ICAR-Central Institute for Cotton Research, Nagpur

XI Weekly Advisory for Cotton Cultivation from 1st to 7th August '2023

	ACTUAL RAINFALL in mm IMD					PREDICTED RAINFALL in mm IMD					ADVISORY
	JULY/ AUGUST					AUGUST					
Date	**28**	**29**	**30**	**31**	**01**	**03**	**04**	**05**	**06**	**07**	
PUNJAB											
Firozpur						5	6	2	7	9	At Bathinda, the crop is 77 to 92 days old at flowering to boll formation stage. Fields are being drained wherever excess rains were received. Hoeing and weeding are in progress. Sprayed 2% Potassium nitrate (13:0:45) in cotton fields where flowering has initiated. Weeds like *Dodhak* (*Euphorbia* spp.)*, Tandla* (*Digera arvensis*), Madhana (*Eleusine* spp.)*, Trianthema monogyna,* Makru (Ipomea spp.), Khabbal (*Cynodon dactylon*) have dominated the fields. Whitefly population ranged between 0-9/ 3 leaves, jassid between 0-18/3 leaves and thrips between 6-24/3 leaves. Incidence of pink bollworm ranged between 0-6%. Incidence of CLCuV was noticed at a few locations up to 2% of grade I. Boll rot incidence was observed in majority of the fields. In general, no exit hole or larva of pink bollworm in bolls was found in boll rot affected fields. At Faridkot, the crop is 82 to 90 days old at reproductive stage. Mechanical/ manual intercultural operations, fertilizer application and three/ four sprays against sucking pests and pink bollworm were taken up. Limited mechanical intercultural operations only could be done due to rains wherein herbicide spray with Hitweed maxx and Glufosinate were given to control the weeds. Whitefly incidence was near ETL at some of the locations. Thrips incidence was below ETL and jassid population has gone above ETL at most of the spots. Pink bollworm incidence was near ETL ranging between 3-10%. After heavy rains, parawilt was observed at some locations. **Advisory**: At Bathinda, farmers are advised to drain out the excess water from cotton fields in case of heavy rainfall. 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 @ 80g/acre or Clothianidin 50 WDG @ 20g/acre or Dinotefuran 20 SG @ 60g/acre. For jassid above ETL, spray Dinotefuran 20SG @ 60g/acre or Thiamethoxam 25 WG @ 40 g/acre. If thrips population goes beyond ETL, spray the crop with Profenofos 50EC @ 600 ml/acre or Spinetoram 11.7 SC @ 170 ml/acre. 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
Faridkot	21	0	3.2	0	0	6	8	3	2	7	
Muktsar						6	3	2	4	3	
Bhatinda	3.8	0	2	0	5.4	8	3	4	3	9	
Sangrur						4	3	2	5	15	
Ludhiana	71.2	4	0	0	4.5	5	6	7	5	23	

