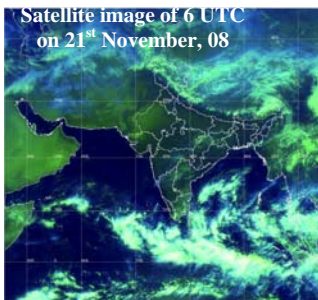




# National Agromet Advisory Bulletin

Thursday, 20<sup>th</sup> November, 2008  
**(For the period 20<sup>th</sup> to 24<sup>th</sup> November, 2008)**



## Forecast for South India (valid upto 1430 hours IST of 23<sup>rd</sup> Nov 2008)

- Rain/thundershowers are likely at a few places over Andaman & Nicobar Islands, Tamil Nadu, Kerala and Lakshadweep during next 24 hours and increase thereafter.
- Isolated rain/thundershowers are likely over the rest region.

## Status of Northeast monsoon

- Fairly widespread/ widespread rainfall with isolated heavy to very falls occurred over coastal Andhra Pradesh and Rayalaseema on 16<sup>th</sup> November. Widespread rainfall also occurred over south interior Karnataka on 17<sup>th</sup> November. Isolated to scattered rainfall also occurred over the above regions and remaining parts of the south peninsula during second half of the week.
- Isolated to scattered rain/thundershower occurred over Tamil Nadu & Puducherry during the week.

## Advisories for Tamil Nadu

- As isolated heavy rain is expected during next 48 hours, farmers in Thirunelveli, Tuticorin and Virudunagar are advised to harvest rice, millets, pulses and oilseeds immediately to prevent damage.
- Farmers in Chennai, Cuddalore, Kanchipuram, Thiruvarur, Thiruvannamalai and Villupuram districts are advised to undertake intercultural operations in vegetable crops after current spells of rain.

## Advisories for Kerala


- Undertake planting of tapioca and nendran banana after current spells of rain.
- Tapping of rubber may be continued after current spells of rain.
- Also undertake intercultural operations and application of fertilizers and pesticides in plantation crops (coconut, arecanut, pepper and cashew) after current spells of rain.

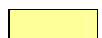
## Issued by


**National Agrometeorological Advisory Service Centre,  
Agricultural Meteorology Division,  
India Meteorological Department, Shivajinagar, Pune.**


Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks					
Sub-division	Cumulative Rainfall (% Dep.) for the period				
	22 <sup>nd</sup> October	29 <sup>th</sup> October	5 <sup>th</sup> November	12 <sup>th</sup> November	19 <sup>th</sup> November
A & N Islands	-68	266	-52	73	98
Arunachal Pradesh	-99	233	-98	-40	-100
Assam and Meghalaya	-99	215	-98	-100	-100
NNMT	-98	371	-96	-94	-100
SH West Bengal & Sikkim	-100	123	33	-100	-98
Gangetic West Bengal	-100	141	-100	-100	-100
Orissa	-90	-80	-100	-100	-99
Jharkhand	-100	-94	-100	-100	-100
Bihar	-100	-100	-100	-100	-100
East Uttar Pradesh	-96	-87	-100	-100	-22
West Uttar Pradesh	-99	-100	-100	-100	-11
Uttarakhand	-63	-100	-100	-100	-100
Haryana, Chandigarh and Delhi	-71	-100	-100	-100	-100
Punjab	316	-100	-100	-100	-100
Himachal Pradesh	101	-99	-100	-100	-100
J & K	168	-99	-97	-100	194
West Rajasthan	-99	-100	-100	-100	-100
East Rajasthan	-56	-100	-100	-100	-42
West M. P.	-100	-100	-100	-100	347
East M. P.	-100	-100	-100	-100	-83
Gujarat region	-95	-100	-100	-100	-95
Saurashtra & Kutch	-98	-100	-100	-100	-100
Konkan and Goa	-97	-92	-100	-100	-97
Madhya Maharashtra	-94	-100	-100	-100	-96
Marathwada	-100	-100	-100	-100	-89
Vidarbha	-100	-100	-100	-100	-99
Chhattisgarh	-100	-100	-100	-100	-100
Coastal A. P.	-24	-40	-100	-95	144
Telangana	-40	-78	-100	-100	51
Rayalseema	67	15	-100	-98	109
TamilNadu & Pondicherry	148	-26	-99	-95	-90
Coastal Karnataka	-22	86	-100	-91	-86
N. I. Karnataka	-49	-59	-100	-100	158
S. I. Karnataka	18	32	-100	-100	-60
Kerala	62	154	-96	-73	-81
Lakshadweep	153	264	-98	-90	-97


The sub divisions like Orissa, Jharkhand, Bihar, East Uttar Pradesh, Uttarakhand, Haryana, Chandigarh and Delhi, Rajasthan, East Madhya Pradesh, Gujarat, Saurashtra & Kutch, Konkan & Goa, Marathwada, Madhya Maharashtra, Vidarbha, Chhattisgarh, received scanty / deficient rain in all the 5 weeks; Assam and Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Punjab, Himachal Pradesh, Gangetic West Bengal, West Uttar Pradesh, West Madhya Pradesh, Coastal Andhra Pradesh, Telangana, Coastal Karnataka, North Interior Karnataka, Tamil Nadu & Pondicherry received scanty / deficient rain in 4 out of last 5 weeks; Sub Himalayan West Bengal & Sikkim, Jammu & Kashmir, South Interior Karnataka, Kerala and Lashdweep received scanty / deficient rain in 3 out of last 5 weeks. Other subdivisions received normal or excess rain for at least 3 weeks out of last 5 weeks.


 (20% or more) excess rainfall

 (-60 to -99 %) scanty rainfall

 (-19 to +19%) normal rainfall

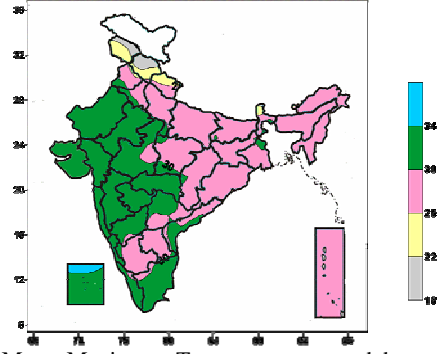
 (-100%) no rainfall

 (-20 to -59% )deficient rainfall

 \*\* Data not available

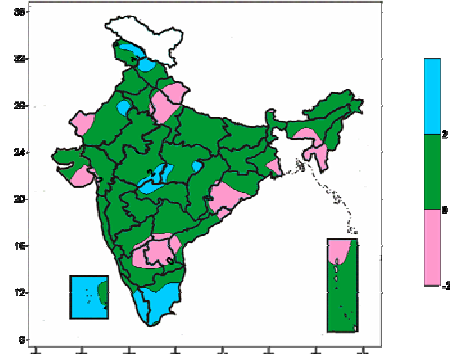
### Contour maps for the week ending 19.11.08

**Actual Mean Maximum Temperature (°C) in India for the week ending 19.11.08**



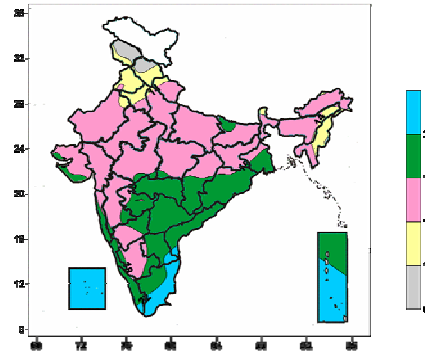
Actual Mean Maximum Temperature ranged between 34 to 38°C in some parts of Lakshdweep, 26 to 30°C in some parts of West Madhya Pradesh, Coastal Andhra Pradesh, Telangana, Kerala, North Interior Karnataka, most parts of Punjab, Haryana, New Delhi, Himachal Pradesh, Uttar Pradesh, East Madhya Pradesh, Chattisgarh, Northeast, East India, South Interior Karnataka, Rayalaseema and Andaman Nicobar Island, 22 to 26°C in some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and 30 to 34°C in remaining parts of the country.

