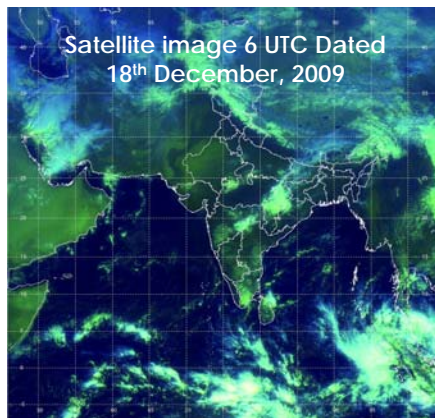




National Agromet Advisory Bulletin

Thursday, 17th December, 2009 (For the period 17th to 21st December, 2009)



Rainfall Forecast valid upto 1430 hours IST of 20th December, 2009

- **Many Places:** Tamil Nadu & Pondicherry
- **Few Places:** Jharkhand, Madhya Pradesh, Coastal Andhra Pradesh, Rayalaseema, Coastal Karnataka, South Interior Karnataka, Kerala, Lakshadweep, Andaman & Nicobar Islands
- **Isolated Places:** Arunachal Pradesh, Assam & Meghalaya, Orissa, Bihar, East Uttar Pradesh, East Rajasthan, Vidarbha, Chhattisgarh, Madhya Maharashtra, Marathawada, North Interior Karnataka
- **Dry:** Gangetic West Bengal, West Uttar Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Punjab, West Rajasthan, Gujarat Region, Saurashtra, Kutch & Diu, Konkan & Goa
- **Mainly dry Weather:** Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim, Himachal Pradesh, Jammu & Kashmir, Telengana

Major features of weather forecast (upto 1430 hours IST of 20th December, 2009)

- Fairly widespread rainfall activity over extreme south peninsular India during next 24 hours and decrease thereafter.
- Isolated rainfall activity over northeastern states.
- Isolated to scattered rain/thundershowers over central India during next 48 hours.
- Minimum temperatures are likely to fall by 2-3^o C over northwest India during next 48 hours.

Warning

- Isolated heavy to very heavy rainfall is likely over coastal Tamilnadu during next 24 hours.

Weather Outlook (upto 1430 hrs IST of 22nd December, 2009)

- Scattered rainfall activity over extreme south peninsular India.
- A feeble western disturbance is likely to affect western Himalayan region from 21st.

Agromet advisories for irrigation and *rabi* sowing

- Farmers in Tamil Nadu are advised to postpone irrigation as there was excess rainfall during last few days and rainfall is likely to occur at many places during next 24 hours in the State. Farmers in coastal Tamilnadu are also advised to arrange for adequate drainage facilities as isolated heavy to very heavy rainfall is likely during next 24 hours.
- As there was no significant rain in most of the States during last week and no significant rain/mainly dry weather is likely to occur for next five days, farmers are advised to apply need based irrigation to the standing crops.
- Farmers in Jammu & Kashmir, Rajasthan, Punjab, Himachal Pradesh, Uttar Pradesh, Bihar, Madhya Pradesh and Chhattisgarh are advised to undertake field preparation and sowing of late sown wheat and complete sowing of gram, lentil and pea.
- Farmers in coastal Karnataka are advised to undertake sowing green gram, cow pea, black gram and horse gram.
- Farmers in Andhra Pradesh are advised to continue field preparation and sowing of rice and green gram, black gram and chick pea.

Advisories for pest and disease

- Due to favourable weather condition, there are chances of pest and disease incidences in the following regions:
 - Aphids, leaf spot and whitefly in cotton, scale insect, mealy bug and *Pyrilla* in sugarcane in Andhra Pradesh.
 - Aphid and white rust attack in mustard, pod borer in pea in Rajasthan.
 - aphids in mustard, thrips and blight in kulthi, powdery mildew in pea in Chhattisgarh.
 - Aphid and saw fly in the rapeseed and mustard in Assam.
- Farmers are advised to undertake plant protection measures, if required.

Issued by

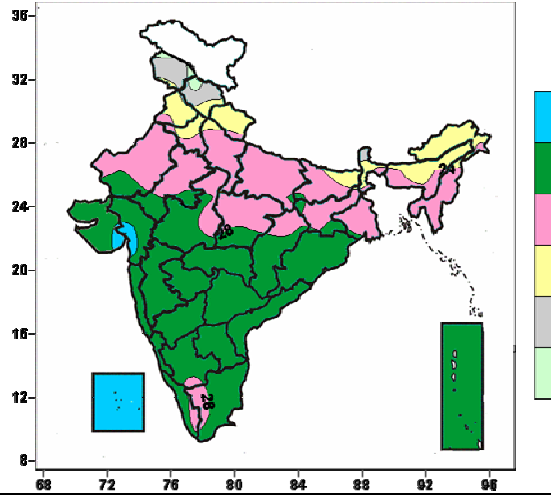
National Agrometeorological Advisory Service Centre,

Agricultural Meteorology Division, India Meteorological Department, Shivajinagar, Pune.

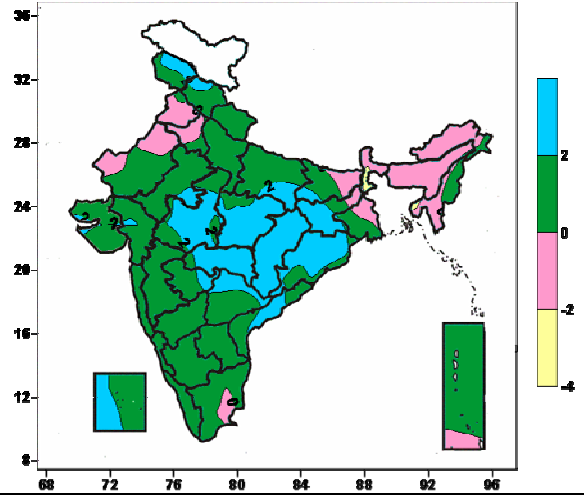
The bulletin is also displayed in the website (<http://www.imdagrimet.org>) of the Division

Contour maps for the week ending 16.12.09

Actual Mean Maximum Temperature (°C) in India for the week ending 16.12.09



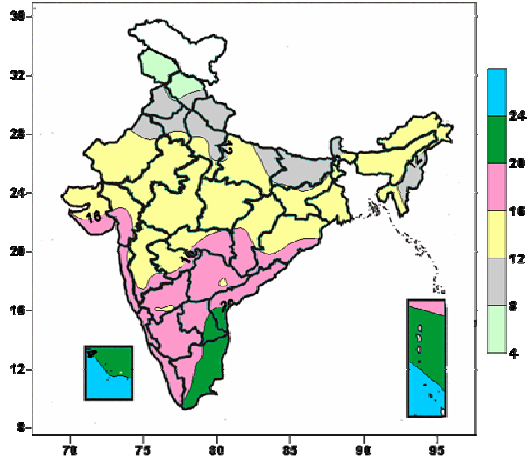
Maximum Temperature (°C) Anomaly in India for the week ending 16.12.09



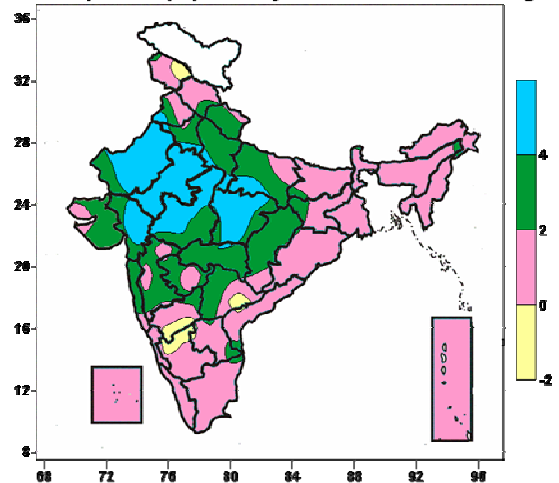
Actual Mean Maximum temperature ranged between 32°C and above over most parts of Lakshdweep Islands, Some parts of Gujarat, Kutch, 24 to 28°C over most parts of Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Nagaland, Manipur, Mizoram, Tripura, North Madhya Pradesh, some parts of Punjab, Haryana, Uttarakhand, Sub-Himalayan West Bengal, Arunachal Pradesh, Assam & Meghalaya, Chhattisgarh, South Interior Karnataka, Kerala, Tamil Nadu, 20 to 24°C over most parts of Punjab, Uttarakhand, Arunachal Pradesh, Assam & Meghalaya, some parts of Jammu & Kashmir, Himachal Pradesh, Haryana, West Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, Nagaland, 16 to 20°C over most part of Jammu & Kashmir, Himachal Pradesh, 12 to 16°C over some parts of Jammu & Kashmir, Himachal Pradesh, 28 to 32°C over remaining parts of the country.

