COTTON Innovate

Weekly Newsletter from Central Institute for Cotton Research, Nagpur

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DG ICAR Unveils Delayed Monsoon Contingency Production Plan for Cotton

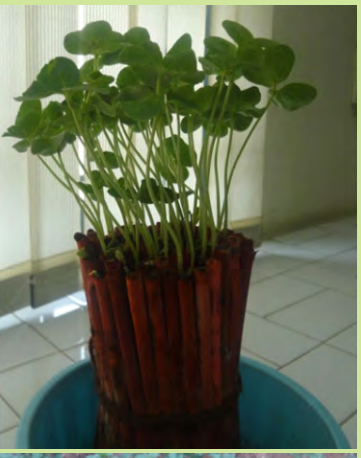
Dr. S. Ayyappan, Director General, Indian Council of Agricultural Research (ICAR), released contingency plan advisories for cotton titled 'Cotton Action Plan 2014' in a function held on 19th July, 2014 in Nagpur. The action plan was jointly prepared by the Central Institute for Cotton Research (CICR), the National Bureau of Soil Survey & Land Use Planning (NBSS, LUP), Nagpur and the Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad.

ICAR Director General Dr. S. Ayyappan releasing "Cotton Action Plan 2014". Also seen are CICR Director Dr. K.R. Kranthi, NBSS & LUP Director Dr. S.K. Singh, NRCC Director Dr. M.S. Ladaniya and others

The 'Cotton action plan 2014' bulletin contains advisories for 70 main districts of five major cotton growing states with focus on action plans to ensure healthy crop growth for high yields despite the unforeseen delay in the onset of monsoon across the country. The conditional probabilities of dry spells were calculated by Dr YG Prasad, Principal Scientist, CRIDA, based on 40 year data on seasonal rainfall and weather patterns using Markov Chain probability.

Dr. S. Ayyappan expressed happiness and lauded the contribution of the three ICAR institutions in their efforts to combat the climatic aberrations resulting from delayed monsoon. The cotton contingency action plans contain details of the package of practices to be followed and precautions to be taken especially in fields where cotton sowings were delayed. The contingency advisories are available on the institute website www.cicr.org.in. Dr K.R. Kranthi, Director, CICR, Dr S. K. Singh, Director, NBSSLUP, Dr. M. S. Ladaniya, Director, NRCC, Dr M.V. Venugopalan, Principal Scientist, CICR, Dr R.B. Singandhupe, Dr Mahendra Singh Yadav and other scientists of the ICAR institutes were also present on the occasion.

RESEARCH ROUND-UP

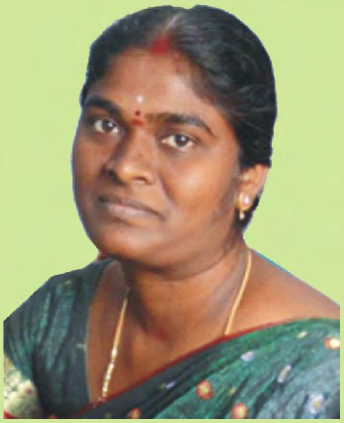


Paper tube seedling –Cotton transplanting

Transplanting of cotton has many advantages such as reduced main field duration, maintenance of plant population, sowing at optimum time, beneficial over sowing seeds under delayed crop raising situations, and also suitable for the farm with undesirable quality of irrigation water for germination. However, Cotton is not highly amenable for transplanting due to its tap root system. Many attempts have been made on transplanting but it is successful only at gap filling level. The paper tube method is attempted with the aim to transplant the cotton seedling without disturbing the tap root. The paper tube with size of 0.5 cm diameter and height of 20 cm were filled with equal portion of vermi-compost, sand and soil and packed gently. The single seed was dibbled in each tube and water was sprinkled from the top. The tubes were kept in plastic tray under muddy condition with water to facilitate capillary rise of water. The fifteen day old seedling were transplanted in hole made by crow bar and pressed gently to avoid air pockets and irrigated immediately. The direct sown crop was raised on transplanting date for comparison. The transplanted seedlings were established in main field without mortality and maintained the superiority over direct sown crop. The biometric observations made on 30 days after transplanting (total duration is 45 days including nursery period) found that the transplanted plants registered plant height of 26.1 cm, number of leaves- 10.4, number of nodes - 10.8 and leaf area of 780.4 cm2. The direct sown crop (30 days duration) recorded the plant height of 14.6 cm, number of leaves - 7.2, number of nodes - 7.4 and leaf area of 290.3 cm2. The results indicate that transplanting is a better option for late sowing condition. Four meter square area is required for paper tube (calculated for Bt hybrid cotton) after giving allowance for poor germination and non-healthy seedlings. The method can facilitate for easy transport of seedlings also. However the agronomic advantages of the technique needs to be validated with further in depth studies.

