

**PROCEEDINGS OF THE 83<sup>rd</sup> SCIENTIFIC WORKERS CONFERENCE HELD ON  
17 & 18.8.2017**

**AT TAMIL NADU AGRICULTURAL UNIVERSITY, COIMBATORE**

The Scientific Workers' Conference for the year 2017 was conducted for two days (17 & 18.8.2017) at Tamil Nadu Agricultural University, Coimbatore. On 17<sup>th</sup> August, 2017 four concurrent sessions were conducted to discuss various field problems faced by the extension officials involving the Heads of various departments from Agriculture, Horticulture, Agricultural Engineering and Agricultural Marketing with scientists of TNAU.

**Proceedings of the Technical session on Agriculture held on 17.8.2017**

The technical session on Agriculture was participated by all the university Officers, Heads of Departments, Heads of Research Stations of TNAU, Joint Directors of Agriculture of various districts of Tamil Nadu, Extension Officials and Scientists of TNAU. The Director of Research, TNAU welcomed the gathering.

Dr.K.Ganesamurthy, Director, Centre for Plant Breeding and Genetics, TNAU made a presentation about the Annual seed plan of TNAU released varieties, demand-supply position of breeder, foundation and certified seeds for Tamil Nadu state during 2016-17 under cereals, oilseeds, pulses and millets. The crop wise coverage of Area during 2015-16, seed rate, SRR, demand for quality seed, seed multiplication ratio etc., were highlighted.

He also emphasized about the recently developed TNAU varieties suited for various ecosystem. The alternate varieties for the existing varieties developed by TNAU on various crops were presented.

- **Rice** – TKM 13 for BPT 5204; TPS 5 for ADT 37; Flood tolerant rice varieties : CR 1009 Sub1 and Swarna Sub1, Salt tolerant rice varieties- CO 43, CO 47, TRY 1, TRY 3; Drought tolerant rice : Anna (R) 4.
- **Maize** - High yielding Hybrid COH (M) 6, COH (M) 7 and COH (M) 8
- **Sorghum** - High Yielding Varieties viz., CO (S) 30, CSV 33 MF (SPV 2242 F) Multiple Forage Sorghum : Hybrid CO 5.
- **Cumbu** – Hybrid CO 9
- **Ragi** – CO 15
- **Samai** – CO 4
- **Varagu** – CO3, TNAU 86 (Central Variety)
- **Kudhiraivali** – CO (Kv) 2, MDU 1
- **Tenai** – CO (Te) 7
- **Panivaragu** – CO (Pv) 5
- **Pulses**
  - **Red gram** – CO 8, VBN 2, LRG 41, CO (Rg) 7, VBN (Rg) 3

- **Black Gram** – VBN (Bg) 4, VBN (Bg) 5, VBN (Bg) 6, VBN (Bg) 8, CO 6, Alternative varieties for ADT 3 is ADT 6; for ADT 5 is VBN (6).
- **Green Gram** – CO 6, CO8
- **Sunflower** – TNAU SF Hybrid CO2
- **Cotton** – CO 14 (Extra long staple) alternate for Suvin

Dr. M. Mohamed Amanullah, Professor (Agronomy) made a presentation about the Agriculture contingency plans for Tamil Nadu. Based on survey, District Agriculture Contingency Plan (DACP) for Virudhunagar district was made considering the monsoon, cropping system, soil profile, source of irrigation, farmers' income, rural youth and women population etc. The major problem faced by the district is drought that occur during rainfed and irrigated condition was highlighted. The appropriate contingency plan for delayed monsoon and deficit of rain during different phases of crop growth was presented which is again based on Soil and water conservation measures, Crop management techniques. Suitable strategies for weather related contingencies under rainfed condition and seasons were also presented.

Following the presentations, an interactive session to unearth the field level problems faced by the farmers and suggested solutions were discussed. This interactive session was chaired by the Vice-Chancellor, TNAU and moderated by Mr.Raghuraman and Mr.Sankaralingam, Additional Directors, Commissionerate of Agriculture, Chennai in the presence of Dr.M.Maheswaran, Director of Research, TNAU, Coimbatore.

