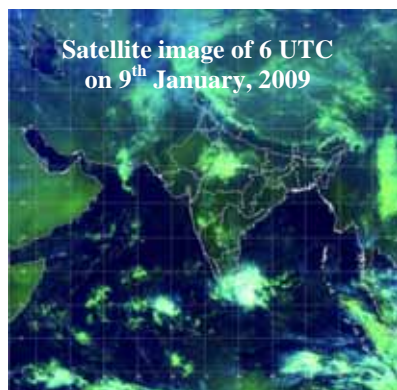




## National Agromet Advisory Bulletin

7<sup>th</sup> January, 2009

(For the period 7<sup>th</sup> to 11<sup>th</sup> January, 2009)



### Forecast for South India (valid upto 1430 hours IST of 10<sup>th</sup> January, 2009)

- Rain/thundershowers are likely at a few places over Coastal Tamil Nadu.
- Rain/thundershowers are likely at isolated places over Interior Tamil Nadu, South Coastal Andhra Pradesh, Kerala and Lakshadweep during next 48 hours.
- Mainly dry weather is likely over the rest region.

### Status of Northeast Monsoon

- Isolated to scattered rain/thundershower occurred over Andaman & Nicobar Islands during many days of the week and over Coastal Andhra Pradesh, Tamil Nadu & Pudducherry, Kerala & Lakshadweep during a few days of the week.

### Advisories for Tamil Nadu

- As there was no significant rain during last few weeks in the state and no significant rain is likely to occur during next five days, farmers are advised to apply irrigation to the crops.
- Undertake land preparation and transplanting of onion seedlings as conducive weather conditions prevail in north western zone.
- Undertake sowing of irrigated groundnut in Coimbatore district.
- Sowing and transplanting of vegetable crops such as bhindi, tomato, cowpea, dolichos bean and chillies may be taken up.
- Continue harvesting of jowar, maize, cotton, sunflower and pulses as conducive weather prevails during these days.

### Advisories for Kerala

- As there was no significant rain during last week in the state and no significant rain is likely to occur during next five days, farmers are advised to apply irrigation to the crops.
- High wind speed leading to more evaporation is likely in and around Thrissur and Kasaragod. Apply mulches in orchard trees to conserve moisture. Provide mechanical support to banana to prevent from lodging.
- Complete sowing of *puncha* rice.
- Undertake nursery sowing of *summer* rice. Also undertake sowing of *Amaranthus*, bitter gourd, cucumber, water melon, snake gourd and bottle gourd and raising of coconut nursery.
- Undertake intercultural operations and application of fertilizers and pesticides in rice in Kottayam, banana in Thrissur and in coconut and banana in Thiruvananthapuram and plantation crops (coconut, arecanut, pepper and cashew), in general, as conducive weather conditions prevail.

### Advisories for Andhra Pradesh and Karnataka

- As there was no significant rain during last week in these States and no significant rain is likely to occur for next five days, farmers are advised to apply irrigation to the crops.
- Farmers in Krishna, West Godavari, Guntur and Prakasam districts of Andhra Pradesh are advised to undertake sowing of rice fallow maize and rice fallow pulse crops during these days.

### Advisories for Northern India

- Due to low temperature cold injury may occur in the crops in Jammu and Kashmir, Punjab, Haryana, Delhi, Himachal Pradesh, Uttarakhand and in parts of Uttar Pradesh and Rajasthan. Farmers are advised to apply light and frequent irrigation to the crops as well as arrange for smoking in these States to protect the crops from cold injury.


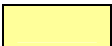




### Issued by

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

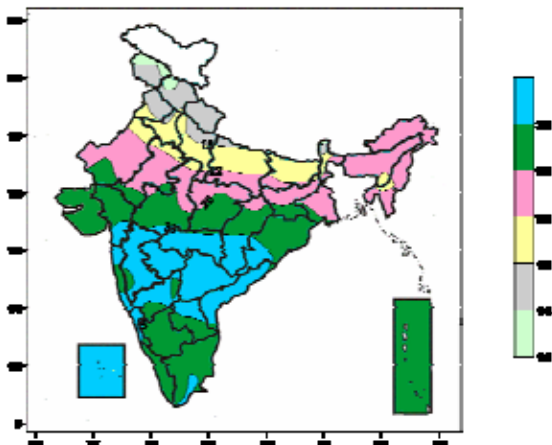
Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks					
Sub-division	Cumulative Rainfall (% Dep.) for the period				
	10 <sup>th</sup> December	17 <sup>th</sup> December	24 <sup>th</sup> December	31 <sup>st</sup> December	7 <sup>th</sup> January
A & N Islands	-60	-98	-92	46	-14
Arunachal Pradesh	-99	-89	-32	-87	-62
Assam and Meghalaya	-99	-97	-86	-59	-90
NNMT	-99	-100	-100	15	-100
SH West Bengal & Sikkim	-84	-99	-89	163	-46
Gangetic West Bengal	-100	-100	-100	-100	-64
Orissa	-100	-100	-100	-100	-100
Jharkhand	-100	-100	-100	-100	-80
Bihar	-100	-94	-95	-100	-68
East Uttar Pradesh	-100	-92	-100	-100	-99
West Uttar Pradesh	-100	-88	-100	-100	-97
Uttarakhand	-100	-50	-33	-100	-79
Haryana, Chandigarh & Delhi	-100	263	-100	-100	-94
Punjab	-89	-100	-66	-100	-85
Himachal Pradesh	-79	-100	122	-100	-11
J & K	340	-100	173	-100	-36
West Rajasthan	346	-99	52	-100	-99
East Rajasthan	-100	-99	-100	-100	-100
West M. P.	-100	-100	-100	-100	-100
East M. P.	-100	-100	-100	-100	-82
Gujarat region	-100	-100	-100	-100	-100
Saurashtra & Kutch	-100	-100	-100	-100	-100
Konkan and Goa	-66	-100	-100	-100	-100
Madhya Maharashtra	-100	-100	-100	-100	-100
Marathwada	-100	-100	-100	-100	-100
Vidarbha	-100	-100	-100	-100	-100
Chhattisgarh	-100	-100	-100	-100	-75
Coastal A. P.	-100	-100	-94	-80	-99
Telangana	-100	-100	-100	-100	-100
Rayalseema	-100	-100	-100	-100	-100
TamilNadu & Pondicherry	-35	15	-72	-95	-88
Coastal Karnataka	-100	-100	-100	-100	-100
N. I. Karnataka	-100	-100	-100	-100	-100
S. I. Karnataka	-99	-100	-100	-100	-100
Kerala	-77	-47	-96	-100	-100
Lakshadweep	188	207	290	-100	-77

The sub divisions like Arunachal Pradesh, Assam & Meghalaya, Gangetic West Bengal, Orissa, Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Punjab, East Rajasthan, Madhya Pradesh, Gujarat, Saurashtra & Kutch. Maharashtra, Chhattisgarh, Andhra Pradesh, Karnataka and Kerala received scanty / deficient rain in all the 5 weeks; Sub-Himalayan West Bengal and Sikkim, Haryana, Chandigarh, Delhi, Tamil Nadu & Pondicherry received scanty / deficient rain in 4 out of last 5 weeks; Andaman & Nicobar Islands, Himachal; Pradesh, Jammu & Kashmir and West Rajasthan 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

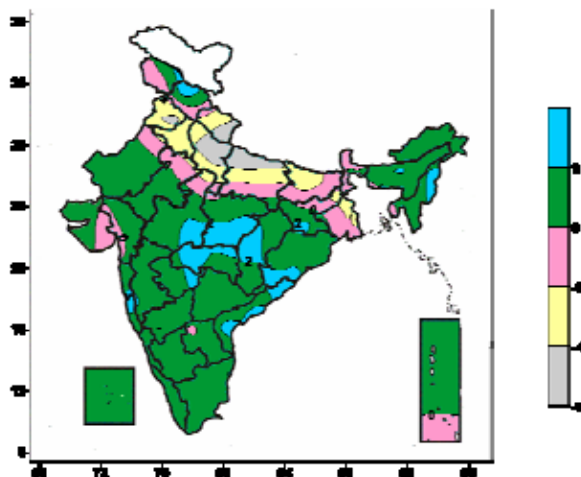
## Contour maps for the week ending 07.01.09