K.Sankaranarayanan and A.H. Prakash,
CICR, RS, Coimbatore

SCIENTIFIC TALK



As a part of Weekly Seminar at CICR, Regional Station, Coimbatore, Dr. M. Amutha, Scientist (Agricultural Entomology) delivered a talk on "Mosquito- A small bite, Big Threat" on July 17, 2014. Information on three important genera of mosquito viz., *Anopheles, Culex* and *Aedes* and their different egg, larval, pupal and adult characteristics were presented. Mosquitoes act as vector for many diseases. Among these, important diseases like Lymphatic Filariasis (*Elepantiasis*) caused by nematode, *Wuchereria bancrofti*, but transmitted by vector *Anopheles*, was discussed. Other diseases transmitted by mosquitoes like, Malaria, Dengue fever and chikungunya, disease symptoms; global distribution and their disease cycle in host and vector were discussed. Reasons for the some of the interesting facts viz., why the mosquito is not affected by these disease causal organism, why less mosquitoes in winter, how mosquitoes search their host and why few people are highly prone to mosquito bite also highlighted. Factors for India's inherent vulnerability to mosquito were pointed out. Role of individual and community in mosquito control was discussed. Type of natural and synthetic mosquito repellents, how safe mosquito repellents are and safe method to repel the mosquito was also quoted. Recent research undergoing on mosquito control was also discussed.

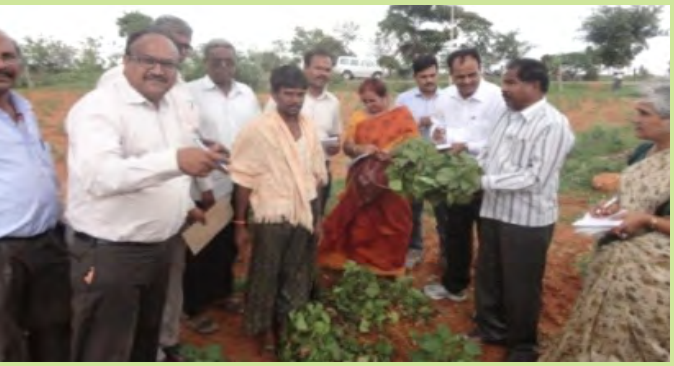
VISITS

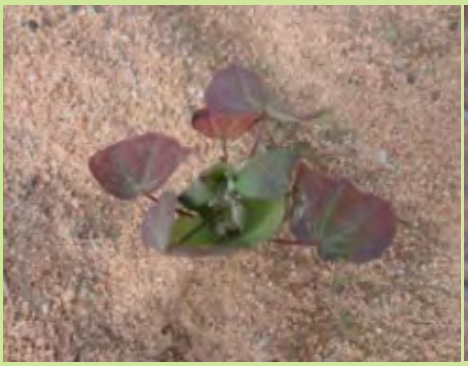
Visit to Regional Station, PAU, Bathinda

Dr. D. Monga, Head, CICR, RS, Sirsa and PI (Plant Pathology), AICCIP and Dr. Rishi Kumar, Sr. Scientist (Agrl. Entomology) visited Regional Station of Punjab Agricultural University, Bathinda on 15th July, 2014 in connection with the AICCIP program at Bathinda. The implementation of plant pathology and entomology programs was discussed in detail with the concerned scientists. The guidance regarding recording of observations was also imparted to Dr Rupesh Arora, Asst. Professor, Plant Pathology (AICCIP) as he has recently joined the program.