											or Emamectin benzoate 5 SG @ 100 g/acre or Indoxacarb 14.5 SC/15.8 EC@ 200ml/acre if the incidence of pink bollworm goes above 5 per cent. Give foliar spray of Carbendazim 12%+ Mancozeb 63% WP@0.3% or Carbendazim 50 WP@0.04% 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% to manage fungal boll rot disease. At Faridkot, farmers are advised to drain out excessive water in the event of heavy rainfall as cotton is very sensitive to stagnating water. Spray Potassium nitrate (13:0:45) @ 2% to improve boll setting and reduce flower drop in timely sown crop. Spray 500 ml of Glufosinate ammonium 13.5SL in 100 liters of water as a directed spray to control weeds between the crop rows by using a protective hood. Alternatively, spray 500 ml/acre of Pyrithiobac sodium 6% + Quizalofop ethyl 4%Hitweed Maxx 10 MEC (Pyrithiobac sodium 6% + Quizalofop ethyl 4%) by dissolving in 150 litres of by dissolving in 150 liters of water after irrigation, in moist soil, to control annual grass and broadleaf weeds. In case of jassid incidence above ETL, spray Flonicamid 50 WG @80g/acre or Dinotefuran 20SG @60g/acre. Check for squares and flowers for the infestation of pink bollworm especially in early sown crop. Spray Profenofos 50EC 600 ml/acre or Emamectin benzoate 5SG @ 100g/acre or Indoxacarb 14.5 SC/15.8 EC @ 200ml/acre, if incidence crosses ETL. Install pheromone traps @ 5 traps/ha to monitor pink bollworm and replace the lure as per validity indicated. If parawilt disorder is 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.
HARYANA											
Hisar	28	0	1.4	34	13.9	4	4	13	29	10	At Hisar, the crop is 70 to 112 days old at boll formation to boll development stage. Hoeing and fertilizer application was done. 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 below ETL in majority of the fields. Jassid and whitefly population are building up with jassid having crossed economic threshold in several fields. Infestation of pink bollworm was observed above ETL in flowers and green bolls in several cotton fields. Cotton leaf curl viral disease and *Myrothecium* /fungal leaf spot were recorded in almost all the fields in Hisar and Bhiwani districts. At Sirsa, the crop is 80 to 100 days old at squaring, flowering and boll formation stage. Overall the crop is in good condition. Intercultural operations by tractor and hand hoeing, weeding and irrigation, fertilizer application and need based sprays are in progress. Whitefly population was noticed below ETL, jassid and thrips crossed ETL at all locations.
Jind	0	0	0	0	0	4	5	7	29	18	
Sirsa						1	1	3	2	1	
Rohtak	0	0.4	1	0	0	4	5	8	10	23	

											Damage due to rosette flower has decreased but green boll damage has increased above ETL at few locations. Root rot and boll rot incidence were noticed in the cotton fields. **Advisory:** At Hisar, farmers are advised to drain out stagnated water after heavy rains from the cotton fields by making trenches. Apply second split dose of Urea @ 1 bag/acre in 10 to 12 weeks old crop. Do mechanical hoeing after irrigation/rainfall followed by manual hoeing by spade, if needed. Give foliar spray of 13:00:45 @ 1% during peak flowering and boll formation stage to obtain higher yield. Cover previous season cotton stalks with mosquito net or polythene sheet. In cotton crops 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/day 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/acre or Quinalphos 20AF @ 400 ml/acre. Spray Flonicamid @ 80 g/ acre to control jassid and whitefly incidence. In case of foliar diseases like *Myrothecium, Corynespora, Alternaria* leaf spot and wet weather blight, foliar spray of Carbendazim 12%+ Mancozeb 63% WP@0.3% or Propiconazole 25 EC @10 ml or Carbendazim 50 WP@ 4 g or Fluxapyroxad 167g/litre + Pyraclostrobin 333g/litre SC @ 6 g Or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @10 ml or Metiram 55%+Pyraclostrobin 5% WG @20 g per 10 litres of water. 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 lit of water and repeat 2-3 times at 10 days interval. Spray Pyrithiobac sodium 6% + Quizalofop ethyl 4% @1250 ml/ha to control annual grass and broadleaf weeds or spray Paraquat @1250ml/ha or Glufosinate ammonium @2250ml/ha as a directed spray (using a protective hood) to control weeds in between the crop rows. Use 200- 250 lit of water per acre for spray. Give two sprays of 1kg Magnesium sulphate in 100 lit of water/acre at 15 daysintervalsl during full bloom and boll development stages for high yield and management of leaf reddening in *Bt* cotton. To control thrips, spray either Spinetoram 11.7 SC @170 ml or Emamectin benzoate 5 SG @100g/acre or Profenofos 50 WP @600 ml/ac which help in PBW management also. To control jassid and whitefly, spray Dinotefuran 20 SG @ 60 g or Flonicamid 50 WG @ 80 g per acre. In case PBW crosses ETL based on rosette flower damage/trap catches/green boll damage, spray Emamectin benzoate 5 SG @100 g/acre or