Actual Mean Maximum temperature anomaly ranged between 2°C and above over most parts of Central India, Jharkhand, Orissa, some parts of Jammu & Kashmir, Himachal Pradesh, East Uttar Pradesh, East Rajasthan, Bihar, Gujarat, Saurashtra & Kutch, Marathwada, Coastal Andhra Pradesh, Telengana, Lakshdweep Islands, -2 to 0°C over most parts of Punjab, Haryana, Sub-Himalayan West Bengal, Sikkim, Northeast India, some parts of West Rajasthan, Bihar, Jharkhand, Gangetic West Bengal, Tamil Nadu, Andaman & Nicobar Islands, -2°C and below over some parts of Sub-Himalayan West Bengal, Tripura, 0 to 2°C over remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 16.12.09



Minimum Temperature (°C) Anomaly in India for the week ending 16.12.09



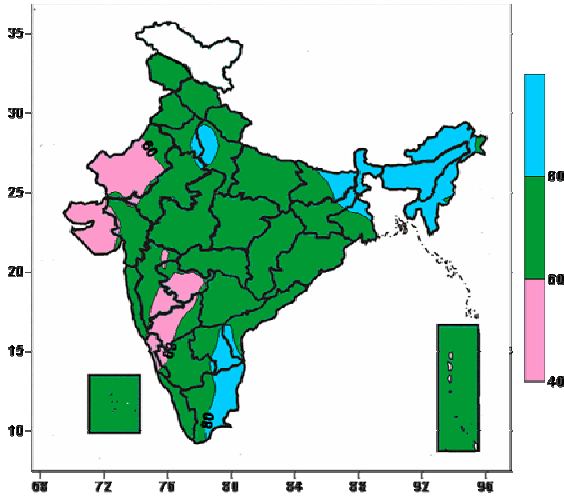
Actual Mean Minimum Temperature ranged between 24°C and above over most parts of Lakshadweep Islands, some parts of Andaman & Nicobar Islands, 20 to 24°C over most parts of Tamil Nadu, Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh, Rayalaseema, Lakshdweep Islands, 16 to 20°C over most parts of Konkan & Goa, Vidarbha, South Chhattisgarh, Karnataka, Kerala, Andhra Pradesh, some parts of Gujarat, Kutch, south Madhya Maharashtra, South Marathwada, South Orissa, Andaman & Nicobar Islands, 8 to 12°C over most parts of

Minimum Temperature anomaly ranged between 4°C and above over most parts of Rajasthan, Madhya Pradesh, Gujarat, some parts of Punjab, Haryana, Uttar Pradesh, Vidarbha, 2 to 4°C over most parts of Uttarakhand, Haryana, Delhi, Uttar Pradesh, Chhattisgarh, Saurashtra & Kutch, Maharashtra, some parts of Jammu & Kashmir, Punjab, Himachal Pradesh, West Rajasthan, Bihar, Jharkhand, Assam, Gujarat, Madhya Pradesh, North Interior Karnataka, Andhra Pradesh, Tamil Nadu, -2 to 0°C over some parts of Jammu & Kashmir, Interior Karnataka,

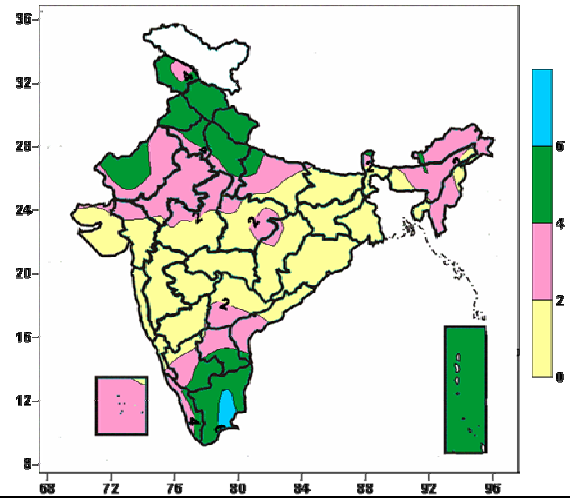
Punjab, Haryana, Delhi, Uttarakhand, West Uttar Pradesh, Bihar, Sikkim, Nagaland, Manipur, some parts of Himachal Pradesh, West Rajasthan, East Uttar Pradesh, Jharkhand, Sub-Himalayan West Bengal, Mizoram, 4°C to 8°C over most parts of Jammu & Kashmir, Himachal Pradesh, 12°C to 16°C over remaining parts of the country.

Telengana, 0 to 2 °C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 16.12.09



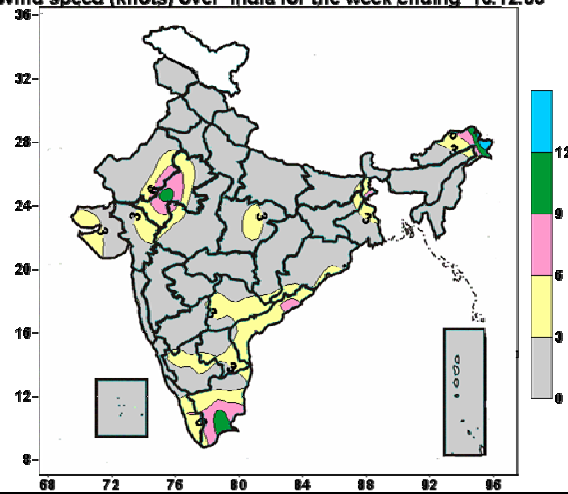
Cloud amount (okta) over India for the week ending 16.12.09



Relative humidity between 80% and above over most parts of Sub-Himalayan West Bengal & Sikkim, Northeast India, Coastal Tamil Nadu, some parts of Haryana, West Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Coastal Andhra Pradesh, Rayalaseema, 40 to 60 % over most parts of West Rajasthan, Saurashtra & Kutch, Marathwada, some parts of East Rajasthan, Gujarat, Madhya Maharashtra, Karnataka, 60 to 80% over remaining parts of the country.

Cloud amount 6 okta and above over some parts of Tamil Nadu, 4 to 6 okta over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, West Uttar Pradesh, West Rajasthan, Tamil Nadu, Andaman & Nicobar Islands, some parts of East Uttar Pradesh, Sikkim, Arunachal Pradesh, Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Kerala, 2 to 4 okta over most parts of Rajasthan, East Uttar Pradesh, Northeast India, Coastal Kerala, Lakshdweep Islands, some parts of Jammu & Kashmir, Haryana, West Uttar Pradesh, Sikkim, Madhya Pradesh, Chhattisgarh, Gujarat, Saurashtra, Andhra Pradesh, Coastal Karnataka, South Interior Karnataka, 0 to 2 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 16.12.09






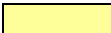

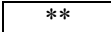
Wind speed ranged between 12 knots and above over some parts of Arunachal Pradesh, 9 to 12 knots over some parts of East Rajasthan, Arunachal Pradesh, Tamil Nadu, 6 to 9 knots over some parts of Rajasthan, Sub-Himalayan West Bengal, Arunachal Pradesh, Coastal Andhra Pradesh, Tamil Nadu, 3 to 6 knots over most parts of Coastal Andhra Pradesh, South Kerala, some parts of Rajasthan, Gujarat, Saurashtra & Kutch, Madhya Pradesh, Chattisgarh, Bihar, Jharkhand, West Bengal, Assam, Arunachal Pradesh, Orissa, Telengana, Rayalaseema, South Interior Karnataka, Tamil Nadu, 0 to 3 knots over remaining parts of the country.

Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks

Sub-division	Cumulative Rainfall for the period									
	18 th November		25 th November		2 nd December		9 th December		16 th December	
	Normal (mm)	(%) Dep.	Normal (mm)	(%) Dep.	Normal (mm)	(%) Dep.	Normal (mm)	(%) Dep.	Normal (mm)	(%) Dep.
A & N Islands	61.0	-85	50	-64	41.6	-54	47.5	10	47.0	-63
Arunachal Pradesh	5.6	433	9.7	-44	10.4	-95	4.8	95	11.3	-98
Assam and Meghalaya	3.7	175	3.9	-80	4.5	-99	1.6	-50	4.3	-98
NMMT	6.4	102	5.2	-99	5.3	-100	0.9	-100	4.7	-100
SH West Bengal & Sikkim	2.8	-29	2.2	-100	3.7	-99	1.4	-85	3.9	-100
Gangetic West Bengal	5.0	146	3.6	-95	3.7	-100	0.9	-100	2.5	-100
Orissa	5.9	230	4.7	71	1.8	-100	0.8	-100	2.1	-100
Jharkhand	1.7	526	2.0	-100	2.2	-100	0.5	-100	1.2	-100
Bihar	0.6	538	0.5	-100	1.5	-100	0.1	-100	0.5	-100
East Uttar Pradesh	0.6	1141	0.5	-100	0.8	-100	0.6	-100	0.6	-96
West Uttar Pradesh	0.6	2273	0.8	-100	1.0	-100	0.8	-100	1.2	-86
Uttarakhand	1.1	525	2.1	-100	1.8	-100	1.9	-100	6.3	-96
Haryana, Chandigarh & Delhi	0.4	550	1.4	-100	1.4	-100	0.6	-100	1.4	-85
Punjab	0.7	539	1.3	-100	1.3	-100	1.1	-100	3.9	-100
Himachal Pradesh	2.7	1157	6.8	-100	5.1	-100	4.1	-100	10.5	20
J & K	6.7	262	7.6	-96	9.2	-86	6.6	-94	20.8	-49
West Rajasthan	0.5	-96	0.8	-100	0.5	-100	0.2	-100	0.6	-94
East Rajasthan	1.0	781	2.9	-100	1.2	-100	0.9	-100	0.9	-94
West M. P.	1.7	2525	3.1	-100	3.6	-100	1.4	-100	1.8	-100
East M. P.	1.5	3973	3.5	-100	3.0	-100	1.9	-99	2.0	-100
Gujarat region	1.9	265	4.2	-100	1.4	-100	0.3	-100	0.8	-95
Saurashtra & Kutch	2.2	-43	2.9	-100	0.5	-100	0.1	-100	0.9	-100
Konkan and Goa	6.1	1274	7.3	-85	1.6	-100	1.3	-100	1.9	-100
Madhya Maharashtra	6.4	1102	7.3	-78	3.5	-100	1.2	-100	2.4	-100
Marathwada	3.2	1420	4.4	-100	4.7	-100	1.6	-100	2.2	-100
Vidarbha	1.8	2950	5.2	-100	3.5	-100	1.2	-100	1.7	-100
Chhattisgarh	1.3	3274	3.0	-60	2.3	-100	0.9	-100	1.6	-100
Coastal A. P.	21.1	73	20.5	118	11.7	-100	8.5	-14	9.9	-75
Telangana	3.3	386	3.5	122	2.3	-100	1.3	-100	1.5	-100
Rayalseema	14.9	44	13.7	2	8.4	-100	11	-69	5.8	44
TamilNadu & Pondicherry	38.9	68	34.6	-1	26.4	-69	32.6	-51	16.7	140
Coastal Karnataka	14.7	351	14.1	15	6.4	-75	3.5	-1	5.3	-100
N. I. Karnataka	4.9	382	3.9	92	3.3	-100	1.7	-100	2.2	-100
S. I. Karnataka	9.7	124	10.1	58	3.8	-95	5.5	-70	3.5	-72
Kerala	37.2	85	31.3	15	13.8	-53	19.2	-49	9.3	-88
Lakshadweep	23.9	-83	24.7	-43	19.7	-94	20.9	52	12.3	-96

