

# CHAPTER I

## INTRODUCTION

Tamil Nadu Agricultural University has been playing a significant role in the agricultural development of Tamil Nadu for the past three decades. The University is responsible to a great extent for the modernization of agriculture sector in the state and as the premier institution provides agricultural education, research and extension services at the state level. TNAU generates much needed quality human resources for the development of agricultural sector in Tamil Nadu, besides training thousands of farmers and development department personnel on improved farm technologies and practices it provides various extension services to all the stake holders. The significant achievements and the development made during 2003-2004 in agricultural education, research and extension activities are highlighted in this report.

### Education

TNAU's achievement in promoting agricultural education is noteworthy. Under TNAU, 10 colleges in seven campuses are functioning. The University has been producing high quality graduates who could manage various organizations in agriculture and allied activities. The University keeps itself flexible and adapts itself swiftly to the emerging needs. Accordingly, new undergraduate degree programmes such as B.Tech (Food Processing Engineering) B.Tech (Bio technology) and B.Tech (Horticulture) have been launched. In order to provide hands on training to the students, TNAU has added new dimensions to its curriculum by offering Rural Agricultural Work Experience, Commercial Agriculture and Agro-Industry Experience. TNAU is constantly evaluating the changing needs of the economy to make its educational programmes need based and demand driven. The University has been maintaining the biggest library in this part of the country with large number of books, periodicals etc., in addition to internet access and computer laboratory.

### Research

TNAU has 32 Agricultural Research Stations spread over seven agro climatic zones of the State. These research stations concentrate on the location specific research in Agricultural and Horticultural crops so as to tackle the problems faced by the farmers of the specific zones in particular and the State in general.

The technical directors of the University have the over all responsibility of managing the research schemes in the University. With a view to facilitate multi-disciplinary research, the University has established various centers of excellence. The thrust areas of research are the development of hybrids, transgenic plants, organic farming, dryland and wasteland technologies, bio fertilizers, new production technologies for various crops in the field level as well as post harvest technologies for the produce harvested and effective methods of transfer of technologies. Despite the declining trend in net irrigated and net sown area in Tamil Nadu, agricultural production has been on growth path, mainly due to the increase in crop productivity for which the technologies released by TNAU are the chief contributors.

On the horticultural front, TNAU pioneered in releasing more suitable varieties. Notable contributions have been made in the production of tomato, chilli, moringa,

tamarind, papaya and sapota. Contributions of TNAU in papaya are internationally reorganized.

TNAU has also released several high yielding varieties of forage crops which increased green fodder production in the State in a big way and this is one of the key factors for the growth of milk production in the State.

Policy interfacing is yet another key activity of the University. Tamil Nadu Agricultural University undertakes policy analysis and advise the government in policy making. Recently, TNAU analysed the implications of WTO on Tamil Nadu's Agriculture and presented the results to the Government. Similarly University provides the technology back up for the Tamil Nadu Government Wasteland Project.

The scientists of the University obtain schemes from the State Government under plan and non-plan, ICAR, other departments of GOI like environment and forestry, Science and Technology, Private agencies from within the country and foreign institutions. During the last three years more than 65 research schemes have been obtained under NATP on All India competition basis.

The new research findings are incorporated in the crop production guide periodically and thus the documentation of the technologies are updated and made available to the stakeholders readily for their benefit.

The list of crop varieties released by Tamil Nadu Agricultural University as on 2003-2004 is as under.

**A. Agriculture**

1. Rice	50	7. Sugarcane	18
2. Maize	06	8. Forages	14
3. Millets	49	9. Green manure	2
4. Pulses	63	10. Mushroom	8
5. Oilseeds	29	11. Tree	2
6. Cotton	16	12. Coconut	4
		<b>Total</b>	<b>261</b>

**B. Horticulture**

1. Fruits	28
2. Vegetables	78
3. Flowers	19
4. Spices	14
5. Plantation crops	10
6. Medicinal plant	01
7. Aromatic plant	01
<b>Total</b>	<b>151</b>

**C. Farm Implements** : 116 numbers

List of Varieties, Implements and Management Technologies released in 2003-04.

**Varieties**

1. Rice : PMK (R) 3
2. Blackgram : VBN(Bg) 4
3. Sapota : PKM (Sa) 4
4. Custard Apple : APK (Ca) 1
5. Cinnamon : PPI (Ci) 1

### **Implements**

1. Tractor drawn tapioca harvester
2. Improved direct paddy seeder
3. Foot wear operated manual sprayer
4. Technology for extrusion cooking of finger millets
5. Fluidised bed dryer for mushroom
6. Mechanical thresher for pepper
7. Wood based down draft gasifier

### **Management Technologies**

1. Drip fertigation for yield maximization in sugarcane crop
2. Leaf Colour Chart (LCC) based nitrogen management in transplanted and direct (drum) seeded wet land rice
3. Potassium application to increase the productivity of pulses
4. New biofertilizer for sugarcane : TNAU Biofert –1
5. TNAU Coconut tonic
6. High density planting in banana
7. Fertigation technology for increased productivity in banana
8. Affordable micro irrigation system
9. Management of clubroot –rootknot nematode complex disease in cabbage and cauliflower using *Pseudomonas fluorescens* (Pf 1) and *Trichoderma viride* (TvMNT 7)
10. *Trichoderma viride* for the management of root rot in pulses and cotton

### **Extension**

The Directorate of Extension Education of the University is responsible for transferring the new technologies developed by the scientists of the university to the farmers through State Departments of Agriculture, Horticulture, Sericulture, Agricultural Engineering, Seed Certification, Animal Husbandry and Forestry and other agencies. The constituent unit of this Directorate are i) Communication Centre ii) Training Division iii) Information Centre and iv) Video Library. Further TNAU organizes a series of 'Farmers Day' annually in most of the college campuses and research stations to exhibit and demonstrate the technologies and transfer information to the farmers and get their feed back. The Communication Centre conducts distance education programmes like Correspondence courses, farm school on All India Radio, Audio and Video cassette lessons for knowledge and skill upgradation of the farming community. During the past five years about 5000 farmers have been benefited through 52 correspondence courses and about 10000 registered farmers were directly benefited through 43 Farm School on AIR programmes. The transfer of technology is effectively carried out by the eight Krishi Vigyan Kendras and five Plant Clinic Centres created in seven agro-climatic zones.

## **Students Welfare**

The Students Welfare unit has been functioning in the University under the Director (Students Welfare) with the objectives of bringing out the hidden talents in students and developing them in co-curricular activities and to create awareness among the students to serve the people by enrolling themselves in NSS, NCC etc., Activities like placement services, Entrepreneurship Development Programmes and Industry – Institution – Interaction cell scheme are also taken up. Under students counseling, programmes on career guidance are also extended to the students community.

The University foresees an environment of liberalized market, era of increasing productivity, ensuring sustainability, more regional and international agricultural trading, private sector and NGO emerging as key partners in employment generation, besides government acting as facilitator for sectoral progress. This underscores the requirement of graduates of different profiles to address the needs of future agriculture. These changes also necessitate a different mode of conducting research programmes in the years to come in order to meet the demand of the time.