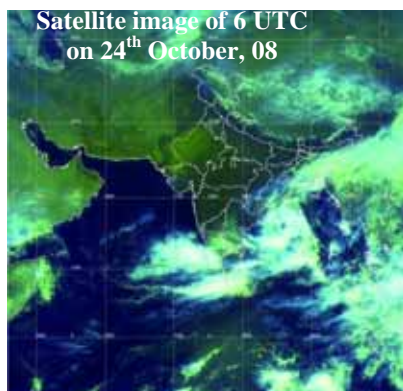




## National Agromet Advisory Bulletin

Thursday, 23<sup>rd</sup> October, 2008

(For the period 23<sup>rd</sup> to 27<sup>th</sup> October, 2008)



### Forecast for South India

- Rain/thundershowers are likely at many places over Tamil Nadu & Puducherry, Kerala, Coastal Karnataka, Lakshadweep and Coastal Andhra Pradesh.
- Rain/thundershowers are likely at a few places over Rayalseema and South Interior Karnataka.
- Isolated rain/thundershowers are likely over the rest region.

### Warning (During next 48 hours):

- Isolated heavy rainfall is likely over Tamil Nadu, Kerala, Coastal Karnataka, Lakshadweep and Coastal Andhra Pradesh.

### Status of Northeast monsoon

- Scattered to fairly widespread rainfall occurred over Tamil Nadu & Puducherry, Kerala and Lakshadweep during the week. The northeast monsoon was active over these regions during a few days with isolated heavy falls.
- Isolated to scattered rainfall occurred over Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Coastal Karnataka and Andaman & Nicobar Islands during many days of the week.

### Advisories for Kerala

- Farmers in all the districts of Kerala are advised to undertake transplanting of *mundakan* rice by utilizing the northeast monsoon rainfall.
- Due to heavy rainfall during last week, water logging is reported in rice fields (at harvesting stage) in and around Alappuzha district. Farmers are advised to drain out excess water to avoid crop damage.
- Farmers are advised to postpone irrigation as well as arrange for drainage facilities in plantation crops.

### Advisories for Tamil Nadu


- As there are water logging conditions due to continuous heavy rains during last two weeks, sowing of crops like green gram, black gram, groundnut, cotton, *rabi* vegetables and transplanting of chilli may be undertaken after receding of water. Drain out excess water from the fields of already sown *rabi* crops.
- **Postpone irrigation and arrange for drainage facilities in standing *kharif* crops like groundnut, sugarcane and pulse crops to avoid water logging.**

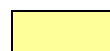
Issued by


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 |                         |                         |                          |                          |
|  | 24 <sup>th</sup> September                  | 1 <sup>st</sup> October | 8 <sup>th</sup> October | 15 <sup>th</sup> October | 22 <sup>nd</sup> October |
| A & N Islands  | -74   | -58                     | -95                     | -72                      | -68                      |
| Arunachal Pradesh  | -59   | -59                     | -39                     | -75                      | -99                      |
| Assam and Meghalaya  | -24   | -20                     | -3                      | -79                      | -99                      |
| NNMT   | 93  | 13                      | 45                      | -66                      | -98                      |
| SH West Bengal & Sikkim  | -43   | -55                     | 3                       | -89                      | -100                     |
| Gangetic West Bengal   | 50  | 16                      | -40                     | -92                      | -100                     |
| Orissa   | 125   | -67                     | -56                     | -89                      | -90                      |
| Jharkhand  | 58  | -52                     | -58                     | -99                      | -100                     |
| Bihar  | -51   | 38                      | -16                     | -63                      | -100                     |
| East Uttar Pradesh   | 242   | -70                     | -52                     | -93                      | -96                      |
| West Uttar Pradesh   | 128   | -97                     | -82                     | -84                      | -99                      |
| Uttarakhand  | 289   | -94                     | -5                      | -72                      | -63                      |
| Haryana, Chandigarh and Delhi  | 530   | -99                     | -90                     | -94                      | -71                      |
| Punjab   | 119   | -100                    | -86                     | -64                      | 316                      |
| Himachal Pradesh   | 397   | -99                     | -53                     | -75                      | 101                      |
| J & K  | -69   | -95                     | 46                      | -31                      | 168                      |
| West Rajasthan   | 116   | -100                    | -97                     | -100                     | -99                      |
| East Rajasthan   | 193   | -94                     | -93                     | -97                      | -56                      |
| West M. P.   | 21  | -90                     | 15                      | -84                      | -100                     |
| East M. P.   | 110   | -98                     | -29                     | -90                      | -100                     |
| Gujarat region   | 218   | -100                    | 19                      | -99                      | -95                      |
| Saurashtra & Kutch   | 291   | -99                     | 1                       | -100                     | -98                      |
| Konkan and Goa   | 66  | -98                     | -15                     | -52                      | -97                      |
| Madhya Maharashtra   | 16  | -97                     | 43                      | 0                        | -94                      |
| Marathwada   | -13   | -99                     | -18                     | -78                      | -100                     |
| Vidarbha   | -23   | -96                     | -28                     | -79                      | -100                     |
| Chhattisgarh   | 100   | -86                     | -69                     | -90                      | -100                     |
| Coastal A. P.  | -69   | -80                     | -78                     | -83                      | -24                      |
| Telangana  | -68   | -90                     | -82                     | -74                      | -40                      |
| Rayalseema   | -84   | -63                     | 7                       | -69                      | 67                       |
| TamilNadu & Pondicherry  | -78   | -72                     | -48                     | 49                       | 148                      |
| Coastal Karnataka  | -28   | -98                     | -74                     | -57                      | -22                      |
| N. I. Karnataka  | -60   | -75                     | -9                      | 6                        | -49                      |
| S. I. Karnataka  | -62   | -93                     | -6                      | -39                      | 18                       |
| Kerala   | -20   | -99                     | -99                     | -9                       | 62                       |
| Lakshadweep  | -93   | -94                     | -98                     | 10                       | 153                      |