Mr.Raguraman, in his address stated that the gap between research and extension system needs to be narrowed down. The extension officials should help in promoting the new varieties released by TNAU. District-wise/block-wise contingency plan and technologies have to be worked out.

The Vice Chancellor, TNAU informed that Seed Hubs in groundnut will be established under Central Sector Scheme in various centres of TNAU in which 1600 mt of certified seeds will be produced during the next three years, to achieve an additional Seed Replacement Rate (SRR) of 2.1 % in addition to the planned SRR of 11 %. He also requested the JDAs of various districts to indicate their willingness to take up seed production in groundnut. In this regard, Vellore, Salem, Erode, Namakkal, Tiruppur, Cuddalore, Tiruvannamalai, Ariyalur, Villupuram and Coimbatore JDAs have shown their willingness.

During the interactive session, the extension officers belonging to various districts represented certain problems faced by the farmers in agriculture. Some of the issues floated for discussion with the Scientists of TNAU are highlighted below:

1. Heavy lodging during flowering and panicle development stages is reported in CO 51 Paddy.

The Director, CPBG suggested to reduce the application of nitrogenous fertilizers during panicle development stage of the crop to prevent lodging.

2. The yield of Maize Hybrid COH (M) 6 is low in some regions. Hence farmers are procuring hybrid seeds from other states.

Dr.P.Sumathi, Professor and Head, Dept. of Millets explained the yield parameters of COH (M) 6 and stated that it is possible to obtain the yield by adopting proper season and management technologies.

3. Suitable management practices to get higher yield in Groundnut is needed.

Dr.P.Jeyakumar, Professor and Head, Crop Physiology informed that there are crop boosters to enhance the growth and yield of various crops. Groundnut Rich is available for groundnut crop.

The Director of Research appraised the participants about various solutions available in the university to tackle various issues raised by the extension officials and proposed vote of thanks.

#### **Proceedings of the Technical session on Horticulture held on 17.8.2017**

The technical session on Horticulture was held at HC & RI, TNAU, Coimbatore on 17.08.2017 at Conference Hall under the chairmanship of Dr.K.Ramasamy, Vice Chancellor, TNAU, Coimbatore. Dr. M. Jawaharlal, Dean (Horticulture) welcomed the gathering. Dr.C.R.Ananda Kumar, Registrar, TNAU, Dean, HC&RI, Periyakulam, Director (Horticulture), Directorate of Horticulture and Plantation Crops, Chepauk, Chennai and Additional Director (Horticulture), Dr.N.Meenakshiganesan, Research Coordinator, Directorate of Research, Scientists from Department of Fruit Crops, Vegetable Crops, Spices and Plantation crops, Floriculture and Landscaping, Medicinal and Aromatic Plants, Agricultural Entomology, Plant Pathology, Nematology, Nano Science and Technology, Agricultural Economics, Scientists from different Horticultural Research Stations, Joint Director of Horticulture, Deputy Directors of Horticulture, Asst. Directors of Horticulture, Horticultural Officers from various districts attended the meeting.

Presentations on Salient Research achievements in crop improvement, crop management and Plant Protection aspects of Horticulture crops were made by the different Heads of the Departments of Horticulture College and research Institute, Coimbatore. Field problems and research needs in horticulture were discussed. In addition, presentations on fumigation techniques and soilless cultivation of cut flowers was made by Dr.M.Jawaharlal, Dean (Hort.), Coimbatore.

The following were the major issues identified during the meeting for follow up.

1. Developing polyhouse cultivation techniques for horticultural crops in plains.
2. Developing guava varieties with red pulp.
3. Identification of rootstocks for nematode tolerance / resistance in guava.