The subdivision like West Rajasthan, Saurashtra & Kutch received scanty / deficient / no rainfall in last 5 weeks; A & N Islands, Assam and Meghalaya, Nagaland, Manipur, Mizoram, Tripura, West Bengal, Sikkim, Jharkhand, Bihar, Uttar Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Punjab, J & K, West Rajasthan, East Rajasthan, Madhya Pradesh, Gujarat region, Maharashtra, Chhattisgarh, Lakshadweep Islands received scanty / deficient / no rainfall in 4 out of last 5 weeks; Arunachal Pradesh, Orissa, Himachal Pradesh, Telangana, North Interior Karnataka, South Interior Karnataka, Kerala received scanty / deficient / no rainfall in 3 out of last 5 weeks. Remaining States received normal / excess rain in 2 or more weeks during last 5 weeks.

 (20 or more) excess rainfall
 (-19 to +19) normal rainfall
 (-20 to -59) deficient rainfall

 (-60 to -99) scanty rainfall
 (-100) no rainfall
 ** Data not available

Zonewise Agromet Advisories

NORTH WEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, UP]

Himachal Pradesh

- **Realised Rainfall:** There was no significant rainfall in most of the district of the State except Kinnaur, Kullu, Lahaul and Spiti districts which received excess rainfall during last week.
- **Rainfall Forecast:** Mainly dry weather during next 24 hours and dry weather thereafter over the State.
- **Major *rabi* Crops:** Wheat(crown root initiation), gram, lentil(early vegetative)
- **Advisory:**
 - Undertake weeding and apply first irrigation in early sown wheat, gram and lentil. It is time for planting of planting of late sown rainfed wheat in the mid hills of the State. H.S- 295, HPW -42 varieties are suitable for the late sown conditions. Against fungal disease, seed treatment with 2.5g bavistin or sevin / kg of seed should be done before sowing. Termite affected plots may be treated with 80 ml chloropyriphos mixed with 1 kg of sand and spread over one kanal area of plot. In the timely planted wheat crop where weeds are 2-3 leaves stage, spray isoproturon @ 80 gram per 30-32 litres of water in one kanal for the control of weeds.
 - The sowing of gram and lentil in lower belt may also be completed.
 - To protect the wheat seed from fungal disease, seed treatment with 2.5g bavistin or sevin / kg should be done before sowing.
- **Major Seasonal Crop:** Fruit crops, Flower crops and Vegetables
- **Advisory:**
 - Farmers are advised to prepare the pits for planting the winter plants like peacunut, walnut, almond plum and peach. Farmers are advised to undertake field preparation and planting for new orchards.
 - Training and pruning work can be completed in the tea. It is time for nursery raising of tea plants in polythene tubes. Do lopping of the tree in the tea orchards to have more sunlight.
 - It is optimum time for nursery sowing of onion. Undertake planting of seed crop of onion plant bulbs at 45 x 45 cm apart directly in filed. It is also time for sowing of peas (var. agad, lincoln and priya).
 - It is time for planting the winter flowers annuals viz. calendula, aster, larkspur, dianthus, african daisy, stasis, lupines, petunia, flox, nicotiana, vanadium and torinia. Flowers can be raised in the pots, hanging pots rocks etc. Keep the flowers beds free from the weeds. To control the aphids, spray malathion @ 0.05% for the control. Remove the apical shoot in winter annuals to have more side branches to cover the entire pot. It is time for sowing of bulbous flowers like fresia, tulips and nargis etc.
 - Undertake weeding, intercultural operations and top dressing of fertilizers on a non rainy day.
 - It is also an optimum time for transplanting of strawberries in raised beds.
 - Undertake sowing of radish (var. early meno white, japanese white, chinese pink and pamp hriday, peas(palm priya or linclon) in the fields. Treat the seed with 2.5 g Sevin or bavistin per kg of seed before sowing of pea crop. Drench the crop with Dithane M-45, 2 g and Bavistin 1 g for the control of damping off of nursery.
 - As there was no rainfall in the State during last week and rainfall is likely to occur in the State at a few places during next 24 hours, the farmers are advised to apply need based irrigation to vegetable and floricultural crops.
 - Sowing of gobhi sarson may be completed.
 - **Plant Protection:** Weather conditions are favourable for mild incidences of –
 - leaf minor in citrus, spray 10 ml Matasystox or Malathion 10 ml in 10 litre of water. Spray Streptocycline Sulphate 500 ppm solution for control of citrus canker. Remove the shoots below the graft or bud unions.
 - downy mildew in cruciferous vegetables, for control spray ridomil MZ @ 25 g per litres of water at 15 days interval. For control of powdery mildew in peas, spray celfex @ 25 g per 10 litres of water or karathane @ 5 ml per 10 litres of water.
 - To control the root borer in apple, irrigate the basins after removing the upper soil with 10-15 liters of the solution of Chlorpyriphos 20 E.C. @ 5 ml per liter of water.

- **Animal Husbandry:** Feed pregnant and lactating cows and buffaloes with balance feed including mineral mixture. The night temperature is falling and the newly born calves may be protecting from the cold. Provide the mineral mixture to the milch animals as per the schedule of 1 kg feed+50g mineral mixtures per 2 litres of milk. This schedule will maintain the reproductive ability of animals. It has been observed that dairy animals are deficient in minerals elements which are the sole reason of repeat breeding and other gyne related diseases in animals. So ensure to give 50 g mineral mixture to animals daily. Ensure cleanliness in cows having advanced pregnancy to avoid mastitis.

Uttarakhand

- **Realised Rainfall:** There was no rainfall during last week in the State.
- **Rainfall Forecast:** Dry weather is likely over the State.
- **Major Rabi crops:** Wheat(crown root initiation/early vegetative), mustard, lentil, pea, chickpea, rajmash(early vegetative)
- **Advisory:**
 - Due to expected dry weather conditions during this week, farmers having irrigation facilities are advised to give first irrigation in wheat crop at crown root initiation stage and then top dress @ 2.5 kg Urea per Nali when soil moisture is sufficient. Do weeding for remove weeds for better growth of wheat crop by hand hoe. Farmers may continue sowing of wheat during this week also. The recommended high varieties of wheat for this week for both irrigated and un-irrigated conditions are UP-2572, UP-2584 UP-1109, HS-2395, HD-2380, HS-420 etc.
 - Due to expected dry weather condition, farmers are also advised to complete sowing of lentil with available varieties under sufficient moisture in soil.
 - Provide irrigation, weeding and thinning in mustard crop and top dress 1/2 kg Urea per Nali if not done so far.
 - Do weeding and thinning operations in other standing crops like pea, chickpea, rajmash etc. for their better growth.
- **Major Seasonal Crop with stage:** Sugarcane ratoon (planting/early vegetative), cabbage, garlic, tomato (vegetative), French bean (early vegetative).
- **Crop Condition:** Good
 - **Advisory:**
 - Farmers are advised to undertake weeding in early sown garlic crop and give irrigation for better crop growth. However, if irrigation facilities are not available, then put straw mulch in between rows for moisture conservation.
 - Continue digging of matured potato crop as per maturity of tubers as dry weather is expected.
 - Remove weeds from other standing vegetable crops and keep grass lying on the ground for conserving soil moisture. If pods of vegetable pea are ready then plug them and sent to the nearby market. Apply irrigation in crops including coriander, spinach, radish, menthe etc. under low soil moisture.
 - Apply need based irrigation to the standing vegetable crops like coriander, spinach, radish, mentha etc.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
 - white rust in pea is possible, spray 0.5 % solution of Carbendazim immediately at an interval of 10 days.
 - aphids in mustard. If the aphids are seen in 10 % population, then spray 200 SL Emidachlorpid @ 3 ml per 10 litre of water.

Punjab

- **Realised Rainfall:** There was no rainfall during last week in the State.
- **Rainfall Forecast:** Dry weather is likely over the State.
- **Major Rabi Crops with stage:** Wheat(Crown root initiation/early vegetative), toria(seed formation), raya, rapeseed and mustard (early vegetative), potato(vegetative)
 - As there was no rainfall in the State during last week and dry weather is likely for the next five days, the farmers are advised to apply need based irrigation to the standing *rabi* crops.