The sub divisions like Andaman Nicobar Island, Arunachal Pradesh, Vidarbha, Coastal Andhra Pradesh, Telangana and Coastal Karnataka received scanty / deficient rain in all the 5 weeks; Assam and Meghalaya, Sub-Himlayan West Bengal & Sikkim, Orissa, Jharkhand, Uttar Pradesh, Haryana, Chandigarh and Delhi, Rajasthan, East Madhya Pradesh and Chhattisgarh received scanty / deficient rain in 4 out of last 5 weeks; Gangetic West Bengal, Bihar, Uttarakhand, Punjab, Himachal Pradesh, Jammu & Kashmir, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, Konkan & Goa, Marathwada, Rayalaseema, Tamil Nadu & Pondicherry, Interior Karnataka, Kerala and Lakshdweep 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

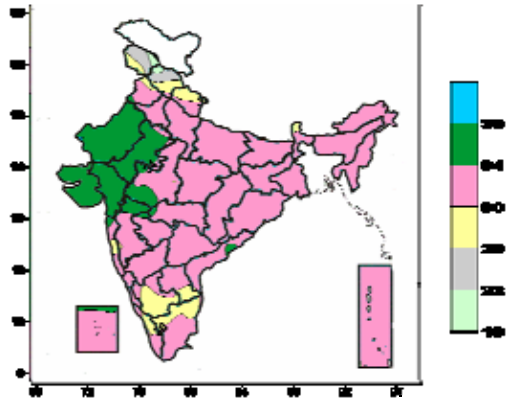
 (-100%) no rainfall

 (-20 to -59% )deficient rainfall

 \*\* Data not available

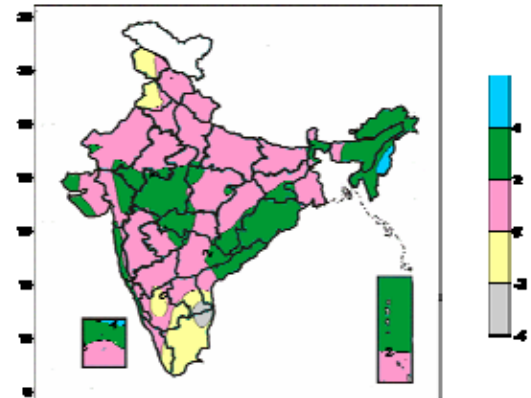
### Contour maps for the week ending 22.10.08

**Actual Mean Maximum Temperature (°C) in India for the week ending 22.10.08**



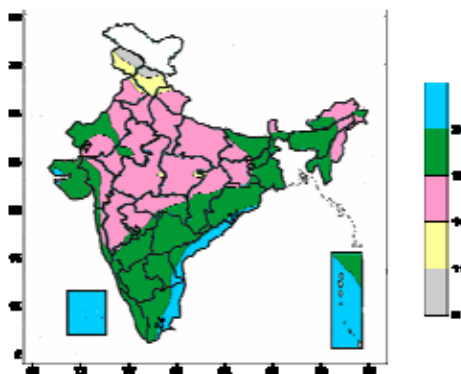
Actual Mean Maximum Temperature ranges between 34 to 38<sup>0</sup>C in Gujarat, most parts of Rajasthan and some parts of West Madhya Pradesh, Madhya Maharashtra, Konkan & Goa Coastal Andhra Pradesh and Lakshdweep, 26 to 30<sup>0</sup>C over some parts of Jammu & Kashmir, Punjab, Himachal Pradesh, Uttarakhand, Sikkim, Konkan & Goa, Kerala, South Interior Karnataka and Tamil Nadu, 18 to 26<sup>0</sup>C in some parts of Jammu & Kashmir and Himachal Pradesh and 30 to 34<sup>0</sup>C in remaining part of the country.

