

**ICAR-Central Institute for Cotton Research, Nagpur**  
**Sixth Weekly Advisory for Cotton Cultivation from 27<sup>th</sup> June to 3<sup>rd</sup> July '2023**

Date	ACTUAL RAINFALL in mm IMD					PREDICTED RAINFALL in mm IMD					ADVISORY
	JUNE					JUNE/JULY					
	23	24	25	26	27	29	30	01	02	03	
<b>PUNJAB</b>											
Firozpur	0	0	0	0	0	3	2	9	5	4	<p>At Bathinda and Faridkot, the crop is 35 to 55 days old at vegetative to flowering stage. Hoeing and weeding are in progress. First Irrigation and application of first split of Nitrogen started in some fields. <i>Cyperus</i> sp., <i>Digeraarvensis</i> and <i>Trianthema monogynatype</i> of weeds are in dominance in most of the fields. Population of whitefly varied from 0-6 per 3 leaves, jassids varied from 0-4 per 3 leaves and thrips varied from 3-15 per 3 leaves. Pink bollworm incidence varied from 0 to 30 percent.</p> <p><b>Advisory:</b>            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 insecticide @1 litre/acre. If population of whitefly increases beyond ETL, spray the fields with Dinotefuran 20 SG @ 60g/ acre or Clothianidin 50 WG @ 20g/acre or Afidopyropen 50DC @400ml/acre or Ethion 50EC @ 800ml/ acre. If nymphal population of whitefly is high, then spray Pyriproxyfen 10EC @ 500 ml/ acre or Spiromesifen 22.9 SC @ 200 ml/acre. In fields where early sowing is done and the crop is at flowering stage, destroy rosette flowers, if any. In case, flower or bolls infestation is more than 5%, spray Profenophos 50 EC @ 500ml/acre or Emamectin benzoate 5 SG @ 100 g/acre or Ethion @ 800 ml/acre. After first irrigation, check for the incidence of parawilt in cotton crop and spray Cobalt chloride solution @ 1g/100 litre of water immediately after the appearance of symptoms on the affected plants.</p> <p>At Faridkot, farmers are advised to 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. Drain out excessive water in event of heavy rainfall as cotton is very sensitive to stagnating water. Parawilt may appear in cotton fields where rainfall has been received after first irrigation. So, farmers should keep regular surveillance of the fields and contact University Scientists or Officials of State agriculture department for any corrective measures. Preventive spray of neem based insecticide is suggested @ 45-60 DAS to check the population of sucking pests and to prevent egg laying by pink bollworm moths. In case of high thrips infestation, give light irrigation for its management. If the incidence increases, spray Profenofos 50 EC @ 600 ml/acre. Check for squares and flowers for the infestation of pink bollworm especially in early sown crop. To monitor pink bollworm, use pheromone traps @5 per hectare. Replace the lure as per validity indicated.</p>
Faridkot	0	0	0	0	0	1	2	7	3	3	
Muktsar	0	0	0	1	0	2	3	8	4	3	
Bhatinda	0	0	0	23	0	2	5	8	3	3	
Sangrur	0	0	0	0	0	6	4	9	8	2	
Ludhiana	0	0	0	0	0	5	8	10	8	3	