**Actual Mean Maximum Temperature (°C) in India for the week ending 07.01.09**



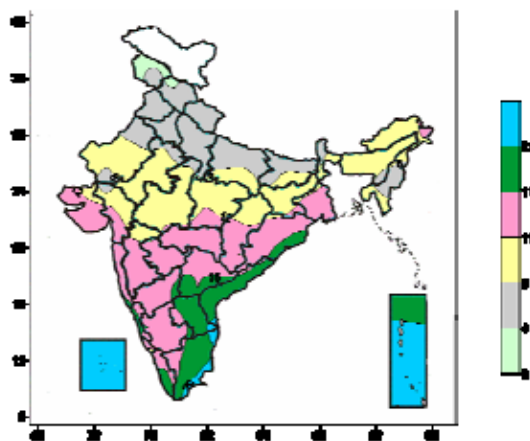
Actual Mean Maximum Temperature ranged between 30 to 34°C over most parts of Maharashtra, Andhra Pradesh and Lakshadweep, some parts of Gujarat, West Madhya Pradesh, Chhattisgarh, Orissa, Coastal Karnataka, North Interior Karnataka and Tamil Nadu, 22 to 26°C over most parts of Northeast India, some parts of Uttar Pradesh, Bihar, Jharkhand, Rajasthan Madhya Pradesh, Chhattisgarh and West Bengal, 18 to 22°C over most parts of Haryana, Delhi, some parts of Punjab, Uttar Pradesh, Sub-Himalayan West Bengal, Assam, Mizoram, Rajasthan and West Madhya Pradesh, 14 to 18°C over most parts of Himachal Pradesh and Uttarakhand, some parts of Jammu & Kashmir, Punjab, Haryana, Uttar Pradesh and Sikkim, 10 to 14°C over some parts of Jammu & Kashmir, Himachal Pradesh and Sikkim, and 26 to 30°C in remaining parts of the country.

**Maximum Temperature (°C) Anomaly in India for the week ending 07.01.09**



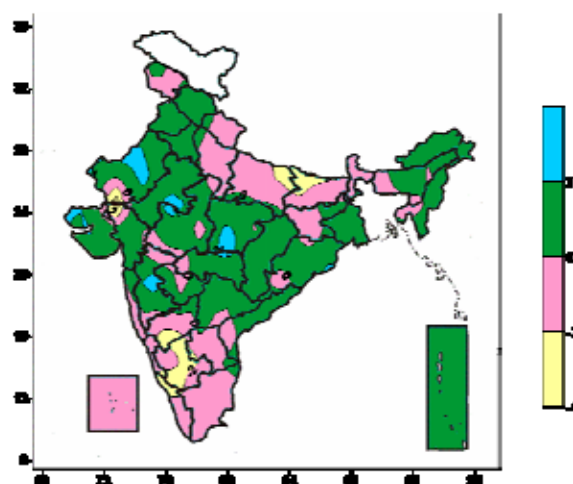
Maximum Temperature anomaly ranged between 2 to 4°C over some parts of Jammu & Kashmir, Himachal Pradesh, Assam, Nagaland, Manipur, Jharkhand, Orissa, Central India, Konkan & Goa, Marathwada, Vidarbha and Coastal Andhra Pradesh, -2 to 0°C over most parts of Sikkim, West Bengal, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Uttarakhand, East Uttar Pradesh, Assam, Tripura, Bihar, Jharkhand, Rajasthan, Madhya Pradesh, Gujarat, Rayalaseema and Andaman & Nicobar Islands and -4 to -2°C over most parts of Punjab, Haryana and Delhi, over some parts of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, Rajasthan, West Madhya Pradesh and Gangetic West Bengal, -6 to -4°C over some parts of Punjab, Uttarakhand, Uttar Pradesh and 0 to 2°C over remaining parts of the country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 07.01.09**



Actual Mean Minimum Temperature ranged between 20 to 24°C over most parts of Lakshadweep, Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh, Rayalaseema and Tamil Nadu, 16 to 20°C over most parts of Coastal Andhra Pradesh, some parts of Orissa, Konkan & Goa, Interior Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Andaman & Nicobar Islands, 8 to 12°C over most parts of Northeast India, Rajasthan, Madhya Pradesh, Jharkhand, some parts of East Uttar Pradesh, Bihar, Sub-

**Minimum Temperature (°C) Anomaly in India for the week ending 07.01.09**

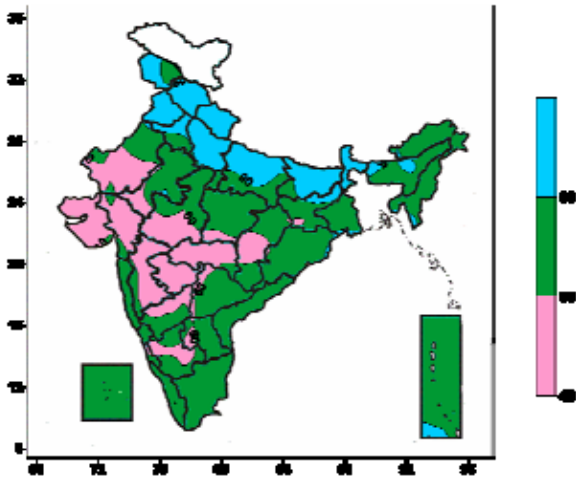


Minimum Temperature anomaly ranged between 2 to 4°C over most some parts of Rajasthan, Saurashtra & Kutch, Orissa, Madhya Pradesh, Madhya Maharashtra and Vidarbha, -2 to 0°C over most parts of Jammu & Kashmir, Uttarakhand, Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Tripura, Rayalaseema, Tamil Nadu and Lakshadweep, some parts of Assam, West Rajasthan, Gujarat, Madhya Pradesh, Orissa,

Himalayan West Bengal, Orissa, Chhattisgarh, Gujarat, Madhya Maharashtra, Saurashtra & Kutch, 4 to 8 °C over most parts of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Manipur, Punjab, Haryana, Sikkim, some parts of Jammu & Kashmir, Bihar, Assam, Mizoram, Rajasthan, Gujarat and West Madhya Pradesh, 0 to 4°C over some parts of Jammu & Kashmir and Himachal Pradesh, and 12 to 16°C over remaining parts of the country.

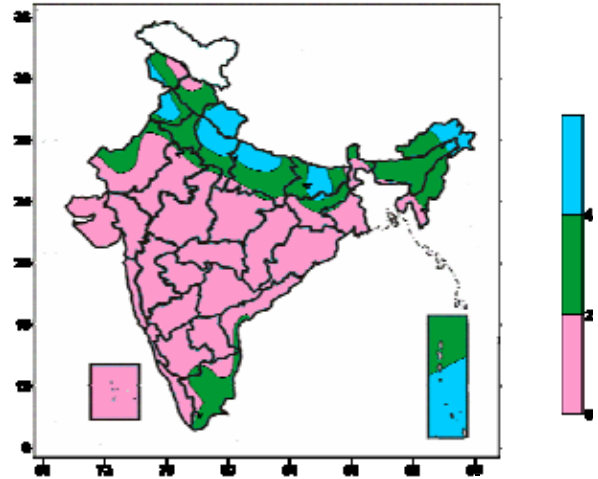
Maharashtra, Karnataka, Coastal Andhra Pradesh and Telangana, -4 to -2°C over some parts of East Uttar Pradesh, Bihar, West Rajasthan, Gujarat, Karnataka, Kerala and Rayalaseema, 0 to 2°C over remaining parts of the country.

**Relative Humidity (%) over India for the week ending 07.01.00**



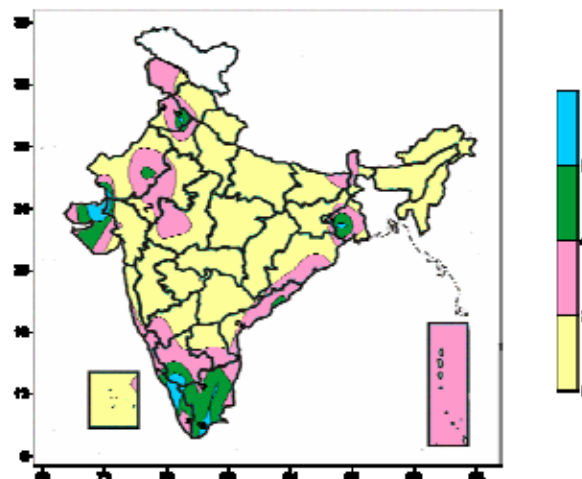
Relative humidity ranged from 80 to 100% over most parts of Punjab, Uttarakhand, Himachal Pradesh, Uttar Pradesh, Sub Himalayan West Bengal & Sikkim, Bihar, some parts of Haryana, Gangetic West Bengal, Northeast India, East Rajasthan, Andaman & Nicobar Islands, 40 to 60% over most parts of Gujarat, Madhya Maharashtra, Marathwada, Vidarbha, some parts of Jharkhand, Rajasthan, Central India, Karnataka and Interior Andhra Pradesh and 60 to 80% over remaining parts of the country.