4. Evolving region specific technologies for off season production in mango.
5. Development of ring spot virus disease resistance in papaya and management technologies.
6. Promotion of certified planting material production in acidlime and mandarin.
7. Developing chilli varieties with saline tolerance as well as with high oleoresin and pungency for value addition.
8. Purification of traditional Ramnad Mundu chilli for its quality and fruit shape for enhancing the livelihood of farmers.
9. Undertaking studies to assess the capsaicin content in paprika and developing varieties with high capsaicin and capsanthin for export.
10. Popularization of grafted brinjal technique to mitigate the nematode and soil borne pathogen infestation.
11. Assessing the prospects of disease free planting material production in garlic and ginger.
12. Promotion of protray nursery technique for quality disease free planting material production in turmeric.
13. Promotion of export packaging technology for jasmine.
14. Production of quality disease free planting material in Glory Lilly.
15. Adoption of certified Good Agricultural Practices / organic production of senna to boost export.
16. Promotion of vettiver cultivation in Cuddalore and Sivagangai district for value addition including distillation of essential oil.
17. Management of nematodes in horticultural crops through adopting soil solarization / soil sterilization and strengthening quarantine measures in the nurseries.
18. Surveying the status of polyhouse production of horticultural crops by the department officials and TNAU scientists to identify existing drawbacks and suggest corrective measures.
19. Training in following aspects to the horticultural officials and progressive farmers to be planned at TNAU, Coimbatore
  - Nematode management in horticultural crops.
  - Grafting technique in brinjal.
  - Protray nursery technique in turmeric.
  - Packaging technique in jasmine.

#### **Proceedings of the Technical session on Agricultural Marketing on 17.8.2017**

The technical session on Agricultural Marketing and Agribusiness was held at CARDS, TNAU, Coimbatore on 17.08.2017 at Committee Hall under the chairmanship of Dr.M.Chinnadurai, Director (CARDS), TNAU, Coimbatore. The following points were discussed.

#### **Issues and Suggested Actions**

- Market Information System
- Marketing and export of value added and organic produce

- Market Research and Feasibility Studies
- Outreach and Policy

#### **Based on the discussion TNAU will support on the following**

- Developing market advisories for major crops including fruits and vegetables and dissemination.
- Conducting market research for virgin coconut oil.
- Capacity building programme on post harvesting technology and value addition to department officials / farmers.
- Training to FPO's on business plan preparation and Detailed Project Report preparation for funding.

#### **Proceedings of the Technical session on Agricultural Engineering on 17.8.2017**

The interaction meeting between officials of Agricultural Engineering Department (AED) and faculty of AEC&RI, TNAU was conducted at 10.00 a.m. on 17.8.2017 in the seminar hall of Agricultural Engineering College and Research Institute, TNAU, Coimbatore. The Chief Engineer, Agricultural Engineering Department (AED) Th. V. Theivendran, Chief Engineer, Superintendent Engineers and Executive Engineers of Agricultural Engineering Department (AED) from all over Tamil Nadu participated along with the Deans and Heads of the Departments of AEC&RI, TNAU, Coimbatore and Kumulur.

The research activities of AEC&RI, TNAU was presented by the concerned Heads of the Departments, under Farm Mechanization, Agro Processing, Bio Energy and Soil and Water Conservation. The Chief Engineer highlighted the purpose of Soil and Water Conservation and highlighted the activities of the department and flagged key issues. The interaction brought out the following key issues.

#### **Farm Mechanization**

- The wetland laser levelling system is promising and may be demonstrated in rice growing areas by TNAU in collaboration with AED.
- The TNAU developed technology of mechanized sowing of seeds in protray and mechanized transplanting is suggested for popularization by AED for vegetable crops.
- Mechanized sowing of groundnut and mechanized harvesting and threshing of groundnut may be developed and promoted.
- AED may explore possibilities of initiating pilot mechanization demonstration project in collaboration with TNAU to promote mechanized row crop cultivation in garden and dry land crops.

#### **Agro processing**

- The chain of turmeric processing machinery developed at AEC&RI, TNAU, Coimbatore may be promoted in custom hire mode.

- Processing machineries are to be certified by test centres for inclusion in Government programmes. Since only one institute is presently authorized to test and certify processing equipment, proposal may be sent to Government of India for inclusion of TNAU, Kumulur centre for testing processing equipments also.
- The optimum drying environment for different agricultural produce may be standardized.
- Portable storage system for short term storage of cluster onion may be developed.