**Maximum Temperature (°C) Anomaly in India for the week ending 19.11.08**



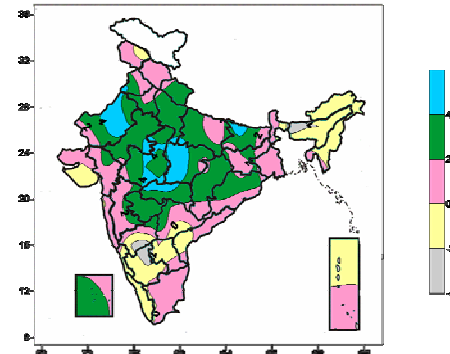
Maximum Temperature anomaly ranged between 2 to 4°C over some parts of Jammu & Kashmir, Himachal Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, most parts over Kerala, Tamil Nadu, Lakshdweep, -2 to 0°C in some parts of Rajasthan, Gujarat, Gangetic West Bengal, Assam & Meghalaya, Mizoram, Tripura, Orissa, Interior Karnataka, Telangana, Coastal Andhra Pradesh, Andaman Nicobar Island, and most parts of , Uttarakhand, West Uttar Pradesh, Rayalaseema and 0 to 2°C in remaining parts of the country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 19.11.08**



Actual Mean Minimum Temperature ranged between 22 to 26°C in some parts of Rayalaseema, Coastal Andhra Pradesh, Kerala, Tamil Nadu, most parts of Lakshdweep and Andaman Nicobar Islands, 18 to 22°C over some parts of Saurashtra & Kutch, Bihar, Gangetic West Bengal, Madhya Pradesh, Madhya Maharashtra, Interior Karnataka, Tamil Nadu, Andaman Nicobar Island, most parts of Chattisgarh, Orissa, Konkan and Goa, Marathwada, Vidarbha, Telangana, Kerala Coastal Andhra Pradesh, 10 to 14°C over some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Haryana, West Rajasthan,

**Minimum Temperature (°C) Anomaly in India for the week ending 19.11.08**

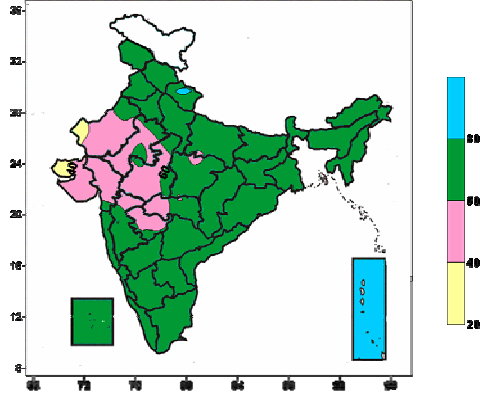


Minimum Temperature anomaly ranged between 4 to 6°C over some parts of Punjab, Rajasthan, Madhya Pradesh, Uttar Pradesh, Bihar, Vidarbha, 2 to 4°C over some parts of Punjab, West Rajasthan, Gujarat, East Uttar Pradesh, Jharkhand, Orissa, Madhya Maharashtra, North Interior Karnataka, Telangana, Lakshdweep Islands, most parts of Uttarakhand, Haryana, Delhi, West Uttar Pradesh, East Rajasthan, Bihar, Chhattisgarh, Madhya Pradesh, Marathwada, Vidarbha, -2 to 0°C over some parts of Jammu & Kashmir, South saurashtra & Kutch, Sub-Himalayan West Bengal, Andhra Pradesh,

Assam, most parts of Sikkim, Nagaland, Manipur 6 to 10°C over some parts of Jammu & Kashmir, Himachal Pradesh and 14 to 18°C in remaining parts of the country.

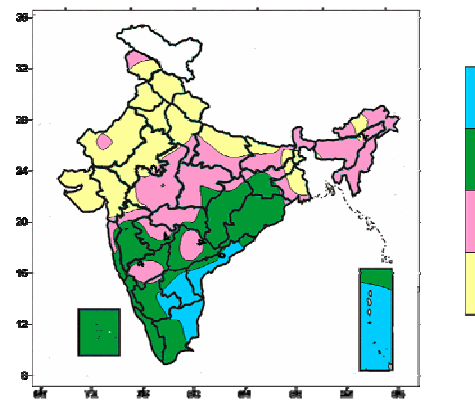
Andaman and Nicobar Islands, most parts of North East India, Karnataka, Kerala, -4 to -2 °C over some parts of Interior Karnataka, Assam and 0 to 2°C over remaining parts of the country.

**Relative Humidity (%) over India for the week ending 18.11.08**



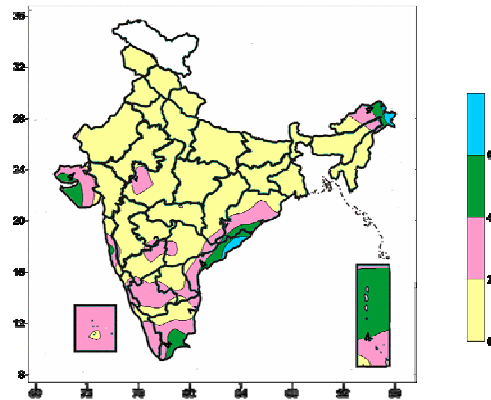
Relative humidity ranged from 80 to 100% over some parts of Uttarakhand, most parts of Andaman & Nicobar Islands, 40 to 60% over some parts of Uttar Pradesh, East Madhya Pradesh, Madhya Maharashtra, Vidarbha, most parts of Rajasthan, Gujarat, West Madhya Pradesh, Marathwada, 20 to 40% over some parts of West Rajasthan, North Gujarath and 60 to 80% over remaining parts of the country.

**Cloud amount (okta) over India for the week ending 18.11.08**



Cloud amount ranged from 6 to 8 okta over some parts of Tamil Nadu, most parts of Coastal Andhra Pradesh, Rayalaseema, North Interior Karnataka and most part of Andaman and Nicobar Islands, 4 to 6 okta over some parts of Jharkhand, East Madhya Pradesh, Andhra Pradesh, North Interior Karnataka, Konkan & Goa, Marathwada, Vidarbha, Tamil Nadu, Andaman Nicobar Island most parts over Chattisgarh, Jharkhand, Orissa, Kerala, coastal Karnataka, Lakshdweep, 2 to 4 okta over some parts of Jammu & Kashmir, West Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Chhatisgarh, West Bengal, Sikkim, North Maharashtra, Telangana, North Interior Karnataka, most parts over Madhya Pradesh, North East India and 0 to 2 okta in remaining parts of the country.

**Wind speed (knots) over India for the week ending 18.11.08**



Wind speed ranged between 6 to 8 knots over some parts of Coastal Andhra Pradesh, Arunachal Pradesh, 4 to 6 knots over some parts of Saurashtra & Kutch, Arunachal Pradesh, Orissa, Coastal Andhra Pradesh,







Tamilnadu, most parts of Andaman & Nicobar Island, 2 to 4 knots over some parts of West madhya Pradesh, Konkan & Goa, Marathwada, Karnataka, Andhra Pradesh, Chhattisgarh, Orissa, Assam, Arunachal Pradesh, Andaman Nicobar Islands, most parts over Lakshdweep and 0 to 2 knots over remaining parts of the country.

