ICAR-Central Institute for Cotton Research, Nagpur
Fifth Weekly Advisory for Cotton Cultivation from 20th to 26th June '2023

	ACTUAL RAINFALL in mm IMD					PREDICTED RAINFALL in mm IMD					ADVISORY
	JUNE					JUNE					
Date	**16**	**17**	**18**	**19**	**20**	**22**	**23**	**24**	**25**	**26**	
PUNJAB											
Firozpur	0	0	0	0	0	0	0	0	0	3	At Bathinda and Faridkot, the crop is 30 to 48 days old at vegetative to flowering stage. Thinning, hoeing and weeding are in progress. First Irrigation and application of first split of Nitrogen started in some fields. *Cyperus* sp., *Digera arvensis* and *Trianthema monogyna* type of weeds are in dominance in most of the fields. Population of whitefly varied from 0-6/3 leaves, jassids varied from 0-2/3 leaves and thrips varied from 0-11/3 leaves. In early sown cotton crop, pink bollworm incidence has been observed in traces and in one location, the incidence was up to 20 per cent. **Advisory**: At Bathinda, farmers are advised to remove weeds near and around the fields. If whitefly adult population ranges between 4-6 adults/leaf in cotton fields, spray neem based Nimbecidine @1 lit/ac. If population of whitefly increases beyond ETL in any field, the farmers are advised to spray the fields with Flonicamid 50WG @ 80g or Dinotefuran 20 SG @ 60g/ ac or Clothianidin 50 WG @ 20g/ac or Afidopyropen 50DC @400ml/ac or Ethion @ 800ml/ ac. In fields where early sowing is done and the crop is at flowering stage, destroy rosette flowers, if any. In case, flower/ bolls infestation is more than 5%, spray Curacron 50 EC (Profenophos) @ 500ml/ac or Proclaim 5 SG (Emamectin benzoate) @ 100 g/ac or Ethion @ 800 ml/ac. After first irrigation, check for the incidence of parawilt in cotton crop and spray Cobalt chloride solution @ 1g/100 lit of water immediately after the appearance of symptoms on the affected plants. At Faridkot, farmers are advised give first irrigation 4 to 6 weeks after sowing depending upon soil type. Thinning and gap filling should be done after first irrigation. Apply recommended dose of N fertilizers only after application of first irrigation for maximum fertilizer use efficiency. Avoid N application through broadcast just before irrigation as this leads to leaching of fertilizers and contamination of groundwater. In case of high thrip infestation, give light irrigation for its management. If the incidence increases, spray Profenofos 50 EC @ 500 ml/ac. To monitor pink bollworm, use sticky/delta traps with at least 10 micro lit of Gossyplure and place it at 15 cm above crop canopy. Replace the lure after 15 days and use 1 trap/ha.
Faridkot	0.8	0	0	0	0	0	0	0	0	3	
Muktsar	1	0	0	0	0	3	0	0	0	3	
Bhatinda	0	0	0	0	0	0	0	0	0	3	
Sangrur	0	0	0	0	0	0	0	0	0	3	
Ludhiana	0	0	0	0	0	0	0	0	0	6	
HARYANA											
Hisar	0	0	0.2	0	0	0	0	0	0	1	At Hisar and Sirsa, the crop is 30 to 70 days at initial vegetative to squaring and flowering stages. Weeds like *motha*, *santhi* and *doob* have emerged in the fields after rainfall. Thrips and whitefly incidence were noticed above ETL. Initial infestation of pink bollworm started appearing on flowers
Jind	0	0	0	0	0	0	0	0	0	1	
Sirsa	0	0	0	0	0	0	0	0	0	0	
Rohtak	0	6.8	0.4	0	0.4	1	1	0	0	0	