**Cloud amount (okta) over India for the week ending 07.01.00**



Cloud amount ranged from 4 to 6 okta over most parts of Uttarakhand, some parts of Punjab, Uttar Pradesh, Bihar, Arunachal Pradesh, Assam, 2 to 4 okta over most parts of Himachal Pradesh, North East India, Haryana, Tamil Nadu, some parts of Jammu & Kashmir, Haryana, Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, Sikkim, Rajasthan, Coastal Andhra Pradesh, Andaman & Nicobar Islands, 0 to 2 remaining parts of the country.

**Wind speed (knots) over India for the week ending 07.01.00**



Wind speed ranged between 6 to 8 knots over some parts of Gujarat, Gangetic West Bengal, Punjab, Kerala, North Interior Karnataka, Tamil Nadu, 4 to 6 knots over most parts of Tamil Nadu, some parts of Punjab, West Rajasthan, Gangetic West Bengal, Saurashtra & Kutch region, North Karnataka, Kerala, 2 to 4 knots over most parts of Andaman Nicobar, Jammu & Kashmir, Sikkim, some parts of Punjab, Haryana, Rajasthan, Saurashtra & Kutch, West Madhya Pradesh, Bihar, West Bengal, Orissa, Coastal Andhra Pradesh, Rayalaseema, Karnataka, 0 to 2 knots over remaining parts of the country.

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

\*\*\*Most Stress

State/Districts	10/12/08	17/12/08	24/12/08	31.12.08	07.01.09
<b>Karnataka</b>					
Coastal Karnataka					
Dakshin Kannada	-100	-100	-100	-100	-100
Udupi	-100	-100	-100	-100	-100
Uttar Kannada	-100	-100	-100	-100	-100
North Interior Karnataka					
Bagalkote	-100	-100	-100	-100	-100
Belgaum	-100	-100	-100	-100	-100
Bidar	-100	-100	-100	-100	-100
Bijapur	-100	-100	-100	-100	-100
Dharwad	-100	-100	-100	-100	-100
Gadag	-100	-100	-100	-100	-100
Gulbarga	-100	-100	-100	-100	-100
Haveri	-100	-100	-100	-100	-100
Koppal	-100	-100	-100	-100	-100
Raichur	-100	-100	-100	-100	-100
South Interior Karnataka					
Bangalore Rural	-100	-100	-100	-100	-100
Bangalore Urban	-100	-100	-100	-100	-100
Bellary	-100	-100	-100	-100	-100
Chamarajnagar	-91	-100	-100	-100	-100
Chickmagalur	-100	-100	-100	-100	-100
Chitradurga	-100	-100	-100	-100	-100
Davangere	-100	-100	-100	-100	-100
Hassan	-99	-100	-100	-100	-100
Kodagu	-100	-100	-100	-100	-100
Kolar	-100	-100	-100	-100	-100
Mandya	-99	-100	-100	-100	-100
Mysore	-100	-100	-100	-100	-100
Shimoga	-100	-100	-100	-100	-100
Tumkur	-100	-100	-100	-100	-100
<b>Kerala</b>					
Alappuzha	-48	-23	-100	-100	-100
Kannur	-100	-75	-100	-100	-100
Idukki	-86	-100	-100	-100	-100
Kollam	-62	-100	-58	-100	-100
Malappuram	-100	-100	-100	-100	-100
Palakkad	-100	-100	-95	-100	-100
Pathanamthitta	-51	-100	-100	-100	-100
Thiruvananthapuram	-57	-72	-93	-100	-100
Thrissur	-99	-89	-100	-100	-100
Wyanad	-100	-100	-100	-100	-100
<b>Tamil Nadu</b>					
Chennai	-89	-99	-100	-99	-100
Dharmapuri	-97	-100	-100	-100	-57
Kanchipuram	-61	-99	-100	-100	-100
Kanyakumari	-39	-51	-70	-100	-100
Krishnagiri	-97	-100	-100	-100	-100
Namakkal	-71	-32	-100	-100	-100
Pondicherry	62	-43	-97	-82	-61
Salem	-74	-59	-100	-94	-100
Theni	-81	-27	-95	-100	-100
Tiruvallur	-88	-100	-100	-100	-100
Tiruvannamalai	-67	-99	-100	-100	-100
Vellore	-96	-100	-100	-100	-100
Villupuram	-28	-76	-100	-100	-100

Virudhunagar	-55	-34	-78	-100	-100
<b>Andhra Pradesh</b>					
Coastal Andhra Pradesh					
Krishna	-100	-100	-100	-100	-100
Nellore	-100	-100	-100	-100	-100
Prakasam	-100	-100	-100	-100	-100
Sirkakulam	-100	-100	-100	-100	-100
Visakhapatnam	-92	-100	-100	-100	-100
Vizianagram	-100	-100	-100	-100	-100
West Godavari	-100	-100	-100	-100	-100
Telangana					
Adilabad	-100	-100	-100	-100	-100
Hyderabad	-100	-100	-100	-100	-100
Karimnagar	-100	-100	-100	-100	-100
Khammam	-100	-100	-100	-100	-100
Mehabubnagar	-100	-100	-100	-100	-100
Medak	-100	-100	-100	-100	-100
Nalgonda	-100	-100	-100	-100	-100
Nizamabad	-100	-100	-100	-100	-100
Rangareddy	-100	-100	-100	-100	-100
Warangal	-100	-100	-100	-100	-100
Rayalaseema					
Anantapur	-100	-100	-100	-100	-100
Chittoor	-100	-100	-100	-100	-100
Cuddapah	-100	-100	-100	-100	-100
Kurnool	-100	-100	-100	-100	-100







**\*\*More Stress**

State/Districts	10/12/08	17/12/08	24/12/08	31.12.08	07.01.09
<b>Kerala</b>					
Ernakulam	-100	188	-100	-100	-100
Kasaragod	-100	0	-100	-100	-100
Kottayam	32	150	-100	-100	-100
Kozhikode	-100	-3	-100	-100	-100
<b>Tamil Nadu</b>					
Coimbatore	-71	-18	-96	-100	-100
Cuddalore	10	112	-100	-99	-100
Dindigul	28	57	-94	-100	-100
Erode	-59	1	-100	-100	-100
Karur	-3	56	-100	-100	-100
Madurai	-86	26	-99	-100	-100
Nilgiris	-37	14	-100	-100	-100
Perambalur	-8	77	-100	-100	-100
Pudukottai	-44	76	-98	-98	-100
Sivaganga	-25	108	-67	-100	-100
Thanjavur	-5	119	-95	-93	-76
Tiruvarur	13	76	-94	-81	-100
Trichy	4	164	-100	-100	-99



**\*Stress**

State/Districts	10/12/08	17/12/08	24/12/08	31.12.08	07.01.09
<b>Tamil Nadu</b>					
Ramanathapuram	62	212	77	-79	-79
Tirunelveli	-41	2	-5	-100	-100
Tuticorin	-50	-22	17	-99	-96
<b>Andhra Pradesh</b>					
Coastal Andhra Pradesh					
East Godavari	-100	-100	1200	-67	-100

- |                                                                                                                    |                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
|  (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)

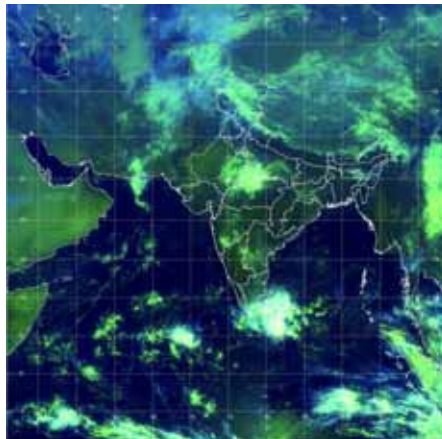
\*\*More stress (3 weeks continuously deficient to no rain)

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

**Chief Synoptic Feature (Based on 1430 hours IST observations of 7<sup>th</sup> January, 2009)**

- Current Meteorological Analysis suggests no significant change in minimum temperatures during next 1 – 2 days. There after a gradual increasing trend is likely over northwest India till 10<sup>th</sup> January 2009.
- A weak easterly wave is likely to affect extreme South Peninsula during next 48 hours.
- Due to moisture incursion and confluence, light rain/thundershowers is likely over east & adjoining Central India during next 2-3 days.
- The lowest minimum temperature of 2.4<sup>0</sup>C was recorded at Adampur (Punjab) in plains of Northwest India.

