638 (I)	COSF 15 A x CSFI 8002	85-90	2131	High seed yield	Coimbatore
Checks: Sunbred 275, Hybrid CO 2, DRSH 1					

Testing centres: Coimbatore, Bhavanisagar, Vridhachalam, Veppanthattai, Killikulam, Tindivanam (*rabi*) and Kovilpatti (*rabi*).

Castor

Season: *kharif* 2015 **Replication: Four**

Spacing: 90 x 60 cm **Plot size: 504 x 6.0 m^2**

Castor Hybrid/Variety MLT

Cultures	Pedigree	Duration (Days)	Seed yield (kg/ha)	Remarks	Proposing centre
YRSC 1205 (III)	TMV 6 x Salem Local	180	1710	Resistant to wilt	Yethapur
YRCH 1221 (I)	DPL 9 x YRCS 1203	180	1930	Resistant to wilt	Yethapur
Checks: CO 1, TMV 6					

Testing centres: Yethapur , Paiyur, Vridhachalam, Tindivanam and Sandhiyur.

Adaptive Research Trial 2016-17: Distribution of Trials

Trial Number	Groundnut 1/2016-17	Groundnut 2/2016-17	Groundnut 3/2016-17	Sunflower 1/2016-17	Castor 1/2016-17
Season	*Kharif* (June-July)	*Rabi*/Summer (Dec.-Jan.)	*Kharif* (June-July)	*Kharif* (June- July)	*Kharif* (June-July)
Cultures	ICGV 06146 (II) TVG 0856 (II), ICGV 07222 (I), BSG 0912 (I)	ICGV 06146 (II) TVG 0856 (II), ICGV 07222 (I), BSG 0912 (I)	ICGV 07245 (I) ICGV 07247 (I)	CSFH 12205 (II)	YRCS 1205 (II)
Checks	VRI 8 CO 7	VRI 8 CO 7	VRI Gn 7 CO 6	Sunbred 275 Hybrid CO 2	YRCH 1 DCH 519
Thiruvallur	2	2	-	5	-
Kancheepuram	2	2	-	5	-
Villupuram	2	2	-	5	-
Vellore	2	2	-	5	-
Thiruvannamalai	2	2	-	5	-
Cuddalore	2	2	-	5	-
Dharmapuri	-	-	10	5	10
Krishnagiri	-	-	-	5	-
Salem	2	2	10	5	10
Namakkal	2	2	10	5	10
Erode	2	2	10	5	-
Coimbatore	2	2	-	5	-
Tiruppur	-	-	-	5	-
Thiruchirappalli	2	2	-	5	-
Perambalur	2	2	10	5	-
Ariyalur	-	-	-	5	-

Karur	2	2	-	5	-
Pudukkottai	2	2	-	5	-
Tanjore	2	2	-	5	-
Madurai	2	2	-	5	-
Theni	2	2	-	5	-
Virudhunagar	2	2	-	5	-
Tuticorin	-	-	-	5	-
Dindigul	-	-	-	5	-
Ramanathapuram	-	-	-	5	-
Sivagangai	2	2	-	-	-
Thirunelveli	2	2	-	5	-
KVK, Sandiyur	2	2	5	-	10
KVK, Vridhachalam	2	2	-	-	-
KVK, Tinidvanam	2	2	-	-	-
KVK, Erode	2	2	5	-	5
KVK, Pauparapatti	2	2	5	-	5
KVK, Perambalur	2	2	5	5	5
KVK, Vamban	2	2	-	-	-
KVK, Karur	2	2	-	5	-
KVK, Sirugamani	-	-	-	5	-
KVK, Needamangalam	-	-	-	-	-
Total	56	56	70	145	55

Seed Requirement for Conducting ART/MLT 2016-17

Sl.No	Name of the Entry / Check	Quantity of seed required (kg)		Centre responsible for supply
		Kharif	*Rabi*/ summer	
	GROUNDNUT			
1	ICGV 07222	140	140	Coimbatore
2	BSG 912	140	140	Bhavanisagar
3	ICGV 06146	140	140	Coimbatore
4	TVG 0856	140	140	Tindivanam
5	CO 7	152	140	Coimbatore
6	VRI 8	152	140	Vridhachalam
7	ICGV 07245	175	-	Chettinad
8	ICGV 07247	175	-	Chettinad
9	CO 6	175		Coimbatore
10	VRI 7	175		Vridhachalam