											in cotton crop but below economic threshold along with spotted bollworm in desi cotton. PBW management message was sent through E-kapas. Root rot noticed at few locations. **Advisory:** At Hisar, farmers are advised to give first irrigation in cotton crop which is 7 to 8 weeks followed by the application of first split dose of Urea @ 1 bag/ac in cotton crop. Do manual or mechanical hoeing after rains or irrigation to control the weeds. Remain vigilant in the fields wherever flowering has started for the attack of pink bollworm on flowers. Manage previous season cotton stalk by not storing near cotton fields. If the infestation of pink bollworm crosses 5-10% in flowers, one spray of neem based insecticides @5 ml/ lit water should be applied which would also manage initial infestation of thrips. Treat root rot affected patches in field by drenching with Carbendazim @ 2g/lit water. Make bunds to confine root rot affected patches before flood irrigation so that this disease can be prevented from spreading further. Monitor their fields regularly at weekly intervals. At Sirsa, farmers are requested to continue intercultural operations. If required, start after first irrigation i.e., 40 to 45 DAS. Apply first split application of urea fertilizers immediately after irrigation. Install pheromone traps to manage bollworms. Monitor the insect-pest incidence regularly and destroy the rosette flowers along with PBW larvae. Avoid any chemical spray up to 60 days old crop. If any pest infestation reported near ETL in early sown crop, spray with Neem based insecticide or NSKE 5%. Wherever neem spray has been done and crop is more than 60 days old, apply chemical insecticides i.e., Emamectin benzoate 2100g/ac or Profenophos @500ml/ac..
RAJASTHAN											
Ajmer	0.1	1.5	11.4	132	149	28	0	1	1	3	In Southern Rajasthan (Banswara, Bhilwara, Chittorgargh, Dungarpur, Pratapgarh, Rajsamand and Udaipur etc), wherever irrigation facilities were available, the crop has been sown and further crop will be sown after onset of monsoon. The sown crop is 0 to 39 days old at seedling to initial vegetative stage. Incidence of jassids noticed but below ETL. In Sriganganagar and Hanumangarh, sowing is almost completed under assured irrigation track. The sown crop is 10 to 60 days old at vegetative and branching stages. Sowing is still continuing in some areas. Weeds like Itsit (*Trianthema spp*.), Tandla (*Digera arvensis*) Motha (*Cyperus rotundus*) have infested the crop. Post sowing irrigation has been applied, intercultural operations have been taken up in early and timely sown cotton. Jassids incidence noticed below ETL level, whitefly 0.00 to 9.00/ leaves, thrips population observed below ETL and pink boll worm incidence noticed in traces. **Advisory:** In Southern Rajasthan (Banswara, Bhilwara, Chittorgargh, Dungarpur, Pratapgarh, Rajsamand and Udaipur etc), farmers are advised to do gap filling in early sown crop for proper plant
Jodhpur	0.1	36	91.3	7.6	0	0	0	0	0	0	
Nagaur	0.1	18	34	0	0	8	0	0	0	1	
Pali	0	0	0	226	0	3	0	0	1	0	
Sri Ganganagar	0	0	0	0	0	2	0	0	0	0	