**Satellite image of 6 UTC on 9<sup>th</sup> January, 2009**



**Zone-wise Forecast**

**NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP]**  
(Forecast valid upto 1430 hours IST of 10<sup>th</sup> January, 2009)

- Rain/snow is likely at a isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand 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:**

- There is possibility of light rain over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab and Uttar Pradesh.
- Mainly dry weather is likely over the rest region.

**EAST INDIA [EAST UP, JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]**  
(Forecast valid upto 1430 hours IST of 10<sup>th</sup> January, 2009)

- Rain/thundershowers are likely at isolated places over the region.

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

- Light rainfall is likely to occur over West Bengal & Sikkim, Jharkhand and mainly dry weather is likely over the rest region.

**NORTHEAST INDIA [Arunachal Pradesh, NMM & T, Assam, Meghalaya]** (Forecast valid upto 1430 hours IST of 10<sup>th</sup> January, 2009)

- Rain/thundershowers are likely at isolated places over Arunachal Pradesh.
- Mainly dry weather is likely over the rest region.

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

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

**SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]** (Forecast valid upto 1430 hours IST of 10<sup>th</sup> January, 2009)

- Rain/thundershowers are likely at a few places over Nicobar Islands and Coastal Tamil Nadu.
- Rain/thundershowers are likely at isolated places over Interior Tamil Nadu, South Coastal Andhra Pradesh, Kerala and Lakshadweep during next 48 hours.
- Mainly dry weather is likely over the rest region.

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

- Light to rather moderate rainfall is likely to occur over Coastal Tamil Nadu, Andaman & Nicobar Islands, light rain is likely to occur over remaining parts of Tamil Nadu, Andhra Pradesh, Kerala and Lakshadweep and mainly dry weather is likely over the rest region.

**WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN]** (Forecast valid upto 1430 hours IST of 10<sup>th</sup> January, 2009)

- Mainly dry weather is likely over the region.

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

- Mainly dry weather is likely over the region.

**CENTRAL INDIA [M.P., CHHATTISGARH, VIDARBHA]** (Forecast valid upto 1430 hours IST of 10<sup>th</sup> January, 2009)

- Rain/thundershowers are likely at isolated places over the region.

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

- Light rainfall is likely over the region.



**Weather Outlook from 1430 IST of 10<sup>th</sup> January, 2009 to 1430 IST of 12<sup>th</sup> January, 2009 (Based on numerical weather products):**

- Mainly dry weather is likely over many parts of the Country.

## **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), wheat (germination / early vegetative / CRI / tillering), barley, oat and oil seeds (germination / early vegetative / vegetative), cabbage, cauliflower and broccoli (sowing / transplanting / early vegetative / vegetative), pea and knoll khol (sowing / transplanting / early vegetative / vegetative), carrot, raddish, turnip and the leafy vegetables like letuce, methi, palak, dhania etc. (sowing / early vegetative / vegetative).
- As low minimum temperature is prevailing, apply light and frequent irrigation to save the crops from cold injury. Also arrange for smoking against cold injury.
- Under prevailing weather conditions, undertake sowing of radish, coriander, fenugreek, cauliflower, cabbage, pea, broccoli and Knol khol and transplanting of seedlings of cabbage, cauliflower and broccoli (if nurseries are 4-6 weeks old ).
- It is also an optimum time for transplanting of Strawberry in raised beds.
- Under present weather condition planting of the winter flower annuals Viz. calendula, aster, larkspur, dianthus, african daisy, stasis, lupines, petunia, flox, nicotiana, vanadium and torinia should be done.
- Weather is congenial for production of mushroom in the closed room. Maintain room temperature 18-22<sup>0</sup>C and relative humidity around 85% for successful cultivation. For Oyster mushroom 16-22<sup>0</sup>C temperature may be maintained.
- Under prevailing weather condition there is possibility of infestation of powdery mildew. For control of powdery mildew in peas spray sulfex @ 25 g per 10 litres of water or karathane @ 5 ml per 10 litres of water.
- The prevailing weather is conducive for the attack of leaf miner in Citrus. For its control, spray 10 ml Matasystox or Malathion in 10 litres of water.
- Weather condition is also congenial for downy mildew in cruciferous vegetables. For control spray Redomil M-Z @ 25 g per litre of water at 15 days interval.
- White wash the stems of the trees like apple and other orchard crops with 10 kg Chuna + 100 gm of Copper oxicleoride + 25 liters of water to protect the plants from diseases and direct sun radiation.
- Details of crop varieties are mentioned in Annexure I.

### **Poultry**

- Climate is congenial for attack of Diarrhia and cocksedia, hence, consult the nearby veterinarian.
- Protect the birds from cold and increase the feed by 10%.
- Replace the poultry houses with fresh litter to avoid wetting and keep the houses clean and ensure clean drinking water to the birds.

### **Honeybees**

- Due to winter season enough flora is not available for bees, therefore farmers are advised to give artificial feed of 50% sugar and 50% water solution to honey bees.
- Also ensure proper packing to the apiary to protect from cold.

### **Animal Husbandry**

- Due to drop in minimum temperature, protect the newly born calves and animals from cold. Feed pregnant and lactating cows and buffalos with balanced feed including mineral mixture.
- Also keep the cowshed clean and do not allow the water to stagnate in the cow shed. For milch animals follow schedule of 1 kg feed + 50 g mineral mixtures per 2 litres of milk.

## Uttarakhand

- **Major Standing Crops:** Sugarcane (harvesting), wheat (CRI / tillering) and mustard(early vegetative / vegetative), chickpea, pea and lentil(early vegetative).
- As there was no significant rainfall in most of the districts during last few weeks and no significant rainfall is likely to occur for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers are advised to give second irrigation in wheat crop at 40-45 days after sowing, if ground water table is deep. Provide first irrigation to December sown wheat crop at crown root initiation stage and topdressing of 30 kg Urea per acre in heavy soil and after irrigation in light soil. Protect the seedlings of potato and onion crops from cold injury by providing light and frequent irrigation. Protect small trees of mango, guava, litchi and lemon from cold injury by covering them with rice straw.
- Farmers are advised to complete transplanting of onion and chilli seedlings. Undertake sowing of potato, wheat, mustard, gram, pea and fodder crops.
- Undertake intercultural operation and application of fertilisers in early sown *rabi* crops like, gram, pea and lentil as favourable weather conditions prevail during these days.
- Continue harvesting of *toria* as conducive weather prevails during these days.
- Provide balanced feed to animals and continue to keep them inside the shed to protect them from cold.

## Punjab

- **Major Standing Crops:** Horticultural crops (vegetative), sugarcane (harvesting), *spring* sugarcane (early vegetative), potato (early vegetative / vegetative) and wheat (CRI / tillering), gram and lentil (early vegetative / vegetative), pea and vegetable crops like chilly, tomato, brinjal and onion (nursery seedling / transplanting).
- As there was no significant rainfall during last few weeks in most of the districts and mainly dry weather is likely for the next five days, farmers are advised to apply irrigation to the standing crops.
- Continue harvesting of matured crops of sugarcane.
- In view of fall in temperature, cold injury may occur in vegetables, potato, sugarcane and *rabi* oilseeds. Apply light and frequent irrigation to protect the young crops. Provide rice straw / polythene cover to save the plants from cold injury. Also arrange for smoking around the field to protect the crops against the cold injury.
- Farmers are advised to continue sowing of African sarson variety PC-5, *desi* varieties of radish, potato, palak and late season varieties of cauliflower.
- Farmers are advised to provide bedding to calves and adult animals. In view of expected fall in temperatures, farmers are advised to manage animal sheds for protection against cold and give 50 g iodised salt along with 50 to 100 g mineral mixture daily to keep them healthy.

## Haryana

- **Major Standing Crops:** Sugarcane (harvesting), spring sugarcane (early vegetative), Horticulture crops (vegetative), sunflower (maturity / harvesting), cotton (picking stage), early sown wheat (CRI / tillering).
- As there was no significant rainfall during last few weeks in most of the districts and mainly dry weather is likely for the next five days, farmers are advised to apply irrigation to the standing crops.
- In view of fall in temperature, cold injury may occur in sugarcane and vegetables. Apply light and frequent irrigation to the young crops to protect the young seedlings from cold injury. Provide rice straw / polythene cover or arrange for smoking around the field to save the plants from cold injury. Due to low temperature the germination and growth rate of seedling is poor so the farmers are advised to cover the nursery beds by polythene sheets for better growth.
- Farmers are advised to continue picking / harvesting of cotton and sunflower as favourable weather conditions prevail during these days.
- Continue planting of spring sugarcane. Prepare the land for sowing of barseem.
- Complete transplanting of tomato and continue transplanting of onion.