**Maximum Temperature (°C) Anomaly in India for the week ending 22.10.08**



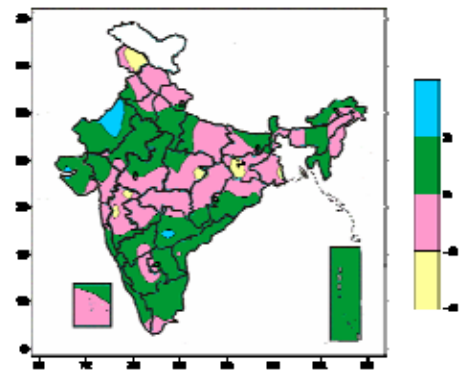
Maximum Temperature anomaly ranges between 4 to 6<sup>0</sup>C over some parts of Nagaland, Manipur and Lakshdweep, 2 to 4<sup>0</sup>C in some parts of Rajasthan, Gujarat, East Madhya Pradesh, Sub Himalayan West Bengal, Jharkhand, Chattisgarh, Marathwada, Vidarbha, Coastal Andhra Pradesh, Telangana and Lakshdweep, most parts of West Madhya Pradesh, North East India, Konkan & Goa and Andaman nicobar Island, -2 to 0<sup>0</sup>C in some parts of Jammu & Kashmir, Punjab, South Interior Karnataka, Rayalaseema, Coastal Andhra Pradesh and Kerala, most parts of Tamil Nadu, -4 to -2<sup>0</sup>C in some parts of Rayalaseema and TamilNadu and 0 to 2 in remaining parts of the country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 22.10.08**



Actual Mean Minimum Temperature ranges between 24 to 28<sup>0</sup>C over some parts of Gujarat, Orissa, Coastal Andhra Pradesh and Tamil Nadu, most parts of Lakshdweep and Andaman & Nicobar Islands, 20 to 24<sup>0</sup>C in some parts of Rajasthan, Maharashtra and Andaman & Nicobar Island, most parts of Gujarat, East and North East India and South India, 12 to 16<sup>0</sup>C over Jammu & Kashmir, Himachal Pradesh, Punjab, Uttarakhand and Madhya Pradesh, 8 to 12<sup>0</sup>C in Jammu & Kashmir and Himachal Pradesh and 16 to 20<sup>0</sup>C in remaining parts of the country.

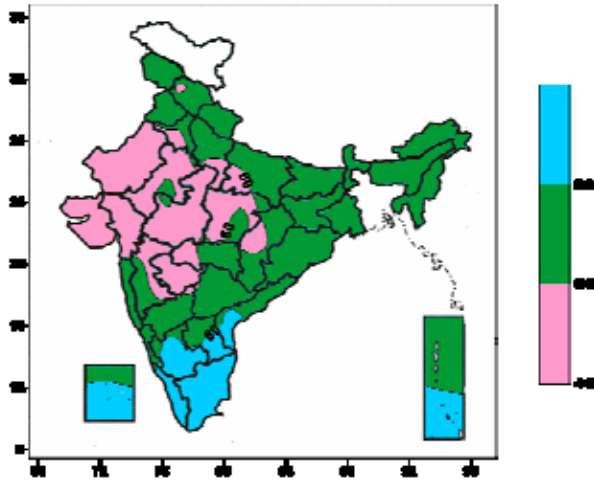
**Minimum Temperature (°C) Anomaly in India for the week ending 22.10.08**



Minimum Temperature anomaly ranges between 2 to 4<sup>0</sup>C over some parts of West Rajasthan, Gujarat and Telangana, 0 to 2<sup>0</sup>C over some parts of Punjab, Haryana, Delhi, Uttarakhand, Uttar Pradesh, Bihar, Sub Himalayan West Bengal & Sikkim, North East India, South Maharashtra, Central India and Lakshdweep, most parts of Rajasthan, Gujarat, Konkan & Goa, Orissa, South India and Andaman Nicobar Island, -4 to -2<sup>0</sup>C over some parts of Jammu & Kashmir, Madhya Maharashtra, East Madhya Pradesh, Jharkhand and Gangetic West Bengal and -2

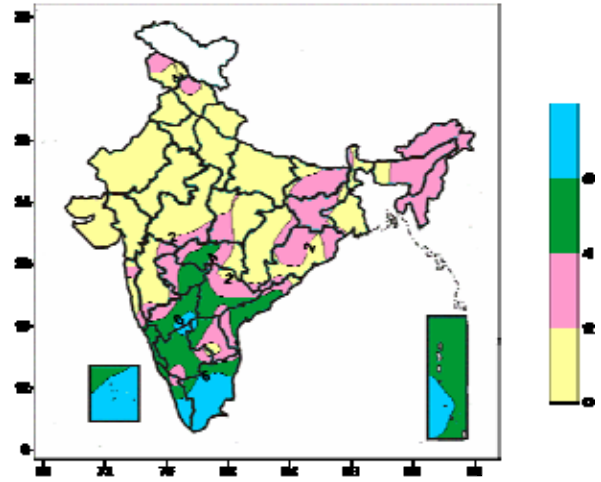
to 0 °C over remaining parts of the country

