

PROCEEDINGS OF THE 48th RESEARCH COUNCIL MEETING 2015

Forty eighth Research Council meeting of the University was held on 27.2.2015 in the Rasi Seeds Seminar Hall. Prior to the start of the meeting, external experts Th.S.Ranganathan and Dr.V.A.Parthasarathy were taken to Wetlands and Dept. of Rice. They were explained about the activities undertaken in the nutrient, water and weed management in rice and Integrated Farming System approach in the Wetlands. In Dept. of Rice, the newer research dimensions of improving rice productivity through altered genotypes was explained besides their visit to the rice exhibition.

Later, the regular session started under the Chairmanship of Vice-Chancellor by 10.00 a.m. wherein the Technical Directors / Deans highlighted the achievements made in respective disciplines.

Dr.M.Maheswaran, Director of Research i/c in his welcome note narrated the newer initiatives undertaken in the Research viz., centralized monitoring of all research projects, empowerment of technical directors, theme and team based research for generating stable outcome from University Research Projects (URPs), streamlining the operational mode of product testing studies, AICRP / externally funded studies, conduct of RREAC in seven zones of Tamil Nadu, monitoring of evaluation trials of crops and technologies, works undertaken by institutional committees for patenting and germplams collection etc.

The gist of the presentations made by the Technical Directors / Deans is provided.

Centre for Plant Breeding & Genetics

Dr.C.R.Anandakumar, Director, i/c CPBG presented the efforts taken to release crop varieties in rice, wheat, millets, maize, sorghum, pearl millet, etc.,

based on changing concepts by infusing traits like dwarfness, super fine nature etc. Also the importance of small millets and Government's priority in small millet research was emphasized.

Horticulture

Dr.S.Mariappan, Dean i/c, Horticultural College & Research Institute presented the research initiative and outcome from fruits, vegetables, spices, plantation crops, medicinal crops and flower crops.

Suggestions offered:

Verifying the ammonia level of poultry manure as it may affect the yield level of garlic (NRM / Dean, HC&RI).

Directorate of Crop Management

Dr.K.Velayutham, Director i/c, Crop Management highlighted the technologies in nutrient water, weed management and the action plan was proposed.

Suggestions offered:

- Demand driven nutrient supply to crops based on the nutrient removal rate in different growing condition.
- Working out the total nutrient removal for field and horticultural crops without resorting to blanket recommendations (to be implemented with NRM).
- Detailing the parameters associated with aerobic rice in drip fertigation and components of aerobic rice to be observed.
- Arriving at water and nutrients savings in different soil conditions under different rainfall levels based on active water level (with WTC).
- Investigations on the impact of interventions like rain gun, sprinklers in aerobic conditions and identifying the critical stages.

- Millets as good intercrop in horticultural system and utilization of millet straw as mulch in vegetables.
- In places where cropping sequence of groundnut followed by sugarcane is practiced, studying the impact of incorporation of groundnut leaves and root on the succeeding sugarcane crop after harvest of groundnut (with NRM).
- Need for a pulse harvester since rice harvester is used as pulse harvester (with AEC&RI).

Agri. Engineering College & Research Institute

Dr.C.Divakar Durairaj, Dean i/c, Agricultural Engineering College and Research Institute presented the research highlights on dehuller, pectin from mango peel, integrated heater dryer, sugarcane cutter and planter, tractor breaking system, mulching materials, sugarcane harvester, machine puddling, onion storage structure, Ohmic heating of egg white, works on *Mukia maderaspatna* and fig, bio-char utilization, sensor based irrigation in rice and waste water treatment. Following suggestions were given during the discussion.

- Possibilities to utilize sapota as pectin source, instead of mango peel
- Patenting of tractor braking system
- Exploring the potential of vegetative mulches
- Improving the trapping efficiency of solar cells
- Developing self propelled groundnut combine which can bag and store the stem/haulm part to be used as cattle feed
- Encouraging post harvest work on jack instead of fig
- Developing simple tools for cutting jack fruit, pine apple and palmyrah nut and budding knife etc.
- Pruning machine to maintain correct height of fruit trees under high density planting.
- Utilization of biochar in crops may be relooked as it absorbs nutrients and water and releases them only after decomposition (NRM)

- Use of flowering trees like 'Maramalli' to mask bad odours in the corridors wherever required (FC&RI)
- Increasing the yield of field and horticultural crops without compromising the nutritional status (HC&RI)
- Efforts to arrest the leaching and volatilization losses of Nitrogen (NRM)
- Identification of suitable variety of cocoa for intercropping in coconut (HC&RI)

Centre for Plant Protection Studies

Following the preamble made by Dr.K.Ramaraju, Director i/c on the highlights emanated from the research carried out during 2014-15, suggestions were given to emphasize more on insect biology and gut physiology for having comprehensive understanding of the pest.

Forest College and Research Institute

Following are the suggestions offered

- Analysis of tree fodder subabul for its nutrition, digestibility etc
- Fertilizer standards for trees of 5 years and above age
- Addressing kapok borer problem
- Agro forestry and social forestry to support tree fodder for animals
- Identifying trees for natural resins
- Nursery standards for *Eucalyptus* and other tree crops

Home Science College and Research Institute

Suggestions:

- Analysing specific contents of Amla especially tanins and antioxidants
- Focusing on value addition in pomegranate through dehydration of pearls
- Science behind addition of moringa leaf in the preparation of ghee from butter

Suggestions from RC members

- Addressing the germination problems encountered in certain rice varieties (ADT 46 / BPT 520) and newer creeper weeds of rice (SO, Seeds & DCM).
- To re-orient the coconut breeding programme more on widely accepted D x T instead of T x T (HC&RI).
- More focus on dryland agriculture to save water and labour (DCM).
- Stressing on system of agriculture like crop rotation, IFS *etc* to eliminate the vulnerability under dryland conditions and to improve the soil carbon content (DCM).
- Precision farming under controlled / protected cultivation (HC&RI).
- Improving the immunity of crop varieties for bacterial and other major diseases (CPPS).
- Work on few tree crops like mango, guava, banana and jack may be concentrated to attain excellence in that area (HC&RI).

The meeting ended with vote of thanks offered by Dr.R.Rajendran, Director i/c, TRRI, Aduthurai.