### Districts experiencing stress condition (% Departure of rainfall) in South India

*** Most Stress Districts of South India					
State/Districts	22/10/08	29/10/08	05/11/08	12/11/08	19/11/08
<b>Karnataka</b>					
North Interior Karnataka					
Bidar	-32	-100	-100	-100	-88
South Interior Karnataka					
Chitradurga	-2	-42	-100	-100	-52
Davangere	20	-48	-100	-100	-62
Shimoga	-38	-77	-100	-100	-81
<b>Tamil Nadu</b>					
Cuddalore	85	-74	-100	-99	-94
Dindigul	267	-75	-99	-100	-99
Erode	192	-63	-100	-100	-95
Kanchipuram	87	-30	-100	-96	-80
Karur	98	-32	-100	-100	-88
Madurai	227	-83	-100	-100	-100
Nagapattinam	42	-72	-100	-97	-95
Namakkal	57	-40	-100	-100	-90
Perambalur	-5	-64	-100	-100	-99
Pondicherry	132	-82	-100	-95	-76
Pudukottai	105	-68	-100	-100	-100
Ramanathapuram	267	-92	-100	-96	-93
Sivaganga	210	-99	-100	-100	-100
Thanjavur	100	-64	-100	-100	-96
Theni	282	-60	-100	-100	-91
Tirunelveli	267	-21	-96	-92	-93
Tiruvarur	102	-58	-100	-100	-99
Trichy	120	-24	-100	-100	-99
Tuticorin	332	-76	-100	-48	-90
Virudhunagar	284	-93	-100	-100	-99
<b>Andhra Pradesh</b>					
Coastal Andhra Pradesh					
Sirkakulam	-100	-68	-100	-100	-37
Telangana					
Adilabad	-95	-100	-100	-100	-100
Karimnagar	-100	-99	-100	-100	-66
Mehabubnagar	-73	-79	-100	-100	-25
Medak	-40	-100	-100	-100	-44
Nizamabad	-100	-100	-100	-100	-72
Warangal	14	-59	-100	-100	-38

** More Stress Districts of South India					
State/Districts	22/10/08	29/10/08	05/11/08	12/11/08	19/11/08
<b>Karnataka</b>					
Coastal Karnataka					
Dakshin Kannada	31	181	-100	-78	-95
Udupi	-25	93	-100	-100	-98
Uttar Kannada	-69	3	-100	-98	-74
South Interior Karnataka					
Bangalore Rural	-12	112	-100	-100	-95
Bangalore Urban	91	208	-100	-100	-62
Chamarajnagar	171	102	-100	-100	-86

Chickmagalur	-14	5	-100	-100	-78
Hassan	16	37	-100	-100	-54
Kodagu	56	98	-100	-100	-94
Kolar	2	40	-100	-100	-81
Mandya	-17	44	-100	-100	-100
Mysore	21	77	-100	-100	-100
Tumkur	3	48	-100	-100	-44
<b>Kerala</b>					
Alappuzha	91	-3	-85	-56	-77
Kannur	131	375	-100	-100	-100
Ernakulam	91	37	-92	-87	-95
Idukki	9	28	-97	-91	-58
Kasaragod	58	48	-100	-100	-100
Kollam	18	78	-86	-38	-54
Kottayam	80	6	-95	-58	-90
Kozhikode	89	640	-100	-100	-100
Malappuram	0	306	-100	-100	-95
Palakkad	95	144	-100	-100	-97
Thrissur	90	216	-100	-100	-100
Wyanad	67	532	-100	-100	-71
<b>Tamil Nadu</b>					
Chennai	77	87	-100	-91	-74
Coimbatore	238	13	-100	-100	-97
Dharmapuri	17	45	-100	-100	-92
Krishnagiri	1	121	-100	-100	-98
Nilgiris	329	219	-100	-100	-56
Tiruvallur	125	-3	-100	-90	-55
Tiruvannamalai	15	39	-100	-99	-82
Vellore	40	14	-100	-100	-78
Villupuram	85	59	-100	-100	-85
<b>Andhra Pradesh</b>					
Rayalaseema					
Chittoor	124	-1	-100	-99	-20

	(20% or more) excess rainfall		(-60 to -99 % scanty rainfall)
	(-19 to +19%) normal rainfall		(-100% no rainfall)
	(-20 to -59%) deficient rainfall		Data not available

\*\*\* Most stress (more than 3 weeks continuously deficient to no rain)

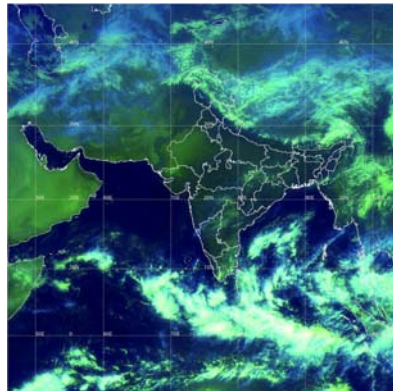
\*\*More stress (3 weeks continuously deficient to no rain)

\*Stress (2 weeks continuously deficient to no rain).

### Chief Synoptic Feature (Based on 1430 hours IST observations of 20<sup>th</sup> November, 2008)

- Under the influence of a Western Disturbance isolated to scattered precipitation is likely to occur over Western Himalayan region and adjoining northern plains during next 24 hours and mainly dry weather is expected thereafter.
- Numerical weather prediction models suggest that the easterly wave is likely to cause scattered to fairly widespread rain/thundershowers with isolated heavy rainfall over parts of south peninsular India during next 4-5 days.
- Minimum temperatures are 5-8<sup>o</sup>C above normal over central India and adjoining west India, these were below normal by 2-4<sup>o</sup>C over north Punjab, Himachal Pradesh and Uttarakhand. Numerical weather prediction models suggest change in existing wind pattern leading to likely fall in minimum temperatures from tomorrow onwards.

### Satellite image of 6 UTC on 21<sup>st</sup> November 08



### Zone-wise Forecast

#### **NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP]** (Forecast valid upto 1430 hours IST of 23<sup>rd</sup> November, 2008)

- Rain/snow is likely to occur at a few places over Jammu & Kashmir during next 24 hours and isolated thereafter.
- Rain/snow is likely at a few places over Himachal Pradesh and Uttarakhand during next 24 hours and mainly dry weather thereafter.
- Isolated Rain/thundershower likely over Punjab, Haryana, Delhi, Chandigarh, West Uttar Pradesh during next 24 hours and mainly dry weather thereafter.

#### **Quantitative District Weather Forecast for next five days:**

- Light rain is likely to occur at a few places over the region for next 24 hours and mainly dry weather thereafter.

#### **EAST INDIA [EAST UP, JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]** (Forecast valid upto 1430 hours IST of 23<sup>rd</sup> November, 2008)

- Mainly dry weather is likely over the region.

**Quantitative District Weather Forecast for next five days:**

- Mainly dry weather is likely over the region.

**NORTHEAST INDIA [Arunachal Pradesh, NMM & T, Assam, Meghalaya]** (Forecast valid upto 1430 hours IST of 23<sup>rd</sup> November, 2008)

- Isolated rain/thundershowers are likely over Arunachal Pradesh.
- Mainly dry weather is likely over the rest region.

**Quantitative District Weather Forecast for next five days:**

- Light rain is likely to occur at a few places over the region.

**SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]** (Forecast valid upto 1430 hours IST of 23<sup>rd</sup> November, 2008)

- Rain/thundershowers are likely at a few places over Andaman & Nicobar Islands, Tamil Nadu, Kerala and Lakshadweep during next 24 hours and increase thereafter.
- Isolated rain/thundershowers are likely over the rest region.

**Quantitative District Weather Forecast for next five days: Kerala, Tamil Nadu, Coastal Karnataka and Coastal Andhra Pradesh**

- Light to rather moderate rainfall is likely to occur over Kerala and Tamil Nadu and light rainfall will occur over remaining parts of the region.

**WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN]** (Forecast valid upto 1430 hours IST of 23<sup>rd</sup> November, 2008)

- Isolated rain/thundershowers are likely over Marathwada and Madhya Maharashtra during next 24 hours and mainly dry weather thereafter.
- Mainly dry weather is likely over the rest region.

**Quantitative District Weather Forecast for next five days:**

- Light rainfall is likely to occur over Marathwada and Madhya Pradesh and mainly dry weather is likely over the rest region.