**Relative Humidity (%) over India for the week ending 22.10.09**



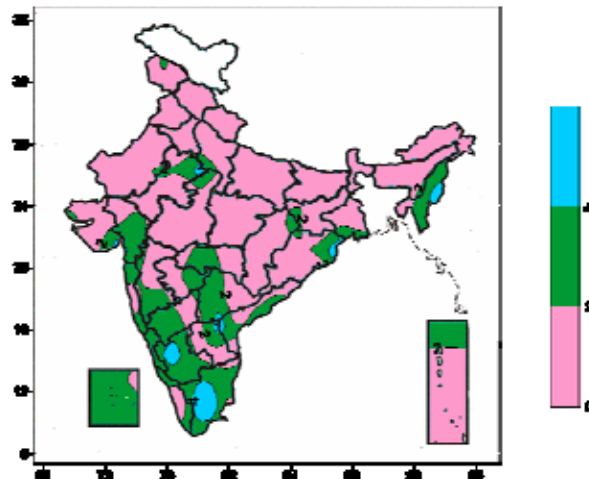
Relative humidity ranges from 80 to 100% over some parts of Coastal Andhra Pradesh, Rayalaseema, Lakshdweep and Andaman & Nicobar Island, most parts of South Interior Karnataka, Kerala and Tamil Nadu, 40 to 60% over some parts of Himachal Pradesh, Haryana, Uttar Pradesh, Chhattisgarh, Madhya Maharashtra and Vidarbha, most parts of Rajasthan, Gujarat, Madhya Pradesh and Marathwada and 60 to 80% in remaining parts of the country.

**Cloud amount (okta) over India for the week ending 22.10.09**



Cloud amount ranges from 6 to 8 okta in some parts of Interior Karnataka, Rayalaseema, Kerala and Andaman & Nicobar Island, most parts of Tamil Nadu and Lakshdweep, 4 to 6 okta over some parts of Telangana, Rayalseema, Kerala, Tamil Nadu and Lakshadweep, most parts over Marathwada, Vidarbha, Coastal Andhra Pradesh, Karnataka and Andaman & Nicobar Island, 2 to 4 okta in some parts of Jammu & Kashmir, Himachal Pradesh, Sub Himalayan West Bengal, Orissa, Madhya Pradesh, Maharashtra, Kerala, Interior Karnataka and Andhra Pradesh, most parts of Bihar, Jharkhand and North East India and 0 to 2 okta in remaining parts of the country.

**Wind speed (knots) over India for the week ending 22.10.09**









Wind speed ranges between 4 to 6 knots over some parts of East Rajasthan, Manipur, Orissa, Andhra Pradesh, South Interior Karnataka and Tamil Nadu, 2 to 4 knots over some parts of Jammu & Kashmir, West Madhya Pradesh, Rajasthan, Gujarat, Jharkhand, Chhattisgarh, Orissa, Gangetic West Bengal, Nagaland, Mizoram, Maharashtra, Kerala, Andhra Pradesh and Andaman & Nicobar Island, most parts of Karnataka, Tamil Nadu and Lakshadweep and 0 to 2 knots over remaining parts of the country.

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

| *** Most stress Districts |          |          |          |          |          |
|---------------------------|----------|----------|----------|----------|----------|
| State/Districts           | 24/09/08 | 01/10/08 | 08/10/08 | 15/10/08 | 22/10/08 |
| <b>Karnataka</b>          |          |          |          |          |          |
| Coastal Karnataka         |          |          |          |          |          |
| Udupi                     | -1       | -99      | -75      | -59      | -25      |
| Uttar Kannada             | -40      | -97      | -77      | -81      | -69      |
| North Interior Karnataka  |          |          |          |          |          |
| Raichur                   | -77      | -65      | -20      | -99      | -40      |
| <b>Andhra Pradesh</b>     |          |          |          |          |          |
| Coastal Andhra Pradesh    |          |          |          |          |          |
| East Godavari             | -80      | -92      | -76      | -87      | -84      |
| Guntur                    | -54      | -74      | -88      | -100     | -54      |
| Krishna                   | -79      | -93      | -87      | -99      | -28      |
| Sirkakulam                | -54      | -85      | -96      | -89      | -100     |
| Visakhapatnam             | -68      | -95      | -66      | -100     | -100     |
| Vizianagram               | -44      | -86      | -82      | -100     | -90      |
| West Godavari             | -83      | -99      | -58      | -89      | -82      |
| Telangana                 |          |          |          |          |          |
| Adilabad                  | -65      | -99      | -62      | -93      | -95      |
| Karimnagar                | -85      | -99      | -81      | -52      | -100     |
| Mehabubnagar              | -55      | -78      | -43      | -92      | -73      |
| Medak                     | -88      | -100     | -85      | -45      | -40      |
| Nalgonda                  | -69      | -68      | -80      | -100     | -57      |
| Nizamabad                 | -65      | -100     | -83      | -38      | -100     |