											population and thinning to reduce crop competition wherever needed. In the fields where sowing is taken up, spray Pendimethalin 30 EC @ 3.25-3.50 lit/ha after sowing and before germination for weed control. Monitor the fields for infestation of sucking pests in earlier sown cotton. Those farmers who are to sow cotton after monsoon should select sucking pest and disease tolerant, short duration and early maturing varieties/hybrids of cotton, which fit in cotton -wheat rotation. Before sowing, treat seeds with Carboxin 37.5% + Thiram 37.5% DS @ 3.5g/kg of seeds (root rot and bacterial diseases) or Fluxapyroxad (333 g/L FS) @1.5 ml/kg seed or Tetraconazole 11.6% W/W (12.5% w/v) SL @1.5 ml/kg of seeds for seed borne diseases (for root rot disease). In Sriganganagar and Hanumangarh, farmers are advised to apply first split of recommended dose of Nitrogenous fertilizers after first irrigation for maximum fertilizer use efficiency. Avoid N application through broadcast just before irrigation as this leads to leaching of fertilizers and in turn, contamination of groundwater. Remove weeds near and around the cotton fields**.** Spray neem based insecticides @ 5 ml/lit. of water to control sucking pests and PBW.
ODISHA											
Koraput	0	0	0	0	11.6	5	5	5	10	15	At Odisha, sowing of cotton not yet started awaiting onset of monsoon probably by second week of June. **Advisory**: Farmers are advised to clean their land and go for summer ploughing when there is rain. Arrange seeds, fertilizers, FYM and seeds for green manuring crop well in advance. Procure cotton hybrids with good fibre quality and yield. Seeds of border crops like maize and cowpea and trap crops like castor and marigold should be arranged in advance.
Kalahandi	0	0	0	0	0	5	3	3	7	10	
Balangir	0	0	0	0	0	1	1	2	2	3	
GUJARAT											
Amreli	18	0	0	0	0	0	0	0	0	4	At Surat, sowing is yet to be taken up. Furrows have been formed. At Junagadh, sowing is in progress in isolated area of Saurashtra region **Advisory:** Farmers are advised to apply FYM @10 ton/ha and basal dose of fertilizers @ 20kg Phosphorus and 75 kg Potassium per ha for irrigated cotton. Purchase seed with original bill. Early sowing must be avoided. Those farmers having sufficient irrigation facilities can start pre sowing of cotton in their fields. Moreover, sufficient amount of rain is received due to cyclonic effect and have facilities of life saving irrigation to the crop. So, initiate sowing in these fields.
Bhavnagar	36.6	3.5	0	0	0	0	0	0	0	7	
Jamnagar	114	228	0	0	0	0	0	0	0	0	
Rajkot	63.7	87	0	0	0	0	0	0	0	0	
Junagadh	34.2	0	0	0	0	0	0	0	0	9	
Sabarkantha						0	0	0	0	0	
Surendranagar	3	52	0	0	0	0	0	0	0	0	
Ahmedabad	3	25	12	0.5	0	0	0	0	0	6	
Baroda	19	8.8	1.8	0	0	4	0	0	0	32	
Patan	18	61	51.5	0	0	0	0	0	0	0	
Mehesana						0	0	0	0	0	
MP											
Khargaon											At Khandwa, sowing has been completed in some areas having irrigation facilities. On an average more than 50 per cent of cotton area has already been sown having irrigation facilities. This mainly represents the area of the five major cotton growing districts of M.P. having more than 50,000 ha. area under cotton. The crop is 0 to 42 days at seedling and initial vegetative or vegetative stage.
Dhar	0	0	0	0	0	7	4	0	1	4	
Khandwa											

											Farmers who are entirely dependent on monsoon showers are waiting for the monsoon rains. Spot weeding, gap filling and thinning, fertigation are being taken up in the sown areas. As per field conditions, farmers have been advised to irrigate the crop by drip irrigation. Incidence of jassids have been observed in some fields. No incidence of insect pests and diseases. However, summer season weeds like *Cynodon dactylon*, *Cyperus rotundus*, *Argemone mexicana* and *Phylanthus niruri* have infested the fields. **Advisory** As per pest and disease management strategies 2023-24 issued by the Director ICAR-CICR Nagpur, it is advised to discourage the pre season sowing of cotton crop. In spite of these recommendations, sowing of cotton has been initiated in the major cotton growing areas of Madhya Pradesh. Farmers are advised to grow only early to medium maturing Bt. hybrids. Avoid taking up cotton in those fields where the same crop was sown during the previous year**.** Apply second dose of chemical fertilizer @ 150:75:40 kg/ha, respectively. Among these nutrients, apply split dose of N @ 25% by column method at a depth of 10 to 15 cm. Take up weeding with bullock drawn *Kolpa* in those areas where crop is at 35 DAS**.**
MAHARASHTRA											
Dhule	0	0	0	0	0	0	0	0	3	5	At Akola, Nanded and Rahuri, land preparation for coming *kharif* season is in progress. All the operations like harrowing, levelling, FYM application etc. have been completed. Field layout is in progress for sowing of cotton. **Advisory:** At Akola, Nanded and Rahuri, farmers are advised to start sowing of cotton after receipt of sufficient rainfall of 75-100 mm. Use short duration *Bt* /non *Bt* varieties for rainfed sowing and mid-late to late varieties for irrigated condition. Treat the cotton seed with Carboxin (Vitavax) 1gm or Thiram 3 gm/kg seed before sowing them. Also give seed treatment of *Azotobacter* for Nitrogen fixation and PSB @20-25 gm /kg seed for phosphate solubilization. Include intercrops like green gram and black gram in cotton in 1:1 row proportion. Use Pendimethalin 38.7 % CS @1.5 -1.75 ai/ha(20-25 ml/ lit of water) as pre-emergence weedicide to control of weeds in early stage of crop. Follow recommended spacing and fertilizer doses for arboreum 60x15,60x30cm,40:20:20KgNPK/ha), Improved hirsutum (60x30cm,60:30:30 Kg NPK/ha) and rainfed *Bt* hybrid cotton (90x45,90x60, 60:30:30Kg NPK/ha) and irrigated *Bt* Cotton(120x30,120x60 cm,120:60:60 Kg NPK/ha, respectively.
Nandurbar	0	0	0	0	0	0	0	2	4	6	
Jalgaon	0	0	0	0	0	2	0	0	4	15	
Ahmednagar	0	0	0	0	0	1	2	2	7	9	
Aurangabad	0	0	0	0	0	0	0	0	10	16	
Jalna	0	0	13.2	0	0	0	0	0	10	16	
Beed	0	0	0	0	0	0	0	0	5	12	
Nanded	0	0	0	0	0	0	0	5	20	17	
Parbhani	0	0	0	0	0	0	0	4	19	23	
Hingoli	0	0	0	0	0	0	0	4	19	25	
Buldhana	0	0	0	0	0	0	0	1.6	7.2	4.1	
Akola	0	0	1	0	0	0	0	1.6	2.2	12	
Washim	0	0	0	0	0	0	0	1	5.5	12	
Amravati	0	0	0	0	0	0	1.2	5.6	6.5	12	
Yavatmal	0	0	0	0	0	0	1.5	1	2.8	11	
Wardha	0	0	0	0	0	0	0	1.4	9.6	8.6	
Nagpur	0	0	0	0	0	0	0	7.2	10.3	11	
Chandrapur	0	0	0	0	0	0	1.4	5.1	64.5	66	
TELANGANA											
Adilabad	0	0	0	0	0	0	0	3	15	14	At Warangal, field preparation has been completed. Sowing is yet to start.
Warangal	0	0	0	0	0	32	2	5	50	5	

