ICAR-Central Institute for Cotton Research, Nagpur

Tenth Weekly Advisory for Cotton Cultivation from 25th to 31st July, 2023

	ACTUAL RAINFALL in mm IMD					PREDICTED RAINFALL in mm IMD					ADVISORY
	JULY					JULY					
Date	**21**	**22**	**23**	**24**	**25**	**27**	**28**	**29**	**30**	**31**	
PUNJAB											
Firozpur	0	0	0	0	0	49	52	39	35	8	At Bathinda, the crop is 70 to 85 days old at flowering to boll formation stage. Hoeing and weeding are in progress. Sprayed 2% Potassium nitrate (13:0:45) in cotton fields where flowering has initiated. Weeds like *Chulai* (*Amaranthus viridus*), *Dodhak* (*Euphorbia* spp.), *Tandla* (*Digera arvensis*), Madhana (*Eleusine* spp.), *Trianthema monogyna,* Makru (Ipomea spp.), Khabbal (*Cynodon dactylon*), Chibber bel (*Cucumis trigonus*) have dominated the fields. Whitefly population ranged between 0-21.4/ 3 leaves, jassid between 0-9.6/3 leaves and thrips between 0-42/3 leaves. Incidence of pink bollworm ranged between 0-5%. Problem of boll rot was also noticed in few fields. At Faridkot, the crop is 75 to 85 days old at flower initiation/ reproductive stage. Mechanical/ manual intercultural operations, fertilizer application and one/ two sprays against sucking pests and pink bollworm were taken up. Whitefly incidence is near ETL at some of the locations and thrip incidence was below ETL. Jassid population has gone beyond ETL at most of the spots. Pink bollworm incidence was near ETL ranging between 3-5%. **Advisory**: At Bathinda, farmers are advised to drain out the excess water from cotton fields in case of heavy rainfall. Apply second split of Nitrogen at flowering stage. Give four sprays of 2% Potassium nitrate (13:0:45) at weekly intervals in cotton fields where flowering has started. If whitefly adult population is above ETL, spray Afidopyropen 50DC @ 400 ml/acre or Flonicamid 50 WG @ 80 g/acre or Clothianidin 50 WDG @ 20 g/acre or Dinotefuran 20 SG @ 60 g/acre. Spray the crop with Dinotefuran 20 SG @ 60 g/acre if jassid population goes beyond ETL and Profenofos 50EC @ 600 ml/acre or Spinetoram 11.7 SC @ 170 ml/acre where the population of thrips is above ETL. Rosette flowers, if any, should be removed and destroyed. Monitor them in fields where crop is at flowering stage and spray Profenofos 50 EC @ 600 ml/acre or Emamectin benzoate 5 SG @ 100 g/acre or Indoxacarb 14.5 SC/15.8 EC @ 200 ml/acre if the incidence of pink bollworm goes above 5 per cent. After heavy rains or irrigation, some of the cotton plants may show wilting due to para wilt. In that case, spray Cobalt chloride solution @ 1 g/100 litres of water immediately after the appearance of symptoms on the affected plants. Foliar spray of Carbendazim 50 WP@0.04% or Kresoxim
Faridkot	0	0	0	9	0	48	39	30	28	9	
Muktsar	0	0	0	0	0	39	30	25	21	7	
Bhatinda	0	0	0	0	0	45	38	31	29	6	
Sangrur	0	0	0	0	0	48	32	26	30	10	
Ludhiana	0	0	0	0	0	29	45	32	35	21	

											methyl 44.3 SC @ 0.1% or Propineb 70 WP @ 0.25 % or Propiconazole 25 EC @ 0.1% or Metiram 55% +Pyraclostrobin 5% WG @ 0.2% or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @ 0.1% or Fluxapyroxad167 g/L + Pyraclostrobin 333 g/L SC @ 0.6% is recommended to manage fungal boll rot, fungal leaf spots, Myrothecium leaf spot and blights disease. At Faridkot, farmers are advised to apply recommended dose of N fertilizers in 2-3 equal splits depending upon soil type and moisture conditions. Avoid N application through broadcast just before irrigation as this leads to leaching of fertilizers and contamination of groundwater. Drain out excessive water in the event of heavy rainfall as cotton is very sensitive to stagnating water. In case of jassid incidence above ETL, spray Flonicamid 50 WG @ 80 g/acre or Dinotefuran 20 SG @ 60 g/acre. Install pheromone traps @ 5 traps/ha to monitor pink bollworm and replace the lure as per validity indicated. Check for squares and flowers for the infestation of pink bollworm especially in early sown crop. Spray Profenofos 50 EC 600 ml/acre or Emamectin benzoate 5 SG @ 100 g/acre or Indoxacarb 14.5 SC/15.8 EC @ 200 ml/acre, if incidence crosses ETL.
