COTTON Innovate

Weekly Newsletter from Central Institute for Cotton Research, Nagpur

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Issue : 2, Volume :11, November 10-16, 2013

RESEARCH ROUND-UP

New report of tailed mealy bug *Ferrisia virgata* (Cockerell) on cotton

Dr. B. Dhara jothi, Principal Scientist (Entomology), Dr. M. Amutha, Scientist (Entomology)

Ferrisia virgata (Pseudococcidae: Hemiptera) was recorded on variety Suvin from experimental fields of CICR, Regional Station, Coimbatore. The species was identified by Dr. V.V. Ramamoorthy, Principal Scientist (Entomology), IARI, New Delhi (Identification No: 1631-1640/2013). Percentage infestation ranging from 16-83 was recorded on the crop variety Suvin during June–August 2013. The nymphs and adults were observed causing damage to the squares, leaves and bolls. Predator diversity was recorded and grubs and adults of *Cryptolaemus* sp., *Scymnus* sp., and *Spalgis epius* was observed feeding on nymphs and adults of the mealy bug *F. virgata*.

Predator grub on F.virgata plant

Virgata Colony

Predator grub on F.virgata plant

Predator adult on F.virgata

SCIENTIFIC TALKS

In the scientific talk series initiated at the CICR Regional Station, Sirsa, the first lecture on **"Parawilt/sudden wilt of cotton - a perspective on the cause and its management under field condition"** was delivered by Dr. D.Monga, Head, CICR RS Sirsa. Dr Monga presented an overview of understanding of the problem and its management till date. He highlighted that,It is a disorder in which the soil-plant- atmosphere continuum is broken due to adverse environmental factors like flooding or soil saturation. High air temperature and bright sunshine accentuate this sudden wilting and its occurrence is much more severe if the cotton has been growing rapidly. He also discussed the need for further studies on this problem as it is frequently appearing after the introduction of Bt hybrids.

As part of the weekly scientific seminar at CICR, Regional Station Coimbatore, a scientific talk on **"Unknown world of nematodes"** was delivered by Dr.J.Gulsar Banu, Principal Scientist (Nematology) on 16th November, 2013. In the introduction, *Caenorhabditis elegans* work that won Nobel Prize was discussed. Use of this nematode as a model organism for human genetics research, drug discovery and microbial infection were discussed in detail. Specific focus was given on utilising this nematode for research on various diseases like obesity and diabetes, neurodegenerative disorders including Alzheimer's, Parkinson's and Huntington's diseases, depression, cancer, and other genetic diseases such as autosomal dominant polycystic kidney disease), muscular dystrophy and arrhythmia.

VISITS

Members of the Spinners Committee of International Textile Manufacturers Federation (ITMF) visited CICR, Nagpur on November 16, 2013. The delegates had interaction session with Scientists of CICR, headed by Dr. C. D. Mayee, former Chairman, ASRB, Govt. of India and Dr. K.R. Kranthi, Director, CICR, regarding the various ongoing research activities at CICR. Dr. D. Blaise, Head, Crop Production Division, Dr. Sandhya Kranthi, Head, Crop Protection Division, Dr. Suman Bala Singh, Head i/c, Crop Improvement Division and Dr. S.B. Nandeshwar, Head i/c, Biotechnology Section coordinated the field and lab visits.
ITMF delegation members were :

1) Mr. Andrew Macdonald, Chairman, Spinners Committee (Brazil)
2) Mr. Walter Simeoni, Member ,Spinners Committee (South Africa)
3) Mr.Enrique Crouse , Member, Spinners Committee (South Africa)
4) Mr. M.N Vijayshankar , Spinners Committee (Malaysia)
5) Mr. M,B, Patodia, Member,Spinners Committee (India)
6) Mr. Bashir Ali Mohammad, Member, Member Spinners Committee (Pakistan) and Former President, ITMF
7) Dr. Christian Schindler, Director General, ITMF (Switzerland)
8) Mr. Jose Sette, Incoming Executive Director, ICAC (USA)
9) Mr.Mahesh C.Thakker, Special Invitee (India)







