Proceedings of the 85th Scientific Workers Conference held virtually on 08.02.2021

A. Recommendations and Actions to be followed up are

I. General

1. Refresher Training for Officers

- Refresher training programme for the middle level officers is to be organized through online and offline mode during 2021-22 and its syllabus needs to be finalized in consultation with APC.
- The list of participants for the training programme should be finalized before the end of March 2021 to commence training programme during June 2021.
- Evaluation criteria may also be developed and evaluation of the training programme for the participants should be done to identify the specific focused interest group for further career development of the officers.

II. Varieties and Seeds

1. RICE

1.1 Advisory on suitable Rice varieties in different regions of Tamil Nadu

A. Long Duration varieties	
ADT 51 (2018)	Bold type, Low input efficient variety. Cultivation should be managed strictly with recommended fertilizers.
CR1009 Sub1 (2015)	To be promoted only in tail end areas where there is a problem of submergence during early seedling stage only
B. Medium Duration varieties for Delta Zone (alternate to BPT 5204 and NLR 34449)	
CO 52 (2017)	Medium duration with very fine quality rice replacing BPT. Suitable for late Samba and Thaladi
ADT 54	Matures in 135 days, grain quality nearly matches

(2020)	Improved White Ponni variety, moderately resistant to Blast which is a major disease during Samba season
CO 50 (2010)	Bold grain rice variety recommended mainly for obtaining high yields, care should be taken to control false smut. Suitable for new delta zone.
TKM 13 (2015)	Suitable for Delta area in Pudukottai district and for delayed planting in Thaladi season
TRY3 (2010)	Highly recommended for Saline and Sodic Soil
C. Short Duration varieties	
ADT 53 (2019)	To be recommended strictly during May sowing in Delta zone and for December sowing, Rabi sowing in Western Districts.
CO 51 (2013)	High Market preference and suitable for Kuruvai season.
CO 53 (2020)	1. Drought tolerant and suitable for Sivagangai and Ramnad 2. Confirmatory field trials would be done during forthcoming Kuruvai in Delta Zone
TPS 5 (2014)	Short Bold Rice Variety Suitable for Replacing ASD16 in Southern districts during Kar & late Pishanam seasons

1.2 Action to be taken:

Long Duration Paddy Varieties:

i) ADT-51 (2018) & ADT-52 (2018) (Long Duration varieties):

These two long duration varieties are reported to be non-lodging during heavy rain received in January, 2021, when compared to CR1009-Sub1. As these two varieties are already in Seed chain, the district JDAs should study the non-lodging character of these two varieties and accordingly take efforts for production and distribution of more certified seeds in the next Samba season. DOA should place indent for breeder seeds of ADT 51 and ADT 52.

(Action: DoA)

Medium Duration Paddy Varieties:

ii) CO 52 (MGR 100) (2017):

TNAU has purified CO52 nucleus seed. The performance of CO 52 has to be studied at field level on receipt of Breeder seeds from TNAU and informed in the next meeting. More Indent should be placed with TNAU for supply of breeder seeds. The Director, CPBG, TNAU has to ensure the supply of Breeders seeds without any admixture.

iii) ADT 54 (2020):

This variety is entering seed chain in 2021, TFL availability is 4 -5 tonnes. DoA to follow up its seed multiplication and usage at the field level.

iv) TRY 3 (2010) & TRY 4 (2021)

These two varieties are recommended for saline tract. As TRY3 variety which has been notified in 2012 is nearing 10 years of age, the Department should take steps to multiply TRY4 after getting notification from Government of India and sincere efforts should be taken to bring TRY4 into the Seed chain. TNAU & DOA should take steps for early notification.

v) VGD 1 (2019) (With Fragrance and similar to Seeragasamba)

This variety is reported to be performing well in western districts and has high demand among traders. There are reports of exhibition of Fragrance only in Cool weather period and high shattering during maturity. These issues have to be sorted out and the variety should be promoted in the western belt in a larger scale by increasing the indent for VGD1 for 2021-22. Suitability of this variety in Cauvery Delta Zone should be evaluated and the status has to be informed. TANSEDA should take speedy efforts to make certified seeds available to farmers in 2021-22.

vi) Variety to replace NLR 34449 (2010)

Alternate variety to replace NLR 34449 with Medium duration and fine variety has to be evolved. CO 52 would be the alternate variety to NLR 34449 and to be promoted at the field level.