HARYANA											
Hisar	0	0	0	0	0	50	45	50	24	8	At Hisar, the crop is 63 to 105 days old at boll formation to boll development stage. Hoeing and insecticide spray was given. Weeds like *motha*, *santhi, makra, hiranhuri, kelapatta* and *doob* were observed in some of the fields after rainfall. Mechanical followed by manual hoeing was done as per the feasibility. Population of thrips declined after rainfall but it is above ETL in the majority of fields. Jassid and whitefly population are building up with jassid having crossed economic threshold in few fields. Infestation of pink bollworm was observed in flowers and green bolls in cotton crops around ETL in several fields. Cotton leaf curl viral disease and *Myrothecium* leaf spot has started infesting almost all the fields in Hisar and Fatehabad districts. At Sirsa, the crop is 70 to 95 days old at the flowering and boll formation stage. Intercultural operations by tractor and hand hoeing, weeding and irrigation, fertilizer application and Neem/ based sprays are in progress. Whitefly population was noticed below ETL, jassids at few locations and thrips crossed ETL at all locations. Damage due to rosette flower has decreased but green boll damage has increased. Root rot incidence was noticed. **Advisory:** At Hisar, farmers are advised to drain out excess water from the cotton fields after heavy rains. Apply second split dose of Urea @ 1 bag/acre in 10 to 12 weeks old crop. mechanical hoeing after irrigation/rainfall followed by manual hoeing by spade, if needed. Cover previous season cotton stalks by mosquito net or polythene sheet. In cotton crop
Jind	0	0	0	0	0	25	28	30	26	12	
Sirsa	0	0	0	0	0	50	11	75	27	6	
Rohtak	0	14	0	1	0	48	70	28	30	10	

											where flowering and boll formation has initiated, remain vigilant for pink bollworm attack in flowers and bolls and install pheromone traps @ 5/ha to monitor them. Adult catch of 8 adults/trap for consecutive 3 days till mid-August requires insecticide intervention for its management. In case the infestation of pink bollworm crosses ETL of 5-10% rosette flowers or 5-10% infested green bolls, spray Profenofos 50 EC @ 600 ml/ac or Quinalphos 20 AF @ 400 ml/acre which would also manage initial infestation of thrips. In case of foliar disease like *Myrothecium* leaf spot, spray Copper oxychloride @ 500-600 g in 150-175 litres of water. To manage initial population of whitefly, give a spray of neem-based insecticide @ 5 ml/litre of water. Drench the root rot affected patches in field with Carbendazim 50 WP @ 1.2 g/litre of water. Spray Fluxapyroxad 167 g/litre + Pyraclostrobin 333 g/litre SC @ 0.6 g/litre or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @1 ml/litre or Propiconazole 25 EC @ 1 ml or Metiram 55%+ Pyraclostrobin 5% WG @ 2 g/litre of water to manage Myrothecium leaf spot, fungal boll rot and other fungal foliar diseases. Monitor fields regularly at weekly intervals and necessarily after the rainfall. At Sirsa, farmers are requested to continue intercultural operations. Regularly monitor the insect-pest incidence. Henceforth, monitor PBW either through trap catches or 20 green boll/acre destructive sampling as advised. Apply second split of Nitrogen (Urea 40 kg/ha) wherever crop age is 70 to 80 days old at fruiting stage and first split has already been given. Start foliar application of N:P:K (13:0:45) @ 2.0 kg /150 litres of water and repeat 2-3 times at 10 days interval. Install pheromone traps @ 5/ha to monitor pink bollworm and yellow sticky traps @ 20/ha to manage whitefly. To control thrips, give irrigation, if required, or else, apply Spinetoram 11.7 