- Undertake sowing of late sown varieties and the late sown wheat may be given 25 percent less nitrogen than the recommended dose.
- Farmers are advised to give light irrigation to the wheat crop. Apply second dose of 55 kg urea per acre to wheat before first irrigation.
- Undertake intercultural operations in early sown wheat, raya, taramira, lentil and chickpea.
- To early sown raya, apply 45 kg urea per acre with first irrigation.
- Weeding operation in timely sown rape seed and mustard crops may be undertaken.
- Complete harvesting of matured crops of toria.
- Farmers are advised to undertake the first cutting of Barseem. Conserve the surplus maize fodder as silage at milk dough stage.
- Farmers are advised to undertake sowing transplanting of gobhi sarson, which is more profitable than direct sowing. Complete transplanting of tomato seedlings. Provide sarkanda/ kahi/ rice straw to save the plants from frost. If the growers have not properly covered young trees as well as the newly planted fruit trees with thatches or kullies made of sarkanda or farm waste materials, then they may do so without any further delay to save them from frost. The South-west side should be left open to allow sufficient sunlight.
- Complete sowing of autumn potato crop particularly for seed production during this period. Before sowing treat the potato tubers in 0.25% solution of Emisan or Monceren (250 g or ml in 100 litres of water) for 10 min. to black scurf of potato. Discard and destroy late blight infected tubers. Keep the soil wet at tuberization to minimize the scab infection.
- This is the right time for sowing of English varieties of Radish (Japanese White, white Icicle), Turnip (Golden Ball), transplanting of 4 to 6 week old seedlings of cabbage, Chinese cabbage and late season cauliflower.
- Undertake transplanting of tomato.
- **Advisory for Plant Protection:** Weather conditions are favourable for mild incidences of –
 - Aphid in potato. Keep watch on aphid population as soon as it reaches 20 aphids per 100 leaves build up, the haulms should be cut down. Keep the soil wet at tuberization to minimize the scab infection.
 - aphid in sarson/ raya, spray the crop with 40 g Actara 25 WG or 400 ml of Metasystox 25 EC or Rogor 30 EC or Thiodan 35 EC or Ekalux 25 EC or 600 ml of Dursban 20 EC in 100 litres of water per acre.
- **Animal Husbandry:** Watch the animals in the early and late hours of the day especially at the time of milking. Provide clean, dry and good bedding especially for young calves to protect from cold weather. Keep the animals in dry place and change the bedding material. Provide clean, dry and good bedding especially for young calves and newly born should be given care in cold weather, keep them warm. Keep the animals under roof at night time and in the sun during day. The protein in the concentrate can be reduced 2-3 percent. Deworming should be done in the calves especially against Ascariasis/Malap

Haryana

- **Realised Rainfall:** The State received no significant rainfall during last week.
- **Rainfall Forecast:** Dry weather is likely over the State.
- **Major rabi Crops:** Wheat(Crown root initiation/early vegetative), raya and mustard(early vegetative)
- **Advisory:**
 - Complete planting of winter sugarcane, varieties: COH 56, COH 64, COH 99, COH 119, CO 7717 and COS 8436. Apply 45 kg Urea or 80 kg Kisan Khad and 125 kg Single Super Phosphate.
 - Complete the sowing of barley with certified seed of BG-25, BH-75 and C-164 under timely sown irrigated conditions and C-138 in rainfed conditions as earliest.
 - Apply the irrigation in timely sown raya/mustard crop.
 - Complete the sowing of late sown wheat crop with seed treatment by Bavistin or Benvalerate @ 2 g/kg
- **Major Seasonal crop with stage:** Spring sugarcane (early vegetative/vegetative), vegetable crops (vegetative), cotton (boll formation)
- **Crop Condition:** Good

- **Advisory:**
 - Undertake hoeing and weeding and apply the remaining dose of nitrogen fertilizer to the sugarcane.
 - The weather conditions are ideal for sowing early varieties. Continue sowing “desi” varieties of radish (Punjab Pasand & Punjab Safed), turnip (L-1 & 4-white) and carrot (No. 29 PC-34 and Sel. 21), pea, potato and palak (Punjab Green). Transplant fully developed seedlings (4-6 week old) of main season varieties of cauliflower. Sowing of late season varieties of cauliflower i.e. Snow-Ball-16, Pusa Snow ball 1 & Pusa Snow ball K-1 can be continued.
 - This is suitable time for planting of evergreen fruit plants like sweet orange, mandarin, lime, lemon, guava & ber. For checking pre-harvest fruit drop, spray the trees with 10 ppm of 2, 4-D and 0.3% of Zinc sulphate. In citrus leaf miner can be checked by spraying 500 ml of Sumicidin 20 EC or 1000 ml Ripcord 10 EC or 1250 ml Hostathion 40 EC in 500 litres of water. In grapes, spray the vines with Bavistin @ 400g/400 litres of water to control anthracnose.
 - Farmers are advised to undertake weeding and hoeing in cotton and intercultural operations in tomato, onion and chilli.
- **Advisory for Plant Protection:** Weather conditions are favourable for mild incidences of –
 - Saw fly and burgada (Dholia) in younger plants of mustard, to control spray 200 ml malathion 50 EC or 400 ml endosulphan 35EC in 200 lt. of water/acre.
 - bacterial blight in guar, farmers are advised to spray the crop with 400ml blitox and 30 grams of streptocyclin in 200 liters of water per acre.
- **Animal Husbandry:** Possibility of fall in temperature, farmers are advised to protect against from cold winds. Farmers are advised to give the 50grams Iodized salt and 50 to 100 grams mineral mixture daily to keep them healthy.

Delhi

- **Realised Rainfall:** The State received normal rainfall during last week.
- **Rainfall Forecast:** Dry weather is likely over the State.
- **Major Rabi Crops:** Wheat (early vegetative/vegetative); vegetable crops (early vegetative/vegetative)
- **Advisory:**
 - Farmers are advised to undertake intercultural operations in early sown crops like wheat, cole vegetable crops like cauliflower, cabbage
 - Trees on agriculture lands may be pruned to open up canopy for light penetration before crop sowing. Weed biomass and leguminous tree leaves may be chopped and used for composting

Uttar Pradesh

- **Realised Rainfall:** The State received no rainfall during last week.
- **Rainfall Forecast:** Rainfall at isolated places is likely over East Uttar Pradesh during next 48 hours and mainly dry weather thereafter. Dry weather is likely over West Uttar Pradesh.
- **Major rabi crops:** Wheat, maize, gram, pea, and lentil.
 - As there was no rainfall in the State during last week and no significant rainfall is likely for the next five days, the farmers are advised to apply irrigation to the standing *rabi* crops.
 - Weeding and hoeing, and top dressing of recommended amount nitrogen may be done in early sown wheat and to control broad leaf weeds apply 2, 4 – D sodium salt @ 625gm/ hectare. To control Gehunsa / Jangali Jai, use Isoproturon 50% @ 1.5 kg/ hectare and apply fertilizers on the basis of soil testing and use bio fertilizers Azetobactar and P.S.B to increase the fertility of soil.
 - Complete the sowing of late sown varieties of wheat as Malviya- 234, Narendra- 236, and TWT-373 at earliest and use seeds @ 125 kg/ hectare and purification of seeds may be done by Carbendazim or Thiram. For sowing varieties of wheat KRL – 203, Raj -3077, Lokvan etc. in barren land, use seeds 25% more than normal.
 - Undertake weeding, intercultural operation and top dressing in barley, gram, pea, and lentil.
- **Major Seasonal Crop with stage:** Sugarcane (grand growth) and vegetables (vegetative/fruitletting), mango (fruit setting).

- **Crop Condition:** Good
- **Advisory**
 - Undertake weeding, intercultural operations and application of fertilizers in the standing crops like sugarcane, vegetables and mentha.
 - Complete sowing Barseem at the earliest and undertake first cutting of fodder.
 - Sowing of garlic may be done after purification of seeds at the seed rate 500- 700 kg seeds/ hectare at distance 15 x 7.5 cm.
 - Complete the sowing of recommended varieties of gram, pea and lentil and other pulses crops in sufficient moisture at the earliest.
 - Complete sowing of early varieties of potatoes like Kufri Chandramukhi, Kufri Bahar, Kufri Sadabahar, Kufri Ashok.
 - Weeding, hoeing, thinning and top dressing of recommended amount of Nitrogen may be done in toria.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
 - mal formation disease in mango, spray the solution of Naphthalene Acetic acid @ 200 ppm or 4ml. Planofix in 9 litre of water.
 - cankers disease in lemon, spray the solution of Blitox 3-4 gram/litre in water.
 - fruit borer in tomato and brinjal, spray the solution of Carbaryl @ 2 g / litre of water.

J & K

- **Realised Rainfall:** There was no significant rainfall in most of the districts of the State except Anantnag district which received normal rainfall and Kupwara, Ladakh(Leh) districts which received excess rainfall during last week.
- **Rainfall Forecast:** Dry weather is likely over the State.
- **Major rabi crops:** Wheat, barley, brown sarson (early vegetative/vegetative) Vegetables (vegetative/ flowering/ fruiting).
- **Advisory:**
 - As rainfall is not likely over the State during next 5 days, farmers are advised to apply irrigation to the standing crops.
 - Undertake sowing of very late sown wheat varieties (Raj 3077, PBW 226, PBW373, PBW435 & Raj 373) with increased seed rate i.e. 125 kg/ha under irrigated conditions. Apply 175, 110 and 42 kg /ha of urea, DAP, and MOP respectively. Out of this drill entire quantity of DAP, MOP and 50% of urea as basal dose at time of sowing. But before sowing seed should be treated with vitavax or bavistin or agrozim @ 2g/kg of seed against seed borne disease.
 - Weed control application in early sown wheat crop by hand hoe or apply isoproturon @ 0.75 a.i.+2,4-D ethyl ester @500ml /ha for control of both types of weed (broad & narrow leaves), when crop is 30-35 days old.
 - Undertake transplanting of seedlings of knoll-khol, kale, cabbage heads and root crops like carrot, turnip and radish for seed production in Srinagar region.
 - Transplanting of onion and garlic should be completed positively by the end of this week as the minimum temperature is expected to fall below 2 °C, which adversely affects the establishment of seedlings. As the weather is expected to remain clear, hoeing and earthing up operation in potato, cabbage, cauliflower and main season knoll-khol should be taken up on priority. Harvesting of early sown knolkhol, spinach and methi should be done.
 - Undertake top dressing of cauliflower, knoll-khol, potato, spinach, methi and garlic @ 60, 50, 20, 20, 20 and 20 kg/ha. Rouging of virus effected plants from brinjal, tomato, cauliflower and cabbage crop.
 - Harvest early variety of sweet orange. Remove the stock sprout, suckers and water sprout from budded/grafted plants.
 - Undertake transplanting of onion and garlic as the minimum temperature is expected to fall below 2 °C, which adversely affects the establishment of seedlings. As the weather is expected to remain clear, hoeing and earthing up operation in potato, cabbage, cauliflower and main season knoll-khol should be taken up on priority. Harvesting of early sown knolkhol, spinach and methi should be done.