| * Stress Districts       |          |          |          |          |          |
|--------------------------|----------|----------|----------|----------|----------|
| State/Districts          | 24/09/08 | 01/10/08 | 08/10/08 | 15/10/08 | 22/10/08 |
| <b>Karnataka</b>         |          |          |          |          |          |
| North Interior Karnataka |          |          |          |          |          |
| Bagalkote                | -61      | -71      | -3       | -31      | -68      |
| Gadag                    | -84      | -90      | 89       | -49      | -90      |
| Haveri                   | -92      | -93      | 138      | -69      | -71      |
| South Interior Karnataka |          |          |          |          |          |
| Shimoga                  | -22      | -97      | -8       | -57      | -38      |
| <b>Andhra Pradesh</b>    |          |          |          |          |          |
| Telangana                |          |          |          |          |          |
| Rangareddy               | -84      | -95      | -7       | -38      | -100     |

- No district in Tamil Nadu and Kerala experienced stress condition during earlier 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          |

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

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

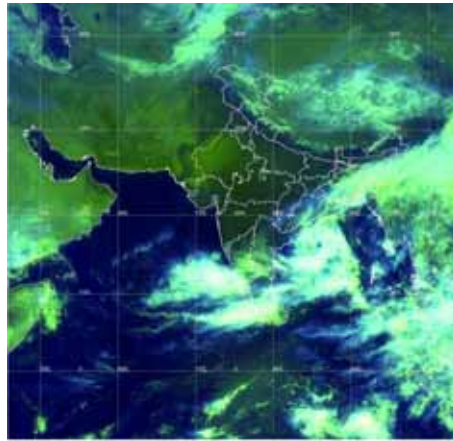
\*Stress (2 weeks continuously deficient to no rain).



**Chief Synoptic Feature (Based on 1430 hours IST observations of 23<sup>rd</sup> October, 2008)**

- Morning's low pressure area over southeast and adjoining east central Arabian sea persists.
- Current Meteorological analysis suggest formation of a low pressure area over west central and adjoining northwest Bay of Bengal by tomorrow, leading to increase in rainfall activity along the east coast.
- Due to prevalence of northwesterly winds, night temperatures are below normal by 2-3°C over central & adjoining east India. The minimum temperatures are likely to increase during next 48 hours.

**Satellite image of 6 UTC on 24<sup>th</sup> October 08**



**Zone-wise Forecast**

**NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP]**  
(Forecast valid upto 1430 hours IST of 26<sup>th</sup> October, 2008)

- Mainly dry weather is likely over the region.

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

- Dry weather is likely to prevail over the region.

**EAST INDIA [EAST UP, JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]**  
(Forecast valid upto 1430 hours IST of 26<sup>th</sup> October, 2008)

- Rain/thundershowers are likely at a few places over coastal areas of Orissa and West Bengal during next 24 hours and increase thereafter.
- Mainly dry weather is likely over the rest region.

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

- Light to rather moderate rain is likely to occur over Orissa, West Bengal & Sikkim and dry weather is likely to prevail in remaining parts of the region.

**NORTHEAST INDIA [Arunachal Pradesh, NMM & T, Assam, Meghalaya]** (Forecast valid upto 1430 hours IST of 26<sup>th</sup> October, 2008)

- Isolated rain/thundershowers are likely over the region.

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

- Light to rather moderate rain is likely to occur over the region.

**SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]** (Forecast valid upto 1430 hours IST of 26<sup>th</sup> October, 2008)

- Rain/thundershowers are likely at many places over Tamil Nadu & Puducherry, Kerala, coastal Karnataka, Lakshadweep and Coastal Andhra Pradesh.
- Rain/thundershowers are likely at a few places over Rayalseema and south interior Karnataka.
- Isolated rain/thundershowers are likely over the rest region.

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

- Rather moderate rainfall is likely to occur over Kerala, Tamil Nadu, Coastal Karnataka and Coastal Andhra Pradesh, light to rather moderate rainfall is likely to occur over South Interior Karnataka and Rayalaseema and light rain is likely to occur over North Interior Karnataka and Telangana.

**WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN]** (Forecast valid upto 1430 hours IST of 26<sup>th</sup> October, 2008)

- Isolated rain/thundershowers are likely over south Konkan & Goa.
- Mainly dry weather is likely over the rest region.