SC @170 ml or Emamectin benzoate 5 SG @ 100 g/acre or Profenofos 50 WP @ 600 ml /ac which help in PBW management also. Spray Dinotefuran 20 SG @ 60 g or Flonicamid 50 WG @ 80 g per ac to control jassid in addition to whitefly also. Remove or destroy rosette flowers along with pink bollworm larvae. In case PBW crosses ETL based on rosette flower damage/trap catches/green boll damage, apply Emamectin benzoate 5 SG @100 g/acre or Spinetoram 11.7 SC @ 170 ml/acre in 150 litres of water, which is effective against thrips also. Drench the root rot affected plants and surrounding healthy plants with Carbendazim 50 WP @ 2 g/litre of water or *Trichoderma harzianum* or *T. viride* WP @ 5-6 g/litres of water.
RAJASTHAN											
Ajmer	0	0	0	5.1	4	16	15	22	8	5	In Southern Rajasthan (Banswara, Bhilwara, Chittorgarh, Dungarpur, Pratapgarh, Rajsamand and Udaipur), the crop is 28 to 74 days old at vegetative to flowering stage. Intercultural operations could not be carried out due to continuous rains. Both the weeds, grassy and broad leaves, have spread in the fields. No Incidence of pests and diseases except jassid but below ETL.
Jodhpur	0.4	67	1.3	0	3	16	8	6	1	1	
Nagaur	4	12	0	0	0	9	20	14	4	2	
Pali	5	18	34	8	0	20	10	9	2	2	
Sri Ganganagar	0	24	0	0	0	6	18	6	5	6	

											In Sriganganagar and Hanumangarh, the sown crop is 57 to 110 days old at branching, square formation and flower initiation stages. Weeds like Itsit (*Trianthema* spp.), Tandla (*Digera arvensis*), Motha (*Cyperus rotundus*) have infested the crop. Post sowing irrigation has been given, intercultural operations have been taken up in early and timely sown cotton. Jassid incidence noticed around 0 to 3.67/3 leaves, whitefly 0 to 5.3/3 leaves and thrips 0 to 7.76 to 28.3/3 leaves. **Advisory:** In Southern Rajasthan (Banswara, Bhilwara, Chittorgargh, Dungarpur, Pratapgarh, Rajsamand and Udaipur), farmers are advised to make proper drainage system in their fields looking to forecast of rains. Apply either first or second split of recommended dose of N fertilizers according to crop stage. Monitor infestation of sucking pests in earlier sown cotton. Spray 5% neem seed kernel extract (NSKE) or *Azadirachtin* 1500 ppm (0.15% EC) @ 5 ml/ litre of water or Buprofezin 25 SC @ 1.25 litre/ha or Diafenthiuron 50 WP @ 625 g/ha or Flonicamid 50 WG @200 g/ha to control sucking pests if it goes beyond ETL. Install yellow sticky traps 8/acre to monitor whitefly and jassids and pheromone traps @ 5/ha to monitor pink bollworm. In case of wet soil condition, where manual weeding is not possible, go for application of post-emergence herbicides at 25 -30 days after sowing like Quizalofop ethyl 5% EC @ 2 ml/litre of water, if the field is infested with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds. 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. Give foliar application of KNO_3 @ 2% where the crop is above 65 days. Remove weeds near and around the cotton fields**.** Spray neem-based insecticides @ 5 ml/litre at early stage of crop or in case of mild attack of sucking pests and pink bollworm. Spray Flonicamid 50 WG @ 0.40 g/litre or Afidopyropen 50 DC @1.50 ml/litre of water to control jassid. In case of thrips infestation, use Spinetoram 11.7 SC @ 0.8 ml/litre or Profenofos 50 EC @ 3 ml/ litre of water. Install pheromone traps @5/ha to monitor bollworms. Regularly, monitor bollworm occurrence and destroy the affected flower along with larvae. Wherever pink bollworm population crosses ETL, i.e. flower or bolls infestation is more than 5% spray Profenofos 50 EC @ 3 ml/ litre or Emamectin benzoate 5 SG @ 0.50 g/litre of water.