- Farmers are advised to provide bedding to calves and adult animals. In view of expected fall in temperatures, farmers are advised to manage animal sheds for protection against cold and give 50 g iodised salt along with 50 to 100 gm mineral mixture daily to keep them healthy.

### Delhi

- **Major Standing crops:** Vegetables (vegetative), mustard (flowering), potato (vegetative), gram (vegetative / flowering), wheat (CRI / tillering), *rabi* onion and very late maturing cauliflower (transplanting).
- As there is decreasing trend of minimum temperature since last week and there is chance of drop in minimum temperature and also dry weather is prevailing for last few weeks and is also likely to prevail for next five days, farmers are advised to apply light and frequent irrigation to wheat, vegetables, mustard, potato, gram etc. to save the crops from cold injury. Also arrange for smoking for protecting the crops from cold injury. Protection of newly transplanted crops of vegetable with rice straw and wherever possible with polyethylene is recommended.
- In view of prevailing fog for the last five days, farmers are advised to postpone the transplanting of onion seedlings till the end of this week. Also, they are advised to apply light irrigation to the crops sown during last week.
- Due to continuous decrease of minimum temperature there are chances of damage to brinjal and chilly crops, if it is transplanted recently. It is highly recommended to postpone transplanting till the end of this week.
- It is advisable for the farmers growing vegetable seedlings in polyethylene bags to maintain warm environment by using electric blower to maximize the germination rate.
- Since the low temperature also increases the chances of infestation of late blight in potato, regular monitoring of crop is recommended. Preventative spraying of Mencozeb (Indofil M-45 or Dithane M-45) @ 600-800 ml mixed in 200 – 250 litre of water is advised. If present weather conditions persist, the farmers are advised to repeat the spray at weekly intervals.
- Keeping in view the forecasted weather, farmers are advised to apply fertilizers and light irrigation to the orchards. Newly transplanted saplings need extra care. It is advised to cover the saplings with polyethylene sheets carefully.
- Farmers are advised to apply light irrigation to the mustard crop, as this is the transition stage from flowering to pod formation of the crop. Moisture stress conditions reduce the yield of the crop.
- In grapes, training and pruning should be done at the earliest.

### Uttar Pradesh

- **Major Standing crops:** Sugarcane (grand growth / cane formation), mango (fruit setting), rai, mustard, potato, gram, pea and lentil (vegetative), early sown wheat (CRI / tillering).
- As there was no significant rainfall in most of the districts during last few weeks and mainly dry weather is likely to prevail for the next five days, apply irrigation to the standing *rabi* crops and sugarcane. Protect the young crops from cold injury by providing light and frequent irrigation.
- Continue picking of vegetable crops depending upon the market demand.
- Undertake weeding, intercultural operations, application of fertilizers and pesticides in the standing crops like gram, pea, lentil, rai, mustard, garlic, onion and potato as favourable weather conditions prevail during these days.
- Farmers are advised to prepare the field for sowing of Mentha crop.
- Transplanting of onion in main field may be taken up.
- Farmers are advised to harvest the matured crops of sugarcane.

### J & K

- **Major Standing Crops:** Wheat (vegetative), pulses (vegetative), mustard (vegetative). This is proper time for sowing of very late varieties of wheat (lower belts) in Jammu and Rajouri divisions, radish, beans and potato in Rajouri division and planting of spinach, beet and mongol in Leh.

- As rain / snow is likely to occur only at isolated places during next 48 hours and dry weather thereafter, apply irrigation to the crops.
- Protect mustard and gram from clod / frost injury due to decrease in minimum temperature by arranging smoke around the field. Provide thatches in young orchards of mango, litchi, guava, citrus and papaya.
- Undertake intercultural operations in brown sarson, pulses and wheat in Srinagar, mustard in Jammu division and mustard, berseem, pulses and vegetable crops in Rajouri division to keep the fields weed free.
- Undertake sowing of radish, beans and potato in Rajouri division.
- Complete sowing late varieties of wheat in Jammu division. Start transplanting of onion and tomato seedlings.
- Undertake planting of beet and spinach in Leh division.
- Details of crop varieties are mentioned in Annexure I.
- Due to decrease in minimum and maximum temperature protect the pregnant and milch animals from cold and feed them mineral mixture regularly. Cover the poultry shed with gunny bags in order to protect the birds from cold weather.
- Weather conditions are congenial for mild incidences of -
  - aphids, white rust and *Alternaria* blight in mustard in Rajouri division;
  - collar rot in gram and scab in apple in Jammu division;
  - monitor the crops for the pests and diseases and undertake plant protection measures.

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

##### **Bihar**

- **Major Standing Crops:** Sugarcane (vegetative), *rabi* maize, pulses, potato and sunflower (early vegetative / vegetative), Wheat (crown root initiation / tillering).
- As there was no significant rainfall during last few weeks in most of the districts and no significant rainfall is likely for the five days, apply irrigation to the standing crops. Farmers are advised to apply second irrigation in wheat crop which was sown around 20<sup>th</sup> November. Apply 1<sup>st</sup> irrigation to wheat crop and apply top dressing of 30 kg nitrogen per hectare if sown thereafter.
- Avoid moisture stress in wheat, potato and maize crop by maintaining adequate soil moisture as moisture stress at this stage affects the yield of these crops.
- Undertake intercultural operations, application of fertilizers and pesticides in early sown maize, rai, *toria* and mustard as favourable weather conditions likely to prevail during these days.
- Protect seedlings of *boro* rice nursery from cold by spraying of fresh water.
- Weather is likely to be favourable for outbreak of powdery mildew disease in pea. Farmers are advised to spray sulphur or liquid sulphur @ 2 gm per litre of water against the outbreak of this disease.

##### **Jharkhand**

- **Major Standing Crops:** Arhar and maize (maturity), wheat (crown root initiation / tillering), *rabi* oilseeds (early vegetative / vegetative).
- As there was no significant rainfall during last few weeks in most of the districts and no significant rainfall is likely to prevail for the next five days, apply irrigation to the standing crops.
- Farmers are advised to apply second irrigation in early sown wheat crop. Apply 1<sup>st</sup> irrigation to wheat crop in crown root initiation stage and apply top dressing of 30 kg nitrogen per hectare thereafter.
- Farmers are advised to undertake weeding, intercultural operations in potato, oilseeds and early sown wheat as dry condition is likely to prevail.

##### **Orissa**

- **Major Standing crops:** Sugarcane (harvesting), sunflower (vegetative), vegetables (vegetative / flowering / fruiting), wheat (CRI / tillering), potato, onion (early vegetative / vegetative) and summer rice (seedling).

- As there was no rainfall in the State during last few weeks and no significant rainfall is likely to occur for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers are advised to undertake nursery sowing of ragi and sowing of groundnut in river banks. Details of crop varieties are mentioned in Annexure I.
- Complete nursery sowing of summer rice and sowing of maize. The growth of summer rice seedlings in early sown crops are affected due to low minimum temperature. For better growth of rice seedling, top dress urea @ 4 kg / 10 cent of nursery area.
- Undertake planting of marigold.
- Undertake intercultural operations, application of fertilizers and pesticides in early sown *rabi* crops.
- Weather may favour the infestation of saw fly, leaf webber and aphids in mustard. Spray Endosulphan @ 400 ml /acre to control saw fly, Deltamethrin @ 200 ml / acre to control leaf webber and to control aphid spray Dimethoate or Methyl Demeton 400 ml / acre or 50 ml Imidachloprid in 200 litres water per acre.