HARYANA											
Hisar	0	0	0	0	0	5	1	2	6	2	<p>At Hisar and Sirsa, the crop is 30 to 70 days at initial vegetative to squaring and flowering stages. Weeds like <i>motha</i>, <i>santhi</i> and <i>doob</i> have emerged in the fields after rainfall. Thrips and whitefly incidence were noticed above ETL. Initial infestation of pink bollworm appeared on flowers in cotton crop and have started slightly going beyond ETL along with initial infestation of spotted bollworm in desi cotton. Some cases of nematode and root rot were also observed in light soils. At Sirsa, whitefly and jassids population noticed below ETL but thrips crossed ETL at few locations. Rosette flower initiation and green boll damage observed in early sown crop. Necessary recommendation of pheromone traps installation to monitor PBW has been issued. In addition, PBW management message was sent through E-kapas. Root rot noticed at few locations.</p> <p><b>Advisory:</b> At Hisar, farmers are advised to give first irrigation in cotton crop followed by the application of first split dose of Urea @ 1 bag/acre in cotton crop which is in peak square formation stage. Do mechanical hoeing after rains or irrigation followed by manual hoeing to control the weeds. Remain vigilant in the fields wherever flowering has started for the attack of pink bollworm on flowers. Install pheromone traps @ 5 traps per ha for monitoring of pink bollworm. If the infestation of pink bollworm starts appearing in flowers, give one spray of neem-based insecticides @ 1/acre if it crosses 5-10% in flowers, spray Profenophos 50 EC @ 600 ml/acre which would also manage initial infestation of thrips. Treat root rot affected patches in field by drenching with Carbendazim 50 WP@ 2g/litre of 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.</p> <p>At Sirsa, farmers are requested to continue intercultural operations. Install pheromone traps to manage bollworms and low-cost yellow sticky traps to monitor whitefly. Install pheromone traps @ 5 traps per ha for monitoring of pink bollworm. Avoid any chemical spray up to 60 days old crop. Give irrigation if required, in cotton crop or else, apply neem oil @ 1 litre /acre to control thrips. Monitor the insect-pest incidence regularly and destroy the rosette flowers along with PBW larvae. Remove cotton stalks stacked in or around the fields or cover them with nets at the earliest. Drench the root rot affected plants with Carbendazim 50 WP@2g/litre of water.</p>
Jind	0	0	0	0	0	4	1	2	7	2	
Sirsa	0	0	0	0	0	1	2	5	6	1	
Rohtak	2	0	48	47	31	8	5	2	7	13	
RAJASTHAN											
Ajmer	0	0	44	0.3	4.6	18	42	70	36	37	<p>In Southern Rajasthan (Banswara, Bhilwara, Chittorgarh, Dungarpur, Pratapgarh, Rajsamand and Udaipur etc.), wherever irrigation facilities were available, the crop has been sown and in remaining areas, crop will be sown after onset of monsoon. The sown crop is 0 to 46 days old at seedling to initial vegetative stage. Intercultural operations done to control weeds. Incidence of jassids noticed but below ETL.</p>
Jodhpur	0	0	3.2	0	65.4	9	41	43	45	20	
Nagaur						14	25	70	40	25	
Pali	0	0	0	0	0	40	65	49	43	35	
Sri Ganganagar	0	0	0	75.8	0	5	1	9	7	3	

											<p>In Sriganganagar and Hanumangarh, sowing is almost completed under assured irrigation track. The sown crop is at vegetative and branching stages. Sowing is still continuing in some areas. Weeds like Itsit (<i>Trianthema spp.</i>), Tandra (<i>Digera arvensis</i>) Motha (<i>Cyperus rotundus</i>) 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 8.00/ leaves, thrips population and pink bollworm incidence observed below ETL. CLCuD symptoms have started appearing in few locations.</p> <p><b>Advisory:</b>            In Southern Rajasthan (Banswara, Bhilwara, Chittorgarh, Dungarpur, Pratapgarh, Rajsamand and Udaipur), farmers are advised to do gap filling in early sown crop for proper plant 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 litre/ha within 24-48 hours after sowing for weed control. Monitor the fields for infestation of sucking pests in earlier sown cotton. If any sucking pest infestation reported near ETL, spray with Neem based insecticide or NSKE 5%. 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).</p> <p>In Sriganganagar and Hanumangarh, farmers are advised to apply recommended dose of nitrogenous fertilizers after first and second 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. Apply total of 27.5 kg Urea in three splits i.e. first at basal, second on first irrigation, third on square formation/ second irrigation depending upon soil type and moisture conditions. Remove weeds near and around the cotton fields. Spray neem-based insecticides @ 1 litre/acre to control sucking pests and PBW. Install pheromone traps @5/ha to monitor bollworms. Monitor bollworm occurrence regularly and destroy the affected plant part along with larvae. Wherever PBW population crosses ETL, apply Neem based insecticide up to 60 days old crop or spray chemical insecticides i.e., Emamectin benzoate 5 WG @ 100g/acre or Profenophos 50 EC @ 600ml/acre.</p>
<b>ODISHA</b>											
Koraput	43	0	0	0	3	20	15	10	10	15	<p>At Odisha, sowing of cotton has started during last week in all the cotton growing districts of Western Odisha. Though the rainfall so far in June is almost 80% less than the normal, it is sufficient for sowing and good germination. A total area of 2.20 lakh ha has been planned to be covered under cotton in 2023-24 in 11 districts of the State. The sown crop is at germination stage.</p>
Kalahandi	12.2	0.4	3	0	13	20	15	7	7	10	
Balangir	0	0	0	0	0	25	15	10	4	4	



