

ACTION TAKEN REPORT
(Minutes of the APC Meeting held on 27.12.2019)

1. Groundnut storage tech capsule to be sent by DR to DOA who should send a circular to all the districts.

Groundnut seeds storage technology capsule is furnished below. The Director of Research, TNAU, Coimbatore, has already communicated to DOA for onward transmission to the concerned on **11.12.2019**.

- The pods should be dried to a moisture content of 8% and should be stored in gunny bag along with Calcium Chloride @ 250 g per 30 kg of pods.
- The Calcium Chloride @ 250 g per 30 kg of pods should be tied in a muslin cloth and hanged inside from the lid of perforated plastic container.
- The plastic container with Calcium Chloride should be kept upright (vertical) position in the center of gunny bag containing groundnut pods.
- The gunny bag should be tied or stitched firmly using jute thread and kept in upright position.



Precaution

- Since Calcium Chloride is anhydrous desiccator, it absorbs moisture from the surrounding environment which will be collected in the bottom of plastic container. Hence, the water collected in the plastic container should be periodically disposed off / emptied at regular interval to avoid re-absorption of moisture by the seeds.
- In case of non-availability of calcium chloride, the pods should be dried to a moisture content of 6% and should be stored in super grain bag and tied air-

tight, which is considered as a hermetically sealed moisture resistant container. The super grain bag with seeds should be placed inside the gunny bag and stored.



2. In Kanniyakumari, flower processing centre video are to be sent by director cards to the undersigned

- The flower processing center videography is in progress.

3. Grants (up to Rs. 1 crore) to be got from GoI for starting the Incubation Centres. JS Mrs Chabi Jha is the Incharge person

- As suggested by the Secretary, GOI, the Director (ABD) has initiated a dialogue with the Joint Secretary to propose a project to get Rs. 1 crore for the incubation center.

4. The Breeder seed indent should be increased from 2,000 to 5,000 kg especially in Amaranthus, Moringa, water melon, tomato and Onion. DHPC to give response

- The Breeder Seeds are produced purely on indent basis. TNAU produces Amaranthus (0.5 kg), Moringa (1 kg), Tomato (2 kg) and Onion (2 kg) and supplied to the concerned during 2019-2020.

5. White fly attack is there on Coconut.. it has to be reviewed.

- The **TNAU developed technology capsule** to manage Rugose Spiralling Whitefly in coconut plantations has been developed
 - a. Yellow sticky trap for mass trapping (@ 10 per acre; size 5' x 1.5')
 - b. Release of parasitoids (*Encarsia guadeloupae*) @ 100 per acre
 - c. Introduction of predators (Chrysoperla) @ 400 per acre
 - d. Spray of starch slurry (1%) to remove the sooty mould
 - e. Pesticide holiday to conserve natural enemies

- The TNAU has produced and supplied **31 Lakhs** of predators (Dept. of Entomology; TNAU, CBE) and **23 Lakhs** of parasitoids (CRS, Aliyar Nagar) to the coconut growers in the State of Tamil Nadu
- The TNAU technology capsule adopted palms were observed lower incidence of RSW in comparison to conventional plantations
- The incidence of RSW was surveyed in Kanyakumar District and the incidence in the range of **30-90%** (Kurunthangodu 80-90%; Rasakamangalam 70-80%; Thekkalai 70%; Killiyur 50-60%; Moonthurai 40-50%; Melapuram 30-40%; Thiruvattaru 40%; Thovalai 40-50%; Agastheeswaram 40-50%)
- In **Cauvery Delta Zone**, old plantations were found to be free from RSW and juvenile plantations were infested in the range of 30-40% especially in Gaja cyclone affected areas.
- In **Western Zone** of Tamil Nadu, the incidence of RSW in the range of 40-45% with the infection index of 1.2-1.4.

6. TNAU- The protocols developed for various crops and technologies are to be given officially to the HoD Concerned for immediate transmission to field officials for the benefit of farmers. Registrarto give feedback.

The protocols developed for various agricultural and horticultural crops have been compiled after 6 six years and officially handed over to DOA and DHPC. There were few suggested revisions that have been included in the final versions of the Crop Production Guide of Agriculture and Horticulture. The forewords from the Minister for Agriculture, APC and VC will be incorporated and will be handed over officially on **9.1.2020**.

