



Pakistan Central Cotton Committee Ministry of National Food Security & Research
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ccrim.pk ccri.gov.pk

Survey of Cotton Areas Damaged due to Locust Attack

Desert locust, *Schistocerca gregaria* Forsskål, commonly known as Tiddi Dal, is a periodically swarming grasshopper and mainly found in Africa, Arabia and West Asia. Locust invades in swarms to consume all vegetation including crops, trees and fodders. The desert locust risk increases with conducive weather conditions i.e., rainfall, vegetation, soil types, wind, temperature and relative humidity.

Heavy rainfall in late 2019 created ideal conditions for this pest to multiply population leading to swarm spread from Yemen into East Africa. Since January 2020, it has become a serious problem in East Africa particularly in Uganda and Kenya afterwards reached Ethiopia, Somalia, South Sudan. Locusts have also been migrating from Africa to Pakistan. The Government of Pakistan declared a national emergency to counter an invasion of desert locusts on 1st February 2020. This year, the locusts attack is worse in 26 years. It has started invading different areas of the South Punjab as well and affected crops mainly cotton, mango, and rice saplings. Central Cotton Research Institute (CCRI), Multan also participated in conducting surveys in Southern Punjab i.e., Multan, Khanewal, Jhanian, Makhdum Rasheed, Muzafargarh, Kehror Pacca, Dunya Pur, DG Khan. The cotton sown in surveyed area ranges from 5 acres to 200 acres. Similarly, the damage to the cotton crop was estimated 15% to 100% especially disturbing for the small farmers whose cotton crop was completely swallowed by the locust. Farmers attempted to ward-off the locusts by beating drums in an attempt to scare them away. Farmers have either to re-sow cotton where completely damaged and apply excessive inputs where partially damaged. This resulted extra burden for the farmers. CCRI Multan also issued advisory to the farmers for combating this pest by applying Lambda-cyhalothrin @ 330 ml or Delta-methrin @ 350 ml or Cyper-methrin @ 330 ml per 120 liter water. The responsibility for locust control lies with the Federal Department of Plant Protection. Moreover, recently, the government has also constituted "National Locust Control Center" under the National Disaster Management Authority (NDMA). Aerial and ground operations have been launched for elimination of locusts through targeted approach with the coordination of federal and provincial departments. This strategy has effectively helped eliminating the first wave of locust. Another locust swarm is also expected to arrive from Iran by third week of June and all the government functionaries are on alert accordingly.



Sowing of Experiments 2020

Young cotton scientists of the Institute enthusiastically involved in sowing of experiments for the crop season 2020 along with their field staff. The scientists remained engaged in planting of experiments related to refinement of cotton production technology of advanced varieties, planting of high density trials, climate resilient varieties, CLCuV disease management, efficient fertilizer use, seed health improvement, insect pest management (especially Pink bollworm, Whitefly, Mealybug), insecticide resistance management. The Entomology Section also installed sex pheromone traps in various experimental fields. Glimpses of various field activities given below:

Cotton Sowing Inauguration



Planting of Experiments



Excellent Germination at Experimental Trials



Pheromone Traps Installation



Meeting on Cotton Seed Problems

A meeting on Cotton Seed Problems was held on 12.06.2020 at AARI, Faisalabad under the chairmanship of Managing Director, Punjab Seed Corporation. Cotton researchers and planners attended the meeting. Dr. Zahid Mahmood, Director CCRI Multan apprised the house that the cotton crop 2019 was damaged by unprecedented rains after short intervals which badly affected quality of cotton, later high temperatures also caused flower shedding and pest attack specially Pink bollworm damaged the seed as well. These factors have led to the damage the overall quality of cotton seed. Keeping in view these factors, the Ministry of National Food Security & Research also proposed to lower seed germination standard to the 50 percent level.



He further stated that the Institute has also provided service for provision of cottonseed at the farmers' doorstep during this period due to the COVID-19 pandemic problem. He also advised to the farmers to sow seed at 10-12 kg per acre to get the proper germination.

Visit to the Farmers' Field

Dr. Zahid Mahmood, Director CCRI Multan visited cotton fields of farmers in Kabirwala, Mian Channu, Khanewal, Muzafargarh areas. Farmers were advised for proper irrigation, resowing in fields where germination was less, and installation of PB Ropes.

Syed Fakhre Imam Farm, Kabirwala 13.05.2020



Bonga Hayat Farm, Sahiwal 25.05.2020



Sex Pheromone Traps Installation at Sara-e- Sidhu Farm, Kabirwala on 27.05.2020



Experiment on Intercropping

The cotton growing communities are not satisfied with the current profitability scenarios of cotton. However, intercropping may be opportunity to tackle the issue as it contributes more returns per unit area and time. The objective of intercropping is to obtain a maximum yield of cotton crop along with additional returns from intercrops. In intercrops, at least two or even more crops are grown together; it improves biodiversity and attracts predators to make the integrated pest management possible. The Agronomy Section of the institute is conducting the plenary experiments to evaluate the compatibility of intercropping of fodder maize, mung bean and sesame for improving farmer's profitability.

Mulching involves the covering of soil surface through plastic sheet and crop residues etc. The basic objective of mulching is to discourage weed growth along with moisture conservation and soil health improvement. In either ways, it improves the cotton yield and minimizes the cost of weed control and reduces the amount of irrigation water. The significant amount of crop residue is available which may be utilized for mulching. The experiment is in process to evaluate the feasibility of wheat, rice and maize residue as mulch material.