											vegetative stage. Farmers who are entirely dependent on monsoon showers are waiting for the monsoon rains. Few have just started their sowing after pre monsoon showers received a couple of days ago. Spot weeding, gap filling and thinning, fertigation are being taken up in the sown areas. Incidence of jassids have been observed in some fields. Summer season weeds like <i>Cynodon dactylon</i> , <i>Cyperus rotundus</i> , <i>Argemone mexicana</i> and <i>Phyllanthus niruri</i> have infested the fields.
											<b>Advisory</b> Farmers are advised to grow only early to medium maturing Bt hybrids. Before sowing, treat the seeds with Carboxin 37.5% + Thiram 37.5% DS @3.5 g per kg of seeds (root rot and bacterial diseases) or Fluxapyroxad (333 g/L FS) @1.5 ml per kg seed or Tetraconazole 11.6% W/W (12.5% w/v) SL @1.5 ml per kg of seeds to manage seed borne diseases (for root rot disease). 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 <i>Kolpa</i> in those areas where crop is at 35 DAS.
<b>MAHARASHTRA</b>											
Dhule	0	0	0	0	0	4	9	4	10	20	At Akola, Nanded and Rahuri, land preparation for coming <i>kharif</i> 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.  <b>Advisory:</b> 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 <i>Bt</i> /non <i>Bt</i> varieties for rainfed sowing and mid-late for irrigated condition. Before sowing, treat the seeds with Carboxin 37.5% + Thiram 37.5% DS @3.5 g per kg of seeds (root rot and bacterial diseases) or Fluxapyroxad (333 g/L FS) @1.5 ml per kg seed or Tetraconazole 11.6% W/W (12.5% w/v) SL @1.5 ml per kg of seeds to manage seed borne diseases (for root rot disease). Also give seed treatment of <i>Azotobacter</i> for Nitrogen fixation and PSB @20-25 g /kg seed for phosphate solubilization. Include intercrops like greengram and blackgram in cotton in 1:1 row proportion. Use Pendimethalin 38.7 % CS @700 ml/acre as pre-emergence weedicide to control weeds in early stage of crop. Follow recommended spacing and fertilizer doses for <i>arboeum</i> 60x15, ,40:20:20KgNPK/ha), Improved <i>hirsutum</i> (60x30cm,60:30:30 Kg NPK/ha) and rainfed <i>Bt</i> hybrid cotton (90x45,90x60, 60:30:30Kg NPK/ha) and irrigated <i>Bt</i> Cotton (120x30,120x60 cm,120:60:60 Kg NPK/ha), respectively.
Nandurbar	0	0	0	0	0	4	10	5	17	28	
Jalgaon	0	0	0	0	0.3	9	12	10	15	25	
Ahmednagar	0	1	14	0	0	10	12	15	25	35	
Aurangabad	0	0	2.9	0.5	10	31	58	156	32	24	
Jalna						34	45	156	40	27	
Beed	0	0	0	0	0	29	25	39	58	11	
Nanded	0	0	0	0.4	5.6	32	36	13	17	14	
Parbhani	0	0	3.5	0.5	1.4	32	33	36	26	21	
Hingoli	0	0	13.5	1.5	0	37	41	31	32	10	
Buldhana	0	2	1	0	3	34	31	59	15.8	9	
Akola	0	1.8	0	0.6	15.8	35	50	26	12.2	6	
Washim	0	0	0	0	0	34	30	25	14.2	6	
Amravati	25.8	9	1	22	6	53	52	34	19.5	8	
Yavatmal	0	6	0	40	9	34	24	6.4	8.3	11	
Wardha	5.6	4	0	0	0	34	58	8	5.9	7	
Nagpur	37.4	12	0	78.4	12.1	68	52	12	6.9	10	
Chandrapur	18.8	12	0	5	3.2	53	47	5.5	11.1	13	
<b>TELANGANA</b>											
Adilabad	6	0	0	5	49	15	7	10	10	2	At Warangal, sowing has been almost completed. Fields were irrigated due to lack of rains. Pre emergence herbicides were applied.
Warangal	0	3	0	0	0	4	1	2	4	4	
Khammam	0.8	9	11.6	0	0	5	6	1	4	5	