											Spinetoram 11.7 SC @ 170 ml/acre or Profenofos 50WP @ 600 ml /acre. Do not repeat same insecticide for more than two times. Go for rotation of the insecticide whenever repetition is required. Drench the root rot affected plants and surrounding healthy plants with Carbendazim 50 WP @ 2 g/lit of water or *Trichoderma harzianum* or *T. viride* WP @ 5-6 g/lits of water. To manage boll rot, blights and fungal foliar leaf spots disease, spray Carbendazim 12%+ Mancozeb 63% WP@30 g or Propiconazole 25 EC @10 ml or Carbendazim 50 WP@ 4 g or Fluxapyroxad 167 g/litre + Pyraclostrobin 333 g/litre SC @ 6 g Or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @10 ml or Metiram 55%+Pyraclostrobin 5% WG @20 g per 10 litres of water. Drench the parawilt affected plants with Copper oxychloride 2.5 g+20 g Urea/litre or spray Cobalt chloride @10 mg/litre of water immediately after the appearance of wilting symptoms on the affected plants.
RAJASTHAN											
Ajmer	0	64	23.6	15.4	0	2	2	8	14	14	In Southern Rajasthan (Banswara, Bhilwara, Chittorgarh, Dungarpur, Pratapgarh, Rajsamand and Udaipur), the crop is 35 to 81 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. In Sriganganagar and Hanumangarh, the sown crop is 65 to 117 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 4.33/3 leaves and thrips 5.67 to 19.27/3 leaves. CLCuD symptoms have started appearing in the cotton fields. **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) @ 5ml/ lit of water or Buprofezin 25 SC @ 1.25 lit/ha or Diafenthiuron 50 WP @625g/ha or Flonicamid 50 WG @200g/ha to control sucking pests if it goes beyond ETL. Install yellow sticky traps 8/acre to monitor whitefly and jassid 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 @2ml/lit of water, if the field is infested with grassy weeds and Pyrithiobac sodium 10 % EC @ 1.25 ml/lit of water for broad leaved weeds or Pyrithiobac sodium 6% EC +
Jodhpur	0	20	1.9	0	0	1	0	0	1	3	
Nagaur						2	1	4	8	7	
Pali	0	0	0	7	0	1	1	2	6	10	
Sri Ganganagar	0	0	19.4	0	0	0	0	1	1	0	

											Quizalofop Ethyl 4% EC @ 2-2.5 ml /lit of water to control both grassy and broad-leaved weeds. To manage boll rot, blights and fungal foliar leaf spots disease, spray Carbendazim 12%+Mancozeb 63% WP@30 g or Propiconazole 25 EC @10 ml or Carbendazim 50 WP@ 4 g or Fluxapyroxad 167 g/litre + Pyraclostrobin 333 g/litre SC @ 6 g Or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @10 ml or Metiram 55%+Pyraclostrobin 5% WG @20 g per 10 litres of water. 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**.** Monitor the crop for insect pests and diseases regularly. Spray neem-based insecticides @ 5 ml/lit at early stage of crop or in case of mild attack of sucking pests and pink bollworm. Spray Flonicamid 50 WG @ 0.4 g/lit or Afidopyropen 50DC @1.50ml/lit of water to control jassid. In case of thrips infestation, use Spinetoram 11.7 SC @ 0.8 ml/lit or Profenofos 50 EC @ 3 ml/ lit 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/ lit or Emamectin benzoate 5 SG@ 0.50 g/lit of water. To manage boll rot, blights and fungal foliar leaf spots disease, spray Carbendazim 12%+ Mancozeb 63% WP@30 g or Propiconazole 25 EC @10 ml or Carbendazim 50 WP@ 4 g or Fluxapyroxad 167 g/litre + Pyraclostrobin 333 g/litre SC @ 6 g Or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @10 ml or Metiram 55%+Pyraclostrobin 5% WG @20 g per 10 litres of water
ODISHA											
Koraput	5	1	10	8	0	30	25	15	10	5	At Odisha, the crop is 31 to 41 days old at vegetative to square initiation stage. The crop is in good condition without any severe pests and disease incidence. Intercultural operations, weeding and earthing up, application of second dose of fertilizer, spraying of neem pesticides to suppress sucking pests like aphids and other foliar feeders like *Spodoptera* and semi loopers 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. Minor incidence of aphids, jassid, *Spodoptera*, semi-loopers and leaf miners were noticed Wilting reported from some regions of Kalahandi, Bolangir and Nuapada districts. **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
Kalahandi	2.8	5	0	5.2	0	40	45	15	10	5	
Balangir	4.6	0	0	0.2	16.3	45	60	10	5	5	