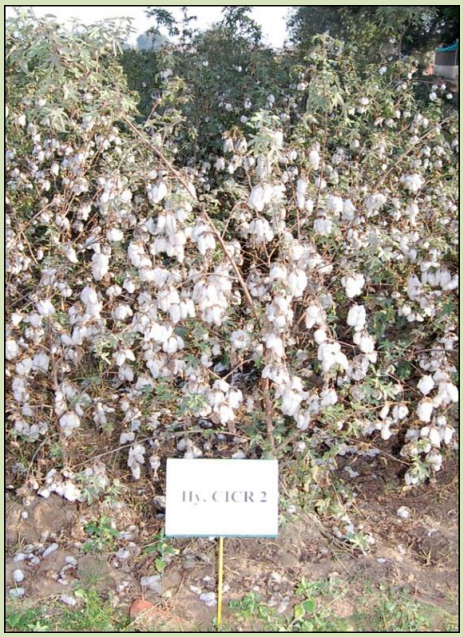


Visit of Delegates from African Countries

A team comprising of 30 international delegates from African Countries *viz.,* Kenya, Liberia and Malawi visited CICR Regional Station on 16th November, 2013. They were visiting as a part of their exposure visit under US- India- Africa Triangular International Training programme on new dimensions in Agricultural Extension Management for Extension functionaries, organised by MANAGE etc. Dr A.H. Prakash (Project Coordinator & Head), Dr S. Manickam and Dr K. Sankaranarayanan delivered talks about cotton status, breeding programmes and production aspects. Dr. A.H. Prakash, Project Coordinator & Head during his welcome address briefed the activities of the Regional Station, AICCIP and Cotton Scenario in India. Dr. S. Manickam, Principal Scientist (Plant Breeding) exposed the delegates about the varieties and hybrids released by CICR. Dr. K. Sankaranarayanan, Principal Scientist (Agronomy) made a presentation on Cotton Production Technologies (multi-tier cropping system, cotton-sorghum rotation, low cost drip system, *insitu* grown ragi for monocropping of cotton, high density planting system and poly mulch). During the interaction session the delegates discussed about its viability under African Condition.

REGIONAL MANAGER, CENTRAL STATE FARM, HISAR, VISITED CICR, REGIONAL STATION, SIRSA

The Regional Manager, Central State Farm, Hisar along with Agriculture officer and Seed production officer of State Seed farm, visited CICR, Regional Station, Sirsa on 11th November, 2013 to explore the possibilities of seed production of GMS based intra *arboreum* hybrid CICR-2 and G *arboreum* varieties CISA 310 and CISA 614 at their farm on large scale to cater the need of the farmers of the area. The traits of the genotype *viz.*, yield potential, shattering tolerance, vigorous plant type etc. were observed by the team under field conditions. The methodology of GMS based hybrid seed production and varietal seed production was explained to them by the scientists of this station. The members of the team were satisfied with the discussion and showed keen interest in undertaking the seed production of released cultivars from this station i.e. GMS based hybrid CICR-2 and varieties CISA 310 and CISA 614 to balance the demand and supply of the seed of these prominent and in demand genotypes.



Seed production of GMS based intra *arboreum* hybrid CICR-2

PROJECT MONITORING AND EVALUATION (PME) FOR CROP PRODUCTION AND CROP PROTECTION DIVISIONS OF CICR, NAGPUR

Research projects of Crop Production and Crop Protection Divisions were monitored and evaluated by Project Monitoring and Evaluation Committee, chaired by Dr. K.R. Kranthi, Director, CICR and PME members Dr. M.V. Venugopalan, Head, PME, Dr. D. Blaise, Head, Crop Production Division, Dr. Sandhya Kranthi, Head, Crop Protection Division and Dr. Suman Bala Singh, Head i/c, Crop Improvement Division.

CICR SCIENTISTS ON EXPEDITION TOUR

Central Institute for Cotton Research (CICR), Nagpur and National Bureau of Plant Genetic Resources (NBPGR), New Delhi has carried out joint exploration and collection of perennials, landraces/traditional cultivars of cotton from Manipur. Dr. Punit Mohan, Principal Scientist, CICR, Nagpur, Dr. R.C.Misra, Senior Scientist, NBPGR Base Centre, Cuttack and Dr. M. Saravanan, Scientist, CICR, Nagpur have participated in the exploration and expedition survey from 08th to 15th November, 2013. Fifteen morphological variants of *Gossypium barbadense* lines were collected from eight districts of Manipur.

Publications

Dr. Rishikumar et al. has published research article on **"Within-plant distribution of an invasive mealybug, *Phenacoccus solenopsis*, and associated losses in cotton"** in Phytoparasitica.