11	VG 13153	12		Vridhachalam
12	VG 13154	12		Vridhachalam
13	VG 13127	12		Vridhachalam
14	VG 13163	12		Vridhachalam
15	BSG 0912	12		Bhavanisagar
16	TVG 0924	12		Tindivanam
17	COG 0424	12		Coimbatore
	SESAME			
1	VS 10-57	5.0		Vridhachalam
2	VS 10-99	5.0		Vridhachalam
3	CBS 13006	5.0		Coimbatore
4	CBS 13015	5.0		Coimbatore
5	COS 14001	5.0		Coimbatore
6	COS 14025	5.0		Coimbatore
7	TVS 1401	5.0		Tindivanam
8	TMV 7	5.0		Tindivanam
9	VRI SV 2	5.0		Vridhachalam
10	SVPR1	5.0		Srivilliputhur
	SUNFLOWER			
1	CSFH 12205	20.0	20.0	Coimbatore
2	SUNBRED 275	20.0	20.0	Coimbatore
3	HYBRID CO2	20.0	20.0	Coimbatore
4	CSFH 13018	20.0	20.0	Coimbatore
5	CSFH 10375	20.0	20.0	Coimbatore
6	CSFH 14608	20.0	20.0	Coimbatore
7	CSFH 14638	20.0	20.0	Coimbatore
8	DRSH 1	20.0	20.0	Coimbatore
	CASTOR			
1	YRCH 1205	8.0	8.0	Yethapur
2	YRCH 1	5.5	5.5	Yethapur
3	CO 1	8.0	8.0	Yethapur
4	YRSC 1221	2.5	2.5	Yethapur
5	TMV 6	2.5	2.5	Yethapur

3. Decision made on OFT evaluation for technologies from Crop Management and Crop protection Scientists

Crop Management

For adoption

1. Nutrient management in groundnut-blackgram cropping system for irrigated conditions

Application of 100 % N with 150 % P and K (25:75:112.5 kg/ha) to groundnut and 100 % RDF (25:50:25 kg NPK/ha) to blackgram recorded higher groundnut pod yield (2813 kg/ha) and blackgram grain yield (776 kg/ha).

2. Management practices for yield maximization in TNAU SFH CO 2 sunflower

Application of FYM @ 5 t/ha along with 125% RDF (75:113:75 kg NPK/ha) with plant spacing of 60 x 30 cm recorded higher sunflower seed yield (1976 kg/ha) and BC ratio (1.88).

<u>On Farm Trial (OFT)</u>

OFTs of 2015 - 16 to be continued during 2016 – 17

1. Seed pelleting in sesame

CentreS : Dept of SS&T, TNAU, Coimbatore, Dept. of SS&T, AC & RI, Madurai

OFT proposed for 2016 -17

A. Studies on tank mix application of early post emergence herbicides for efficient weed control in groundnut

Coordinating centre: Dr.P. Parasuraman, Professor (Agronomy), RRS, Vridhachalam
Centres: RRS, Vridhachalam, ORS, Tindivanam and SWMRI, Thanjavur

B. Comparative performance of PSB (TNAU) and bio-phos on castor productivity

Coordinating centre: Dr.P. Kathirvelan, Asst. Professor (Agronomy), TCRS, Yethapur
Centres: TCRS, Yethapur, DARS, Chettinad & KVK, Sandhiyur

C. Exploring the maximum yield potential of hybrid castor under irrigated condition

Coordinating centre: Dr.S. Manickam, Professor & Head, TCRS, Yethapur
Centres: TCRS, Yethapur, ORS, Tindivanam & KVK, Sandhiyur

<u>Crop Protection</u>

<u>OFT -1 Management of sucking pests in groundnut</u>

Treatment	Details
T1	Seed treatment with imidacloprid 70 FS 5 ml/kg + thiamethoxam 25 WG spray at 0.4 g/l at 30 DAS
T2	ST-imidacloprid 70 FS 5 ml/kg + NSKE 5% at 30DAS + Yellow sticky trap 25/ha + *Chrysoperla* release 2500/ha at 30 DAS + cow pea as trap crop
T3	Basal application of neem cake 250kg/ha + Yellow sticky trap 25/ha + *Chrysoperla* 2500/ha at 20 DAS + Azadirachtin 1% 2ml/l at 30 DAS + Cumbu as intercrop.
T4	Neem Oil 2% five sprays at weekly intervals from 20 DAS
T5	Control

Observations to be recorded

- Population of sucking pest-Thrips, Aphids and leafhopper from 20 DAS to 62DAS at weekly interval
- Yield data and BC ratio
- Additional data on defoliators and NE

Design : RBD
Replications : 4
Plot Size : 5m x 3m
Spacing : 30cm x 10 cm
Varieties : VRI2/TMV7
Season : *Kharif* &*Rabi*
Centres : Four

S.No	Centres	Scientists Identified
1	RRS,Vridhachalam	Dr.P. Indiragandhi
2	ORS,Tindivanam	Dr.G.V.Ramasubramanian
3	CRS,Aliyarnagar	Dr. K.Rajamanickam
4	ARS, Bhavanisagar	Dr. Sheela Venugopal

OFT-2 Management of capsule borer in castor

Treatments

Two rounds of sprays starting from 90DAS (capsule formation stage) with 15 days interval

T1-Flubendiamide 38 EC @ 0.2 ml/l
T2-Clorantraniliprole 18.5 SC @ 0.3ml/l
T3-Profenophos 50 EC 2 ml/l
T4-Control