- Undertake hoeing and weeding in transplanted crops like cabbage, cauliflower, kale and other standing crops.
- Undertake hoeing and earthing up operation in potato, cabbage, cauliflower and main season knoll-khol after current spells of rain.

Rajasthan

- **Realised Rainfall:** Most of the districts of the State received no rainfall during last week.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the State during next two days and dry weather thereafter.
- **Major Seasonal Crop with stage:** vegetable crops (flowering / fruiting / harvesting)
- **Crop Condition:** Good
- **Advisory:**
 - As mainly dry/dry weather is likely over the next five days, apply first irrigation to mustard and wheat crop and apply 16kg/bigha urea as top dressing to wheat crop.
 - Undertake intercultural operations in sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger.
 - Sow seeds in nursery for raising seedling of autumn vegetables. Use following improved varieties for nursery sowing: Tomato: Pusa Rubi, Pusa Early and Vihar. Brinjal: Pusa Summer Prolific Round, Pusa Summer Prolific Long, Meghdoot, Navin and Arka Bahar, Cucumber: Balam and Pusa Sahyog. Smooth gourd: Chikni and Nasdar.
 - Start hoeing and weeding in gram and mustard crops.
- **Animal Husbandry:**
 - To protect milch & infant animals from cold, cover the door of animal house and wrap jute beg around animal back. Keep litter dry everyday in Ajmer, Dausa, Tonk and Jaipur.
 - Due to fall in temperature there are chances of cold winds, protect animals by putting curtains in animal sheds. Vaccinate animals against FMD and BQ in consultation with local veterinarian. Arrange for curtains in poultry in Bharatpur region.
- **Plant Protection:** Weather conditions are favourable for
 - powdery mildew in vegetables and fruits crops; spray 1% kerathane or sulphur (WP) @ 2gm/litter of water.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]

Bihar

- **Realised Rainfall:** There was no rainfall during last week in the State.
- **Rainfall Forecast:** Isolated rainfall is likely during next 48 hours and dry weather thereafter over the State.
- **Major *rabi* Crops:** wheat(early vegetative), sarson, rai(early vegetative), maize (knee high)
- **Crop Condition:** Good
- **Advisory**
 - As there was no rainfall in the State during last week and no significant rainfall is likely over the State during next five days, apply irrigation to the already sown *rabi* crops.
 - Continue preparation of the field and sowing of *rabi* crops viz., Sarson (Var-Rajendra Sarson-1, Swarna, etc.), rai (Rajendra Rai Pachheti, Pusabold and Kranti) using seedrate @ 5kg/ha and sunflower like (modern, surya Paradovic, KBSH I-44 using seed rate 5kg/ha for hybrid and 8 kg/ha for composite variety, gram (Rajendra chana, Uday, Pusa 256, RAU 52, SG2) using seed rate 75 to 80 kg/ha sowing at a distance of 30x10 cm, Lentil (BR 25, Pant1406, 639, Malika, Arun) using seed rate @ 40 to 45 kg/ha and apply 20: 40: N:P kg/ha respectively. All pulses seed should be treated with Rhizobium culture @ 5 Pkt/ha or chemical treatments should be done with thiram or bavistine @ 2.0gm/kg of seed for good germination and minimum losses from insects and diseases.
 - Undertake weeding, application of top dressing @ 40 kg N per hectare in maize crop which has come to knee high stage.

- To drop the seed of onion in the nursery. Start the sowing of fodder crops like berseem, lucerne and oat in the field.
- Farmers are advised to apply 2,4-D Sodium salt@1kg per hectare after irrigation against the broad leaved weeds. Apply Isoproturon@1kg a.i per hectare against *Phalaris minor* in 600 litres of water.
- Farmers are advised to prepare the field and undertake late sown varieties HUW 234, PBW 373, HW 2045, HP 1744, HD 2643, NW 101 and, NW 2036
- **Major Seasonal Crop with stage:** Sugarcane (vegetative/grand growth), sudan grass (vegetative)
- **Crop Condition:** Good
- **Advisory:**
 - Prepare the field for autumn planting sugarcane and no need of irrigation is required in early sowing of potato.
 - Undertake intercultural operations, application of fertilizers.
 - Weather condition is congenial for transplanting of Aghani, Pusa Dipali, Pusi, Patna Main and Pusa Shuvra varieties of cauliflower.
 - Prepare the field and transplanting late maturing cauliflower, cabbage, brinjal, tomato and sowing of medium & late potato like Kufri Badsah, Kufri Sinduri, Kufri Lalima, Rajendra Alu 1, 2 and 3.
 - Cut berseem and lucerne fodder at the interval of 25 to 30 days and after that provide irrigation and fertilizer (Nitrogen @ 10 kg /ha)
- **Plant Protection:** Weather conditions are favourable for mild incidences of -
 - early blight and late blight in potato, spray Indofil M-45 or Ridomil @ 2gm/liter of water for control of the disease.
 - stem borer insects in brinjal crop. Farmers are advised to apply Endosulphan @1.5 ml per litre of water.

Jharkhand

- **Realised Rainfall:** There was no rainfall during last week in the State.
- **Rainfall Forecast:** Rainfall is likely to occur at a few places during next 48 hours and mainly dry weather thereafter over the State.
- **Major rabi Crops:** rai, toria, gram, peas, potato, mustard(early vegetative)
- **Crop Condition:** Good
- **Advisory:**
 - As there was no rainfall in the State during last week and rainfall at isolated/few places is likely over the State during next two days, apply need based irrigation to the already sown *rabi* crops.
 - Farmers are advised to complete sowing of rai, gram, peas, potato, mustard etc.
 - Undertake weeding, intercultural operations and top dressing in early sown *rabi* crops.
- **Major Seasonal Crop with stage:** Sugarcane (vegetative/grand growth)
- **Crop Condition:** Good
- **Advisory:**
 - Undertake sowing of Cabbage varieties in Early type – Golden acre, Early drum head, Pride of India. Late type – Late drum head Cauliflower Varieties are – Early – Pant Early, Pusa katki, Pusa Dipali. Seed rate is 600 – 700 gm/hactare.

Orissa

- **Realised Rainfall:** There was no rainfall during last week in the State.
- **Rainfall Forecast:** Rainfall is likely to occur at isolated places during next 48 hours and dry weather thereafter over the State.
- **Major rabi Crops:** wheat(crown root initiation), pulses, mustard, sunflower, groundnut(early vegetative)
- **Advisory:**
 - Apply first top dressing @ 50 % N of the recommended dose at CRI stage of wheat.
 - As there was no rainfall in the State during last week and no significant rainfall is likely over the State during next five days, apply irrigation to the already sown *rabi* crops.

- Undertake weeding, intercultural operations and application of fertilizers of *rabi* pulses like lentil, field pea and chickpea.
- The current temperature is favourable for wheat sowing in inland districts. Select HYV like Sonalika, UP-262. Use 40 kg seed/acre. Before sowing the seeds should be treated with 3 g Captan or Thiram/kg of seeds. To avoid the infestation of loose smut disease, soak the seeds in water for 5-6 hours, dry it in sun for 4-5 hours after draining out water then treat the seeds in the 2.5 g/kg of Bavistin of seeds before sowing. Sow the seeds in line at a row distance of 15 cm. Before sowing apply 15:20:20 kg NPK/acre. In termite prone areas, apply 1.5% Chloropyrifos @ 10 kg dust during the final land preparation.
- Complete sowing of mustard under irrigated condition.
- This is the optimum time for sowing of sunflower. Grow high yielding varieties like Morden, Sunrise, Surya and Hybrid varieties like KBSH-1, KBSH-3 and MSFH. Use 4 kg seeds/acre for high yielding varieties for rainfed condition, 3.5 kg for irrigated condition, 2-2.5 kg seeds/acre for hybrid varieties under rainfed condition and 1.5-2 kg seeds for irrigated condition. Sow the seeds in lines 30 cm apart.
- **Major Seasonal Crop with stage:** Sugarcane (early vegetative), vegetables (fruiting / harvesting), onion (vegetative).
- **Crop Condition: Good**
- **Advisory:**
 - Cole crop seedlings are at 3-week stage in the nursery. Go for transplanting in the main field.
 - Undertake weeding, intercultural operations and application of fertilizers.
- **Animal Husbandry:** calf and kids are susceptible to respiratory infection mostly pneumonia. Provide warm and comfortable housing to animals. Now-a-days, poultry birds are prone to respiratory infection and CRD (Chronic Respiratory Diseases). Provide comfortable warm housing and good ventilation. In case of disease outbreak, therapeutic measures are to be taken up. Vaccination for FMD (Foot and Mouth Disease) of animals is to be taken up. In case of disease outbreak, strict isolation of affected animals should be done.