ODISHA											
Koraput	1	0	3	0	18	50	80	15	15	20	At Odisha, the crop is 24 to 34 days old at vegetative stage. Intercultural operations,

Kalahandi	27.4	1	25	5.8	0	15	30	20	20	30	weeding and earthing up, application of second dose of fertilizer, spraying of neem pesticides to suppress sucking pests like aphids were the operations taken up. Weeds of all types i.e. broad leaf, grasses and sedges were noticed in most of the fields. Manual weeding and earthing up are in progress. No incidence of pests and diseases. **Advisory**: Due to continuous rains and expected rains in the forthcoming days due to low pressure, farmers are advised to take utmost care and drain excess water from the fields. Take up weeding, intercultural and earthing up operations on time. Apply second dose of fertilizer @ 120:60:60 kg/ha for hybrids and 90:45:45 kg/ha for varieties (2nd dose- 50% N and 50% K). Micronutrients, if not applied, give as basal dose @ $ZnSO_4$ (25 kg/ha) and Boron (5 kg Borax/ha) at the time of earthing up. In case of wet soil condition where manual weeding is not possible, go for application of post emergence herbicides (at 25 -30 days after sowing) like Quizalofop ethyl 5% EC @ 2 ml/litre of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds. Regularly monitor the crop to know about incidence of any pest and disease. To prevent sucking pests like aphids, spray neem-based pesticide (1500 ppm) @ 50 ml/10 litre of water.
Balangir	8.7	12	27.2	4.7	4	10	20	15	30	30	
GUJARAT											
Amreli	0	0	0	6.4	3.2	55	7	3	4	6	At Surat, the sown crop is 27 to 33 days duration crop at germination and vegetative stage. Resowing, gap filling and manual weeding are in progress. Weeds like Chido (*Cyprus rotundus*), Satodi (*Trianthema monogyna*), Dhamdo (*Amaranthus viridis*) and others have infested the fields. At Junagadh, the sown crop is 35 days old at initial vegetative stage. Gap-filling, intercultural operations and weeding are under progress. Heavy to extremely heavy rainfall was received in some pockets. Removed excess water and gap-filling was done. Wet weather blight was noticed in some isolated places. Weeds like Sambo, sedge, amaranth and horse purslane have spread in the fields. **Advisory:** At Surat, farmers are advised to be vigilant towards timely field sanitation. In case of heavy rains, farmers are advised to drain out the excess rain water from the cotton fields. In case of wet soil condition where manual weeding is not possible, go for application of post emergence herbicides (at 25 -30 days after sowing) like Quizalofop ethyl 5% EC @ 2 ml/litre of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6%
Bhavnagar	52.4	36	56.4	5.6	39	39	19	6	2	3	
Jamnagar	237	56	6.6	17.4	1.4	14	0	5	0	0	
Rajkot	34.2	0	23.8	27.4	4.6	55	5	2	3	0	
Junagadh	159	11	55	20.4	16.8	17	10	8	5	7	
Sabarkantha						50	0	2	4	0	
Surendranagar	3	11	16	0.6	0	27	0	8	0	0	
Ahmedabad	0	0.4	188	0.5	5	20	24	3	4	4	
Baroda	0	64	21	22.4	7.2	36	35	20	5	7	
Patan	9	1	4	0.5	0	22	0	2	4	0	
Mehesana						26	4	2	4	4	

											EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds. If sowing is yet to be done, treat the seeds with Carboxin 37.5% + Thiram 37.5% DS @ 3.5 g/kg of seeds to manage root rot and bacterial diseases with 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 to manage root rot disease or *Trichoderma harzianum* or *T. viride* @10 g/ litre of water for *Fusarium* wilt patches along with one meter radius of healthy plants in desi cotton field. Apply Nitrogen dose @ 30, 60, 75, 90 and 105 days after sowing in equal splits. Give complete dose of phosphorus at the time of sowing as a basal dose. Install pheromone traps @ 5 traps/ha to monitor pink bollworm. At Junagadh, farmers are advised to remove excess water from the fields after heavy rains. Take up gap filling, weeding, intercultural operations to maintain plant population and apply Ammonium sulphate @10 kg/acre. Spray Propiconazole 25 EC @1 ml or Carbendazim 50 WP@ 0.4 g/litre or Fluxapyroxad 167 g/litre + Pyraclostrobin 333 g/litre SC @ 0.6 g/litre or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @1 ml/litre or Metiram 55%+ Pyraclostrobin 5% WG @2 g/litre of water to manage wet weather blight and other fungal foliar diseases. If hand weeding is not possible, go for application of post emergence herbicides (at 25 -30 days after sowing) like Quizalofop ethyl 5% EC @ 2 ml/litre of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds.
MP											
Khargaon											At Khandwa, the crop is 28 to 77 days at vegetative, pre flowering stage or flowering stages. As the crop is in different stages, operations have been carried out as per the requirement in the fields like spot weeding, intercultural operations, and fertilizer application. As regular showers were there, fields were not irrigated. Summer season weeds like *Cynodon dactylon*, *Cyperus rotundus*, *Argemone mexicana* and *Phylanthus niruri* have infested the fields. Incidence of jassid have been observed in some fields. No disease incidence so far. **Advisory** Farmers are advised to apply second dose of chemical fertilizer @ 150:75:40 kg/ha, respectively with 25% of N at 30 DAS and 25% N by column method at a depth of 10 to 15 cm and 50% of P & K at 60 DAS. Split doses of these nutrients should be applied by column method at the depth of 10 to 15 cm. Take up weeding with bullock drawn *Kolpa* in those areas where crop is at 35 DAS if the field condition is probable**.** Spray neem-based insecticides @ 1 litre per acre at 45-60 days of crop age to check the sucking pests and prevent egg laying by pink bollworm. Install Pheromone traps @ 5 /ha to monitor pink
Dhar	24.3	30	51.4	0	0	35	30	27	3	7	
Khandwa											

											bollworm moth activity. Observe for the presence of rosette flowers and collect them and destroy immediately.
MAHARASHTRA											
Dhule	0.5	13	3	1.5	0	12	24	13	9	10	At Akola, the sown crop is of 20 to 25 days old at vegetative growth stage. Thinning, hoeing, weeding and top dressing of fertilizer is in progress. Some grassy weeds particularly *Cyperus rotundus* is prominent in the fields with broad leaf weeds in few fields. No incidence of pests and diseases.
Nandurbar						14	18	20	9	10	
Jalgaon	1	7	26	22	6.2	20	25	16	10	9	
Ahmednagar	0.8	0	2.6	0	5.2	20	25	30	12	9	
Aurangabad	1.2	4	0	5.9	0.4	12	17	10	5	3	
Jalna						18	35	8	5	7	At Nanded, the sown crops in irrigated areas are 14 to 35 days at initial vegetative growth stage. Sowing is in progress both under irrigated and rainfed conditions. Gap filling is in progress. Weeds like *Cynadon dactylon, Cyperus rotundous, Digeria arvensis, Meremia emerginata, Xanthium strumarium, Casia tora, Acalypha indica, Achyranthes aspera, Alternanthera sessilis, Eclipta alba, Parthenium hysterophorus, Phyllanthus niruri, Digitaria sanguinalis, Dinebra retroflexa, Setaria viridis* etc. have dominated the cotton fields. No incidence of pests except jassids and aphids but below ETL. Physiological disorder and reddening in seedlings have been noticed in few fields.