### West Bengal

- **Major Standing Crops:** Sugarcane (cane development), mustard, gram and lentil (vegetative / branching / flowering), wheat (CRI / tillering), potato (vegetative / tuber formation) and *boro* rice (nursery sowing).
- As there was no significant rain during last few weeks in most of the districts of the State and there is no possibility of significant rain during next five days, apply irrigation to mustard, gram, lentil, wheat, vegetables and potato.
- As there is no possibility of significant rainfall, farmers are advised to undertake intercultural operation to keep the fields weed free.
- As weather condition is favourable, undertake wet nursery bed preparation of *boro* rice near an assured source of irrigation. Seeds should be treated with Agrosan @ 100 g per 50 kg seeds to prevent seed borne diseases.
- To protect the seedlings from cold, cover the nursery beds of *boro* rice with polythene or keep stagnant water in the nursery bed especially for the night-time. Irrigate the nursery bed regularly. Keep 2 to 3 cm stagnant water during night.
- Undertake preparation of the main field for transplanting of *boro* rice.
- Under prevailing weather condition, undertake preparation of land for sowing of groundnut and sunflower in Coastal Saline Zone. Well filled kernels of groundnut should be selected and treated with 5 g of Thiram or 3 g of Captan per kg of kernels. 18-20 kg healthy and well developed pods of groundnut are required per bigha.
- Due to low night temperature and dense fog, the seedlings of *boro* rice in the nursery beds may be affected by root rot and brown spot diseases in Coastal Saline Zone. Spray the nurseries with Ediphenphos 50 EC @ 1ml or Carbandazim 50WP @ 1 g per litre of water at 7 days intervals, after the disease symptoms appeared.
- Under prevailing weather condition, there is possibility of incidence of early blight of potato in New Alluvial Zone and Coastal Saline Zone. Spray the crop with Copper oxichloride @ 4 g / litre of water at 7-10 days intervals, if disease symptom appeared.
- Weather condition is congenial for infestation of *Alternaria* blight in mustard in Old and New Alluvial Zone and late blight in potato in Old Alluvial Zone and Coastal Saline Zone. Spray Mancozeb @ 2.5-3.0 g / litre of water to control *Alternaria* blight in mustard and Mancozeb @ 2.5-3.0 g or Copper Oxichloride @ 4 g / litre of water to control late blight of potato.
- In the present situation, some black spot in the leaves are observed in potato which may be caused by mite or thrips. To control this apply Acephate-75% WP @ 0.75 gm per litre of water.
- Details of crop varieties are mentioned in Annexure I.

## Sikkim

- **Major Standing Crops:** Orange (maturity / picking), large cardamom (vegetative), *rabi* wheat (tillering), mustard (vegetative), vegetable crops (late vegetative / flowering / fruiting / harvesting), potato (vegetative / tuber formation).
- As there was no significant rainfall during last week in the state and rain / thundershowers is likely to occur only at isolated places for the next five days, apply irrigation to the vegetable crops, wheat, orange and large cardamom.
- Undertake intercultural operations in early sown *rabi* mustard, wheat and vegetable crops like potato, cabbage, cauliflower, carrot, Chinese cabbage, knol-khol, garden peas, radish, turnip, lettuce, celery, spinach etc., in medium and low hills as conducive weather prevails during these days.
- Maintain large cardamom sucker nursery; apply FYM and undertake intercultural operations.
- **Plant Protection:** 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.

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

### Assam

- **Major Standing crops:** Arhar (pod formation / maturity), sugarcane (harvesting), cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion and carrot (vegetative / flowering / fruiting), mustard, lentil and pea (flowering / pod formation), wheat (crown root initiation / tillering stage), potato (vegetative / tuber formation) and *boro* rice (nursery preparation / transplanting).
- As there was no significant rain over the State during last few weeks and no significant rain is expected for next five days, farmers are advised to apply irrigation to arhar (at pod formation stage) and vegetable crops like cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion and carrot and also to wheat, mustard, lentil, pea and potato.
- As there is no possibility of occurrence of rain, farmers are advised to undertake intercultural operation to keep the fields weed free. Second earthing up should be done in case of two months old crop of potato.
- Under prevailing dry weather condition, farmers are advised to undertake harvesting of sugarcane.
- As the temperature is favourable for germination, complete preparation of nursery bed and sowing of *boro* rice seeds in nursery bed. Transplanting of *boro* rice may also be undertaken if the seedlings are ready.
- Under prevailing weather condition farmers are advised to undertake planting of late varieties of cauliflower, cabbage and knoll khol and sowing of sunflower.
- Prevailing weather condition is favourable for the infestation of leaf curl virus and late blight in potato. Crop should be sprayed with Malathion 50 EC @ 2 ml / litre of water against insect vector of leaf curl virus and Dithane M 45 @ 2.5 g / litre against late blight disease.
- Details of crop varieties are mentioned in Annexure I.

### Poultry

- Considering the occurrence of bird flu in different districts of lower Assam, poultry farmers are advised to be extra vigilant. Any unnatural and sudden death of their poultry birds should immediately be reported to veterinary officials. Vaccine for Ranikhet disease of poultry birds may be given during this period.

### Fishery

- Under present weather condition fishes may suffer from a disease that cause decay in patches in different parts of the body. To protect from the disease apply Potassium permanganate @ 2.5 Kg / bigha. Moreover, application of 1 Kg turmeric powder and 13 Kg lime can save the fishes from the disease.



## Arunachal Pradesh

- **Major Standing crops:** *Rabi* vegetables (vegetative / flowering / fruiting), wheat (tillering / vegetative), mustard (vegetative), pea (vegetative / flowering), *rabi* maize (vegetative) and potato (vegetative).
- As there was no significant rainfall in most of the districts during last few weeks and no significant rainfall is likely to occur during next five days, apply 2<sup>nd</sup> irrigation to wheat and also apply irrigation to *rabi* vegetables, mustard, pea, *rabi* maize and potato.
- Farmers are advised to apply first top dressing in early sown potato followed by earthing up.
- Regular monitoring for powdery mildew attack in pea may be carried out.

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

### Andhra Pradesh

- **Major Standing Crops:** sugarcane (grand growth), gram (grain formation), wheat, mustard and sunflower (flowering/grain/seed formation) and chilly (fruit formation)
- Apply irrigation to the crops as there was no rainfall during last week and rain/thundershowers is likely to occur at isolated places over south Coastal Andhra Pradesh and dry weather is likely to prevail over rest area of the state for the next five days.
- Farmers in Krishna, West Godavari, Guntur and Prakasam districts are advised to undertake sowing of rice fallow maize and rice fallow pulse crops during these days. Details of varieties are given in Annexure I.
- Farmers in high altitude regions of Srikakulam, East Godavari, Vijayanagaram, Visakappattinam and Khammam are advised complete harvesting of rice and red gram.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- blast and cut worm in rice, ring spot and rust in sugarcane, *Spodoptera* in cabbage and cauliflower, thrips and mites in chilly and tea mosquito bug in cashew in Srikakulam, Vishakappattinam and Vijayanagaram districts;
- white fly in cotton, stem borer in maize, pod borer in red gram, white fly, mites and fruit rot in chilly and spotted pod borer in black gram and green gram in Krishna, West Godavari, Guntur and Prakasam districts;
- thrips in chilly, 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 to control the pests and diseases.

### Karnataka

- **Major Standing Crops:** Annual sugarcane (grand growth). Early sown *rabi* crops (grain formation).
- As there was no significant rainfall during last few weeks in the state and mainly dry weather is likely to prevail for the next five days, apply irrigation to the crops.

#### North Interior Karnataka

- Farmers in Bidar region are advised to continue sowing of water melon in the main field.
- Farmers in Raichur are advised to undertake harvesting of red gram and early sown sunflower due to dry weather conditions prevail during these days. Arrange proper storage for harvested produce. Undertake deep ploughing after harvest of the crop.
- Start harvesting/picking onion and chilly during these days in Dharwad.
- **Animal Husbandry:** Due to cold weather in and around Dharwad sneezing is noticed indicating respiratory problem. Keep the animals under warm condition.
- **Plant Protection:** Weather conditions are favourable for mild incidences of:
- *Helicoverpa*, rust, powdery mildew and *Heliothis* in gram and *Heliothis* in red gram in Dharwad and Raichur; undertake plant protection measures.

### South Interior Karnataka

- Farmers in Shimoga are advised to undertake harvesting of rice and maize. Arrange proper storage for harvested produce

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

- leaf spot in sugarcane, *Sigatoka* leaf spot in banana, powdery mildew in bhindi and grey blight in coconut in Shimoga; undertake plant protection measures.

### Coastal Karnataka

- Farmers in Udupi and Dakshin Kannada districts are advised to undertake intercultural operations and application of fertilizers and pesticides in plantation crops.
- Undertake harvesting of rice in Uttar Kannada as conducive weather conditions prevail.

### Kerala

- **Major Standing Crops:** *Mundakan* rice (flowering/grain formation), vegetable (vegetative/flowering) and plantation crops (Coconut, Arecanut, Pepper and Cashew). This is proper time for sowing *summer* vegetable crops.
- As there was no sufficient rain during last week in the state and rain/thundershowers is likely to occur at isolated places during next 48 hours, farmers are advised to apply irrigation to the crops.
- High wind speed leading to more evaporation is likely in and around Thrissur and Kasaragod. Apply mulches in orchard trees to conserve moisture. Provide mechanical support to banana to prevent from lodging.
- Complete sowing of *puncha* rice in Kottayam.
- Undertake nursery sowing of *summer* rice in Wayanad district. Also undertake sowing of *Amaranthus*, bitter gourd, cucumber, water melon, snake gourd and bottle gourd.
- Undertake sowing of *summer*/rice fallow pulses in and around Thrissur. Also undertake raising of coconut nursery.
- Undertake intercultural operations and application of fertilizers and pesticides in rice in Kottayam, banana in Thrissur and in coconut and banana in Thiruvananthapuram and plantation crops (coconut, arecanut, pepper and cashew), in general, as conducive weather conditions prevail.