Short Duration Paddy Varieties:

vii) ADT 48 (2005) & MDU 5 (1996) (Extra Early maturing varieties for Contingency)

- These two varieties have been notified before 10 years and recommended as a contingency measure for delayed release of water from the reservoirs. Milling issues have been reported. These varieties are least preferred by consumers and traders and need not be promoted in a larger scale.

viii) Variety to replace ASD 16 and ADT 37

- An equivalent variety to replace ASD 16 (1986) and ADT37 (1989) needs be developed as they are old varieties.
- One pre-release ART entry, AS15024, would be an alternative to ASD16 during the second season in Tirunelveli and Kanyakumari districts. As of now, the ARTs are in the fields at Cheranmahadevi, Mukkudal and Palayamkottai. Dept Officials can visit the fields. Can be visited by concerned JDAs.

ix) CO 53 (2020):

CO 53 variety is drought tolerant paddy variety with 115 days duration and suitable for Sivaganga, Ramnad & Virudhunagar. Department should take steps for seed multiplication.

2. PULSES

2.1. Black gram

2.1.1 Advisory of suitable Black gram varieties under different ecosystems in Tamil Nadu

Variety	Duration (days)	Season	Districts
VBN 6 (2011)	60-65	Adipattam (June - August)	Villupuram, Tiruvannamalai, Salem, Dindigul, Theni, Pudukottai.
VBN 8 (2016)	70-75	Purattasipattam (Sep- Oct.)	Thoothukudi, Tirunelveli, Tenkasi, Madurai, Dindigul, Theni, Tiruvannamalai, Villupuram, Pudukottai, Vellore, Sivagangai, Tiruvallur, Dharmapuri, Namakkal, Perambalur, Madurai, Salem, Karur, Ariyalur, Ramanathapuram & Coimbatore
		Chithirai pattam (April-May)	Suitable for Summer irrigated condition in Tiruvarur, Thanjavur, Cuddalore, Nagapattinam & Trichy
VBN 10 (2019)	70-75	Purattasipattam (Sep- Oct.)	Most suited for Rabi cultivation in North Eastern districts (Kancheepuram, Tiruvallur, Chengalpattu, Vellore, Tiruvannamalai, Villupuram, Kallakurichi).
VBN 11 (2020)		Purattasipattam (Sep- Oct.)	1. Recently released and reported to be performed well because of its more branches and ability to give second flesh of flowers. 2. Performance to be studied
		Chithirai pattam (April-May)	Tiruvarur, Thanjavur, Cuddalore, Nagapattinam & Trichy
CO 6 (2010)	60-65	Sep sowing	Western Districts
CO 7 (2021)	65-70	Sep sowing	Western, North Western (Salem, Dharmapuri, Namakkal, Krishnagiri) region and Tirunelveli district

VBN 9 (2019)	70-75	Rice fallow (January)	Thanjavur, Nagapattinam, Cuddalore, Thiruvarur, Villupuram, Kancheepuram
ADT 6 (2017)	70-75	Rice fallow (January)	Suitable for Rice fallow cultivation in Thanjavur, Nagapattinam, Cuddalore, Thiruvarur, Villupuram, Kancheepuram & moderately tolerant to Yellow Mosaic Virus

2.1.2 Individual Issues to be followed in Blackgram:

a. VBN 6 (2011)

DoA to take action to grow this variety as intercrop in Sugarcane during early growth period.

b. VBN 8 (2016)

Synchronized maturity is not observed in Erode districts. Out of 1,076 Kg of Breeder seeds received, 50% alone has been utilized. TANSEDA should effectively utilize the balance breeder seeds and raise the Seed farm within the cropping season.

c. VBN 9 (2019)

TNAU supplied 210 Kg of Breeder seeds in 14 districts. Feedback on the performance of VBN 9 should be given. As VBN 9 black gram variety has been released by Central Seed Release Committee, Seed multiplication may be taken up if found suitable in Tamil Nadu. Performance of VBN 9 and its suitability to grow in rice fallow condition may be discussed in the next meeting.

d. CO 7 (2021)

TNAU & DOA should take steps for early notification of this newly released variety CO 7 for bringing into the Seed chain.

e. ADT 6 (2017)

TNAU supplied 400 Kg of Breeder seeds and seed farms have been raised in Miralur and Vandurayanpattu SSFs. Feedback on the performance of ADT 6 should be studied and informed.

f. KKM 1 (2017): This variety is suitable for Thoothukudi district under rainfed situation. Therefore indent of KKM 1 blackgram may be placed for Thoothukudi District alone

g. Blackgram in general

- To have a clear vision on focused pulses varieties, TNAU should map Blackgram varieties for region / district and season wise recommendation should be communicated after having consultation with Department Officials.
- As the VBN 9 and VBN 10 black gram varieties have already been approved by the CVRC, the Director of Research should bring a list of crop varieties which are recommended by CVRC and suitable for Tamil Nadu for discussion in SVRC for promotion among farmers.