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

- Light rainfall is likely to occur over South Konkan & Goa and dry weather is likely to prevail over remaining parts of the region.

**CENTRAL INDIA [M.P., CHHATTISGARH, VIDARBHA]** (Forecast valid upto 1430 hours IST of 26<sup>th</sup> October, 2008)

- Mainly dry weather is likely over the region.

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

- Mainly dry weather is likely to occur over the region.

**Warning (During next 48 hours):**

- Isolated heavy rainfall is likely over Tamil Nadu, Kerala, Coastal Karnataka, Lakshadweep and coastal Andhra Pradesh.

**Weather Outlook from 1430 IST of 26<sup>th</sup> to 1430 IST of 28<sup>th</sup> October, 2008 (Based on numerical weather products):**

- Scattered to fairly widespread rainfall activity is likely over northeastern states.
- Decrease in rainfall activity over south peninsula.

## 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), Rice (grain maturity / harvesting), Apple (fruit maturity / harvesting), Tea (plucking), wheat, barley, gram and oil seeds (land preparation / sowing), new planting of evergreen fruit plants.
- As weather condition is favourable, undertake land preparation and sowing of wheat, barley, gram and oil seeds utilizing recent rainfall.
- Under prevailing weather condition, undertake nursery sowing of pea, cauliflower, cabbage, knoll khol and broccoli in low hills. Select varieties from Snow ball K-1, Palam Uphar, Golden Acre for cabbage, White Viena for Knol khol, Palam Kanchan, Palam Vichitra and Palam Samridhi for broccoli and Pride of India for cauliflower and Mater ageta-6 for peas. Also undertake transplanting of seedlings if nurseries are ready.
- Weather condition is also favourable to undertake sowing of carrot, raddish and turnip and also the leafy vegetables like lettuce, methi, palak, dhania etc.
- It is optimum time for planting of evergreen plants like mango, litchi, guava, citrus, loquat and amla in Sub-mountain & Low hills Sub tropical zone.

### Uttarakhand

- **Major Standing Crops:** Sugarcane (vegetative), Maize, groundnut and vegetables (vegetative / flowering / early maturity), Rice (maturity in Nainital district), Urd, soybean (maturity).
- As there was no significant rain in most of the districts of the State during last week, apply irrigation to the crops.
- Farmers are advised to undertake sowing of potato varieties like Kufri Jyoti, Kufri Asokh and Kufri Anand, pea varieties like Arkil, Pant Ageta, VL-7, Pant Sabjee Mater-3, Ajad Matar-3, VL Mater-3 and garlic varieties like Jamuna Safed & Jamuna Safed-3 etc. in valleys (at 5000 ft height) of Nainital District.
- Undertake sowing of mustard varieties PR-8988, Kranti and Krishna and vegetable pea varieties like Arkle, Pant Sabjee Mater-3, Akja Mater-1 in Udam Singh Nagar district utilizing the stored soil moisture and undertake transplanting of cabbage variety Pacheti snowball.
- Farmers are advised to start sowing of wheat under rainfed condition from this week. Select early varieties like VL-Gahuen 829, VL-Gahuen 616, HPW-251 or HS-277.
- Continue sowing of pea and garlic. Sowing should be done under optimum soil moisture conditions with optimum seed rate. Select only recommended varieties of vegetable pea like Aajad Matar -1, VL Matar-3, Vivek Matar-6, Vivek Matar-8 or Vivek Matar-9.
- Undertake sowing of sugarcane in Uttamsingh Nagar district. The early varieties are CoS-8436, CoS-96268, CoS-96258 etc., middle and late varieties are Co Pant- 84212, Co Pant- 90223, Co Pant-93227, Co Pant- 97222 etc. Undertake sowing of mustard in Garwal Pauri district utilizing the stored soil moisture.

### Punjab

- **Major Standing Crops:** Rice (maturity), horticultural crops (vegetative), sugarcane (vegetative), early sown cotton (boll maturity stage), maize, groundnut (late vegetative) and sunflower (grain formation).
- As most of the districts received no significant rain during last week and no significant rain is likely over the State, farmers are advised to apply irrigation.
- Sowing of berseem and toria can be undertaken using recommended varieties i.e. PBT 37 / TL 159 (toria) by utilizing rainfall during last week.



- Farmers are advised to continue sowing of *desi* varieties of raddish, peas, potato, palak and late season varieties of cauliflower and planting of fruits crops like sweet orange, lime, mango and guava by utilizing the rainfall received in the State during last week.

### Haryana

- **Major Standing Crops:** Rice (maturity), sugarcane (vegetative), horticulture crops (vegetative), sunflower (grain formation), early sown cotton (boll maturity stage) and bajra (grain formation).
- As most of the districts received no rain during last few weeks and no significant rain is likely over the State, farmers are advised to apply irrigation.
- Farmers are advised to 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 available irrigation facilities.