#### Plant Protection:

- Weather conditions are favourable for the attack of
- white stem borer in coffee, thrips in cardamom and burrowing nematode, pollu beetle and quick wilt in pepper in Wayanad.
- bacterial leaf blight in rice and aphids, mealy bug and mosaic in vegetables in Thiruvananthapuram.
- *mahali* disease in arecanut in Thrissur, Malappuram, Kasargod, Kozhikode and Kannur districts;
- jassids and leaf spot in vegetables and tea mosquito bug in cashew in Thrissur.
- red palm weevil, rhinoceros beetle, bud rot and stem bleeding in coconut in Kasaragod and Wayanad.
- white fly and aphids, fruit and shoot borer in bhindi and brinjal in Kottayam.
- Undertake plant protection measures.

### Tamilnadu

- **Major Standing Crops:** Special season sugarcane (grand growth stage), Cotton (boll maturity/ picking stage). *Rabi* crops like rice, pulses, millets and oilseeds are at flowering/grain formation stage.
- As there was no sufficient rain during last few weeks in the state and rain/thundershowers is likely to occur at a few/isolated places during next 48 hours, farmers are advised to apply irrigation to the crops.
- Undertake land preparation and transplanting of onion seedlings as conducive weather conditions prevail in north western zone.
- Undertake sowing of irrigated groundnut in Coimbatore district.
- Sowing and transplanting of vegetable crops such as bhendi, tomato, cowpea, dolichos and chillies may be taken up.
- Continue harvesting jowar, maize, cotton, sunflower and pulses in Virudunagar district and cereals and pulses in Erode district as conducive weather prevails during these days. Arrange for proper storage after the harvest of crops.

**Plant Protection:** Present weather is conducive for mild incidences of

- leaf folder in rice in Coimbatore;
- shoot fly in jowar, stem borer in maize, sucking pests in cotton and thrips in chilly in Tuticorin.
- leaf spot in carrot in Nilgiris;
- Undertake plant protection measures. Plant protection measure may be undertaken on a non rainy day in coastal Tamil Nadu.

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

### Maharashtra

- **Major Standing Crops:** Sugarcane (pre-seasonal & *suru*) (cane maturity / harvesting), *tur* (pod maturity / harvesting), *rabi* jowar (flowering / grain formation in Pune, Nashik, Kolhapur divisions & flowering in other divisions), *rabi* sunflower (floral bud initiation), maize (vegetative / tasseling & silking), gram (flowering / pod formation in Nashik, Pune, & Kolhapur divisions and branching / flowering in other divisions), wheat (CRI / tillering), safflower (flowering / seed formation in Latur, Amravati divisions & flowering in other divisions).
- As there was no significant rain in all the districts of the State during last few weeks and no significant rain is likely to occur during next five days, apply irrigation to the standing crops.
- As dry weather is prevailing, farmers are advised to undertake harvesting of sugarcane & red gram.
- Apply second dose of Nitrogen @ 60 kg / ha followed by irrigation to wheat crops after 25 to 30 days from sowing.
- Apply second dose of Nitrogen @ 50 kg / ha followed by irrigation to onion crops after 30 days from transplanting.
- As weather condition is favourable, planting of sugarcane (*suru*) may be carried out in Madhya Maharashtra & Marathwada. Sugarcane setts may be treated with 100 g Bavistin + Rogar 30 % @ 265 ml in 100 liters of water for 5-10 minutes. 15 to 20 cm distance may be kept between two cane setts.
- Planting of water melon & musk melon may also be done in Central Maharashtra Plateau Zone.
- As weather condition is favourable, transplanting of summer rice and ragi may be carried out with 30 to 35 days old seedlings at a distance of 20 x 20 cm or 15 x 15 cm in Sindhudurga district. Also undertake sowing of groundnut at 30 x 10 cm distance in this district.
- Details of crop varieties are mentioned in Annexure I.
- **Plant protection**
- Infestation of thrips on onion crop is likely to be increased in Western Maharashtra scarcity zone. For control spray Trizophos + Deltamethrin @ 20 ml or 25 % Cypermethrin @ 5 ml in 10 liters of water.
- Under prevailing weather condition pea is likely to be affected by downy mildew in Sub Montane zone. For control spray 80% Sulphur @ 25 g in 10 liters water. The crop is also likely to be affected by pod borer in Western Maharashtra scarcity zone. For control spray 4% Neem extract or Endosulphan @ 20 ml or HANPV @ 10 ml in 10 liters of water.
- Mango blossom is likely to be damaged by Jassids & powdery mildew in Central Maharashtra Plateau Zone. For control of jassids spray Imidachloprid 17.8% @ 3 ml in 10 liters water. For control of powdery mildew spray Sulphur @ 20 g or Carbendazim @ 10 g in 10 liters of water.

### Gujarat

- **Major Standing Crops:** Sugarcane (maturity / harvesting), *Kharif* cotton (boll formation / boll maturity / picking), castor (spike formation / maturity / picking), mustard (vegetative / flowering), vegetables (vegetative / flowering / fruiting), potato (vegetative / tuber formation) and wheat (CRI / tillering).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail for next five days, apply irrigation to *kharif* cotton, castor, mustard, wheat, potato and vegetables.
- As there is no possibility of rain, undertake intercultural operation in above mentioned crops to keep the fields weed free.

- Prevailing weather is conducive for harvesting of already matured crops of castor and picking of *kharif* cotton.
- As weather condition is favourable, farmers are advised to prepare land and undertake nursery sowing of summer rice. Already sown nursery area should be protected from cold by irrigation during evening hours.
- As dry weather is likely to prevail, farmers are advised to apply top dressing of Nitrogen @ 40 kg / ha in wheat followed by light irrigation.
- As there is chance of attack of heliothis in gram in Bhal & Coastal area due to favourable weather condition, Spray Neem based pesticide @ 50 g / pump.
- Under prevailing weather condition, there is chance of attack of *Alternaria* blight in tomato and chili. For the control of *Alternaria* blight disease spray Mancozeb 0.25% (Dithane M-45 or Indofil M-45) @ 30 g or Metalaxil MZ (Ridomil gold) @ 20 g in 10 litres of water. Repeat spraying after 10 to 15 days.

#### **Poultry**

- To protect the poultry birds from cold wind cover the poultry house with plastic / sunhemp sheets.

#### **Rajasthan**

- **Major Standing Crops:** This is proper time for sowing *rabi* crops. Early sown *rabi* crops (wheat, mustard, gram, vegetable crops, etc.) are at vegetative stage.
- As there was no significant rainfall during last week in the state and mainly dry weather is likely to occur for the next five days, apply irrigation to the crops.
- Fall in minimum temperature is likely to be around 4<sup>0</sup>C or below over parts of west Rajasthan and consequently ground frost may occur over some part of these areas. Farmers are advised to apply light and frequent irrigation to the standing crops. Also arrange for smoking around the field.

#### **East Rajasthan**

- Undertake intercultural operations in mustard, gram, onion and garlic in Alwar, Bharatpur, Dholpur, Karauli and Sawai Madhepur districts as conducive weather conditions prevail.
- Undertake land preparation and sowing of cumin, fenugreek, isabgol, garlic and radish in Ajmer, Dausa, Jaipur and Tonk districts.
- Undertake thinning in early sown wheat and maize crops and maintain optimum plant population.
- Complete land preparation and 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.
- cut worm in gram in Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur districts, dust Endosulphan 4 % or Methyl Parathion 2%.
- aphids attack in mustard, barley, cauliflower and radish in Ajmer, Dausa, Tonk and Jaipur districts; spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 litre per hectare.
- blight, white rust and powdery mildew in mustard, in Ajmer, Dausa, Tonk and Jaipur districts; spray Blitox-50 @ 3 gm or Mencozeb 2 gm per litre of water.
- loose smut in wheat, stem borer in maize, aphids in mustard, pod borer in gram and leaf spot, blight and black rot in cauliflower and cabbage in Banswara. Undertake plant protection measures as conducive weather conditions prevail.
- mealy bug in mango, guava and pomogranate in Ajmer, Dausa, Tonk and Jaipur districts, spray Quinophose 1.5% or Endosulphon 4% powder in 50-100g per tree.
- stem & fruit borer in brinjal in Ajmer, Dausa, Tonk and Jaipur districts . To control fruit borer attack, remove affected fruits & stems and spray carboryl 50 WP @ 4 gm or Endosulfan 35 EC @ 1.5 ml or Acephate 75 SP @ 0.5 gm per litre water. Repeat spray at an interval of 15 days.