2.2. Green gram

2.2.1 Advisory of suitable Green gram varieties under different ecosystems in Tamil Nadu

Variety	Duration (days)	Season	Districts
CO 7 (2005)	55-60	Adipattam (June - August)	Coimbatore, Erode, Salem
		Sep	Southern districts
CO 8 (2013)	55-60	Summer	Salem & Namakkal (Cultivation should be managed with prophylactic measures)
VBN 4 (2019)	70-75	Sep and Dec (Rabi Season)	All Districts

2.3. Red gram

2.3.1 Advisory on suitable Red gram varieties under different ecosystems in Tamil Nadu

Variety	Duration (days)	Season	Districts
Co (Rg) 7 (2004)	120-130	Margazhipattam (Winter irrigated)	Karur, Madurai, Erode, Coimbatore, Tirunelveli, Theni, Dindigul & Salem
		Chithirai pattam (Summer irrigated)	
		Puratasi Pattam (Sep-Oct)	
CO 8 (2017) (6 months duration)	180	Vaigasi pattam (May- June)	Vellore, Krishanagiri, Dharmapuri, Salem, Erode & Theni
		Adipattam (June - August)	Thiruvannamalai Karur, Namakkal, Salem & Ariyalur,
VBN 3 (2005) (Short Duration)	100-105	Puratasi Pattam (Sep-Oct)	Karur, Madurai, Salem, Erode, Coimbatore, Tirunelveli, Theni, Dindigul, Pudukottai districts
		Margazhipattam (Winter irrigated)	
		Chithirai pattam (Summer irrigated)	

a. CO 8 (2017)

CO-8 Redgram is reported to be performing well with moderate resistance to pest and diseases and hence, necessary action plan should be taken for increasing the area under this variety CO 8, for increasing the Redgram production in Tamil Nadu. TNAU should give district wise advisory on suitability of Redgram variety & management practices for augmenting the redgram production in Tamil Nadu.

2.4. Cowpea

3. OILSEEDS

3.1. Groundnut

3.1.1 Advisory on suitable Groundnut varieties under different ecosystems in Tamil Nadu

Variety	Duration (days)	Season	Districts
CO 7 (2013) (High oil content (50%), needs 30 days for proper germination)	110	Kharif/Rabi	**Kharif** June-July: Theni, Coimbatore and Tenkasi July-Aug.: Namakkal, Salem, Vellore, Tiruvannamalai, Villupuram, Dharmapuri, Erode, Karur and Cuddalore **Rabi/Summer** Dec-Jan.: Tiruvannamalai, Villupuram, Cuddalore, Vellore, Kancheepuram, Pudukkottai, Sivagangai, Madurai, Virudhunagar, Namakkal, Salem, Dharmapuri, Erode, Coimbatore, Karur, Perambalur, Ariyalur and Trichy
VRI 8 (2016)	105-110	Rabi/Summer	
BSR 2 (2019)	105	Kharif/Rabi	
TMV 14 (2018)	100-105	Early Kharif	Namakkal, Salem, Vellore, Tiruvannamalai, Villupuram, Dharmapuri, Erode, Karur and Cuddalore with scanty rainfall where TMV-7 were grown.

3.1.2 Individual Issues to be followed in Groundnut:

a. VRI 8 (2016)

This variety is recommended for High input condition and suitable for Rabi Summer season. There was a field observation indicating Poor germination, big sized pod with small, shriveled kernels and *in-situ* germination of seeds of VRI 8 variety Groundnut during Kharif season in Cuddalore and Villupuram districts. TNAU should study these issues

and inform in the next meeting. Till then, no indent for Breeder seed for VRI-8 shall be made and suitable advisory may be given to the farmers to cultivate VRI 8 Groundnut in Rabi-Summer season only.

b. TMV-14 (2018):

TMV-14 is suitable for rainfed condition and therefore, Department may study the field performance and include in the Seed chain if found high yielding compared to K6, K9 & GG7 Groundnut varieties

3.3. Castor – YRCH-1 (2009), YTP-1(2019) & YRCH 2 (2017):

Breeder seeds of these YRCH1 & YTP1 Castor have been supplied in 2020-21 and found to be good in farmers field. Another YRCH 2 also has been released in 2017 which is lengthy spikes, non-shattering and suitable for intercropping. TANSEDA should take up Seed production of castor YRCH 1 and 2 in SSFs to ensure timely supply of seeds to the farmers for which TNAU may give training on hybrid seed production. The performance of YTP-1 & YRCH-2 may also be assessed and informed in the next meeting.