Visit to Mehabubnagar, Telangana

A team of Scientists, Dr. S. M. Palve, Dr. A. R. Raju,, Dr. J. H. Meshram and Dr. H. B. Santosh from Central Institute for Cotton Research, Nagpur along with scientists of ANAGRAU, Hyderabad, Associate Directorate of Research, RARA, Palem, Joint Director of Agriculture, Mahabubnagar and officials of Department of Agriculture visited villages of Mahabubnagar district of Telangana state from July16-17, 2014 for assessing the damage caused due to biotic and abiotic stresses. The team visited Bt cotton fields grown (ATM, Ajeet 155 and Bhakt etc.) at Alwal and Patigadda villages (Kesampet), Vepoor village (Kalvakurthi), Medipoor village (Thadur) and Gattunellikudur (Telkapali) of Mahabubnagar districts. It was noticed that the Bt cotton hybrids were sown from fourth week of May to first week of July 2014 under rainfed and irrigated conditions (sprinkler irrigation). The soil type varied from red chalka to dubba soils. During this period, rainfall was scanty and inadequate for cotton crop. Since the crop was grown in light red soils, reddening of leaves was observed in crop due to moisture stress which was sown in first week of July. With regard to biotic stress, moderate incidence of jassids and thrips was observed in few fields. The incidence of root rot and Tobacco Streak Virus was also noticed in young seedlings of few Bt cotton fields of (ATM, Jadu, Ajeet 155 etc.).





Quarantine Inspection

Post-entry quarantine inspection was done for 103 *Gossypium hirsutum* lines for important quarantine pests like., Boll weevil., *Anthonomus grandis*, Seed bruchids., *Amblycerus spp.*, *Megacerus spp.*, *Spermophagus spp* which was imported from Dupont Pioneer, Texas (USA) by Pioneer overseas corporation, India Branch, Wargal, Hyderabad. As a member of quarantine evaluation team Dr. M. Amutha, Scientist, (Agricultural Entomology) inspected along with other members Mr. Sampath Kumar, Scientist, CICR (Plant Pathology), Dr. K. Anitha, Principal Scientist, NPBGR (Plant Pathology) and Dr. Sarath Kumar, Principal Scientist, NPBGR (Entomology) on July 18, 2014.

ACTION PLAN FOR DROUGHT MITIGATION

Scenario I:

Crop sown in June and normal germination / crop stand and faced early season drought

1. Inter-culture in last week of July to improve aeration and control weeds
2. Drain out excess water
3. Apply 50% of N over full P and K of the entire fertilizer done (if not done earlier)
4. At 60 DAS spray KNO3 (1%) + ZnSO4 (0.5%)+ MgSO4 (1%). Repeat spray after 15 days.
5. Spray 0.5% Neem oil on a clear day
6. Apply remaining 50% fertilizer N at 45-50 days stage.
7. In-situ moisture conservation - mulching with organic /dust mulch, tieing ridges
8. Gap filling with other crops like - pigeon pea/ ambadi (Roselle)
9. Continuous cloudy days in August may induce square/ flower/boll shedding in early sown crop which can be manage by spray of 10 ppm Planofix
10. On light soil open a dead furrow every 4-5 rows using a Desi plough

Scenario II:

Sowing in second fortnight in July

1. Sowing after mixing basal dose NPK in the soil to give early vigour to the cotton crop
2. Early season sucking pest control using 5% NSKE +0.5% Neem oil +0.25% emulsifier
3. Spray 1% KNO3 + 2% urea/DAP in 3-4 splits at 10days interval from 50 DAS
4. Likelihood of pink bollworm in late sown crop during mid November install pheromone traps ETL @ 8 moths per trap for
3 consecutive nights undertake pyrethroid spray
5. Life saving irrigation with harvested rainwater.
6. Where ever there is whitefly infestation spray diafenthiuron during Ist fortnight of October.

Scenario III:

1. Insufficient rain till 20th June avoid sowing of cotton or sow cotton + recommended intercrop in replacement series. Take up sowing of alternate crops suggested for the region.