Phytoparasitica
DOI 10.1007/s12600-013-0361-6

Within-plant distribution of an invasive mealybug, *Phenacoccus solenopsis*, and associated losses in cotton

Rishi Kumar · V. S. Nagrare · Mukesh Nitharwal · Dinesh Swami · Y. G. Prasad

Received: 6 June 2013 / Accepted: 25 October 2013

Abstract The cotton mealybug *Phenacoccus solenopsis* Tinsley (Hemiptera: Pseudococcidae), an invasive pest species, has appeared on a large scale on cotton in India since 2006. Its distribution within the plant, and associated yield losses in cotton, were studied over 2 years. Distribution of *P. solenopsis* was observed within the cotton plant from vegetative to boll formation stage. In the vegetative and square formation stages, the highest mealybug population was recorded on the upper portion of the stem, followed by the middle leaves of the plant. In the boll formation stage, there was no significant difference in distribution of the insect among plant parts. Losses in cotton due to the mealybug varied between 14.9% at Grade 1 and 53.6% at Grade 4, on a 0 to 4 severity index, with a mean reduction of 35% and 32%, during 2008 and 2009, respectively. There was a significant relationship between severity of infestation and decrease in seed cotton yield. The information generated from this study will help in the early detection of mealybug infestation and estimation of yield losses corresponding to the severity grade of the damage.

Keywords Infestation · Severity index · Square and boll formation stages · Yield losses

Introduction

The invasive cotton mealybug, *Phenacoccus solenopsis* Tinsley (Hemiptera: Pseudococcidae), caused economic damage, reducing yields by 50% in affected cotton since 2005 and 2006 in Pakistan (Abbas *et al.* 2005; Muhammad 2007; Hodgson *et al.* 2008) and 2006 in India (Jhala *et al.* 2008; Hodgson *et al.* 2008; Monga *et al.* 2009; Nagrare *et al.* 2009). The outbreak of *P. solenopsis* on cotton in Pakistan and India had a significant economic impact. *P. solenopsis* is an aggressive invasive species on agricultural and ornamental plants, and has spread rapidly among many countries across the globe. Its dispersal in Asia and beyond is a threat to the world's production of cotton and other crops (Wang *et al.* 2010). Its presence has been recently detected in South America (Watson & Chandler 2000), including Chile (Larrain 2002), Argentina (Granara de Willink 2003), and Brazil (Culik & Gullan 2005), but also in Hawaii (Kumashiro *et al.* 2001), the Caribbean Islands and Central America (Hodgson *et al.* 2008), Nigeria (Akintola & Ande 2008), Thailand and Taiwan (Hodgson *et al.* 2008), Sri Lanka (Prishanthini & Laxmi 2009), China (Wang *et al.* 2009; Wu & Zhang 2009),

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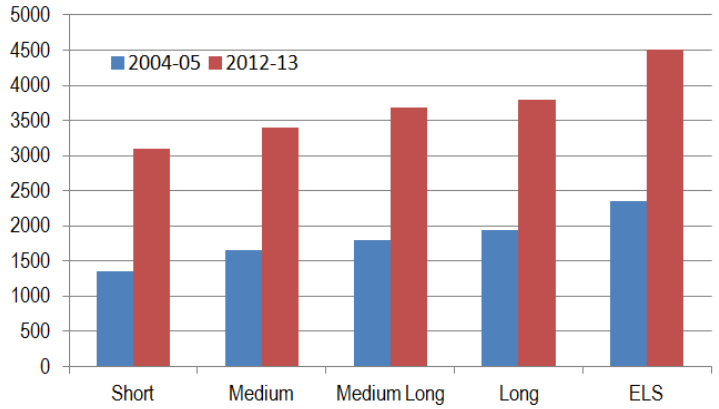
COT.COM

by M. Sabesh, Scientist-Computer Applications

Support Price for Cotton (*Kapas*) in India for Fair Average Quality Cotton



- Support price for cotton across all staple classes increased on an average 100% from 2004-05 to 2012-13
- Support price for short staple cotton increased upto 128% from 2004-05 to 2012-13, however, the increase in cotton support price for ELS just 91% during the period.

Staple Class:

Short:	*20 mm and below;*
Medium:	*20.5 to 24.5 mm;*
Medium Long :	*25.0 to 27.0 mm;*
Long :	*27.5 to 32.0 mm*
ELS :	*32.5 mm and above*

Metadata: Data source: Cotton Corporation of India.
Rates are in Indian Rupees per quintal

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