Karimnagar	5.3	0.5	0.8	3.7	9.5	12	0	0	2	3	At Adilabad, summer ploughing has been completed in all the fields.
Mahabubnagar	1	0	5	0.2	0.4						<b>Advisory</b> At Warangal, farmers are recommended to sow 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. Before sowing, treat the seeds with Carboxin 37.5% + Thiram 37.5% DS @3.5 g per kg of seeds (root rot and bacterial diseases) or Fluxapyroxad (333 g/L FS) @1.5 ml per kg seed or Tetraconazole 11.6% W/W (12.5% w/v) SL @1.5 ml per kg of seeds to manage seed borne diseases (for root rot disease), if not treated.
<b>AP</b>											
Guntur	14	0	0	0	0	0	0	0	0	0	At Guntur, sowings will be taken up only after the receipt of sufficient monsoon rains. Before sowing, treat the seeds with Carboxin 37.5% + Thiram 37.5% DS @3.5 g per kg of seeds (root rot and bacterial diseases) or Fluxapyroxad (333 g/L FS) @1.5 ml per kg seed or Tetraconazole 11.6% W/W (12.5% w/v) SL @1.5 ml per kg of seeds to manage seed borne diseases (for root rot disease), if not treated.
Prakasam	24.6	0	23.8	8.1	2	0	0	0	0	0	
<b>KARNATAKA</b>											
Dharwad	0	0	0	0	0	0	0	8	0	7	At Dharwad, cleaning and land preparation is in progress. Sporadic rainfall was received in surrounding locations.
Haveri	0	0	1.5	0.5	0	0	0	7	4	6	
Mysore	0	0	0	12.2	0	4	5	0	15	5	At Chamarajanagar, the crop is 53 to 58 days old at squaring stage. Inter cultural operations and earthing up are in progress. Incidence of jassid (5-6/3leaves) and aphids (30-35/3leaves) and whitefly 2-3/3 leaves were noticed.  <b>Advisory:</b> At Dharwad, farmers are advised to sow Okra for every 20 rows of cotton for shoot weevil pest management. Before sowing, treat the seeds with Carboxin 37.5% + Thiram 37.5% DS @3.5 g per kg of seeds (root rot and bacterial diseases) or Fluxapyroxad (333 g/L FS) @1.5 ml per kg seed or Tetraconazole 11.6% W/W (12.5% w/v) SL @1.5 ml per kg of seeds to manage seed borne diseases (for root rot disease), if not treated.  At Chamarajanagar, farmers are advised to install yellow sticky traps and spray Imidachloprid 17.8SL@ 3ml or Flonicamid 50% WG 4g/10litre of water.
<b>TAMIL NADU</b>											
Perambalur	2	0	0	0	0	0	0	0	3	3	At Coimbatore, in and around fields, the summer cotton is at boll formation stage. Weeds like <i>Parthenium</i> sp. and <i>Cyperus</i> sp. have infested the fields. Incidence of whitefly were noticed. Root rot and bacterial blight recorded in few patches.  <b>Advisory:</b>
Salem	20	0.3	0	0	0	3	3	3	4	2	
Trichy						2	4	3	2	0	
Virudhunagar	0	0	0	0	0	2	0	0	3	0	

																						At Coimbatore, farmers are advised to take up hand weeding based on the intensity of weeds in the fields. If Magnesium deficiency is observed in the field, give foliar spray with Magnesium sulphate @ 10 g / litre of water. Regularly monitor the crop for the pest and disease incidence. Spray Flonicamid 50% WG @ 150 g/ha to manage sucking pests. Drench the soil with Carbendazim 50 WP@ 1g /litre of water to manage root rot and spray Copper oxychloride 50 WP@2 kg/ ha to reduce severity of bacterial blight.

#### 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 inoculum 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 farmers 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
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0.0 mm rainfall (no rainfall)

Blank space express data not available.

Source:

[www.imdagrimet.gov.in](http://www.imdagrimet.gov.in)

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