



# CTRI

## Central Tobacco Research Institute

### Rajahmundry

#### Courses

1. Agro-technology for Maximizing Quality FCV Tobacco Production
2. Tobacco Quality Evaluation
3. Integrated Pest Management in Tobacco
4. Soil and Water Analysis for Tobacco production

#### Contact Person:

Dr V Krishnamurthy

Director

Central Tobacco Research Institute  
Rajahmundry 533 105, Andhra Pradesh  
(India)

#### Phone:

+91-883-2448995

#### Fax:

+91-883-2410555

#### website:

<http://www.ctriindia.com>

The Central Tobacco Research Institute is located at Rajahmundry district of the Southern state of Andhra Pradesh. The institute is engaged in conducting research on all aspects of quality tobacco production.

# 1. Agro-technology for Maximizing Quality FCV Tobacco Production

Production of quality FCV tobacco meeting the internal/international market requirements fetches maximum economic returns to the farming community, excise revenue and foreign exchange to the country. In this context, adoption of appropriate agro-techniques at every stage of the crop production is a prerequisite. The objective of the training is to impart knowledge on the scientifically proven production practices including Good Agricultural Practices (GAP).

## Faculty

Scientists of CTRI, Retired Scientists and Guest speakers from trade and industry

**Course Director** : Dr V Krishnamurthy

**Duration** : 15 days

**Course fee** : US \$ 1500

**No. of trainees per course** : 10

**Accommodation** : To be provided in hotels

**Eligibility** : Managers/ Scientists, Extension Personnel involved in tobacco research and development

## Course Contents

- New vistas in varietal development
- Soil management
- Scientific nursery management for production of quality seedlings
- Cultural practices like land preparation, planting, intercultures, irrigation etc.
- Nutrient deficiencies, fertilization and Integrated Nutrient Management
- Management of insect pests and diseases in the nursery and field crop
- Topping and sucker control
- Harvesting and curing
- Post-harvest product management including bulking, grading, baling and storage
- Leaf quality appraisal
- Seed production technology
- Cropping/Farming systems for sustainable tobacco production



# 2. Tobacco Quality Evaluation

Quality evaluation is an important facet of tobacco production as the leaf is used in the manufacture of smoking products like cigarettes, *bidis* and cigars and chewing products like zarda, *quimam* etc. Analysis of physical and chemical parameters is an important aspect of quality evaluation. Now, analysis of tobacco specific nitrosamines (TSNA), smoke constituents like tar, nicotine and carbon monoxide, residues of agrochemicals and heavy metals has gained importance. The objective of this training programme is to impart practical knowledge on collection of leaf samples and analysis of samples for different quality characters, smoke constituents, TSNA, pesticide residues, etc.

## Faculty

Scientists of CTRI, Retired Scientists and Guest speakers from trade and industry

**Course Director** : Dr V Krishnamurthy

**Duration** : 15 days

**Course fee** : US \$ 1,500

**No. of trainees per course** : 10

**Accommodation** : To be provided in hotels

**Eligibility** : Managers/Scientists, Extension Personnel involved in Tobacco research and development

## Course Contents

- Importance of quality in tobacco
- Factors influencing tobacco quality
- Collection of leaf samples for analysis
- Analysis of chemical quality characters viz. sugars, nicotine, chlorides and total nitrogen
- Analysis of physical quality parameters viz. Equilibrium Moisture Content (EMC), filling value, leaf burn and stem lamina ratio
- Analysis of TSNA and smoke constituents viz. tar, nicotine and CO
- Analysis of organochlorine pesticide residues
- Analysis of nutrient composition, N, P, K Ca, Mg, S, Fe, Zn, Mn and Cu

### 3. Integrated Pest Management In Tobacco

In view of the growing awareness on the threat to ecosystem due to usage of pesticides and other agrochemicals, there is an urgent need to encourage Integrated Pest Management (IPM). The objective is to impart knowledge about identification and diagnosis of pest problems and their management in tobacco. The programme covers to acquaint the participants with sampling methods and decision making for pest management with emphasis on cultural, biological methods and need based application of insecticides and management of pesticide use in tobacco for residue free tobacco production.

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**Duration** : 15 days

**Course fee** : US \$ 1,500

**No. of trainees per course** : 10

**Accommodation** : To be provided in hotels

**Eligibility** : Managers/Scientists, Extension Personnel involved in Tobacco research and development

#### Course Contents

- Analysis of tobacco pest problems
- Concepts of IPM and IDM approaches
- Diagnosis of pest problems
- Bio-ecology and management of key pests
- Biological control
- Production of NPV
- Use of botanicals in pest management
- Insecticide resistance monitoring and management with special emphasis on *H. armigera*.
- Pesticide management methods for effective and safe use of pesticides
- Management of pesticide residue and residue analysis in tobacco

### 4. Soil and Water Analysis for Tobacco Production

Optimum and balanced N, P, K, fertilization holds the key for obtaining higher yields and superior quality tobacco. Soil test based fertilizer recommendations would not only optimize the use of non-renewable resources like chemical fertilizers but also sustain the tobacco production on a long-term basis. Further, soil testing allows the farmer to know the fertility and suitability of his soil for tobacco cultivation and to avoid any excess or deficient supply of nutrients to the crop. Any saving on fertilizer bill will add to the profit of the farmer. The objective of this training programme is to impart theoretical and practical knowledge on different aspects of water, soil and plant analysis.

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**Course Director** : Dr V Krishnamurthy

**Duration** : 15 days

**Course fee** : US \$ 1,500

**No. of trainees per course** : 10

**Accommodation** : To be provided in hotels

**Eligibility** : Managers/Scientists, Extension Personnel involved in Tobacco research and development

#### Course Contents

- Importance of soil and water testing in FCV tobacco Production
- Acquaintance with the laboratory facilities and personnel
- Properties of glassware and its maintenance, Analytical reagents, Cleaning solution, Laboratory apparatus, Filter papers, preparation of standard solutions
- Soil and water sample collection
- Maintenance of soil testing equipment
- Theoretical and practical knowledge on estimation of soil pH and electrical conductivity, chlorides, organic carbon, available P, available K, available N in soil
- Theoretical and practical knowledge on water analysis
- Theoretical and practical knowledge on plant analysis
- Theoretical and practical knowledge on micronutrient analysis
- Fertilizer recommendations