											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 litres of water. If parawilt or sudden wilt occur due to heavy rains and water logging after dry spell, apply Cobalt chloride @10 mg/litre (10 ppm) on affected plants within few hours of onset of symptoms. Drench the early symptomatic wilts and root rot plants with a mixture of Copper-Oxychloride 50 WP@25 g and 150-200 g Urea mixed in 10 litres of water or Carbendazim 50 WP @12 g/10 litres of water. Install pheromone traps @ 5 /ha to monitor *Spodoptera* attack.
GUJARAT											
Amreli	11.8	0	1.4	2	0	4	4	4	5	8	At Surat, the sown crop is 35 to 40 days duration crop at vegetative stage. Manual weeding, intercultural operations and fertilizer (Urea) application are in progress. Weeds like Chido (*Cyprus rotundus*), Satodi (*Trianthema monogyna*), Dhamdo (*Amaranthus viridis*) and others have infested the fields. Thrips and jassid population noticed below ETL. Low incidence of *Ascochyta* blight (Wet weather blight) was also noticed in the fields. At Junagadh, the sown crop is 42 days old at vegetative stage. Intercultural operations, weeding, fertilizer application are under progress. 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% EC + Quizalofop Ethyl 4% EC @ 2-2.5 ml /litre of water to control both grassy and broad-leaved weeds. Cotton crop requires 240-40-00 Kg NPK/ ha. Apply dose of Nitrogen
Bhavnagar	7.8	1	6.6	1.8	0	2	3	4	8	10	
Jamnagar	0.1	0.6	1	3.1	1	3	3	3	5	8	
Rajkot	0	0.3	0.2	1.4	2	3	3	3	8	8	
Junagadh	2.5	2.7	11.3	7.3	0	4	4	4	10	10	
Sabarkantha						50	10	8	50	10	
Surendranagar	18	0	1.2	1.8	3	4	3	3	3	2	
Ahmedabad	0	0	10	5	0	10	8	8	8	10	
Baroda	0.6	4.4	0.2	7.7	2	11	10	10	10	50	
Patan	0.5	3	4	7	0	10	8	8	50	10	
Mehesana						10	5	4	50	10	