Design : RBD
Replications : 5
Plot Size : 4.5m x 6.0m
Spacing : 90cm x 60 cm
Hybrid : DCH 519
Season : *Kharif*

Observations to be recorded

1. Pre treatment count on capsule borer
2. Per cent capsule damage
3. Population of parasitoids and predators
4. Yield and Cost benefit ratio

Centres: 2

S.No	Centres	Scientist Identified
1	KVK, Sandhiyur	Dr.M.Senthilkumar
2	TCRS, Yethapur	Dr.B.Geetha

OFT 3 - Integrated disease management in groundnut

Treatments

T1: Seed treatment with tebuconazole @1.5g/kg + two sprays of tebuconazole @1ml/l at initiation of foliar diseases and 15 days later

T2: Seed treatment with *T. asperellum* @10 g/kg + application of *T. asperellum* @ 4kg mixed with 50kg FYM / ha at the time of sowing

T3: Seed treatment with tebuconazole 1.5g/kg + application of *T. asperellum* @ 4 kg / ha mixed with 50 kg FYM as basal + application of *T. asperellum* @ 4 kg / ha mixed with 50 kg FYM at 40 DAS + two spray of tebuconazole @ 1ml/l at initiation of foliar diseases and 15 days later

T4: Seed treatment with *T. asperellum* @ 4g/kg + soil application of *T. asperellum* @ 2.5/ha with FYM 50kg at 30 DAS

T5: Control

Design : RBD
Replication : 4
Plot size : 5.0 x 4.0 m
Spacing : 30 x 10 cm;
Cultivar : VRI 2 / TMV 7

Observations to be recorded

1. Disease severity of collar rot, root rot, stem rot, LLS and rust
2. Yield (kg/ha) and ICBR

Centres: 4

S.No	Centres	Scientists Identified
1	RRS,Vridhachalam	Dr. A. Karthikeyan
2	CRS, Aliyarnagar	Dr. S. Sundravadana
3	ORS, Tindivanam	Dr. Sangeetha panicker
4	DARS, Chettinad	Dr. M. Paramasivam

OFT 4 - Management of foliar diseases of sunflower

Treatments

T1: Seed biopriming with *Trichoderma asperellum* @ 10g/kg + two foliar spray of propiconazole @ 0.1% + thiamethoxam @ 0.04%

T2: Seed priming with (carbendazim @ 2g/kg + thiamethoxam @ 4 g/kg) + two foliar spray of propiconazole @ 0.1% + thiamethoxam @ 0.04%

T3: Seed treatment with imidacloprid 2g/kg seed + two sprays of mancozeb @1kg/ha

T4: Control

Design : RBD
Replication : 5
Plot size : 4.0 x 3.0 m
Spacing : 60 x30cm
Cultivar : Hybrid CO 2

Observations to be recorded

1. Disease severity of *Alternaria* leaf spot, powdery mildew and necrosis
2. Yield (kg/ha) and ICBR

Centres-2

S.No	Centres	Scientist Identified
1	TNAU, Coimbatore	Dr. L. Rajendran
2	ARS, Bhavanisagar	Dr. Maruthasalam

Remarks made by the Vice-chancellor

Crop Improvement

1. Formulation of a separate trial to study the conversion of peg to pod in groundnut (Action: Vridhachalam and Tindivanam).
2. Evolve short duration sesame (Action: Vridhachalam and Coimbatore).
3. Fundamental study of the phyllody incidence in sesame. (Action: Vridhachalam).
4. Collection of land races of sesame from Thiruthuraipoondi area (Action: Vridhachalam). .
5. Nutrient requirement for multicapsule sesame may be studied (Action: Vridhachalam and Tindivanam).
6. Evolve a shy branching type for mechanised harvesting (Action: Vridhachalam and Coimbatore). .
7. Conduct the MLT sesame in Aruppukottai and Eechankottai instead of Killikulam (Action: Vridhachalam).
8. Study to be conducted to increase peg to pod ratio in groundnut

Crop Management

1. Sunflower crop has to be tested in Nagapattinam District
2. Pruning in castor to be evaluated
3. Relationship between oil content and dormancy in groundnut to be studied
4. Poor nodulation in groundnut at Tindivanam may be explored
5. Study on seed pelleting and sowing of sesame to be taken with Agrl. Engineering scientist and seed technology scientist
6. Study on mycorrhiza in sesame to be carried out

Crop protection

1. Confirm the resistant sources for *Spodoptera* in castor
2. Mulching practices for management of soil borne diseases in castor may be studied
3. Estimation of pathogen propagules of soil borne diseases of oilseeds in sick plots to be studied
4. Confirm the resistant sources for each pest and diseases and stage of the crop to be studied
5. Conidial characters of *Alternaria* in sunflower is to be studied
6. Sodium propionate may be tested for management of foliar diseases in sunflower
7. Management of nematodes using fungal organisms