**CENTRAL INDIA [M.P., CHHATTISGARH, VIDARBHA]** (Forecast valid upto 1430 hours IST of 23<sup>rd</sup> November, 2008)

- Isolated Rain/thundershowers are likely over Vidarbha during next 48 hours and mainly dry weather thereafter.
- Mainly dry weather is likely over the rest region.

**Quantitative District Weather Forecast for next five days:**

- Light rainfall is likely to occur over Vidarbha and mainly dry weather is likely over the rest region.

**Weather Outlook from 1430 IST of 23<sup>rd</sup> to 1430 IST of 25<sup>th</sup> November, 2008 (Based on numerical weather products):**

- Scattered to fairly widespread rainfall with isolated heavy rainfall is likely over south peninsula.
- Fall in night temperatures over northwest and adjoining central India.



## Zonewise Agromet Advisories

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

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), apple (fruit maturity / harvesting), tea (plucking), wheat, barley, gram, oat and oil seeds (land preparation / sowing), cabbage, cauliflower and broccoli (nursery sowing / transplanting), pea and knoll khol (nursery sowing), carrot, raddish, turnip and the leafy vegetables like letuce, methi, palak, dhania etc. (sowing), seed crop of onion (planting).
- As weather condition is favourable, undertake land preparation and sowing of wheat, barley, gram, oat and oil seeds.
- Under prevailing weather condition, undertake nursery sowing of pea, cauliflower, cabbage, knoll khol and broccoli. Also undertake transplanting of seedlings if nurseries of cabbage, cauliflower and broccoli are 4-6 weeks old.
- Weather condition is also favourable to undertake sowing of carrot, raddish and turnip and also the leafy vegetables like letuce, methi, palak, dhania etc.
- Under prevailing weather condition, for taking seed crop of onion, plant bulbs at 45 X 45 cm apart directly in the filed. It is also time for sowing of peas and garlic.
- Whitewash the stems of the trees in orchards with 10 kg Chuna + 100 g of Copper sulphate + 25 liters of water to protect the plants from diseases and direct solar radiation.
- Details of crop varieties are mentioned in Annexure I.

#### **Plant protection**

- Blister blight is appearing in the tea orchards and there is chance of enhanced infestation as the weather is conducive for its spread. For control spray Tilt (Propiconazol) @ 1 ml or cantaf @ 1 ml per litre of water and repeat the spray at 15 days interval.

#### **Poultry**

- For new lots of layers chicks follow recommended schedule of vaccination for IBD and Ranikhet disease because weather is conducive for the spread of these diseases.
- Climate is congenial for attack of Diarrhria and cocksedia, hence, consult the nearby veterinarian.

### **Uttarakhand**

- **Major Standing Crops:** Sugarcane (vegetative), Maize, groundnut and vegetables (flowering/grain formation/early maturity), rice (maturity in Nainital district), urd, soybean (maturity).
- As there was no rainfall in most of the districts of the State during last few weeks, apply irrigation to the standing crops.
- Farmers are advised to continue sowing of wheat during this week under optimum soil moisture. Select only recommended, certified & high yielding varieties like UP-2338, UP-2554, UP-2584, UP-2382, UP-2565, WH-542, PBW-343 etc. in Uttam Singh Nagar district and UP-1109, HS-240, VL-421, VL-804 & HS-277 in Nainital district.
- Weather conditions are favourable for sowing of chickpea & lentil in Uttam Singh Nagar district. Select recommended varieties of lentil such as PL-639, PL-406, Pant Masoor-4 & Pant Masoor-5 in in Uttam Singh Nagar district and VL Massor-4, VL-Masoo-103, VL Masoor-126 or VL-Masoor-507 in Nainital district. Farmers can start sowing of onion seeds @ 400 g seed per 6 m<sup>2</sup> nursery area for one acre crop.

### **Punjab**

- **Major Standing Crops:** Horticultural crops (vegetative), Sugarcane (vegetative), cotton (harvesting stage), maize (grain formation), groundnut (pod formation), sunflower (grain formation/maturity) and early sown wheat, gram and lentil are at germination stage.
- As most of the districts received no rain during last few weeks and isolated rain/thundershower likely over the State during next 24 hours and mainly dry weather thereafter, farmers are advised to apply irrigation to the standing crops.
- Due to favourable weather, farmers are advised to continue picking of cotton.
- Complete sowing of timely and late varieties of wheat.
- Undertake sowing of gobhi sarson, american sarson, raya and berseem with irrigation facilities.
- Farmers are advised to complete planting of sugarcane and continue sowing of desi varieties of radish, peas, potato, palak and late season varieties of cauliflower and planting of fruit crops like sweet orange, lime mango and guava with irrigation facilities in Central and Western plain zones.

### Haryana

- **Major Standing Crops:** Sugarcane (vegetative), Horticulture crops (vegetative), Sunflower (grain formation/maturity), cotton (harvesting stage), bajra (harvesting), early sown wheat is at germination stage.
- As most of the districts received no rain during last few weeks and isolated rain/thundershower likely over the State during next 24 hours and mainly dry weather thereafter, farmers are advised to apply irrigation to the standing crops. Apply light frequent irrigation to control temperatures.
- Farmers are advised to continue picking of matured crops of cotton as favourable weather conditions prevail during these days.
- Farmers are advised to continue sowing of desi varieties of radish, peas, potato, palak and late season varieties of cauliflower and planting of fruits crops like sweet orange, lime mango and guava with irrigation facilities in Eastern and Western zone. Continue planting of Spring sugarcane in Eastern zone
- To check tick infection spray Asuntol @ 0.5% and Butox @ 0.02% on animal as well as on shed and repeat the spray after 10-15 days. To prevent loss of weight after calving follow balanced feed management i.e feed with mineral mix.

### Delhi

- **Major Standing crops:** Vegetables (sowing / transplanting / early vegetative / vegetative), mustard, potato, gram (seedling / early vegetative), wheat and lentil (sowing), *rabi* onion (nursery sowing).
- In view of low temperature forecast, farmers are advised to complete sowing of wheat as soon as possible. The optimum average temperature for sowing of wheat is 20 – 25°C, and forecast average temperature is likely to fall even below 15°C. Farmers are advised not to prolong the sowing date as it will drastically reduce the germination percentage and ultimately reduce the yield.
- Forecast low minimum temperatures are highly unsuitable for germination of lentil (*masur*). So, farmers are advised to complete their sowing as early as possible. Recommended cultivar is Pusa Vaivhab.
- In mustard crop, farmers are advised to follow thinning operations, as it will reduce inter-competition and thus favour healthy crop stand.
- High humidity during the previous week and high forecast humidity in the week to come are warning signals for attack of late blight in the potato crop, especially for those farmers who have sown Kufri Lalima, Kufri Bahar, Kufri Chandramukhi and Kufri Sinduri. They are advised to spray Dithane M-45 @ 2 g / litre of water. As this is contact fungicide, it is advised to add sticking agent as Teepol.
- Present weather conditions are highly congenial for sowing of *rabi* onion in the nursery. Recommended Varieties are Pusa Red, Pusa Madhabi, Agrifound Light Red.
- Prevailing high humidity is highly destructive to the Ber crop against powdery mildew. To protect the crop, it is advised to spray Mencozeb @ 2 g / litre of water.

- Those farmers who have transplanted the tomato crop during October are advised to monitor the crop against viral diseases. If detected it is advised to uprooting and destroying by burning or deep burial of infected crop.

### **Uttar Pradesh**

- Major Standing Crops: Summer sugarcane (vegetative), Mango trees (fruit setting), *Kharif* Rice (harvesting), rai, mustard, gram, pea and lentil (early vegetative).
- Sowing of improved varieties of wheat like PBW- 343, UP-2338, Malviya etc. may be done.
- Sowing of medium and late varieties of potatoes like Ku Badshah, Ku Bahar, Ku Sindoori & Ku Lalima may be undertaken.
- As there was no significant rain in most of the districts during last few weeks and no rain is likely to occur for the next five days, apply irrigation to sugarcane and early sown *rabi* crops.
- Undertake weeding, intercultural operations, application of fertilizers and pesticides in the standing crops.