Distinguished Visitors

Visit of PPV & FRA Chairman

Dr. R.R. Hanchinal, Chairman, Protection of Plant Varieties & Farmers Right Authority, New Delhi visited CICR Regional Station, Coimbatore on July 18, 2014. He was accompanied by Dr. R.C. Agarwal, Registrar General, PPV&FRA. Dr. A.H. Prakash, PC & Head welcomed the dignitaries and briefed about the activities carried in the Regional Station and AICCIP. Dr. K. Rathinavel, Principal Scientist, briefed the activities carried out under DUS Project. Dr. R.R. Hanchinal during interaction with scientists stressed the need for registering the varieties with PPV&FRA. The use of propagated seeds was highlighted by Dr. S. Manickam, Principal Scientist for which the chairman said it will be taken up for further discussion.




Others

Dr. S. Manickam, Principal Scientist (Plant Breeding) have been nominated as External Member of Selection Committee for the post of Technical Assistant (SC) by the Director, Sugarcane Breeding Institute, Coimbatore. The selection committee meeting was held on July 18, 2014.

Publication

Electronic Journal of Plant Breeding, 5(2): 213-219 (June 2014)
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Research Article

Studies on fibre quality of a long staple cotton variety using high volume instrument and advanced fibre information system for fibre quality improvement

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Meetings

A meeting was held on 16th July 2014, at CICR, Nagpur to discuss about the possibility of private and public partnership with regard to High Density Planting System in cotton. It was decided that Mahyco and Monsanto will also take part in disseminating the technique.

CICR IN NEWS

Delayed monsoon: Production plans for cotton, citrus unveiled

■ Staff Reporter

WHAT should a cotton farmer do as the rainfall has got delayed? An attempt has been made to enlighten the cotton growers in the country, in a specially prepared 'Cotton Action Plan-2014'.

The 'Cotton Action Plan-2014' bulletin contains advisories for 70 main districts of five major cotton growing states with focus on action plans to ensure healthy crop growth for high yields despite the unforeseen delay in the onset of monsoon across the country. The strategies in the bulletin have been designed, based on key factors including the actual weekly rainfall pattern received in each of 70 districts so far, predicted dry spells for the season, and soil thematic maps on surface texture and depth of the districts.

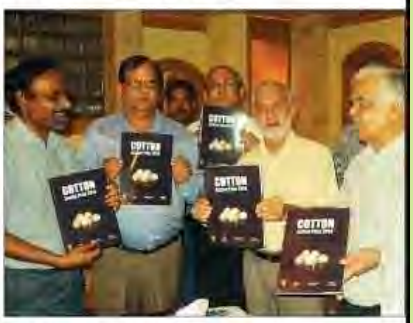
Dr S Ayyappan, Director General, Indian Council of Agricultural Research (ICAR), released contingency plan advisories titled 'Cotton Action Plan 2014' and 'Management of citrus orchards under drought like conditions' in a function held on Saturday in Nagpur.

Central Institute for Cotton Research (CICR), National Bureau of Soil Survey Land Use Planning (NBSS-LUP), National Research Centre on Citrus (NRCC), and Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad, organised the programme jointly. The cotton production contingency plans have been prepared jointly by CICR, NBSS-LUP, and CRIDA, while the citrus contingency plan is prepared by NRCC.

Dr S Ayyappan expressed happiness and lauded the contribution of the four ICAR institutions in their efforts to combat climatic aberrations resulting from delayed monsoon.

Dr C D Mayee, former Chairman, Agricultural Scientist Recruitment Board; Dr Keshav R Kranthi, Director, CICR; Dr S K Singh, Director, NBSS-LUP; Dr M S Ladaniya, Director, NRCC; and scientists of ICAR institutes were present on the occasion.

In the bulletin, predicted dry spells have been calculated by Dr Y G Prasad, Principal Scientist, CRIDA, based on 40 years long term seasonal rainfall and weather patterns. The cotton and citrus contingency action plans contain details of the package of practices to be followed and precautions to be taken especially in fields where cotton sowings have got delayed and where citrus orchards face moisture deficit. The contingency advisories are available on the institutes' websites.



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