West Bengal

- **Realised Rainfall:** There was no rainfall during last week in the State.
- **Rainfall Forecast:** Dry weather is likely to prevail over the State.
- **Major Crops:** Rice, vegetables
- **Crop Stage:** *aman* rice (grain development/harvesting), Sugarcane (vegetative), vegetable crops (transplanting). This is proper time for nursery sowing of boro rice.
- **Crop Condition: Good**
- **Advisory:**
 - Arrange for harvesting matured crop of paddy.
 - Prepare upland, light loam and well drained field for early potato (90 days). Select among varieties like Kufri Alankar and Kufri Chandramukhi. Suitable late varieties after harvesting the *kharif* rice are Kufri Jyoti and Phokraj.
 - Where irrigation water is available, start land preparation for boro paddy. The recommended varieties are IET – 1444, IET – 4786 (Satabdi), IET – 4094, Lalat, MTU – 1010, JGI -1798 etc.
 - After harvesting of the *kharif* crop, sowing of irrigated late variety such as DBW-14, HP-1744 (Rajeswari), NW-1014 & HW-2045 etc. can be done.
 - Undertake sowing of chilli in the nursery.
 - Mustard/wheat/linseed crop may be sown immediately in South Dinajpur with light irrigation. Crops already sown may need top dressing followed by light irrigation.
- **Plant protection:**
 - Weather conditions are favourable for the incidences of leaf folder and BPH in late transplanted *aman* paddy. To control leaf folder, apply Lamda cyhalothrin 5EC @ 0.5 ml and for BPH (If it cross 10 per hill) apply Buprofezin @ 1.5 ml per litre of water. In this weather Blast disease may be severe. To prevent the disease apply Tricyclazole 0.6 gm per litre of water.

Sikkim

- **Realised Rainfall:** The State received no rainfall during last week.
- **Rainfall Forecast:** Mainly dry weather is likely over the State.
- **Major crops:** **(a) High hills (1500 to 2000 m): Large Cardamom:** Harvesting/ Nursery Sowing, **Rabi Vegetables:** Vegetative/Late Vegetative, **Wheat:** Tillering; **(b) Medium hills (1000 to 1500 m): Large Cardamom:** Harvesting/ Nursery Sowing, **Rabi Vegetables:** Vegetative/Late Vegetative, **Ginger:** End Harvesting, **Mustard:** Vegetative, **Wheat:** Tillering; **(c) Low Hills (Below 1000 m): Large Cardamom:** Nursery Sowing, **Rabi Vegetables:** Vegetative/Late Vegetative, **Ginger:** End Harvesting, **Mustard:** Vegetative. **Wheat:** Sowing/Germination.
- **Crop Condition:** Good
 - **Advisory:**
 - Harvesting of cardamom may be continued in high altitude area. Maturity may be assessed when the capsule of the top most spike turn dark brown and when the capsule come out easily while pulling.
 - The fully matured rice crop should be harvested immediately, preferably on sunny days and harvested crop dried in the sun for at least 3 – 4 days before the crop is thrashed.
 - Harvesting of orange fruits should be done by tree fruit harvester or by hand plucking without damaging the trees.
- **Plant protection:**
 - Chirke and Foorkey infected cardamom plants may be destroyed by uprooting and buried in the pits at regular intervals.
 - Regular inspection may be carried out to observe caterpillar/shoot borer/shoot fly incidence, if any, and may be hand picked and destroyed mechanically.

NORTHEAST INDIA [ARUNACHAL PRADESH, NMM & T, ASSAM, MEGHALAYA]

Assam

- **Realised Rainfall:** There was no significant rainfall in the State during last week.
- **Rainfall Forecast:** Rainfall at isolated places is likely over the State during next 48 hours and mainly dry weather thereafter.
- **Major rabi crops:** Wheat, Potato, Pea and vegetables, mustard
 - Undertake land preparation and seed sowing of late sown wheat. Undertake weeding and apply light irrigation in early sown wheat.
 - Undertake weeding and thinning in early sown rape seed and mustard.
 - Plant quality tubers of late potato variety like Kufri Megha. Depending up on weather, irrigate the crop and spray Indofil M-45 @ 0.25 % (2.5 g/L of water) against late blight.
 - Complete sowing of toria varieties like M27, TS 36, TS 38 and TS 46 and niger. Collect quality seeds of field peas like Rasna, Arpana and Pant 14 and sowing can be done by this week.
 - Farmers are advised to prepare nursery bed for sowing of recommended *boro* paddy varieties like Joymati, Bishnu prasasad, Swarnabh, Dinanath etc. in nursery beds may be taken upto mid December.
- **Major Seasonal Crop with stage:** Vegetables (vegetative / flowering / fruiting / harvesting), and sugarcane (vegetative).
- **Crop Condition:** Good
- **Advisory:**
 - Seeds of cabbage, cauliflower, knoll khol, tomato, brinjal etc., can be sown in nursery beds.
 - Continue land preparation for sowing of onion and garlic under well drained, sandy loam condition.
 - Farmers are advised to start planting of potato, tomato, cabbage, knol khol etc.
- **Plant protection:** Weather conditions are favourable for mild incidences of –
 - blight in potato, spray Mancozeb 75% a.i.(2.5g/l).
 - aphid and saw fly in the rapeseed and mustard crop. Spray Dimethoate 30 EC @2ml/l. or Chloropyriphos 20 EC @2ml/l.
 - sigatoka leaf spot in banana, spray calixin (1 ml/l) along with sticker.

- late blight in tomato, *phytophthora* rot in onion and bacterial wilt and *phytophthora* fruit rot in brinjal is observed, spray Equation-pro (1 ml/l) or Acrobat (2 g/l) for their control. For purple blotch disease of onion, spray Dithane M-45 or Kavach (2 g/l).

Arunachal Pradesh

- **Realised Rainfall:** There was no significant rainfall in the State during last week.
- **Rainfall Forecast:** Rainfall at isolated places is likely over the State during next 48 hours and mainly dry weather thereafter.
- **Major rabi Crops:** Pea, maize, potato
- **Crop Stage:** Pea, maize, potato(vegetative)
- **Crop Condition:** Good.
- **Advisory:**
 - Undertake weeding, intercultural operations and top dressing of fertilizers in pea, maize and potato.
- **Major Seasonal Crop:** Vegetables
 - As there was no significant rainfall in the State during last week and no significant rainfall is likely during next five days over the State, apply irrigation to the standing crops.
 - Matured fruits of orange, guava and pineapple may be harvested for sale and avoid over maturity.
 - Transplanted vegetables may be provided with proper irrigation and weeding be done followed by fertilizer application.
- **Plant Protection:** Prophylactic measure for protection of seed ginger rhizome from fungal disease may be taken.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]

Andhra Pradesh

- **Realised Rainfall:** The State received no significant rainfall in most of the districts of the State during last week except Chittoor district which received excess rainfall during last week.
- **Rainfall Forecast:** Rain/thundershowers is likely at a few /isolated places over Coastal Andhra Pradesh and Rayalaseema. Mainly dry/dry weather is likely over Telangana.
- **Major Crops:** Cotton, Sugarcane and Vegetables
- **Crop Stage:** boll development (cotton). Early sown rabi crops are at vegetative stage.
- **Crop Condition:** Good.
- **Advisory:**
 - As there was no rainfall during last week, farmers are advised to apply irrigation to the early sown crops.
 - Third split dose of fertilizer ie, 35 kg urea and 15 kg MOP per acre is to be applied for cotton crop. (Krishna, Guntur and Prakasam). Spraying 2% urea or 2% KNO₃ should be taken up two times at weekly intervals.
 - Greengram / blackgram can be sown as *rabi* pulses. Suitable greengram varieties for sowing are LGG 410, LGG 460, LGG 407, and that of blackgram are LBG 17, LBG 20, LBG 22, LBG 623, LBG 402, LBG 611, LBG 685, LBG 752. Greengram/ blackgram seed to be treated with carbosulphan @ 30g or imidacloprid @ 5ml and mancozeb @ 3g or carbendazim @ 2.0 per kg of seed.
 - Farmers are advised to undertake intercultural operations in sugarcane and vegetables to keep the fields weed free.
 - Undertake transplanting of *rabi* vegetable crops like brinjal, cabbage, cauliflower, capsicum and tomato.
- **Plant protection:** Present weather conditions were congenial for the incidence of
 - Aphids and whitefly in Cotton. To control them, spray Monocrotophos @ 1.5 ml or Methyl Demeton @ 2 ml or Acetamaprid @ 0.2 g or Acephate @ 1.5 g per litre of water.
 - leaf spots in Cotton. To control, spray Mancozeb @ 2.5 g or Copper-Oxy-Chloride @ 3g or Cuman-L @ 4 ml per litre of water 4-5 times at 15 days interval.
 - white fly in sugar cane. To control, spray Endosulphon or Malathion @ 2 ml per litre of water.

- scale insect, mealy bug and *Pyrilla* in Sugarcane. To control, de trash the basal leaves and spray Dimethoate @ 1.7 ml or Malathion @ 3 ml per litre of water. To control *Pyrilla*, spray Endosulfan or Malathion @ 2 ml per litre of water.
- thrips is noticed in onion. To control, spray Imidacloprid @ 0.4 ml or Fipronil @ 2 ml per litre of water.
- shoot and fruit borer is noticed in brinjal and bhendi. To control, install pheromone traps @ 4 per acre, clip the infested shoots and destroy, spray Endosulfan or Profenophos @ 2 ml per litre of water.
- mites is noticed in chillies. To control thrips, spray Acephate @ 1.5 g or Fipronil @ 2 ml per litre of water and to control mites, spray Phosolone @ 2 ml per litre of water.