Beed	0	0	0	0	0	25	40	12	5	3	
Nanded	36.7	47	0	0	40.6	45	75	35	20	10	
Parbhani	8.8	12	7.5	0	20.6	30	56	14	8	7	
Hingoli	11.5	24	28.5	2	0	30	56	14	4	7	
Buldhana	0	8	2	3	7	28	20	71	19	5	
Akola	2.4	30	108	2.9	0	28	23	65	13	9	
Washim	32	0	49	2	0	30	23	71	9.3	6	
Amravati	3	37	15.6	24	1	29	66	123	16	11	At Rahuri, the crop is 27 to 52 days old at vegetative stage. Sucking pests noticed above ETL except thrips. Weeds like *Haryali*, *Parthenium* etc., have infested the fields. One to two per cent cotton plants damaged due to *Myllocerus* weevil.
Yavatmal	1	316	24	5	4	29	75	126	11	10	
Wardha	0	99	23.4	15	6	22	77	117	13	11	
Nagpur	1.2	40	6.7	0.1	4	25	74	117	72	14	
Chandrapur	99	26	2.4	0	5	0.5	124	117	28	16	**Advisory:** At Akola, farmers are advised to open the furrow in cotton field at regular intervals for moisture conservation purpose and to drain the excess water from the field. Infestation of some grassy weeds and broadleaf weeds was observed in cotton field. So, farmers are advised to undertake spray of post-emergence herbicide (at 25 - 30 days after sowing) Pyrithiobac Sodium 10 % EC @12.5 to 15 ml/10 litres of water for broad leaf weeds and Quizalofop ethyl 5 % EC @20 ml/10 litres of water to manage grassy weeds in cotton or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 20-25 ml/10 litres of water for broad spectrum weed control. Carry out the intercultural operations like hoeing and weeding in cotton after draining the excess water from the fields. Apply first split of 40 Kg N (90Kg Urea/ha) for irrigated hybrid cotton and 30 Kg N (65 Kg urea/ha) for rainfed hybrid/hirsutum cotton as top-dressing dose of chemical fertilizer. Spray 5% neem seed kernel extract (NSKE) or Azadirachtin 1500 ppm (0.15% EC) @ 5 ml/ litres of water based on ETL to manage sucking pests. At Nanded, farmers are advised to provide drainage to cotton crop to drain out excess rain water by opening trenches in low lying area. Gap filling and thinning of cotton should be

											done in rainfed. Interculture should be done in rainfed for weed management. Apply basal dose of fertilizer @ 30:75:75 NPK kg/ha to pre-seasonal crop and basal dose of fertilizers @ 48:60:60 NPK kg/ha to crop with 20-25 DAS rainfed cotton if not applied at the time of sowing cotton. In case of wet soil conditions, where manual weeding is not possible, go for application of post emergence herbicides at 25-30 DAS like Quizalofop ethyl 5% EC @ 2 ml/litres of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds. Intermittent wet and dry spell may cause infection of *Macrophomina phaseolina* (*R. bataticola*) to roots, stem and leaves and this stress causes reddening of stems, stunted growth and dry root rot in seedlings in some areas. Drenching with Carbendazim 50 WP @ 12 g mixed per 10 litres of water is suggested to recover early symptomatic affected plants. Draining of excess water from fields is also suggested. Before sowing if not treated, 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). At Rahuri, farmers are advised to install yellow sticky traps, spray NSKE 5% or Neem oil@ 1 litre/acre to check sucking pests and avoid pink bollworm egg laying. Install pheromone traps @ 5 traps per ha to monitor pink bollworm moth activity. Spray 5% neem seed kernel extract (NSKE) or Azadirachtin 1500 ppm (0.15% EC) @ 5 ml/ litre of water or after 60 days after sowing apply Flonicamid 50 WG @ 2 g or Buprofezin 25 SC @ 20 ml or Diafenthiuron 50 WP @ 12 g / 10 litres of water if sucking pests crosses ETL. In case of wet soil conditions, where manual weeding is not possible, go for application of post emergence herbicides at 25-30 days after sowing like Quizalofop ethyl 5% EC @2 ml/litre of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds.