### **Bioenergy**

- Solar tunnel dryers are popular with farmers and are also covered under subsidy programme. The protocol for design of solar tunnel dryer and its operations may be prepared by TNAU and given to AED.
- Solar PV systems are popular among farmers. However possibility of utilizing PV power for non pumping application and also connecting the same to grid are to be explored.
- AED may include biomass gasifier for pumping applications under popularization program.

### **Soil and Water Conservation**

- Suitable sensor for sensor based irrigation are required. They may be developed.
- Crop water requirement based on agro climatic data for different stages of crop are required for making recommendations for micro irrigation systems.
- The design of poly houses, their constructional features, materials and structures may be standardized and communicated to AED.

### **General**

TNAU may offer training to officials of AED in the areas of agro processing and Bioenergy.

### **Proceedings of the Technical session on Agriculture held on 18.8.2017**

**Thiru GAGANDEEP SINGH BEDI, I.A.S.**, Agricultural Production Commissioner & Principal Secretary to Government, Agriculture Department, Chennai. **Dr.K.RAMASAMY**, Vice-Chancellor, TNAU, Coimbatore, **Thiru V.Dakshinamoorthi, IAS**, Director of Agriculture, Chennai, **Tmt. Archana Patnaik, IAS**, Commissioner of Horticulture and Plantation Crops, Chennai, **Thiru Shunchongam Jatak Chiru, IAS**, Commissioner of Agrl. Marketing & Agri Business, Chennai, **Thiru C.Moorthy, B.Sc.(Ag)**, Director of Seed Certification and Organic Certification, i/c, Coimbatore, **Thiru K.K.Kaushal, IFS**, Chief Conservator of Forests and Additional Director, Coimbatore, **Thiru Mahesan Kasirajan, IAS**, Commissioner of Sugar, Chennai, **Thiru V.Theivendran, M.E (Ag.)**, Chief Engineer (AE) i/c,

Dept. of Agricultural Engineering, Chennai, and **Thiru S.Manoharan**, Asst. Director of Sericulture i/c, Coimbatore participated in the meeting.

Dr.M.Maheswaran, Director of Research, TNAU welcomed the dignitaries and all the participants of the conference. He made a presentation about the research highlights and outcome of the meeting held on 17.08.2017 with Government officials. He presented about the 12 new crop varieties and two farm implements released by TNAU for the year 2017. He also thanked the Agril. Production Commissioner and Secretary for sanctioning a grant of Rs.5 Crores as seed money for accelerating agricultural research and technology development at TNAU.

Interaction session was held between the scientists of TNAU and extension officials of the Government of Tamil Nadu in the presence of Agriculture Production Commissioner and Principal Secretary, Line department Heads and Vice-Chancellor, TNAU.

#### **Question 1**

In the lines of soil health card issued to farmers to ascertain the soil nutrient status, similar health card need to be issued to find out the soil organic nutrient status. (Mr.Natroyen, JDA, Cuddalore).

#### **Reply**

So far, there is no documentation for holistic organic crop production package from seed to end product. Hence the entire package has to be strengthened (Vice Chancellor, TNAU).

#### **Question 2**

It has been reported that heavy metals contamination is noted in the vermicompost and it is lacking in indigenous species of earth worms (Mr.Natroyen, JDA, Cuddalore).

#### **Reply**

Demonstration unit for Vermicompost production with indigenous spp. is available in the Central Farm of the Department of Farm Management, TNAU, Coimbatore. Officials may visit the farm and gain knowledge about vermicomposting technology. (Vice Chancellor, TNAU).

#### **Question 3**

Weekly drip fertigation schedules for water soluble fertilizers specific to each crop may be recommended (Mr.Kishore Kumar, DDH, Theni).

#### **Reply**

Drip fertigation schedule for crops like Mango and Banana is available in the crop production guide. (Dr.K.Soorianathasundaram, Professor and Head, Dept. of Fruits, TNAU, Coimbatore).

Recommendation on drip fertigation schedule for all the crops may be informed to the Department officials through Director of Research, TNAU (APC & Principal Secretary).