4. SUGARCANE

a. CoC 13339 (2020)

Director, CPBG reported that this variety performs on par with "Atulya" variety in the yield and sugar recovery. It was reported that there is an issue on flowering for which Director, CPBG has informed that those are off-types. This flowering issue of CoC13339 and other comparative performances need to be ascertained and the possibility of increasing area under this variety may be explored, if preferred by sugarcane farmers.

b. CoC25 (2018) & COG6 (2018) :

- The status on the progress of small mill test to be informed in the next meeting.
- Their performance should be closely followed by Department of Sugars and informed in the next meeting.

- Suitable plan of action for the promotion of all these varieties should be developed and

5. COTTON

a. CO 17 (2020) (Synchronized maturity enables single harvesting)

Non-synchronized maturity has been observed in CO-17 Cotton variety in some places in Namakkal district. Therefore, further feedback may be obtained and reported.

6. MAIZE

a. COHM 8 (2018)

COHM 8 maize hybrid seed production is to be promoted. **COMH8 seed production could be extended to additional SSFs.**

c. It is reported that COHM 6 (2012) and COHM 8 have been confirmed to yield better than the private hybrids.

- For taking hybrid maize seed production, TNAU has recommended ideal Seed Production Zones as detailed below:

  June-July and Dec-Jan : Coimbatore, Dindigul

  June-July : Erode, Salem and Tiruppur

- DOA may verify their performance and inform in the next meeting.

8. SORGHUM

- More awareness should be created about the benefits of the dual purpose sorghum varieties, CO30, CO32 and K12, by Department of Agriculture.

Specific Instruction to monitor the new cultures evolved by TNAU:

District JDAs, DDAs and ADAs should give their personal attention to monitor the performance of newly released cultivars in Adaptive Research Trial plots. The field level performance of those cultures should be closely monitored by extension officials and scientists from local research stations and KVK. DOA & DHPC should issue suitable instructions to all districts.

TNAU should communicate the list of new cultures sent to districts to DOA, with all necessary information. The crop sections concerned in the offices of DOA and DHPC should personally monitor the laying of ART plots from sowing to harvesting and Complete database should be maintained about the outcome of ART.

10. TREE CROPS

1. KADAM (MTP1) and MELIA (MTP 1)

As the Agroforestry is being given importance, these tree species have to be promoted in a large extent under TN MSDD and IFS schemes for which sufficient number of seedlings should be made available in all the districts.

K. Development of liquid consortia / liquid bio-fertilizer

1. Regular indent / purchase of liquid bio-fertilizers such as PPFM & Zinc Solubilizing Bacteria are to be made from TNAU for better utilization of the facilities available at TNAU.

M. Use of Drones

TNAU has to provide crop specific advisory on cost effective usage of drones for crop insurance and plant protection measures.

N. Herbolive - Wild Animal Repellent

1. Measures for Permanent control of damages caused by Parrot, Peacock, Monkey, Wild boar etc., may be evolved by TNAU

2. TNAU needs to submit a note to DoA & DHPC for further promotion among farmers by all the field officials.

V. CROP PROTECTION

1. **Strengthening the research on the management of Fall Armyworm (FAW)– TNAU Plant protection wing**

The progress in research on management of FAW may be given in the forthcoming meetings. The research findings evolved under this project have to be periodically communicated to DOA for the adoption of farmers. APC & Principal Secretary has instructed to develop resistant genotype against FAW for which inbred lines from International / National Centers can be linked.

General

- APC & Principal Secretary has requested department officials also should bestow their personal attention to take all the new technologies and varieties to the farmers' fields.
- Further, APC & PS has instructed that there would be three follow-up reviews in a year instead of convening the discussion once in a year, to have continuous follow-up. He emphasized the role of research and extension wings and insisted that TNAU and department should work in tandem for the upliftment of farmers of Tamil Nadu.