Khammam	0	0	0	0	0	21	12	19	58	43	At Adilabad, summer ploughing has been completed in all the fields.
Karimnagar	0	0	0	0	0	2	2	1	18	6	**Advisory**
Mahabubnagar	0	0.2	0	0	0	3	2	9	55	45	At Warangal, farmers are advised to go for crop rotation for every 2 to 3 seasons. Take up deep summer ploughing to destroy pests and weeds residues in the soil. Soil incorporation of FYM should be done. Select medium duration hybrids. Sow the crop after receipt of at least 60-70mm rain fall to avoid germination related problems. Select the variety/hybrid based on soil suitability. Do not sow the seed in dry conditions.
AP											
Guntur	0	0	0	0	0	6	10	10	6	6	At Guntur, sowings will be taken up only after the receipt of sufficient monsoon rains.
Prakasam	0	0	0	0.2	12.2	6	10	10	2	2	
KARNATAKA											
Dharwad	0	0	0	0	0	3	4	5	0	6	At Dharwad, cleaning and land preparation is in progress.
Haveri	0	0	0	0	0	3	4	6	7	7	
Mysore	0	0	7.2	0	18.2	9	5	6	7	8	At Chamarajanagar, the crop is 46 to 51 days old at vegetative and squaring stages. Top dressing with urea and inter cultural operations are in process. Incidence of leaf hopper – (2-3/3leaves) and aphids (35-40/3leaves) were noticed. **Advisory:** At Dharwad, farmers are advised to sow Okra for every 20 rows of cotton for soot weevil pest management. At Chamarajanagar, farmers are advised to install yellow sticky traps and spray Fipronil @ 1ml /lit of water.
TAMIL NADU											
Perambalur	0	0	17.6	2.4	8.2	4	6	10	6	3	At Coimbatore, in and around fields, the summer cotton is 87 to 92 days old at boll formation stage. Weeds like *Portulaca oleracea*, *Trianthema portulacastrum, Parthenium sp.* and *Cyperus sp.* have infested the fields. Incidence of whitefly and ash weevil were noticed. Root rot noticed in few patches. **Advisory:** At Coimbatore, farmers are advised to clean bunds and irrigation channels in the infested fields. Do hand weeding based on the intensity of weeds in the fields. Take up foliar spray of TNAU Cotton plus @ 6.25 kg/ ha to enhance boll formation. Regularly monitor the crop for the pest and disease incidence. Spray Dinotefuran 20% SG @150 g/ha to manage sucking pests. Drench the soil with Carbendazim @ 1g /lit of water or Trifloxystrobin+ Tebuconazole @ 0.75g/lit of water to manage root rot.
Salem	0	0	0	0	0	16	4	8	10	4	
Trichy	0	0	0	0	0	4	4	6	3	0	
Virudhunagar	0	0	0	0	0	6	3	6	3	0	