#### **Question 4**

Arrangements may be made to supply parental lines of Hybrid vegetable seeds in bulk to the Department of Horticulture by TNAU for large scale multiplication. (Mr.Boopathy, DDH, Madurai).

#### **Reply**

The university is already meeting the demand to an extent of 25-30 % of the total requirement. Indent for requirement of Seeds may be placed in advance to effect the required supply. For large scale hybrid seed production in vegetables, parental lines seeds can be spared with the approval of the university. (Dr.T.Arumugam, Professor and Head, Dept. of Vegetables, TNAU, Cbe). State Horticulture farms may be utilized for the production of Vegetable seeds with the technical guidance of the University (APC & Principal Secretary). Crop-wise indent for requirement of seeds may be placed to the university in advance to take up seed production (Ms.Archana Patnaik, Director of Horticulture).

#### **Question 5**

Moringa Variety suitable for Off-season and high yielding character may be developed by TNAU. High yielding varieties of Cardamom and suitable production package for yield maximization need to be developed. Suitable control measures need to be developed for control of Red Palm Weevil infestation in Coconut (Chief Engineer, AED).

#### **Reply**

IPM strategies for the control of red palm weevil developed by TNAU may be adopted. (Dr.K.Rajamanickam, Professor, CRS, Aliyar). Recommendations may be offered based on Field visits by the scientist concerned (Vice Chancellor).

#### **Question 6**

In state seed farms of Salem and Namakkal districts groundnut variety TMV 13 seed lots failed in germination and lost viability in two months (Mr.Ramesh, Agril. Officer, Salem).

#### **Reply**

Drying of seeds is important for maintaining the germination of groundnut seeds. (Special Officer( Seeds), Seed Centre, TNAU, CBE). Recommendations may be offered based on field visits by the scientist concerned (Vice Chancellor).

#### **Question 7**

Proper recommendation may be given to address the problem of lodging in CO (R) 51 Rice. (Mrs.Uma Devi, ADA, Thiruvallur).



**Reply**

Sowing of rice CO 51 has to be taken during kuruvai, navarai, sornavari and kar seasons. Nitrogenous fertilizer application need to be regulated, to reduce the overgrowth of the plant. (Director, CPBG).

**Question 8**

New High Yielding Horse Gram variety suitable for Dharmapuri and Krishnagiri district may be suggested. (Mr.Ganesan, JDA, Krishnagiri).

**Reply**

New variety of Horse Gram is in the pipeline.(Director, CPBG). Seeds of the culture may be supplied to the farmers for test verification. (Vice Chancellor).

**Question 9**

Control measures may be suggested for stem borer incidence in Mango and Cashew (Mr.Srinivasan, DDH, Krishnagiri).

**Reply**

Prophylactic measures need to be taken by spraying contact insecticides; Uproot and destroy the infected trees to kill the grubs present in the trunk of the trees. The wounded part of the trees may be treated with contact insecticide (Director, CPPS).

Parasitoids will be distributed to the farmers in Krishnagiri district with the facilitation by the District Collector. Scientists will be placed in RRS, Paiyur for the mass production and release of parasitoids to control black headed caterpillar in coconut. A demonstration may also be organized by Dr.K.Rajamanikam, Professor, CRS, Aliyarnagar in Krishnagiri district to the extension functionaries about the uses and preparation of parasitoids. (Vice-Chancellor)

**Question 10**

Suitable variety may be suggested for ratoon Paddy crop. (CE, AED).

**Repl**

All varieties can be used to produce ratoon crop. However, the economic yield will not be realized. (Director, CPBG). Research on ratoon crop was undertaken at Madurai and IRRI and the project did not yield economical results. Hence the idea was dropped.(Director of Research, TNAU)

**Question 11**

TNAU to suggest alternate crop for delta areas to mitigate drought situation (Director of Agriculture, Chennai).

**Reply**

During Kuruvai, Maize crop can be tried as an alternate crop for Paddy. During Summer, Rice fallow Cotton can be retained, if water availability is ensured in Canal. Black gram and green manure crops can be tried under canal command areas.