### **J & K**

- Major Standing Crops: Wheat (vegetative), pulses (vegetative), mustard (vegetative).
- As there was no significant rainfall during last week in the state and rain/thundershowers are likely to occur at a few places for the next 24 hours and isolated thereafter, apply irrigation to the crops.
- Undertake intercultural operations in brown sarson and wheat in Srinagar, mustard in Jammu division and pulses in Rajouri division to keep the field weed free.
- Complete planting of onion and garlic in Kashmir divisions. Also continue sowing *rabi* crops like wheat and lentil in lower belts.
- Complete harvesting of crops like brinjal, chilly and capsicum in Kashmir division, toria in Rajouri and continue picking of sweet orange in Jammu division.
- Undertake sowing of wheat, barley and cauliflower in Jammu division in view of favourable weather conditions.
- **Plant Protection:** Weather conditions are congenial for the mild incidences of
- Saw fly and flea beetle in mustard; spray Malathion @ 0.05%.

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

#### **Bihar**

- **Major Standing Crops:** Sugarcane (vegetative), *Kharif* rice (harvesting), Maize (germination), Pulses (germination).
- As mainly dry weather is likely to prevail for the next three days, apply irrigation to the standing crops.

#### **North west alluvial plain zone:**

- As weather is likely to remain dry, farmers are advised to harvest the matured rice crop and undertake the sowing of *rabi* crops.
- Farmers are advised to immediately start the sowing of wheat varieties HD 2733, PBW 343, HP 1761, K 9107, K 8024, K 0307, HD 2824 and NW 1012 upto 10th December.
- Farmers are advised to continue sowing/ planting of potato, *rabi* maize, lentil, pea and late varieties of rapeseed and mustard.

#### **Flood affected North East alluvial plain zone:**

- Complete planting of early potato and continue sowing of *rabi* maize (Shaktiman 1, 2, 3 and 4) and berseem utilizing residual soil moisture.
- Undertake land preparation and sowing of wheat.

#### **South Bihar:**

- Farmers are advised to prepare the land for sowing of *rabi* crops depending on the moisture condition of the soil.

- Sowing of pulses like pea, lentil, gram, etc. and oilseeds like linseed and rai should be completed as early as possible.
- In irrigated condition, planting of potato tuber and sugarcane sets as well as sowing of *rabi* maize, may be completed the earliest. The improved varieties of potato are Kufri Chandramukhi, K. Badsah, K. Sinduri, K. Lalima and Rajendra Potato 1, 2 and 3. Improved varieties of winter maize are Shaktiman 1, 2, 3 and 4, Lakshami, Devki, Hi-starch, Ganga 11 and Rajendra Makka 1 and 2 which can be sown up to 20th November.
- Late cauliflower, cabbage and tomato may be transplanted as early as possible. Sowing of onion, garlic, radish, carrot and palak may be done.
- Attack of Bihar hairy caterpillar has been reported in black gram in diara land. Farmers are advised to spray the crop with Endosulphan 35 EC @ 1.5 litre dissolved in 1000 litre of water/ha.

### **Jharkhand**

- **Major Standing Crops:** Arhar and maize (flowering).
- As mainly dry weather is likely to prevail for the next three days, apply irrigation to the standing crops.
- If there is irrigation facility is available in mid land sowing of wheat varieties K9107, HUW 468, PBW343, HD2402, HUW 468 and C306 can be undertaken. For unirrigated condition farmers, by utilizing soil moisture after the harvesting of rice, prepare the field immediately and sow improved variety like C306, K 8027 and WR 544.
- Farmers are advised to undertake sowing of late variety of potato Kufribashah Kufrisinduri utilizing the residual soil moisture.
- Farmers are advised to sow gram varieties like Pant G 114, H208 & T397 in East Singhbhum, West Singhbhum and Saraikela districts.

### **Orissa**

- **Major Standing crops:** *Kharif* rice (harvesting stage.), Sugarcane (vegetative), vegetables (sowing / transplanting / vegetative / flowering / fruiting), potato (germination).
- As there was insufficient rainfall in most of the districts of Orissa during last few weeks and mainly dry weather is likely to prevail, apply irrigation to the standing crops.

#### **Coastal Orissa:**

- Undertake paira cropping with green-gram, black-gram, lentil and mustard etc. Select HYVs of greengram like Tarm-1, Samrat, Kamdev etc., blackgram like Pant-U-19, Pant-U-30, B-3-8-8, LBG.17 etc., lentil like Asha, Pant-L-206, Pant-1-209 etc. and mustard like M-27, Parvati, Anuradha and TS-27. Use 25% more seeds of the recommended seed rate. Sow the seeds 15 days before harvest of standing crop.
- Start sowing of pea. Use improved varieties like Rachana and Arkel. Use 30kg seed/acre. Treat the seeds with fungicide per kg seed with Rhizobium culture before sowing. Apply recommended dose of fertilizer and sow in line. Undertake sowing of *rabi* groundnut, sunflower and sesame. Start land preparation for sowing of toria.

#### **Interior Orissa:**

- Field pea and black gram may be sown 20 days before harvest of paddy as paira crop. Improved varieties such as Rachana & Arkel, Blackgram-PU-19, PU-30, B-3-8-8. While harvesting rice, leave about 20cm stubble in the field.
- Brown plant hopper is noticed in late duration paddy of Anadpur areas. To control the disease drainout the standing water and spray Carbaryl @ 800 gm/acre to the base of the plant.

### **West Bengal**

- **Major Standing Crops:** Sugarcane (cane development), *aman* rice (dough / maturity / harvesting), wheat, mustard, gram and lentil (land preparation / sowing) and potato (land preparation / planting).

- As there was no significant rain during last few weeks in most of the districts of the State and mainly dry weather is likely to prevail over the State during next five days, apply irrigation to the standing crops. As mainly dry condition is likely to prevail, also apply irrigation to *aman* rice at dough stage to maintain 3 – 5 cm water in the field.
- Under prevailing weather condition, continue harvesting of already matured crops of *aman* rice.
- As weather condition is favourable, continue land preparation and complete sowing of seeds of mustard and wheat within this week and continue planting of potato in New Alluvial zone. Select improved varieties of mustard like Sita, Vagirathi, Varuna, Sarama, Binoy etc. and the seed rate is 1 kg per bigha. Select varieties of wheat like Rajlakshmi, H.P. 1701, Janak, HP-1209, BW-11 etc. for sowing and seed rate is 14 kg per bigha.
- Under prevailing weather condition, farmers of Coastal Saline Zone are also advised to undertake sowing of lentil and planting of potato. Varieties may be selected from B-77 (Asha), B-256 (Ranjan), Subrata and L-4076 (Mallica) for lentil and from Kufri Alankar and Kufri Chandramukhi for potato. Seed-rate varies from 4-5 kg per bigha for lentil and seed weight varies from 250-300 kg per bigha according to the size of the seed tuber for potato.

### Sikkim

- **Major Standing Crops:** Orange (fruiting/harvesting), ginger (rhizome development), maize (harvesting), rice (flowering/grain formation). This is proper time for sowing of *rabi* crops.
- As there was no significant rainfall during last week in the state and mainly dry weather is likely to prevail for the next three days, apply irrigation to the standing crops.
- Undertake intercultural operations in early sown *rabi* vegetable crops like cabbage, cauliflower, carrot, Chinese cabbage, knol-khol, garden peas, radish, turnip, lettuce, celery, spinach, etc., in medium and low hills.
- Undertake planting of *rabi* potato in medium and low hills.
- Continue sowing of wheat and mustard when the temperature is in the range of 20-23<sup>0</sup>C.
- **Plant Protection:** Regular inspections may be carried out to observe caterpillar/ shoot borer/shoot fly incidence if any and may be hand picked and destroyed mechanically. 1% Bordeaux mixture or copper oxychloride @ 3gm/ltr of water may be sprayed to the cardamom plants to protect from fungal diseases.
- Weather conditions are congenial for mild incidences of fruit fly and trunk borer in orange. Monitor the trees and undertake plant protection measures to control the pests.
- Monitor ginger for bacterial wilt in medium and low hills and collect and destroy the affected plants completely to prevent further spread of the disease.