Karnataka

- **Realised Rainfall:** Coastal Karnataka and North Interior Karnataka received no rainfall during last week. There was no significant rainfall in South Interior Karnataka except Bangalore Urban which received normal and Kolar received excess rainfall during last week.
- **Rainfall Forecast:** Rain/thundershowers like at a few/isolated places over the State.
- **Major rabi Crops:** Wheat (6 - 8 leaf emergence), Bengal gram (vegetative), *rabi* Sorghum (vegetative), Pigeonpea (maturity), Sunflower(maturity)
- **Advisory:**
 - As there was no significant rainfall in the State during last week, farmers are advised to apply irrigation to the crops.
 - Farmers in Udupi and Dakshin Kannada are advised to undertake sowing of pulse crops. Select among varieties like PS-16 (Green gram), C-152, TVX-944 (Cow pea), T-9, TAU-1 (Black gram), PHG-9 (Horse gram).
 - It is right time to give 2nd dose of fertilizer to plantation crops. For the four year old and above tree or vine, the below mentioned dose of N: P: K fertilizer can be given as the 2nd dose. 1) Arecanut:- 50:20:70 gm per tree. 2) Black pepper:- 50:20:70 gm per vine. 3) Banana: 90:54:113 gm per plant. 4) Coconut: 250:165:600 gm per tree. 5) Cardamom: 250:60:60 gm per tree.
 - Farmers in Shimoga and Hassan districts are advised to undertake planting of banana. Select healthy and disease free suckers and apply 500 grams neemcake and 20grams Carbofuran per plant before planting.
 - Farmers in Hiriyur district are advised to undertake sowing of Rabi crops like maize and Onion under irrigated condition.
 - Provide one irrigation as the wheat crop is in crown root initiation (CRI) stage which is critical stage for irrigation.
 - Carry out nipping operation in the Bengal gram as it helps in spreading of the crop and produce more side branches. Take up the spraying of 2 % urea. This will helps for better establishment of vegetative growth.
- **Major Seasonal Crop:** Sugarcane, vegetables, ginger (Nursery), onion (5 - 6 leaf emergence)
- **Advisory:**
 - Farmers are advised to undertake intercultural operations in sugarcane and vegetables to keep the fields weed free.
 - Raise the nurseries of *rabi* vegetable crops like brinjal, cabbage, cauliflower, capsicum and tomato.
 - In view of prevailing low minimum temperatures, apply Dormix @ 30 ml per litre of water on pruned branches for obtaining better bud break on grapes.
- **Plant protection:** Present weather conditions were congenial for the incidence of
 - leaf eating caterpillar in Bengalgram. To control the pest, spray the crop with 4 g carbaryl or 1 ml Methyl parathion or 2 ml Chlorpyrifos dissolved in one liter of water.

Kerala

- **Realised Rainfall:** The State received no rainfall except Kozhikode district which received normal rainfall and Thiruvananthapuram district which received excess rainfall during last week.
- **Rainfall Forecast:** Rain/thundershowers like at a few places for the next 48 hours and at isolated places thereafter over the state.

- **Major Kharif Crops:** Rice (second crop at tillering stage)
- **Crop Stage:** seedling/early vegetative (*mundakan* rice).
- **Crop Condition:** Good.
- **Advisory:**
 - Farmers are advised to undertake intercultural operations in rice on a non rainy day to keep the fields weed free.
 - Farmers in Wayanad are advised to undertake harvesting of rice crop.
- **Major Seasonal Crop:** Vegetables and plantation crops (coconut, arecanut, pepper and cashew). Time for planting of coffee and arecanut
 - Farmers are advised to apply irrigation as there was no significant rainfall during last week
 - Planting of arecanut seedling can be continued in Kannur, Kasaragod, Kozhikode and Malappuram districts. Srimangla, sumangla and Mohitnagar are best suited and high yielding varieties.
 - Fresh planting of banana can be continued during this period in Ernakulam.
 - Farmers in Wayanad are advised to undertake harvesting of arecanut, pepper, cardamom and coffee.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
 - conditions are favourable for the incidence and development of red palm weevil, rhinoceros beetle, stem bleeding in coconut. Keep vigilance against red palm weevil and rhinoceros beetle attack. Start irrigation and apply fertilizers at the rate of 500 g (urea), 400g (Rock phosphate) and 500g (potash), if not done earlier. For controlling stem bleeding chisel out the affected tissues and paint the wound with hot coal tar and apply Calixin 5% @ 25 ml in 25 liters of water.
 - tea mosquito bug in cashew plantations, spray carbaryl 0.1% or quinolphos 0.05%. Apply 640 g of urea, 800 g of rock phosphate, 500 g of MOP to plantation with 5 years of age.
 - sucking pest in cowpea and bittergourd, spray the plants with neem oil emulsion. For this, dissolve 60g of bar soap on half litre of water and mix the emulsion with 1 lit of neem oil by vigorous stirring. This solution should be diluted 40 times for spraying purpose.
 - Sigatoka leaf spot in banana, pseudo stem weevil, burrowing nematode, Spray 1% Bordeaux mixture or tilt 25 EC (1ml/lit of water) to control leaf spot after cutting the severely affected leaves and burning it. Four to five sprayings at fortnightly intervals are to be given depending on the severity of the disease. Apply 25 g phorate or 20 g Carbofuran around the rhizome to control burrowing nematode. To control pseudostem weevil remove the dry outer sheathes of the pseudostem of all infested and un-infested plants and spray Carbaryl 50 WP 4gm/litre of water on pseudostem. Spray solution may be applied to leaf axils also.
 - Mahali / fruit rot in arecanut, spray 1% Bordeaux mixture (two to three times) to control Mahali disease.
 - Pollu beetle and quick wilt in pepper. Mulch the field for conserving moisture. Apply Ecalux @ 2 ml/litre if the attack of pollu beetle is found severe. Drench the soil with 1% Bordeaux mixture as a prophylactic measure to control quick wilt disease. Application of *Trichoderma viride* on the sides of standards will also control the disease.
 - Spray the pesticides on a non rainy day.

Tamil Nadu

- **Realised Rainfall:** Most of the districts received excess rainfall during last week.
- **Rainfall Forecast:** Rainfall is likely at many/few places during next 48 hours and isolated thereafter over the State.
- **Major Kharif Crops:** Groundnut, pulses and *thaladi* rice, sugarcane, banana and vegetables.
- **Crop Stage:** rice (tillering), pod development (pulses), picking (cotton)
- **Crop Condition:** Good
- **Advisory:**
 - As there is chance of rainfall during next 5 days, farmers are advised not to apply irrigation to the crop. Drain out excess water from the fields as there was excess rainfall during last week.
 - This is the right time to take up sowing of cotton in Kovilpatti. Select the varieties like KC 2, KC 3, PA 255, SVPR 2, Bt cotton etc. which are suitable for rainfed tracts.

- Farmers are advised to take paddy sowing through SRI mat nursery.
- Farmers are advised to undertake sowing of *rabi* crops utilizing the current rainfall.
- Undertake intercultural operations and application of fertilizers in thaladi rice and vegetables and sugarcane after current spells of rain.
- Farmers are advised to take paddy nursery sowing in the current week.
- As it is likely for moderate rains in Namakkal district, farmers can take up sowing of groundnut, black gram, green gram, maize, sunflower, gingelly and rice.
- In vegetable belt area, farmers are advised to spray NAA (Growth hormone) after current spells of rain for controlling of flower dropping and increase fruit setting.
- **Plant Protection:** Weather conditions are favourable for
 - Blast in rice in Coimbatore and leaf spot in tomato in Erode district;.
 - Spray the pesticides after current spells of rain.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Maharashtra

- **Realised Rainfall:** Mainly dry weather prevailed all over the State during last week.
- **Rainfall Forecast:** Rainfall at isolated places during next 48 hours and mainly dry weather thereafter over Madhya Maharashtra, Marathwada, Vidarbha. Dry weather is likely over Konkan & Goa.
- **Major Kharif Crops:** cotton, Vegetables, tur
- **Major rabi Crops:** *jowar*, safflower, sunflower, linseed, gram, wheat, mustard vegetables.
- **Crop Stage:** Red gram(pod development / pod maturity), *Kharif* & irrigated cotton(boll maturity / picking), and *rabi* jowar(vegetative growth / flag leaf initiation), safflower(vegetative growth/ flowering) sunflower, linseed (vegetative growth), gram (branching / flowering), wheat (crown root initiation/early vegetative), mustard (seedling/early vegetative).
- **Crop Condition:** Satisfactory.
- **Advisory:** Conserve moisture in the crop field at maturity stage.
 - Complete sowing of *rabi* gram, mustard and late sowing of wheat and also continue preparatory tillage and sowing of *rabi* groundnut, sunflower, mustard in south Konkan.
 - Thinning and weeding may be done early sown crop.
 - Apply second dose of Nitrogen after 30 to 35 days from sowing.
 - Apply protective irrigation to standing crops.
- **Major Seasonal Crop:** Fruit crops, Sugarcane and vegetables.
 - Start field preparation and planting of *suru* sugarcane and vegetables.
 - Undertake spraying, fertilizer application in the standing fruit crops like banana.
 - Continue picking of fully opened cotton bolls.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
 - Pod borer on red gram, for control spray 5% Neemark. If infestation is more, spray Endosulfan 35 %WSC @ 20 ml or Quinolphos 25 % WSC @ 16 ml or Fenthoate 50% WS @ 14 ml in 10 liters of water.
 - powdery mildew on grapes, downey mildew on grape crop. For control, spray 2 g Metalaxyl MZ-72 per lit of water at an interval of 10 to 15 days. If grapes are at development stage then spray, Fenamedon + Mancozeb 2.5 gm per lit of water or Dymethomark 1 gm + Mancozeb 2 g per lit of water. If grapes are developed, then dip the bunch in a solution of Azacystrabin 0.5 ml per lit of water
 - sugary disease on *rabi* jowar due to attack of aphids and thrips. For control of aphids and thrips, spray Dimethoate 3 EC or Dimeton 25 EC or Endosulfan 35EC @1.5 ml per liter of water.
 - midge fly in mango, for control spray Monocrotophos @ 11ml/10liter or Dimethoate @10ml/10liter of water. For control of anthracnose disease on new flush and inflorescence of mango, spray Carbendazim @1gm /1lit.or Thiophinate Methyl 1gm/lit or Propinet @1gm/1liter of water.