											@ 30, 60, 75, 90 and 105 DAS in equal splits. Spray neem-based insecticides, Azadirachtin 1500 ppm @ 50 ml or *Beauveria bassiana* @ 50 g in 10 litres of water to manage sucking pests in case, they cross ETL. Install pheromone traps @ 5 traps/ha to monitor pink bollworm. If parawilt noticed in fields, drench the early symptomatic plants with a mixture of Copper-Oxychloride 50 WP@25 g and 150-200 g Urea mixed in 10 litres of water or Carbendazim 50 WP @12 g/10 litres of water for recovery of the plant. Further, foliar spray of Carbendazim 12%+ Mancozeb 63% WP@30 g or Carbendazim 50 WP @4 g or Propineb 70 WP@ 25 g or Propiconazole 25 EC@ 10 ml or Metiram 55% +Pyraclostrobin5% WG @20 g or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @10 ml or Fluxapyroxad 167 g/l + Pyraclostrobin 333 g/l SC @ 6 g mixed in 10 litres of water to manage wet weather blight, fungal leaf spots, fungal boll rot and blight disease. At Junagadh, farmers are advised to remove excess water from the fields after heavy rains. Apply Ammonium sulphate @10 kg/acre or Nitrogen (Urea 15 kg/acre). If hand 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. Foliar spray of Carbendazim 12%+ Mancozeb 63% WP@30 g or Propiconazole 25 EC @10 ml or Carbendazim 50 WP@ 4 g or Fluxapyroxad 167 g/l + Pyraclostrobin 333 g/l SC @ 6 g or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @10 ml or Metiram 55%+ Pyraclostrobin 5% WG @20 g per 10 litres of water to manage wet weather blight, fungal boll rot and other fungal foliar diseases.
MP											
Khargaon											At Khandwa, the crop is 35 to 84 days at vegetative, pre-flowering, flowering and boll formation 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 and pesticide application. As regular showers were there, fields were not irrigated. Weeds like *Phylanthus niruri*, *Cammelina sessilis, Digera arvensis and Euphorbia* spp. have infested the fields. Incidence of jassids and Bacterial blight have been observed in some fields. **Advisory** Farmers are advised to apply second dose of chemical fertilizer @ 150:75:40 kg/ha, respectively with 25% of N at 30 DAS by column method at a depth of 10 to 15 cm and 50 % of P & K at 60 DAS. Take up weeding with bullock drawn *Kolpa* in those areas where crop is at 35 DAS if the field condition is probable**.** In case of wet soil conditions, where manual weeding is not possible, go for application of post-emergence herbicides at 25 -30
Dhar	0	8.1	0	2.6	7.7	14	6	5	6	7	
Khandwa											

											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. 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 bollworm moth activity. Observe for the presence of rosette flowers and collect them and destroy immediately. To control jassid and whitefly, if crosses ETL, spray Dinotefuran 20 SG @ 60 g or Flonicamid 50 WG @ 80 g per acre. Foliar spray of copper oxychloride 50 WP/WG @25-30 g per 10 litres of water is suggested for the management of bacterial blight disease.
MAHARASHTRA											
Dhule	1	0	0	2	0	8	9	10	11	7	At Akola, the sown crop is of 27 to 35 days old at vegetative growth stage. Thinning, hoeing, weeding and top dressing of fertilizer is in progress. Weed infestation is more in late sown cotton. Some grassy weeds particularly *Cyperus rotundus* is prominent in the fields with broad leaf weeds in few fields. Some cotton fields are heavily infested with *Commelina* weed species. No incidence of pests and diseases except sucking pests but below ETL. At Nanded, the sown crops in irrigated areas are 21 to 45 days old at 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 jassid and aphids but below ETL. Physiological disorder and reddening in seedlings have been noticed in few fields. At Rahuri, the crop is 34 to 59 days old at vegetative to flowering 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. **Advisory:** At Akola, farmers are advised to open the furrow in cotton field at regular intervals for moisture conservation purpose at 45 to 50 DAS by tying rope to tyne of the hoe. Drain the excess water from the field wherever heavy rains have occurred. Spray post-emergence herbicide Pyrithiobac Sodium 10 % EC @12.5 to 15 ml/10 litres of water at 25 - 30 DAS 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
Nandurbar						8	9	12	15	7	
Jalgaon	9.4	0	2	3.8	1	9	10	12	15	6	
Ahmednagar	1	14	1	0	0	8	12	10	7	6	
Aurangabad	0	5.1	1.2	0	4	9	15	20	8	3	
Jalna						12	10	10	5	3	
Beed	0	10	90.2	0	0	8	12	5	2	2	
Nanded	187	0	3	0	2.2	21	45	12	10	2	
Parbhani	12.3	0	8	0	0.9	12	18	8	3	2	
Hingoli	18	0.5	3.5	8.5	0	15	30	6	3	2	
Buldhana	0	2	0	3	2	15	23	19	12	11	
Akola	2.3	0	0	0	0	16	33	18	12	14	
Washim	2	0	0	0	0	11	12	8.3	13	6	
Amravati	17	7.2	0	1.6	0	16	38	18	14	16	
Yavatmal	75	0	0	0	0	19	28	9.2	11	7	
Wardha	49	0	0	0	1.4	22	25	9.6	13	8	
Nagpur	75.2	0	0	0	0	24	21	8.1	12	10	
Chandrapur	98	4	0	0	0	31	33	11	13	11	