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

#### Assam

- **Major Standing crops:** Arhar (flowering / pod formation), *sali* rice (grain formation / maturity), black gram and green gram (pod formation / maturity), cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion and carrot (sowing / vegetative / flowering / fruiting), mustard, lentil, nizer and pea (sowing / germination / early vegetative) and potato (planting / early vegetative).
- As there was no significant rain over the State during last few weeks, farmers are advised to apply irrigation to the standing crops.
- As mainly dry weather is likely to prevail, farmers are advised to undertake intercultural operation to keep the fields weed free.
- Under prevailing dry weather condition, farmers are advised to harvest already matured crops of *sali* rice, black gram and green gram.

- Farmers may apply fertilizers in citrus orchard as no rainfall is predicted in the coming week. The fertilizer dose for the plants older than 4 years and above is 650 gm Urea, 1250 gm SSP and 500 gm MOP per plant.
- As the weather condition is favourable, this is proper time to prepare land and sow cauliflower, cabbage, raddish, brinjal, tomato, knolkhol etc. with presowing irrigation.
- Condition is also favourable to undertake sowing of mustard, lentil and pea and planting of potato with presowing irrigation.
- Details of crop varieties are mentioned in Annexure I.

#### **Arunachal Pradesh**

- **Major Standing crops:** Vegetables (early vegetative), Wet seeded rice (harvesting), *Jhum* rice and millets (harvesting), wheat, mustard, pea (germination), *rabi* maize (early vegetative), potato (germination).
- As there was no significant rainfall in most of the districts during last few weeks, apply irrigation to the standing crops. Apply 1<sup>st</sup> irrigation in wheat at crown root initiation stage i.e.20-25 days after sowing.
- Farmers are advised to continue land preparation and sowing of pea.
- Apply top dressing in maize with urea @5 kg/ha on 35 days after emergence of seedlings

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

##### **Andhra Pradesh**

- **Major Standing Crops:** Groundnut, Jowar, Bajra, Ragi and Maize (all harvesting), Sugarcane (grand growth), Rice (flowering/grain formation), Chilly (late vegetative)
- As there was no significant rainfall during last week in the state except in Krishna, Nellore, Prakasam, West Godavari and Cuddappah districts and rain/thundershowers are likely to occur at isolated places for the next three days, apply irrigation to the crops like sugarcane. Postpone irrigation in the above districts as there was excess rainfall during last week.

##### **Coastal AP**

###### **Plain Land**

- Farmers in Srikakulam are advised to complete harvesting of groundnut, ragi and maize crops.
- Farmers in upland areas of West Godavari, Krishna, Guntur and Praskasam districts are advised to undertake intercultural operations in *rabi* pulse crops like green gram.
- **Plant Protection:** Weather conditions are congenial for the incidences of
- sheath blight, blast and leaf folder in rice, pod borer in red gram, red mite in brinjal and bhendi, thrips and mites in chilly and internode borer in sugarcane in Srikakulam and Vijayanagaram districts; undertake plant protection measures.

###### **High Altitude Areas**

- Farmers in high altitude regions of Srikakulam, East Godavari, Vijayanagaram, Visakappattinam and Khammam are advised to undertake intercultural operations and application of fertilizers and pesticides in *rabi* crops like mustard.
- Farmers are advised to complete harvesting of rice, rajma and ragi.

###### **Rayalaseema**

- Farmers in Anantapur are advised undertake intercultural operations and application of fertilizers and pesticides in *rabi* crops like sunflower, maize and Bengal gram.
- Farmers in Chiththoor are advised to continue transplanting of rice in the main field.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- *Heliothis* in tomato in Cuddappah district; undertake plant protection measures.

###### **Telangana**

- Farmers in Karimnagar, Nizamabad and Adilabad districts are advised to apply supplementary irrigation to red gram and turmeric as dry spell condition prevails in the districts for the last couple of weeks.
- Undertake intercultural operations in early sown *rabi* crops to conserve soil moisture.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- sucking pests in cotton, thrips in chillies, leaf spot in turmeric, wilt in chick pea, stem and fruit borer in brinjal, late BPH in rice and necrosis in onion in Karimnagar, Nizamabad, Warranagl and Medak districts; undertake plant protection measures.

## Karnataka

- **Major Standing Crops:** Annual sugarcane (grand growth), *Kharif* crops (harvesting/end harvesting). Early sown *rabi* crops are at vegetative stage.
- As there was no significant rainfall during last week and rain/thundershowers are likely to occur at isolated places for the next three days, apply irrigation to the standing crops.

### Coastal Karnataka

- Farmers in Udupi and Dakshin Kannada districts are advised to undertake intercultural operations and application of fertilizers and pesticides in arecanut, coconut, cashew and banana.

### North Interior Karnataka

- As sufficient amount of rainfall was received during last week in Bellary, Bijapur, Bagalkot and Koppal districts, farmers are advised to undertake intercultural operations in September sown sunflower.
- Farmers in Bidar region are advised to undertake sowing of *rabi* crops Bengal gram (upto November end). Also undertake planting of sugarcane during November and sowing of vegetable crops like brinjal, tomato, cabbage and cauliflower in the nursery. Undertake transplanting of vegetable seedlings in the main field when they attain proper age.
- Farmers in Dharwad, Bijapur and Raichur are advised to undertake intercultural operations in early sown wheat, gram and safflower as there is sufficient moisture available in the soil.
- **Animal Husbandry:** In and around Dharwad and surrounding villages Foot and Mouth disease has been noticed. Undertake vaccination. Due to cold weather sneezing is noticed indicating respiratory problem. Consult with the nearby veterinary doctor.

**Plant Protection:** Weather conditions are favourable for mild incidences of:

- citrus canker, anthracnose in pomegranate, purple blotch and thrips in onion, *Phytophthora* blight in red gram and sucking pests in cotton in Bijapur; spray Streptomycin Sulphate (0.5 g) + Copper oxichloride (2g)/liter of water for citrus canker, Kavach @ 2 g/litre of water for anthracnose in pomegranate, Hexaconazole @ 1 ml + Acitmaprid @ 0.25 g/litre of water for purple blotch and thrips in onion, Redomil @ 4 g/litre of water for *Phytophthora* blight in red gram and Monocrotophos @ 1 ml/litre of water for sucking pests in cotton.
- sucking pests in Bt cotton in Gulbarga; undertake plant protection measures.

### South Interior Karnataka

- Farmers in Bangalore, Kolar and Tumkur are advised to undertake intercultural operations and application of fertilizers in early sown crops.
- Farmers in Chitradurga and Shimoga are advised to undertake sowing of Bengal gram and safflower during *rabi* season (November). Select among A1 and GBS 964 for Bengal gram and A1 and S-144 for safflower.

**Plant Protection:** weather conditions are favourable for

- Sigatoka leaf spot in banana and powdery mildew in bhindi in Shimoga. Spray Tridemorph @ 1 ml/litre of water for Sigatoka leaf spot in banana and spray Wettable sulphur @ 2.5 g/litre of water for powdery mildew in bhindi.