### Delhi

- **Major Standing crops:** Maize (cob maturity / harvesting), arhar (seed maturity / harvesting), bajra (grain maturity / harvesting) and fodder sorghum (vegetative), *Kharif* rice (milk / dough / maturity / harvesting), vegetables (sowing / transplanting / early vegetative / vegetative).
- As rain is not likely to occur during next five days, farmers are advised to undertake intercultural operation to keep the crop fields weed free.
- Wherever *kharif* rice is at milk / dough stage, apply irrigation to maintain 3 – 5 cm of standing water.
- Remove water from the fields of *kharif* rice 10 – 15 days before harvesting of the crops. Weather condition is favourable to harvest already matured crops of rice.
- As the weather condition is favourable, farmers are advised to prepare land and undertake sowing of mustard, potato, pulses like gram, pea and lentil and fodder crop like berseem and planting of autumn sugarcane. Select varieties from Pusa Jaikisan, Varuna etc. for sowing mustard, Azad Matar – 1, Bouniville etc. for sowing pea and Kufri Bahar, Kufri Anand, Kufri Surya for plating of potato.
- Prevailing weather condition is favourable for land preparation and sowing of raddish and carrot and also for preparation of nurseries for broccolli, pea, tomato and late maturing varieties of cauliflower. Select varieties from Hill Queen, Pusa Deshi, Pusa Rashim etc. for raddish and Pusa Kesar for carrot for sowing. Select varieties from Pusa Broccoli [KTS-1], Palam Vichitra, Kanchan for broccolli, Pusa Hybrid 1, Pusa Hybrid 2, Pusa Rohini etc. for tomato and Pusa Snowball K1, Pusa Himjyoti and Pusa Rohini for cauliflower for nursery sowing.
- Under prevailing weather condition, farmers are also advised to undertake land preparation and sowing of seed crops of onion and garlic.

### Uttar Pradesh

- **Major Standing Crops:** Summer sugarcane (vegetative), Mango (fruit setting), *Kharif* Rice (maturity), *Kharif* pulses and maize (maturity).
- As there was no significant rain in most of the districts during last week, apply irrigation to sugarcane.
- Sowing of gram, rai, mustard and early varieties of potato like Kufri Chandrmukhi, medium and late varieties like Kufri Badshah, Kufri Bahar, Kufri Sindoori and Kufri Lalima may be undertaken utilizing the rainfall received during earlier weeks.
- Considering prevailing dry condition, undertake weeding, intercultural operation, application of fertilizers and pesticides in the standing crops.
- Undertake sowing / transplanting of garlic and vegetable pea with irrigation facilities.

### J & K

- **Major Standing Crops:** Pulses (harvest), Rice (harvest), Maize (harvesting).
- 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.
- Undertake transplanting of vegetable crops like knoll khol and broccolli in Jammu division. Also undertake sowing of *rabi* crops like barley, mustard, gobhi sarson and gram.

- Undertake planting of onion and garlic in Kashmir divisions. Also continue sowing of *rabi* crops like wheat, brown sarson, pea and lentil. Start planting of fodder oats slips.
- Undertake harvesting of crops like rice, pulses, maize and fodder crops in Kashmir division, rice in Jammu division and rice and maize in Rajouri.
- Undertake sowing of mustard (RLM-514, RLM-619, Kranti, Varuna and Pusa Bold), wheat, barley, gram (C-235, K-468, Gaurav and PBG-1), field pea (T-163, PG-2, Rachna and HFP-3) and winter vegetable crops like potato, raddish, carrot, turnip, garlic, peas and spinach in Rajouri and winter vegetable crops like potato, raddish, carrot, turnip, garlic, spinach and methi in Leh division.

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

### **Bihar**

- **Major Standing Crops:** Sugarcane (vegetative), *Kharif* rice (grain formation), Maize (vegetative), Pulses (vegetative).
- As rain is not likely to occur during next five days, apply irrigation to the standing crops.

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

- Planting / sowing of sugarcane, rai and yellow mustard, *rabi* maize, pea, sunflower, raddish and lentil may be undertaken. Farmers are also advised to start land preparation and complete transplanting of tobacco as early as possible. Select pea varieties Rachna, Arpana, Harbhajan and Malbiya mator.
- Start land preparation for sowing of *rabi* maize. Select varieties from Hi Starch, Ganga 11, Laxmi, Deoki, Rajendra Shankar Makka 1 and 2, Shaktiman 1 and 2.
- Start the sowing of linseed varieties T 397, Garima and Sweta.

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

- Complete sowing of *rabi* crops like early potato and start sowing of *rabi* maize such as Shaktiman 1, 2, 3 and 4 and Berseem.
- Start land preparation for wheat to be sown in November.