											hoeing and weeding in cotton after draining the excess water from the fields. Apply first split of 40 Kg N (90 Kg 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/ litre of water at 50-60 Days after sowing against sucking pests as well as pink bollworm. Install pheromone traps @5/ha to monitor pink bollworm. 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. 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 rainfed cotton crop with 20-25 DAS 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/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. 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 disease in seedlings in some areas. Drench the symptomatic plants with Carbendazim 50 WP @12 g mixed per 10 litres of water to recover early symptomatic affected plants. Drain excess water from fields. 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. Spray Flonicamid 50 WG @ 4g or or Diafenthiuron 50 WP @ 12 g/ 10 litres of water if sucking pests crosses ETL. Install pheromone traps @ 5 trap/ ha to monitor pink bollworm moth activity. Collect and destroy the rosette flowers. 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	53	2	0	18	0	25	12	3	10	2	At Warangal, the sown crop is 37 to 45 days at vegetative stage. Due to continuous rains, field operations could not be taken up. Heavy weed growth was noticed. Slight yellowing/reddening of leaves due to continuous rains was noticed.
Warangal	18	0	0	0	0	25	3	10	0	0	
Khammam	3	6	6	0	0	19	8	17	4	1	

Karimnagar	8.2	0	0	5.8	0	15	3	0	0	0	
Mahabubnagar	2	0	0	10	6	15	5	5	2	2	At Adilabad, the sown crop is 41 to 48 days old at vegetative stage. Due to continuous rain, excess water from the fields were drained through drainage channels. Post emergence herbicide was applied. Sprayed foliar nutrients like 19:19:19/13:0:45 @ 10 g/litre of water for crop growth. Weed infestation, nutrient deficiencies and root rot disease were observed in most of the fields. **Advisory** At Warangal, farmers are recommended to spray 19-19-19 @ 10 g/litre or 2% DAP (20 g/litre) twice in two-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. Take up intercultural operations for effective weed control and plant growth. After weed control, give Urea @ 25 kg and MOP @10 kg/acre. In case of continuous rains, remove excess rain water from the fields and any wilting symptoms are noticed, go for drenching of early symptomatic affected plants and nearby plants with Carbendazim 50 WP @12 g/10 litres of water and foliar application of any nutrients. Cloudy weather coupled with rains may lead to jassid incidence, so, spray Neem oil 1500 ppm @ 5 ml/litre of water. If parawilt noticed, drench with Copper oxychloride 50 WP@ 25-30 g/10 litres of water or Carbendazim 50 WP @12 g + Urea 100 g/10 litres of water at the base of the plants twice at weekly interval. Give foliar application of 19-19-19 @ 10 g/lit of water twice at weekly intervals to correct yellowing/ reddening of leaves. 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 Urea @25 kg + Potash @12 kg/acre. Drench the early symptomatic root rot affected plants and surrounding healthy plants with Carbendazim 50 WP @ 1.2 g/litre of water. Install yellow sticky traps, spray NSKE 5% or Neem oil@ 1 litre/acre to check sucking pests and avoid pink bollworm egg laying. Spray Flonicamid 50 WG @ 4g or or Diafenthiuron 50 WP @ 12 g/ 10 litres of water if sucking pests crosses ETL. Install pheromone traps @ 5 trap/ ha to monitor pink bollworm moth activity.