7. TNAU to prepare training modules to give refresher trainings to department officials to keep them updated on latest technologies. First batch of trainings to start in the second week of January 2020

- The training modules have been prepared for middle level of Extension Officers (> 10 yrs service and < 55 years) from Agriculture and Horticulture separately for period of three working days
- The training module comprises of all innovative and updated technologies covering plant breeding and genetics, crop management, water management, decision support systems for fertilizer prescription, crop protection (FAW, Rugose

whitefly, viral diseases, nematode management), farm mechanization and automation, horticulture (high density plant, protected cultivation, vertical farming, hybrid seed production), remote sensing & GIS applications, nanotechnologies in agriculture and horticulture

- The First batch of training will be scheduled during third and fourth weeks of January 2020 for Agriculture and Horticulture, respectively
- The budget requirement for the training (30 officers) for a period of three days works out to **Rs. 1,25,000** per batch (inclusive of accommodation and food expenses)
- The detailed proposal will be sent to DOA and DHPC with a cc to APC & PS for approval and sanction of budget. Funding to be provided under ATMA for training and book printing to be funded by DOA/DHPC.

8. TNAU-Dry land technologies developed by CoE for Dryland in Chettinad are to be propagated for field level adoption. To send a letter to TNAU.

Technologies demonstrated to farmers / Extension officials

- Two promising drought tolerant groundnut lines and Promising barnyard millet have been evolved and are in pipe line, they will be released shortly to the benefit of farmers
- Seed to seed mechanized groundnut production technologies: Decordication, sowing, harvesting and stripping process were standardized and demonstrated in **100 acres** groundnut farmer's holding through participatory technology development mode. Now it is adopted by the farmers of Sivagangai District
- Adoption of uniform leveling, compartmental bunding with crop residue mulch @ 5.0 t ha^{-1} , Balanced use of NPK ($10:10:45 \text{ kg ha}^{-1}$) as basal and split application of gypsum 200 kg at basal and remaining 200 kg ha^{-1} at as and when rain received between 30 45 days and supplementary irrigation (2 or 3 times) through rain gun / sprinklers from farm pond increased soil moisture retention and pod yield of groundnut in alfisols. This technology package for groundnut was standardized and demonstrated to the farmers.

General Recommendations for Rainfed Agriculture

A. Soil and water conservation

- Summer ploughing
- Application of FYM or composted coir pith
- Tie ridging
- Compartmental bunding
- Broadbed and furrows
- Mulching
- Farm ponds

B. Crop management

- Seed hardening
 - Supplemental irrigation / Protective irrigation
 - Mobile sprinklers
 - Application of Crop Boosters
(Pulse wonder, Maize maxim, Groundnut rich, Cotton plus)
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- The technologies developed are continuously demonstrated to the leading farmers from all over Tamil Nadu and Extension functionaries. So far, **3680** farmers and **1151** extension officials covering 25 districts of Tamil Nadu were trained. Hence the technologies will be definitely reaching the farmers of whole Tamil Nadu (List enclosed).
 - The alternate cropping system for Sivagangai District was developed in consultation with the Department of Agricultural and sent to be government. Now this cropping system is being implemented at Sivagangai District.

No.	Name of the District	Blcoks covered	No. of beneficiary farmers
1	Virthunagar	Viruthunagar	250
		Aruppukottai	
		Kariyapatti	
		Narikudi	
2	Sivagangai	Sivagangai	1050
		Singampunery	
		S.Pudur	
		Sakottai	
		Thirupathur	
		Thirupuvanam	
		Kallal	
		Devakottai	
3	Karur	Karur	260
		Thogaimalai	
		K.Paramathi	
		Krishnarayapuram	
4	Madurai	Madurai	260
		Kallikudi	
		Usilampattai	
5	Nammakkal	Nammakkal	230
		Mallasamudram	
		Vennandur	
		Erumapatti	
6	Dindigul	Gujiliamparai	100
		Sanarpatti	
7	Vellore	Mallanur	130
		K.V.Kuppam	
8	Trichy	Thottiam	250
		Thuraiyur	
		Uppilipalayam	
		Manaparai	
9	Thanjavur	Thanjavur	100
		Budalur	
10	Ariyalur	Ariyalur	50
11	Dharmapuri	Dharmapuri	150
		Pennagaram	
		Morappam	
12	Tuticorin	Tuticorin	200
		Kayathar	
13	Arakonam	Arakonam	27
14	Theni	Kadamalaikundu	65
15	Pudukottai	Manamelkudi	50
16	Thiruvannamalai	Kalaspakkam	90

		Vandavasi	
17	Thirupur	Pongalur	100
		Vellaikovil	
		Thirupur	
18	Erode	Chennimalai	40
19	Vilupuram	Melmalainur	40
20	Selam	Veerapandi	30
21	Tirunelveli	Nanguneri	40
22	Thoothukudi	Vilathikulam	40
23	Thiruvarur	Kothur	30
24	Kanchipuram	Pavinjur	50
25	Coimbatore	Sulur	50
		Total	3682