Gujarat

- **Realised Rainfall:** Mainly dry weather was prevailed over the State during last week.
- **Rainfall Forecast:** Dry weather is likely over Gujarat region and Saurashtra and Kutch.
- **Major rabi Crops:** wheat, potato, mustard.
- **Crop Stage:** wheat (crown root initiation/early vegetative stage), mustard (early vegetative), gram (flowering).
- **Crop Condition:** Crop condition is satisfactory
- **Advisory:**
 - Apply irrigation during crown root initiation stage (20 days after sowing) and tillering stage (35-40 days after sowing) of early sown wheat crop. Farmers are advised to continue sowing of wheat and select among GW-496, 366, 322, Lok-1 certified seed @ 100 kg /ha keeping 30 x 10 cm distance. Apply irrigation immediately after sowing.
 - Undertake weeding, intercultural operations in early sown mustard crop. After that apply first irrigation to the crop.
 - Undertake land preparation operations for sowing of potato.
 - Farmers are advised to apply irrigation to gram crop as it is in flowering stage.
 - Undertake sowing of wheat. For timely sowing select cultivars viz., GW- 496, GW 273 GW- 503 and GW- 322. Farmers may use seed rate @ 125 kg/ ha. Lines sowing distance- 22.5 cm and depth of sowing is 5- 6 cm for better germination. Seed treated before sowing with Endosulfan 35 EC @ 700 ml per 100 kg seed to control termite in the field. Seeds are to be treated during night time before sowing. Apply FYM @ 10-15 t/hectare and basal dose of chemical fertilizers @ 60 kg Nitrogen + 60 kg Phosphorus per hectare.
 - Undertake land preparation and sowing of gram, amaranthus and cumin.
 - Undertake sowing of maize with variety GM-3 or Ganga.
 - Undertake sowing of garlic with variety Gujarat Garlic-1, Gujarat Garlic-10 or Gujarat Garlic-2 recommended @ 600-700 kg claws/ha.
- **Major Seasonal Crop:** Fruit crops, Sugarcane and vegetables
 - Undertake intercultural operation and application of fertilizer and plant protection measures. Undertake planting of different fruit crops like mango, sapota, pomegranate, lemon, guava, custard apple etc.
 - Farmers are advised for sowing of fodder sorghum.
 - Undertake top dressing in castor.
 - Continue sowing of clusterbean varieties like GC – 1, 2 at 30 cm spacing.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
 - mealy bug in cotton; to control uproot the affected plants and burn and eradicate parthenium weed as it is host plant.
 - Powdery mildew and downey mildew in cucurbits. For control of powdery mildew two to three spray of wettable Sulphur @ 25 gm. /10 lit of water at weekly interval. For control of downey mildew spray copper fungicide @ 40 gm. /10 lit of water at an 8 to 10 days interval.
 - Color rot in groundnut, spray carbendazim @ 0.2 %.
 - mealy bug on cotton, uproot the affected plants then burn and eradicate weeds surrounding field as it is host plant and spray Emidaclopride @ 5 ml + Prophenofos @ 15 ml in 10 litre of water + adding solution of oil soap @ 10 gram. Dust Methyl parathion 2 % powder surrounding the crop stem.
 - mealy bug in orchard, dust Methyl Parathion 2 % powder in soil after digging near the stem and Spray Emidaclopride @ 5 ml + Prophenofos @ 15 ml in 10 litre of water + adding solution of oil soap @ 10 gram surrounding the tree stem.
 - On cotton alternaria leaf spot disease, spray mencozeb + chlorothanolin @ 25 gm in 10 liters of water, for thrips spray triazophos 20 ml or methyl-o-dematon 5 ml or dimethoate 10 ml in 10 liters of water and for the control of leaf blight, spray Mencozeb 25 gm or copper oxychloride 30 gm in 10 liters of water.

- semi looper in castor, spray chlorpyripos 20 ml or endosulphan 20ml or quinalphos 20 ml in 10 liters of water.
- Shoot borer in brinjal, remove and destroy infested shoot and arrange to put at least 12 to 15 pheromone trap /ha. and spray endosalphan @ 21 ml or DDVP @ 5 ml/10 lit of water.

CENTRAL INDIA [M.P., CHHATTISGARH]

Madhya Pradesh

- **Realised Rainfall:** Mainly dry weather was prevailed over the State during last week.
- **Rainfall Forecast:** Rainfall is likely to occur at a few places over the state during next 48 hours and mainly dry weather thereafter.
- **Major rabi Crops:** wheat, pulses, gram (early vegetative/vegetative), sugarcane (cane development), cotton (boll development/ maturity) and vegetable crops (vegetative)
- **Crop Condition:** Satisfactory.
- **Advisory:**
 - Undertake sowing of late sown improved wheat varieties like HI - 1454, Raj -3777, GW –173 and Lok –1 and chickpea, lentil, linseed and field pea.
 - Farmers are advised to irrigate early sown wheat crop at 21 days after sowing and give nitrogen fertilizer 1/4th recommended dose by urea as top dressing.
 - Also undertake sowing/planting of potato, coriander and fenugreek.
 - Undertake pit preparation for planting of new orchard crops.
 - Farmers are advised that suitable time for transplanting of onion.
- **Plant Protection:** Weather conditions are favourable for-
 - powdery mildew in vegetables; farmers are advised to take up the spraying of 1.0 g Carbendazime dissolved in one liter of water.
 - fruit fly in ber, farmers are advised that they should spray Endosulphon 35 EC @ 2 ml/l and second spray after 15 days.
 - Caterpillar in cabbage, Spray Melathyon 1 ml per litre of water.
 - insect attack in Pigeon pea crop ((at flowering to Podding stage), spray Indosulphan or Quinalphas @ 2.0 ml. per liter for controlling it. Pheromone or light traps may be used.
 - blight disease in tomato farmers, spray Mencozeb 75 WP @ 2 gm/l of water.
 - Zulsa disease in potato, spray Menkozeb 2kg in 600 litre of water.
 - Caterpillar in gram and arhar, spray Endosulphan or Prophenophos 1.5 litre in 500 to 600 litre of water.
- **Animal Husbandry:** Protect small cattle's form cold. Animals are to be checked by veterinarians Cattle should be vaccinated to save them from infections/diseases like Black Quarter and FMD etc. The animals should be dewormed through deworming tablets. Take care the pregnant animals and feed them balance diet. Provide the animal's clean water and balance and nutrients rich food.

Chattisgarh

- **Realised Rainfall:** Mainly dry weather was prevailed over the State during last week.
- **Rainfall Forecast:** Rainfall is likely to occur at isolated places over the state during next 48 hours and mainly dry weather thereafter.
- **Major rabi Crops:** Wheat(crown root initiation), gram(early vegetative).
- **Crop Condition:** Good
- **Advisory:**
 - As mainly dry weather was prevailed over the State during last week and no significant rainfall is likely in the next five days, apply irrigation to the standing crops.
 - Undertake sowing of linseed, potato, onion, gram, pea, lentil and safflower.
 - Farmers are advised to prepare the field and undertake sowing of potato. Before the sowing, dipping of seeds for 5 to 10 minutes in the 0.25% solution of Dithane M 45 is recommended.
 - Farmers are advised to undertake sowing of late sown wheat at the earliest. GW-273, Kanchan, GW-173, Amar, Lok-1, Ratan and HD-2329 are suitable varieties for Chhattisgarh Plains zone. However,

under limited irrigation sowing of Sujata variety is recommended. For sowing of wheat seed rate should be 125 kg/ha for all the varieties.

- Proper seed treatment methods should be adopted before sowing of gram. Seed treatment with fungicides like Carbendazim @ 2.5 g/kg of seed recommended. After this seed should also be treated with Rhizobium culture @ 5 g/kg of seed. Vaibhav, JG-74, TG-315, ICC-2 (Kabuli) etc. are suitable varieties for the Chhattisgarh plains agro-climatic zone.
- Complete sowing of safflower during this week.
- Undertake weeding, intercultural operations in early sown gram and safflower.
- **Major Seasonal Crop with stage:** Sugarcane (vegetative), vegetables (flowering / fruiting / harvesting).
- **Advisory:**
 - Undertake weeding and intercultural operations in sugarcane.
- **Plant Protection:**
 - aphids in mustard and vegetables and fruit/shoot borer in brinjal, farmers are advised to keep watch over the crops and if necessary spray Endosulphan or Metasystox @1.0 ml per litre of water. Care should be taken to harvest the crop at least after 10 days of spraying.
 - Pigeon pea crop is at flowering/pod formation stage. At this stage keep watch over the crop for pod borer complex due to partly cloudy weather during past week. If necessary, spray Endosulphan or Metasystox @1.5 ml per liter of water. Spraying of HNPV @ 250 LE/ha is also recommended, but while using HNPV, care should be taken that spraying should be done during morning or evening hours to avoid loss of efficacy during bright sunshine hours.
 - Weather conditions are favorable for incidence of
 - Diamond Back Moth in Cole crops. Hence it is advised to spray Endosulphan or Trizophos @ 1.5 ml/liter of water is necessary.
 - thrips *and alternaria* blight on kulthi crop, spray of copper oxychloride and monocrotophos.
 - Powdery mildew on pea, spray Kerathane (0.15%) or Sulphex (0.2%).