AP											
Guntur	0	0	0	0	0	0	0	0	0	0	At Guntur, sowing is in progress after cessation of heavy rains. The sown crop is at germination stage. Pre emergence herbicide application with Pendimethalin @ 1.3 litre/acre was done next day after sowing cotton. 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. The sown cotton is at seedling to vegetative stage. The farmers were advised to sow border crop of maize/sorghum and follow seed treatment with Imidachloprid 70 FS @ 5-10 ml/kg of seed. **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/ 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 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.
Prakasam	0	0	0	0	0	0	0	0	0	0	
KARNATAKA											
Dharwad	2	0	0	0	0	4	4	4	4	4	At Dharwad, sunny and cloudy conditions prevailed during the week with little rainfall in cotton growing areas of all districts. Sowing is in progress and the sown cotton is 15 to 20 days old at initial stage. Manual weeding and intercultural operations were taken up. Grassy weeds like *Cyanodon dactylon* and the sedge, *Cyperus rotundus,* have dominated the fields. Shoot weevil was noticed. As such, no incidence of pests and diseases. At Raichur, the early sown crop is 57 to 60 days old at flower initiation stage. Late sown crop is 37 to 42 days old and very late sown crop is 17 to 22 days old. Most of the farmer's fields have received excess rainfall. Due to this, the growth of cotton crop was not up to the mark. Thrips and jassid were noticed in some farmer's fields around ETL and sprayed with recommended dose.
Haveri	0	0	0	0	0	4	4	2	3	4	
Mysore	0.5	0	0	0	0	2	3	3	3	3	

											At Chamarajanagar, the crop is 88 to 93 days old at flowering to boll formation stage. Intercultural operations are in progress. Incidences of thrips (2-4/3 leaves), aphids (25-30/3 leaves) and jassid (6-8/3 leaves) was noticed. Profenofos @3 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. 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 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, in most of the farmer's fields, excess rainfall was received. Farmers are advised to drain out the excess rain water from their fields and take up weeding and intercultural operations on priority basis. 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 and first top dressing with Urea and MOP to late sown cotton.Drench early parawilt symptomatic affected plants with Carbendazim 50 WP @12 g or Copper oxychloride 50 WP@ 25- 30 g+ Urea 100 g/10 litres of water. At Chamarajanagar, farmers are advised to install pheromone traps @ 2/acre to monitor pink bollworm and spray Thiomethoxam @ 2 g or Flonicamid50WG @4g or Dinotefuran 20SG @ 3g or Diafenthiuron 50%WP@12g per 10litre of water for sucking pest management. Spray Profenofos 50 EC @ 30 ml or Emamectin benzoate 5SG @ 5g or Indoxacarb 14.5 SC @10ml or Chlorpyriphos 20 % EC @ 25ml per 10 liter of water if pink bollworm crosses ETL.
TAMIL NADU											
Perambalur	0	0	0	0	0	0	0	3	3	3	At Coimbatore and surrounding areas, sowing is in progress. The sown cotton is 8 to 14 days at germination stage. Gap filling was done. Weeds like *Portulaca olera*cea and *Trianthema portulacastrum* have emerged in patches. Incidence of collar root disease were
Salem	0	0	0	0	0	0	0	0	3	4	
Trichy	0	0	0	0	0	0	0	2	0	0	

Virudhunagar	0	0	0	0	0	0	0	0	3	2	noticed. At Srivilliputhur in and around fields, sowing is yet to commence after onset of monsoon rains. **Advisory:** At Coimbatore, farmers are advised to do gap filling 15 DAS. Give pre emergence application of Pendimethalin 30 EC @ 2.5 lit/ha within 24-48 hours of sowing to control emerging weeds. Provide drainage channel to avoid stagnation of water. Regularly monitor the crop for 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 symptomatic and surrounding plants. 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.

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