- downy mildew in rabi onion in Ajmer, Dausa, Tonk and Jaipur districts, spray Mencozeb @ 2 gm per litre water.
- anthracnose in mango and guava in Ajmer, Dausa, Tonk and Jaipur districts, spray copper Oxchloride @ 3 gm or Mencozeb @ 2 gm or Bavistin 1 gm per litre water.

### West Rajasthan

- Farmers in Bikaner and Jaisalmer are advised to complete sowing of 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 complete sowing of wheat and cumin at the earliest
- Farmers in Jodhpur, Barmer, churu, Jalore and Pali are advised to undertake planting of onion.
- Details of varieties are given in Annexure I.

**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 Sriganaganagar and Hanumangarh; undertake plant protection measures.
- stem borer in mustard in Sriganaganagar and Hanumangarh, spray tricoderma powder 2 g/lit water.
- white rust and powder mildew in mustard in Sriganaganagar and Hanumangarh, spray Metalaxyl@ 0.2 g/lit. and repeat the spray in a span of 15 days.
- fruit fly in ber in Pali; spray Monocrotophos @ 1 ml + Endosulphan @ 1 ml/litr of water.
- sucking pest (mahu) in mustard and cumin in Barmer, Jodhpur, Pali, Churu and Jalore districts, spray Endosulphon 35 EC 2ml/lit water or Melathion 50 E.C. or Methyl Dematon 1ml in 1 lit water.
- pod borer in gram in Barmer, Jodhpur, Pali, Churu and Jalore districts, spray Endosulphon or Methyl parathion powder 20-25 kg/ha.

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

#### Madhya Pradesh

- **Major Standing Crops:** Sugarcane (grand growth), soyabean (pod maturity), maize (cob development/maturity), cotton (boll development) and vegetable crops (transplanting/ vegetative). 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 for the next five days, apply irrigation to the standing crops. Apply light and frequent irrigation to the young crops to protect the young seedlings from cold injury.
- Farmers in Indore, Mandasaur, 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 and also undertake transplanting of tomato, brinjal, chilli, cauliflower, cabbage and onion.
- Due to favourable weather conditions, farmers in Tikamgarh, Datia and Chattarpur are advised to complete land preparation and sowing of wheat and alsii. Do seed treatment before sowing. Undertake transplanting of radish, carrot, spinach, methi, onion and cabbage.
- Undertake planting of garlic and onion in Jhabua and Dhar.
- Details of varieties are given in Annexure I.
- **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 Jhabua
- **Plant Protection:** Weather conditions are favourable for
- 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.
- army worm in wheat and red gram in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha districts. Spray Quinolphos 1 litre or Prophenophose one and half litre in 500-600 litre water. Spray Quinolphose one and half % or Methyl parathion 2% 25 kg powder per ha by spraying machine.
- agathi or pacheti and zulsa in potato in Morena, Bhind, Gwalior, Shivpuri, Guna, Sheopur and Ashoknagar districts; spray Mancozeb @ 2 kg in 600 lit water.
- agathi in potato in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha districts. Spray diethane M-45  $2^{1/2}$  – 3 g/lit 500-600 litre water per hectare in a span of 15 days .
- powdery mildew in peas in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha districts. Spray Sulphex or mixed sulphur 3 g or Carbedaziem  $2-2^{1/2}$  g/lit.
- fruit fly in ber in Pali; spray Endosulphan 35 EC in 2 ml/lit of water.
- aphid in pea, mustard & vegetable crops if attack use dusting of Methyl Parathian 2% dust 20-25 kg/ha in Jhabua and Dhar districts.
- leaf cutting weevil in mango; spray 0.1% Malathion or 0.05% Endosulphan 35EC in Jhabua and Dhar districts.
- leaf eating caterpillar on gram in Sehore, spray Quinolphos 1 litre or for big caterpillars Lemda saihelphthrin 5 EC@ 300 to 500 ml or methyl 40 SP in 500 to 600 litre of water.
- sucking pests on potato, chilly, tomato and brinjal, spray Dimethoate @ 1ml/litre of water or Phospomidon 3 ml /litre of water in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha districts.

### Chattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), pigeon pea (pod maturity), wheat (CRI / tillering), gram, pea, mustard, berseem, pigeon pea and linseed (vegetative / flowering), potato (vegetative / tuber formation), vegetables (vegetative / flowering).
- As there was no significant rain during last few weeks over the State and no significant rain is likely to occur during next five days, apply irrigation to the standing crops.
- As mainly dry condition is likely to prevail, undertake intercultural operation to keep the fields weed free. Also apply top dressing of Nitrogen to potato followed by earthing up and irrigation.
- Wheat crop sown during December is at crown root initiation / tillering stage. These stages of the crop are critical for moisture and nutrient stress. Hence, as dry condition is likely to prevail, farmers are advised to go for first top dressing of N followed by irrigation.
- Presently mustard and gram are at branching / flowering stage. Irrigation at this stages is required for proper growth of these crops. Avoid water logging in the fields. Use of sprinkler should be encouraged for irrigation.
- Weather conditions are favourable for sowing of leafy vegetables and transplanting onion during this week.
- There is possibility of infestation of leaf curl virus in chilli under present condition. Farmers are advised to apply Metasystox or Rogor.



## Annexure I

### Crop varieties

#### West Bengal

- **Boro rice:** IET - 1444, IET – 4786 (Satabdi), IET – 4094, Lalat, MTU - 1010, JGI –1798 etc.
- **Ground nut:** A.K. 12-24, J.L.-24, Girnar-1, Somnath, ICGS-11, ICGM-44, T.J.-3 etc.
- **Sunflower:** Morden, UC-68414 / 68415 and hybrid varieties like Jwalamukhi, Arun, B.S.H.-1, M.S.H.F.-17, Surya-52.

#### Himachal Pradesh

- **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.
- **Raddish:** Japani white, Early Mino White, Chinese Pink and Plamp Hriday.
- **Peas:** Lincoln and Palm Priya.

#### Jammu & Kashmir

- **Late varieties of wheat:** Raj-3077, PBW-226, Raj 3765, WH-542, PBW-373 & PBW-435
- **Radish:** Japanese white and Minowase
- **Beans** Contender and Arka Komal
- **Potato** Kufri Jyoti and Kufri Badshah

#### Maharashtra

- **Groundnut:** Improved varieties like TG-26, TG-37, TAG-24.
- **Sugarcane (*Suru*):** Co-86032, Co-94012, Co-M-0265.
- **Water melon:** Sugar baby, HW-11, MSW-7.
- **Musk melon:** Hara madhu, Panjab sunhara.

#### Orissa:

**Summer rice:** Parijat, Khandagiri, Naveen, MTU-1010, Lalat, etc.

**Maize:** Hybrid varieties-MRM-3838, MRM-3765, Shaktiman 1, Bio 9681, Cargil 633, Deccan 105, K.H. 510 , Composite varieties – Navjot, Arun, Kiran

**Ragi:** Subhra, Varabi, Dibyasing, Nilachala, Godavari and Chilika

#### Assam

- **Boro rice:** Jyotiprasad, Bishnuprasad, Jaymoti, Kanaklata, Boro-1 and Boro-2.
- **Sunflower:** Jalamukhi.
- **Late varieties of:**
  - **Cauliflower:** Snow Ball K-1.
  - **Cabbage:** Drum Head.
  - **Knol khol:** Purple Vienna.

#### Andhra Pradesh:

- **Black gram:** LBG 402, 648, 645, 685, 709 and 752.

## **Rajasthan**

### **East Rajasthan:**

- **Fenugreek:** RMT 1 and RMT 14
- **Cumin:** RS 1, RZ 209 and RZ 19
- **Garlic:** G-1, G-41, G-50, G-282 and G-313
- **Radish:** Pusa Deshi and Japani White
- **Cauliflower:** Pusa Hybrid-2, Pusa Snowball-1, Pusa Snowball K- 1 and Pusa Snowball K-25

### **West Rajasthan:**

- **Cumin:** RC 19 and GC 4

### **Madhya Pradesh:**

- **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 and JG- 130.
- **Maize:** JM- 421, JM- 8, JM- 12, Chandan makka- 3, Ganga- 3, Ganga- 4 and HPQM – 1.