Post-season and pre-sowing package of practices

1. Clean up fields of residual stalks and partially opened bolls from previous crop season. Do not stack the uprooted cotton stalks on field bunds. At the end of crop season, the pink bollworm larvae of last generation enter the hibernation in crop residues like infested bolls, stalks or in soil. Therefore, such infested residues should be promptly destroyed in order to break the life cycle of pink bollworm. Residue destruction will also helps to reduce the inoculums and infection of new season's cotton crop by diseases like bacterial leaf blight, root rot and fungal leaf spots.
2. Install at least 10 pheromone traps each at 20 m distance in the premises of market yards and ginning mills to trap post season moths or suicidal emergence if any. Change the lures in pheromone traps timely. Also kill the larvae that come out of damaged seeds. This will help to check the spread of infestation of pink bollworm from ginning or market yard premises to nearby fields.
3. Avoid pre-monsoon sowing of cotton crop. Early sown crop bears the reproductive structures like squares and flowers early. The pink bollworm moths emerging from dormant population of previous season lay eggs on these squares and flowers thus early sown crop supports completion of new season's first generation of pink bollworm. If not controlled timely, next generations of this population further spreads onto the timely sown cotton crop with onset of squares, flowers and bolls.
4. Deep summer ploughing helps to expose and kill the dormant larvae and pupae hidden in the soil due to scorching heat of sun in April-May. Also, the birds following ploughed fields predate on these life stages of insect. This helps in minimising the incidence of insects like pink bollworm, leaf eating caterpillars, and soil born diseases like wilt, root rot and nematodes on coming season's cotton crop.
5. Crop rotation to be followed in the fields that were heavily infested with pink bollworm during last season to break the life cycle of pink bollworm. Cotton is the only host of pink bollworm, therefore crop rotation helps to break the life cycle of this pest. Crop rotation is very effective in checking the infection of soil borne diseases and nematodes in disease prone fields.
6. Grow sucking pest and disease tolerant, short duration and early maturing varieties/hybrids/cultivars of cotton. This helps in avoiding unwanted spraying of pesticides to control sucking pests and diseases during early crop growth stage. Pink bollworm infestation starts from mid-season and increases steadily towards the late season. Therefore, short duration and early maturing varieties helps to escape pink bollworm infestation in late season.
7. Sowing of cotton crop should be done in the month of June, only after receipt of 80-100 mm of monsoon rainfall. For ensuring proper germination and crop stand, withstand the prolonged dry periods during early seedling stage, there should be optimum soil moisture. This also helps to avoid re-sowing due to prolonged dry spell of rainfall. Timely sowing in June helps to avoid early infestations of pink bollworm.
8. Increased awareness should be created among the cotton farmers regarding implementation of integrated pest management (IPM) strategy for management of pink bollworm. The shopkeepers may also be advised to inform the famers not to adopt pre-monsoon sowing. This will help to spread the right message to farmers more effectively.

The detailed information regarding cotton production technology, e.g. selection of soil, varieties, fertilizer application, sowing methods, irrigation systems, management of weeds, insect pests and diseases, etc. can be availed from an android based **CICR Cotton App** developed by ICAR-CICR, Nagpur. The app can be downloaded free of cost from Google play store. Additionally, the crop growth stage specific and weather based weekly advisory are uploaded on the website of ICAR-CICR also to be consulted for the benefit of farmers

Rainfall (mm)Legend colour

<5	5-20	21-50	51-80	>80

0.0 mm rainfall (no rainfall)
Blank space express data not available.
Source:
www.imdagrimet.gov.in
www.agromet.imd.gov.in