Intercropping



Mulching



Farmers Advisory Committee (FAC) Meeting

The fourth meeting of the Farmers Advisory Committee was held at Central Cotton Research Institute, Multan under the chairmanship of Dr. Zahid Mahmood. Recommendations on cotton crop management till June 30 was presented in the meeting for the guidance of cotton growers. It was informed in the meeting that at present the process of cotton cultivation in Punjab and Sindh is almost complete and there are still some areas to be done. The recommendations of the Farmers Advisory Committee said that farmers who have not yet grown cotton should keep the required number of plants in the field at 35,000 while keeping a distance of 6 inches from the plant. It was informed in the meeting that there are some farmers who have sown cotton in the first week of June so they should complete the process of pruning within 20 to 25 days. The meeting was attended by heads of various sections; Dr Muhammad Naveed Afzal, Dr Muhammad Idrees Khan, Dr Fiaz Ahmed, Ms Sabahat Hussain, Dr Rabia Saeed, Sajid Mahmood, and Junaid Khan Daha.



Implementation of Precautionary Measures for COVID-19

Following the government instructions, the Institute strictly implemented precautionary measures against COVID-19 outbreak as below:-

- ◆ Wearing of face mask in office premises.
- ◆ Temperature check through Thermometer Gun at entrance.
- ◆ Entry of all staff from Sanitizer Walk-through gate
- ◆ Keep distance of at least 1 meter from anyone.
- ◆ Follow no-touch greeting to avoid germs expansion.
- ◆ Wash hand regularly with plenty of soap/liquid soap, alcohol-based sanitizer and water.
- ◆ Gathering of more than 4 persons at the Institute is strictly prohibited.
- ◆ Avoid unnecessary or frequent visits of outer persons at the Institute.
- ◆ Employees are exempted to mark attendance through Biometric till further orders.

Safe Distance while Offering Prayers



Field Work



Thermometer Gun



Sanitizer Walk-Through Gate



Floor Sanitization

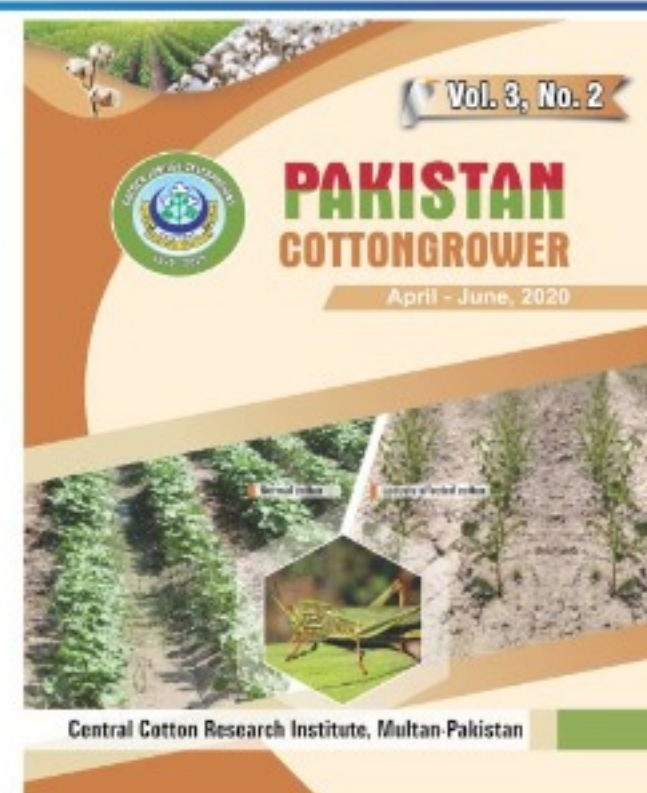


Door Locks Sanitization



Pakistan Cottongrower 3(2), 2020

The publication of Pakistan Cottongrower is a regular feature of the Institute. The journal is published in Urdu and English language and circulated among progressive farmers, agriculture students, planners & policy makers and representatives of private seed/pesticide associations. The current volume contains English articles in early management of insect pests on cotton crop, locust attack on cotton, development of CLCuV tolerant Upland cotton cultivars through introgression, biotechnological development, seed variation. The Urdu articles included cotton mealybug management, irrigation water management, whitefly on cotton and its management, wild species utilization for varietal development, role of cotton in COVID-19 mask.



Article Published in BBC Urdu

BBC Urdu has published on its page an article by Mr. Sajid Mahmood, Head, Department of Transfer of Technology, CCRI Multan on "The Role of Cotton in COVID-19 Face Mask". The article is published by the ICAC and is being translated from English to Urdu by the columnist. This article states that face masks made of cotton fibers are more effective and beneficial against COVID-19 than face masks made of polyester, nylon or other synthetic materials, and are also softer to protect our face. Chemicals and other ingredients in face masks made from synthetic products are not very effective against COVID-19, bacteria or other pestilential microbes. Cotton fiber face masks are easier and more durable to breathe. Concrete scientific evidence and research have shown that the use of cotton fiber-based face masks is more useful and indispensable in preventing COVID-19 infections and their spread, and in preventing a number of other bacterial diseases.



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