TELANGANA											
Adilabad	12	119	26	48	9	65	75	83	15	12	At Warangal, the sown crop is 30 to 37 days at seedling to vegetative stage. Due to continuous rains, no field operations have been taken up. Heavy weed growth was noticed due to continuous rains. At one or two locations, parawilt was also reported due to rains. At Adilabad, the sown crop is 34 to 41 days at vegetative stage. Due to continuous rainfall, excess water from the fields were drained through drainage channels. Post emergence herbicide and basal application of fertilizers were applied. Sprayed foliar nutrients like 19:19:19/13:0:45 @ 10 g/litres of water for crop growth. Weeds have started coming up in
Warangal	53	22	6	9	95	83	188	155	25	2	
Khammam	32	4	5	2	84	103	192	73	16	21	
Karimnagar	50	7.1	0	63.2	44.5	85	84	82	23	0	
Mahabubnagar	24	9	0.8	4	15	77	97	54	5	0	

											the fields. Nutrient deficiencies and root rot disease were observed. **Advisory** At Warangal, farmers are recommended to spray 19-19-19 @ 10 g or 2% DAP (20 g/litre) twice in one-week interval to correct P deficiency if noticed. In case of wet soil conditions, where manual weeding is not possible, go for application of post emergence herbicides at 25-30 days after sowing like Quizalofop ethyl 5% EC @ 2 ml/litre of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds. In case of continuous rains, remove excess rain water from the fields and any wilting symptoms are noticed then go for drenching of early symptomatic affected plants and nearby plants with carbendazim 50 WP @12 g per 10 litres of water and foliar application of any nutrients. Cloudy weather coupled with rains may lead to jassid incidence, so, spray Neem oil (Azadirachtin@1500 ppm) @ 5 ml/l of water. If parawilt noticed, drenching with Copper oxychloride 50 WP@ 25-30 g per 10 litres of water or carbendazim 50 WP @12 g+Urea 100 g per 10 litres of water is suggested at the base of the plants twice in one-week interval and foliar application of 19-19-19 @ 10 g per litre of water. For root rot disease management, drench with Carbendazim 50 WP @ 1.2 g per litre of water is suggested at the base of the plants twice in one week interval and foliar application of 19-19-19 @ 10 g per litre of water. At Adilabad, farmers are advised to make drainage channels for removal of excess water. Apply post emergence herbicides at 25-30 days after sowing like Quizalofop ethyl 5% EC @2 ml/litre of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds. Spray foliar nutrients like 19:19:19/13:0:45/DAP/Urea @ 10 g/litre for proper growth of the crop**.** Apply first dose of Urea @25 kg + Potash @12 kg/acre. Drench the root rot affected plants and nearby surrounding healthy plants with Carbendazim 50 WP @ 1.2 g/litre of water.
AP											
Guntur	1	1	0	3	15	32	42	3	1	0	At Guntur, sowing is in progress but still interrupted due to continuous rains. Pre emergence herbicide application with Pendimethalin @ 1.3 L/acre was done. At Nandyal, cotton sowings are in progress in majority of the areas as monsoon is active and receiving good rainfall. The weather was cloudy with intermittent rains.
Prakasam	0	0	1.7	7.7	3	10	8	1	0	0	

											Advisory: At Guntur, farmers are advised to drain the fields to avoid water stagnation in low lying areas in view of the rain forecast. At Nandyal, farmers are advised to sow border crop of maize/sorghum. Summer sown cotton farmers are advised to keep alert on pink bollworm incidence by monitoring pheromone trap catches and rosette flower incidence and practice timely control measures if the pest crosses ETL. 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 previously treated. In case of wet soil conditions, where manual weeding is not possible, go for application of post emergence herbicides at 25-30 DAS like Quizalofop ethyl 5% EC @2 ml/litre of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds.