(Director, TRRI). Contingency crop plans for both normal and adverse conditions have been developed by TNAU (Director, Crop Management).

**Question 12**

Protected cultivation for vegetables and flowers is not successful, which needs modification of both polyhouse structure and agronomic practices suited to various agroclimatic conditions.(DDH, Kanyakumari).

**Reply**

The research recommendations given for cultivation of Rose, Carnation, Lillium under Hill conditions is successful. However under plains, it is successful in few crops like Cucumber and Tomato. ( Dean, HC&RI, Coimbatore). Size of the polyhouse should be modified depending upon the crops to achieve suitable environmental conditions such as temperature, ventilation, wind velocity and RH (Dean, AEC & RI, Coimbatore).

**Question 13**

Kerala based pepper varieties namely Karimundu, Panniyur-1 and Wayanad are being cultivated successfully by farmers of Kantharvakottai and Karambakudi blocks of Pudukottai district. It is requested to suggest suitable cultural practices, intercropping technologies and varieties of Pepper which can be grown in Plains. (Mr.Arunachalam, DDH, Pudukottai).

**Reply**

Testing of the available varieties may be attempted without use of pesticides so that it can be branded and marketed/exported. Pepper varieties available at HRS, Thadiyankudisai will be demonstrated in Pudukkottai district (Vice Chancellor, TNAU).

**Question 14**

In the case of groundnut, our farmers are predominantly adopting Gujarat and Karnataka varieties. Hence, it is suggested to develop suitable variety for Tamil Nadu (Director of Agriculture, Chennai).

**Reply**

Varieties released from TNAU can be tested in different potential groundnut areas of Tamil Nadu and can be promoted to farmers usage. (Vice Chancellor, TNAU).

**Question 15**

Data regarding the amount of labour replaced, due to the use of different farm machineries are needed. (Mr.Murugesan, Superintending Engineer, AED).

**Reply**

Human drudgery index varies across districts. However the data can be generated and provided (Dean, AEC & RI, TNAU, Cbe).

**Question 16**

Technologies and guidelines for Aeroponics in Polyhouse is needed( Director of Horticulture, Chennai).

**Reply**

Few agripreneurs are successfully practicing Aeroponics technology in Tamil Nadu. Study visits can be made to witness the same (Vice Chancellor).

**Question 17**

Crop area coverage may be assessed through remote sensing (Agricultural Engineer).

**Reply**

GPS system has been developed for various commercial crops and mapping for yield estimate in paddy have been completed and updated in TNAU website (Dr.S. Palanivelan, P & H, RS & GIS, TNAU). Drones will be purchased for collecting the satellite data, to assess the data regarding area coverage under Tea and the work will commence soon (Vice-Chancellor). Remote sensing technology is being used to administer insurance package for farmers under PMFB Yojana. It is suggested to increase the resolution of satellite images to obtain accurate data (APC & Principal Secretary).

**Question 18**

Presently firka level reports are generated for implementation of crop insurance schemes. However it is needed to focus at village level for crop damage assessment, especially wind damage to banana crop. Hence, new methodology need to be framed towards this end. (DDH, Dindigul).

**Reply**

The crop insurance will be brought to the notice of Government of Tamil Nadu. Adverse conditions like wind storm is under consideration by the GOI. (APC & Principal Secretary).

**Question 19**

Suitable variety of Kolukattai grass (*Cenchrus spp.*) for Kangeyam, Vellakoil and Moolanoor Blocks may be developed (JDA, Tiruppur).

**Reply**

The entries of *Cenchrus setigerous* and *Cenchrus glaucus* are under MLT (Dr.C.Babu Professor and Head, Forage Crops). The varieties may be test verified under farmers' field (Vice-Chancellor).

**Question 20**

Dwarf Palmyrah varieties are needed for Tirunelveli district (Mr.Kannan, DDH, Tirunelveli).

**Reply**

Different types of palmyrah are being evaluated in AC&RI, Killikulam and AC&RI Echankottai (Vice-Chancellor).

**Question 21**

Nematode problem exists in fruit trees nursery. Hence proper guidelines may be developed for the production and distribution of disease free saplings (Director of Horticulture).