## Kerala

- **Major Standing Crops:** *Mundakan* rice (vegetative/tillering), vegetable and plantation crops (Coconut, Arecanut, Pepper and Cashew).
- As rain/thundershowers are likely to occur at a few places for the next 24 hours and increase thereafter, farmers in the state are advised to postpone irrigation to plantation crops. Also arrange for drainage facilities as isolated heavy rainfall is likely to occur during next 48 hours
- Transplanting of *mundakan* rice may be completed at the earliest by utilizing the northeast monsoon rainfall.
- Also undertake planting of tapioca and *nendran* banana.
- Tapping of rubber may be continued after spells of rain.
- Undertake intercultural operations and application of fertilizers and pesticides in plantation crops (coconut, arecanut, pepper and cashew) after spells of rain.
- **Animal Husbandry:** Flies menace may occur in cattle due to present weather conditions in Kasaragod. Maintain sanitation and consult veterinarians to prevent flies attack.
- **Plant Protection:** Weather conditions are favourable for the attack of
  - mahali disease in arecanut in Thrissur, Malappuram, Kasargod, Kozhikode and Kannur districts; apply 1% Bordeaux mixture after spells of rain.
  - red palm weevil, rhinoceros beetle, bud rot and stem bleeding in coconut in Kasaragod and Wayanad. Undertake plant protection measures after spells of rain.
  - pollu beetle and quick wilt in pepper in Wayanad. Undertake plant protection measures after spells of rain.

### Tamilnadu

- **Major Standing Crops:** Early, Mid Sugarcane (harvesting stage), Special season sugarcane (grand growth stage), Cotton (boll maturity/picking stage).
- As rain/thundershowers are likely to occur at a few places for the next 24 hours and increase thereafter, farmers in the state are advised to postpone irrigation to the crops. Also arrange for drainage facilities as isolated heavy rainfall is likely to occur during next 48 hours
- Farmers in Chennai, Cuddalore, Kanchipuram, Thiruvarur, Thiruvannamalai and Villupuram districts are advised to undertake intercultural operations in vegetable crops after spells of rain.
- Farmers in Thirunelveli, Tuticorin and Virudunagar are advised to harvest rice, millets, pulses and oilseeds immediately to prevent damage as spells of heavy rain is expected during next 48 hours.
- **Animal Husbandry:** Due to rainy conditions in Chennai, Cuddalore, Kanchipuram, Thiruvallur, Vellore, Villupuram, increase in vector activity resulting in a slight rise in arthropod borne diseases particularly blood protozoans like Anaplasmosis, Theileriosis and Trypanosomiasis and viral disease such as blue tongue amongst farm animals is expected. Undertake vector control for ticks and flies and midges under the guidance of veterinarians. Also avoid stagnation which can allow for fly and midges breeding sites. Also undertake prophylactic drenching with appropriate medication, for fluke infections like amphistomiasis and liverflukes.
- Ranikhet and *E. coli* incidences may spread among the poultry birds during these days in and around Namakkal. Consult veterinarians and undertake vaccination to prevent further spread.
- **Plant Protection:** Present weather is conducive for mild incidences of
  - mites in chilly in Namakkal; spray Wettable sulphur @ 3 g/litre of water
  - thrips in turmeric in Erode; spray Dimethoate @ 2.5 ml/litre of water.
  - seedling rot/damping off in chillies nursery in Tuticorin. Spray Copper oxy chloride @ 2.5 g/litre of water.
  - Sigatoka leaf spot in banana and stem borer in rice in Coimbatore; spray Carbendazim @ 1 g/litre of water for Sigatoka leaf spot in banana and Monocrotophos @1 litre/ha for stem borer in rice.
- Undertake plant protection measures after spells of rain.

### WEST INDIA [GOA, MAHARASHTRA, GUJARAT, RAJASTHAN]

#### Maharashtra



- **Major Standing Crops:** Sugarcane (pre-seasonal & suru) (cane maturity), irrigated cotton (picking), *kharif* groundnut, *kharif* cotton, *kharif* rice, soybean, sunflower (harvesting), tur (pod formation), *rabi* jowar (early vegetative / vegetative), *rabi* sunflower, maize (germination / early vegetative), gram and wheat (sowing / germination in Pune, Kolhapur, Aurangabad, Nashik, Amtaravati & Nagpur divisions), safflower (vegetative).
- As there was no significant rain during last few weeks and no significant rain is likely to occur during next five days, apply irrigation to the standing *rabi* crops.
- Weather condition is favourable to undertake harvesting of already matured rice, soybean, groundnut, sunflower, jowar and bajra and picking of fully opened cotton boll.
- Farmers are advised to complete the land preparation for sowing of *rabi* crop *vi*, wheat and gram in central vidarbha and western ghat zone.
- Main field may be prepared for transplanting of vegetables like watermelon, brinjal, chilli and tomato in north konkan. Sowing of watermelon may be completed.
- Complete land preparation and undertake sowing of *rabi* maize in sub montane zone.
- Land preparation may be started for sowing of *rabi* groundnut. Undertake sowing of mustard varieties like Pusa Bold and Varuna. Sow improved varieties of sunflower like Modern, SS-56, BSH-1 etc. in south Konkan zone.

### Gujarat

- **Major Standing Crops:** Sugarcane (early maturity / harvesting), *Kharif* cotton (boll formation / boll maturity / picking), castor (spike formation / maturity), mustard (sowing / early vegetative), vegetables (sowing / transplanting), potato (planting) and wheat and cumin (sowing).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail during next five days, apply irrigation to *kharif* cotton, castor, mustard and vegetables.
- As dry condition is likely to prevail, undertake intercultural operation in above mentioned crops to keep the fields weed free.
- Prevailing weather is conducive for harvesting of already matured crops castor and picking of *kharif* cotton.
- As weather condition is favourable, undertake land preparation and sowing of wheat and planting of potato in Middle Gujarat zone and sowing of wheat and cumin and planting of potato in North Gujarat zone. Farmers are advised to use seed rate of 125 kg / ha for wheat and 2500 – 3000 kg / ha for potato.
- Weather condition is also favourable to undertake sowing of vegetable crops like brinjal, tomato and cabbage in North Saurashtra region.
- Details of crop varieties are mentioned in Annexure I.

### Rajasthan

- **Major Standing Crops:** Groundnut, bajra, jowar, maize, sesame, cluster beans, red gram, cotton and vegetables. All the crops are at harvesting/end harvesting stage. This is proper time for sowing *rabi* crops. Early sown *rabi* crops are at vegetative stage.
- As there was no significant rainfall during last week in the state and dry weather is likely to prevail for the next three days, apply irrigation to the crops.

### East Rajasthan

- Undertake intercultural operations in mustard, gram, onion and garlic in Alwar, Bharatpur, Dholpur, Karauli and Sawai Madhepur districts.
- Undertake land preparation and sowing of cumin, fenugreek, isabgol, garlic and radish in Ajmer, Dausa, Jaipur and Tonk districts. Select among RMT 1 and RMT 143 for fenugreek and RS 1, RZ 209 and RZ 19 for cumin.
- Farmers are advised to complete sowing of wheat and maize in Banswara district during this week as suitable temperature is prevailing for sowing. Undertake thinning in early sown crops and maintain optimum plant population.

- Complete land preparation and sowing of wheat in Udaipur district. Select among Raj-4037, Raj-3765, Raj-3077, Lok-1, WH-147, GW-322, GW-273 and HI-8498. The normal time of sowing of wheat is first week to third week of November. Also complete planting of fodder oats slips.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- white fly and jassids in cotton in Alwar and Dholpur; spray Dimethoate or Methyl Demeton @ 1 litre/ha.
- sucking pests in vegetable crops in Banswara; spray Dimethoate @ 2 ml/litre of water.

#### **West Rajasthan**

- Farmers in Bikaner and Jaisalmer are advised to undertake sowing of *rabi* crops like wheat, oats and methi crops.
- Undertake sowing of sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger in Barmer, Churu, Jalore and Jodhpur. Also undertake sowing of cumin.
- Farmers in Pali are advised to undertake sowing of wheat (Raj 3765, Raj 3077A and KRL 19) and cumin (RC 19 and GC 4)
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- leaf eating caterpillar in fruits and vegetable crops in Barmer, Churu, Jalore and Jodhpur; spray Qunalphos @ 1.5 kg or Endosulphan @ 4.25 kg/hectre.
- white fly in sugarcane in Sriganganagar and Hanumangarh; undertake plant protection measures.
- Fruit fly in ber in Pali; spray Monocrotophos @ 1 ml + Endosulphan @ 1 ml/litr of water.