9. TNAU-Water Soluble Fertilizer units to start production before February 2020. SOS to give DO to VC

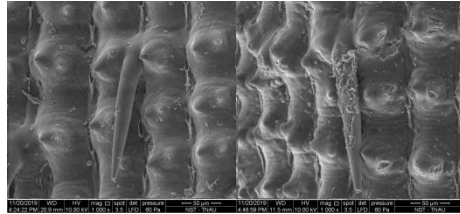
- The water soluble fertilizer is an innovative approach to economize the fertilizer cost for drip fertigation. The construction of the unit is still in progress.
- Housing machineries and laying of steel truss structure have been completed.
- Installation of Chemical dilution system and spray drier with hot air generator will be completed in last week of Jan.2020 as per the schedule given by the suppliers of machineries.
- After the successful installation of machineries large scale production water soluble fertilizer will be initiated in the last week of Feb.2020.

10. TNAU- Viability issues in Paddy CO 51 to be studied with drawing the seeds from depots of Agriculture Department and feasible solution to be provided..DOA to write to TNAU and follow it up.

- To study the causes for poor storability of CO 51 rice seeds, the anatomical and biochemical studies were carried out. The anatomical studies through SEM showed severe damage in seed coat during storage when compared to other varieties (CR1009) which indicated that the seed coat damage might be one of the reasons for quick viability loss.

- The analysis on starch profile (amylose; amylopectin) indicated the presence of same level of starch (amylopectin) in fresh and stored seeds. Hence, the viability loss is not due to the starch profile.

Seed coat damage



Fresh seed

Aged seed

Seed germination



Fresh seed

**Aged seed
(10 months)**

- However, as suggested during the review meeting held on 26.11.2019, eight JDA's were requested to send the CO 51 rice seed samples in which 5 samples were already received. After receiving the seed from all JDA's, the detailed storage study will be conducted.
- To maintain the viability of CO51 rice seeds, it is suggested to dry the seeds to 10% moisture content, followed by treating with halo polymer (Hiltron) @ 3 g / kg + carbendazim @ 2 g / kg and storage in super grain bags.

11. TNAU- Neera preservation technology to be provided at the earliest. Put my Do to VC TNAU

- The **coconut neera** preservation protocol has been optimized. Standardization of neera for enhancing the shelf life of neera was completed. Storage studies under refrigerated condition have been conducted. The periodical biochemical analysis for a storage period of 60 days is being done.

- As presented in SWC 2019 in the interim follow up meeting on **palmyrah neera** preservation. The Pilot scale Neera processing plant has been fabricated and pilot scale can be demonstrated in February 2020. The optimization of biopreservative concentration is in progress
- The TNAU has sanctioned three mini project to PHTC, Nanotechnology and AC & RI, Killikulam to speed up this activity and address this issue.

12. TNAU- 16 acres of fertile alternate site with irrigation facilities for SRS, Cuddalore to be obtained from in close coordination with the District Collector in exchange of the proposed land transfer for Bus stand. DO to VC and Collector

- The TNAU has constituted a committee to resolve this issue under the Chairmanship of the Director, TRRI, Aduthurai. The Committee will visit on 6.1.2020 involving JDA, Collector and DRO of Cuddalore District. The University will proceed based on the Committees recommendations.

13. TNAU- 25% contribution from Department of Biotechnology to be obtained for Centre of Excellence in Biotechnology

The Center for Plant Molecular Biology & Biotechnology (CPMB) is taking assiduous efforts to mob up grants from various funding agencies including Department of Biotechnology, Government of India as detailed below. The basic infrastructure and facilities will assist to get grants from Department of Biotechnology which envisages development of bio products.

- DBT – Builder Proposal
- BIRAC – Bio nest
- DBD – Bio informatics and computational biology centre
- Skill development training – DBT
- Research Schemes – 10
- Synthetic and systems biology projects

14. TNAU-The progress is slow in the project Centre of Excellence in Bio Technology-Phase1 in Coimbatore

- For **construction of buildings** the following amount has been transferred to Estate Office.

1. NABARD	:	Rs. 1.7 Cr.
2. State Government	:	Rs. 7.25 Cr.

- **State Government release** of funds for 1st year : Rs.12.75 Cr.

Buildings	:	Rs.7.25 Cr.
Purchase of equipments	:	Rs.5.40 Cr.
Travel & Contingencies	:	Rs.0.10 Cr.

Total	:	Rs.12.75 Cr.

- **Building construction** is in progress (High throughput platform for proteomics and Metabolomics)
- **Equipment purchase** → Tenders were received and the purchase procedure is in progress.

15. TNAU-Student's Amenity Centre with Auditorium in Vazhavachanur, Mettupalayam and in Periyakulam. The progress is slow

The efforts underway to speed up the civil works.