KARNATAKA											
Dharwad	3	4	18	1	0	24	21	24	4	4	At Dharwad, sowing has started in few areas but hampered due to rains. At Raichur, the early sown crop is 50-55 days old at flower initiation stage. Late sown crop is 30-35 days old and very late sown crop is 10-15 days old. Since first soaking rains have been received in majority of area, the left out non cotton area has been sown with cotton. Sowing operation has been taken up in some rainfed areas (in patches where sufficient rainfall was received). Sucking pests like thrips and jassid were noticed in some farmer's fields. At Chamarajanagar, the crop is 81 to 86 days old at flowering to boll formation stage. Intercultural operations and earthing up are in progress. Incidences of jassid (5-6/3 leaves), thrips (3-5/3 leaves), aphids (15-20/3 leaves) and mirid bugs (4-5/25 squares were noticed. Fipronil @ 1 ml /litre of water was sprayed. **Advisory:** At Dharwad, farmers are advised to sow Okra for every 20 rows of cotton for shoot weevil pest management. Spray pre-emergence herbicide Pendimethalin 38.7 CS @700 ml/acre in 200 litres of water within 24-48 hours of sowing to keep field weed free for first 30 days. Drain out excess water from the fields. Spray pre-emergent herbicide (Pendimethalin 30 EC @ 5.0 ml/litre) during or next day of sowing the crop. If not treated before sowing, treat the seeds with Carboxin 37.5% + Thiram 37.5% DS @3.5 g per kg of seeds (root rot and
Haveri	0	0.5	0	0	0	16	13	12	4	7	
Mysore	0	0	0	2.2	7	16	18	11	6	10	

											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). At Raichur, farmers are advised to take up weeding and intercultural operations on priority. In case of wet soil conditions, where manual weeding is not possible, go for application of post emergence herbicides at 25-30 DAS like Quizalofop ethyl 5% EC @2 ml/litre of water, if the field is infested predominantly with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/litre of water for broad leaved weeds or Pyrithiobac sodium 6% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds. Give second top dressing with Urea and MOP to early sown cotton. Spray Spinetoram 17.5 SC @ 170/acre or Flomicamid 50 WG@ 80 g/acre against thrips and jassid, respectively. Drenching of early parawilt symptomatic affected plants with carbendazim 50 WP @12 g or copper oxychloride 50 WP@ 25-30 g+urea 100 g per 10 litres of water is suggested. At Chamarajanagar, farmers are advised to install pheromone traps @ 2/acre and spray Profenofos @ 3ml/litre of water.
TAMIL NADU											
Perambalur	0	0	0	0	0	2	0	0	4	2	At Coimbatore and surrounding areas, sowing is in progress. The sown cotton is 1 to 7 days at germination stage. Pre emergence application of Pendimethalin @ 1.0 litre/ha was done three days after sowing cotton and life irrigation was given on fifth day after sowing of cotton. Weeds have emerged in patches. At Srivilliputhur in and around fields, sowing is yet to commence after onset of monsoon rains. **Advisory:** At Coimbatore, farmers are advised to give pre emergence application of Pendimethalin 30 EC @ 2.5 litre/ha within 24-48 hours of sowing to control emerging weeds. Give life saving irrigation on fifth day after sowing cotton. Regularly monitor the crop for thrips infestation and incidence of collar rot disease. If collar rot incidence is noticed, do spot drenching with Carbendazim 50 WP@1.2 g/ litre of water to early affected plants and surrounding plants is suggested. At Srivilliputhur in and around fields, before sowing, farmers are advised to 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.
Salem	0	0	0	23	4	10	6	0	2	3	
Trichy						2	0	0	0	2	
Virudhunagar	0	0	0	0	0	0	0	0	0	2	

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 borne 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