#### **CENTRAL INDIA [M.P., CHHATTISGARH]**

##### **Madhya Pradesh**

- **Major Standing Crops:** Sugarcane (grand growth), soyabean (pod development/maturity), maize (cob development/maturity), cotton (boll formation/development) and vegetable crops (transplanting). This is proper time for sowing of *rabi* crops.
- As there was no significant rainfall during last week and dry weather is likely to prevail over the state, apply irrigation to the standing crops.
- Undertake land preparation and planting of vegetables like mid cauliflower, cabbage, radish, onion and carrot and sowing of coriander in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- Farmers in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh are advised to undertake planting/sowing of potato, onion, garlic and pea. Also undertake sowing of wheat with late varieties in areas where wheat crop could not be sown earlier.
- Farmers in Sehore, Bhopal, Damoh, Raisen, Sagar, Vidisha are advised to undertake planting of sugarcane.
- Undertake sowing of potato, berseem, garlic, pea, coriander, spinach and methi in Chhindwara and Betul districts with irrigation facilities. Also undertake planting of *autumn* sugarcane and onion.
- Due to favourable weather conditions, farmers in Tikamgarh, Datia and Chattarpur are advised to complete land preparation and sowing of wheat and alsin. Do seed treatment before sowing. Undertake transplanting of radish, carrot, spinach, methi and cabbage.
- Farmers in Jhabua are advised to undertake land preparation and sowing of *rabi* crops:  
**Wheat:** Unirrigated/ Semi-irrigated: JWS-17, HW-2004, HI-1500, Malav Ratna (HD-4672) and Malav Shri (HI-8381).  
**Irrigated:** GW-273, Kanchan (DL-803-3), WH- 147, GW- 190, GW- 322 and Malav Shakti (HI-8498).  
**Gram:** JG- 412, JG- 226, JG- 11, JG- 130.  
**Maize:** JM- 421, JM- 8, JM- 12, Chandan makka- 3, Ganga- 3, Ganga- 4, HPQM – 1.
- Also undertake transplanting of winter vegetables i.e. tomato, brinjal, chilli, cauliflower, cabage etc. Berseem and sowing of vegetable pea (Arkil) in Jhabua.

- **Animal Husbandry:** Provide proper ventilation and clean water to cattle and arrange for vaccination to save them from infectious disease in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts. Create smoke during the night in cattle shed to prevent cattle from mosquitoes and bees.
- Undertake vaccination in cattle against Anthrax, Galgotu, Black quarter and FMD in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh. Also undertake deworming.
- Cattle should be kept in aeration condition and in dry place, provide balanced and nutrient rich feed having protein, carbohydrate, fat vitamins and antibiotics in Jabhua
- **Plant Protection:** Weather conditions are favourable for
- pod fly in pigeonpea and fruit fly in Ber; spray Propenophos 40 EC @ 2ml/l of water for pod fly and Endosulphon 35 EC @ 2 ml/l of water & second spray after 15 days for fruit fly in Jabhua hills zone.
- agathi in tomato in Chhindwara and Betul districts. Spray Dithane-M-45 @ 2.5 g/litre of water.
- red pumpkin beetle in cucurbits, sucking pest and powdery mildew in vegetables in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh districts. Apply Methyl parathion @ 2% dust before fruiting to control red pumpkin beetle, spray Dimethoate @ 1.5 ml/litre of water to control sucking pests and spray Carbendazime @ 1 g/litre of water to control powdery mildew in vegetables

### Chhattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), *kharif* rice (grain maturity / harvesting), pigeon pea (flowering / seed formation / early maturity), wheat, gram, pea, mustard, berseem, pigeon pea and linseed (sowing), potato (planting), vegetables (sowing / transplanting).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail during next five days, apply irrigation to the standing crops.
- Considering the clear weather forecast for the next 3-4 days, farmers are advised to harvest the matured crop of rice and ensure proper sun drying and safe storage of the harvested produce. Wherever *utera* crops are sown in rice fields, transfer the harvested rice from such fields as early as possible to avoid losses in *utrea* crops.
- Presently mean temperature is around 23-24°C, which is ideal for sowing of *rabi* crops. This temperature range is ideal for proper germination of wheat, gram, pea, mustard, berseem, pigeonpea and linseed. Hence, farmers are advised for sowing of these *rabi* crops as early as possible after harvesting of rice. For wheat - GW-273, Kanchan, GW-173, Amar, Lok-1, Ratan and HD-2329 are suitable varieties for Chhattisgarh Plain zone. However, under limited irrigation conditions, sowing of Sujata variety is recommended. For sowing of wheat seed rate should be 125 kg / ha for all the varieties. Vijay, Vaibhav, JG-74, JG-315, G-14, ICC-2 (Kabuli) etc. are suitable varieties of gram for Chhattisgarh.
- Present weather conditions are favorable for planting of potato. Hence, sowing of potato should be done at the earliest after proper seed treatment with Carbendazim solution @ 2 g / liter of water. As the winter span is less, short duration varieties of potato should be preferred.
- For more flowering in the mango farmers are advised to stop irrigation in the mango orchard.
- Weather conditions are suitable for transplanting of vegetables like tomato, brinjal and chilli etc. Planting can be done preferably during afternoon hours to avoid the seedling mortality. Sowing of winter season vegetables can also be done during this period.

## Annexure I

### Crop varieties of Assam

- **Cauliflower:** Improved Japanese, Pusa Synthetic, Snowball-16, Pusa Ketki etc.
- **Cabbage:** Golden Acre, Pride of India, Pusa Mukta, Drum head, Eclipse Drum Head, Hybrid-10, Hybrid-20 etc.
- **Raddish:** Pusa Himani, Pusa Deshi, Pusa Chetki etc.
- **Brinjal:** Pusa Kranti, Pusa Purple Long, Pusa Purple Round, JC-1, JC-2 etc.
- **Tomato:** Punjab Chhuhara, Punjab Kesri, Sioux, Pusa Ruby, Arka Abha, Arka Alok, Arka Abhijit, BT-1, Bilahi-1, Bilahi-2.
- **Knolkhol:** White Vienna, Purple Vienna.
- **Potato:** Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri etc.
- **Mustard:** TS-36, TS-38, Varuna, TM-2, TM-4, M-27 etc.
- **Pea:** T-163, Rasna, Banevila, Arkel, Azad, Alankar, HUP-2 etc.
- **Lentil:** B-77, L-9-12, P-L-406 etc.

### Crop varieties of Gujarat

#### North Gujarat zone

- **Wheat:** Loc-1, GW-496, GW-273 and GW-322.
- **Potato:** Short duration cultivars viz., Punkharaj, Kufari Chandramukhi, Kufari Jawahar, Kufari Bahar, Asoka and long duration cultivars viz., Kufari Laukar, Kufari Jyoti, Kufari Badshah, Kufari Sinduri, Satalaj.
- **Cumin:** Improved certified cultivar viz. Gujarat Cumin-1, Gujarat Cumin-2, Gujarat Cumin-3 and Gujarat cumin-4.

#### Middle Gujarat

- **Wheat:** GW-496.

### Crop varieties of Himachal Pradesh

- **Wheat:** HPW-89,147 VL-738 and HS-240.
- **Barley:** HBL-316 and Dolma.
- **Oat:** Palampur-1.
- **Cabbage:** Snow ball K-1, Palam Uphar, Golden Acre.
- **Knol khol:** White Viena.
- **Broccoli:** Palam Kanchan, Palam Vichitrta and Palam Samridhi.
- **Cauliflower:** Pride of India.
- **Peas for nursery sowing:** Mater ageta-6.
- **Raddish:** Japani white and Early Mino White.
- **Turnip:** PTWG-1.

- **Peas:** Agad, Lincoln and Priya.

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