**Reply**

Nursery regulation act may be introduced similar to Seed Act, 1966 (Director of Horticulture).

**Question 22**

ADT 37 is the ruling variety in Vellore district. Whether new rice varieties may be developed as improved type of ADT 37 (ADA, Thiruvarur).

**Reply**

TPS 5 paddy variety can be tried as alternate variety for ADT 37. In addition an advanced culture is in pipeline for replacing ADT 37. (Director, CPBG).

**Question 23**

Suitable technologies to uproot and transplant trees are needed (AE, Coonoor).

**Reply**

Appropriate protocols for uprooting and transplantation of trees may be developed and circulated by the DR, TNAU (APC and Secretary).

**Special address by the APC & Principal Secretary**

- Agriculture Production Commissioner & Secretary congratulated the Vice-Chancellor and TNAU scientists for conducting the SWC every year and emphasized the importance of the conference in getting the feedback from the State Agriculture Department officials about the performance of newly developed varieties, farm implements and technologies. He also appreciated the linkage that exists between the research and extension system in Tamil Nadu.
- Suggestion was given to award the scientists and officials for their contribution towards the development of new varieties and technologies during the forthcoming SWC 2018.
- Quarterly review of the work plan is also suggested.
- Field testing of nano chip for the preservation of fruit crops, especially Banana need to be done.

- Agricultural processing technologies for vegetables may be developed. Training may be provided by TNAU to the Agricultural Engineers of Tamil Nadu on Agril. Processing technology in various districts.
- Farmers will be given with grants for the setting up of mini dhal mills and mini oil expeller units and training programmes may be organized for the officials of Agricultural Marketing and Agricultural Engineering.
- To replace the BPT rice variety, breeder seed production of CO 52 rice variety may be strengthened and area may be expanded. Likewise, the area covered by TKM 13 Paddy variety and CR 1009 Sub1 variety for Flood tolerance can be studied.
- Suitable transplanting technology for Red gram variety (CO 8) may be developed.
- The Joint Directors of Agriculture of Tamil Nadu were appreciated for claiming the crop higher amount of insurance to farmers (1852 crores) higher than other states.
- Technology backstopping, including seed production to the Extension officials may be provided at district level by assigning **Mentorship to Colleges, Stations and KVKS.**
- The Directorate Seed Certification should establish link with Breeder Seed Portal of TNAU.
- State Horticultural Farms under the Department of Horticulture and Plantation Crops should be handled by the scientists from TNAU in the in seed and planting material production.
- Mundu chilli with characteristics such as high Oleoresin content and salt resistance may be developed for Virudhunagar region.
- Pmegrnate and Amla should be introduced in dry land areas
- The Turmeric varieties cultivated in Erode / Tiruppur districts may be improved with high Curcumin content, so that it can fetch better income to the farmers as that of Salem farmers.
- In order to prevent fermentation of Coconut 'Neera', suitable processing technology is needed without minimizing its nutrient content.
- A separate meeting on the status of Automatic Weather Stations in Tamil Nadu has to be organised under the Chairmanship of the Director of Agriculture.

### **Concluding Remarks by the Vice-Chancellor**

The Vice-Chancellor, TNAU thanked the APC and Secretary and all the Heads of the line Departments, for their effective participation in the conference. He once again thanked the Agriculture Production Commissioner & Secretary for facilitating the university to register and get the notification of the varieties developed by TNAU. He also said that TNAU has developed Neera preservation technology, which will be circulated to the officials concerned. Tamil Nadu has achieved 72 Lakh Metric Tonnes of food grain production, which was made possible with the joint efforts of both the university and development departments of Tamil Nadu. He thanked the

Government of Tamil Nadu for sanctioning Rs.280 crores to TNAU for various development activities.

The APC & Principal Secretary released the new Varieties, farm implements and technologies developed by TNAU for the year 2017 in the presence of Vice Chancellor and other heads of line departments.

Dr.V.Ravi, Director, TRRI, Aduthurai proposed a formal vote of Thanks.

**Sd/=**  
**Director of Research**