#### **South Bihar:**

- Farmers are advised to prepare field for sowing of *toria*, short duration sunflower and early potato in south Bihar
- Farmers are advised to start land preparation and sowing of winter maize, potato, oil seeds like rapeseed and mustard, sunflower and pulses like gram, lentil and pea by utilizing the realized rainfall during earlier weeks. Also undertake sowing of recommended varieties of *rabi* maize like Lakshmi, Devki, Rajender Makka-1 and 2, Hi- stretch and Ganga -11. Select varieties of potato like Kufri Chandramukhi, Kufri Ashoka, Rajendra Potato-1, 2 and 3, Kufri Badshah, Kufri Lalima, Kufri Kuber and Kufri Alankar. Kufri Lalima, Kufri Kuber and Kufri Alankar can be sown from 15<sup>th</sup> October while other variety can be sown from 15<sup>th</sup> October till 15<sup>th</sup> November.
- Undertake sowing of fodder crops like berseem, lucerne and oat may also be sown from 15<sup>th</sup> October. During this period autumn planting of sugarcane may also be started. The improved varieties of gram are Rajendra Chana, Pusa-256 ,RAU-52, Pusa-240, Pusa-372 and SG-2. The improved varieties of lentil are Mallika, Arun, Pant L-639, Pant L-406 while improved varieties of pea are Rachna, Malvia, Arpana, Harbhajan (for green pod) and Pusa Prabhat (for green pod). The improved varieties of *toria* are Panchali, Bhawani, improved varieties of Sarson are Rajendra -1 and swarna and improved varieties of *rai* are Pusa bold, Kranti, Rajendra Rai Pachheti, Rajendra Anukul and Rajendra Suknam. As fodder crop berseem, lucern and oat may also be sown from 15<sup>th</sup> October. Transplanting of tomato, cauliflower and cabbage can be started at the earliest. Sowing of raddish, palak, carrot etc. can also be completed in this week.

## Jharkhand

- **Major Standing Crops:** *Kharif* rice (grain formation), arhar and early sown maize (vegetative).
- As rain is not likely to occur during next five days, apply irrigation to the standing crops.
- Farmers are advised to undertake sowing of potato varieties like Kufri Chandramukhi, Kufri Jyoti, Kufri Lalima and O.N. 2236 etc. and pea variety Arkel utilising the residual soil moisture.
- Farmers are advised to undertake transplanting of brinjal, tomato, cauliflower with application of organic manure in the fallow upland fields as early vegetable crop.
- Undertake sowing of *paira* crop like *tissi*, lentil in rice and sowing of mustard, *rabi* wheat varieties like PBW 343 and K 9107.
- To control the attack of false smut in rice, spray Carbendazim 1 g or blitox 2 g / litre of water.

## Orissa

- **Major Standing crops:** *Kharif* rice (panicle initiation stage and early sown crop is at early maturity to harvesting stage), sugarcane (vegetative), maize (vegetative), cotton (vegetative).
- As there was insufficient rainfall in most of the districts during last three weeks, apply irrigation to the standing crops.

### Coastal Orissa:

- Undertake sowing of mustard varieties M-27, TS-29, Anuradha and Parvati under rainfed condition.
- Undertake sowing of rainfed groundnut. Select varieties like AK-12-24, Smruti and JL-24. As early sown green gram, black gram and ground nut crops are at maturity stage, continue harvesting by picking up pods in green gram and black gram.
- Transplanting of cabbage seedling may be undertaken. Plant two rows of mustard as an alternate host crop at every 25 rows of cole crops to prevent the attack of pest.
- Nursery sowing of onion may be undertaken. Select high yielding varieties like Nasik Red, Patna Red, Pune Red, Ballery Red, Pusa Ratnar, Pusa Madhabi and Arka Niketan etc.
- Undertake sowing of sunflower. Grow high yielding varieties like Modern, Sunrise, surya and hybrid varieties like KBSH-1, KBSH-3 and MSPH.
- Weather is optimum for sowing of bean. Grow the high yielding varieties like Contender and Arka Kamala for bush bean and Kentucky Wonder for runner bean.
- Undertake sowing of fodder oat.
- Irrigate the rice fields where the crop is at panicle initiation or flowering stage to maintain 3 – 5 cm standing water as there was no rain during last three weeks. Weather is favourable for stem borer attack in late transplanted crop. To control the pest, apply 400 ml Chloropyrifos or 200 g Caldan in 200 litres of water per acre.

### Interior Orissa:

- Sowing of mustard may be started in a rice fallow. Select varieties like M-27, Anuradha, Parvati, PT-303 may be selected. Undertake sowing of vegetable crops as per the following recommendation.

| Vegetables   | Variety   | Seed rate /acre |
|--------------|---|-----------------|
| Brinjal      | KB-47, BB-7,                                    | 300 gm          |
| Tomato       | BT-10 ,Utkal Raja, Utkal Pragnya                | 300 gm          |
| Cauli flower | Himlata, Snow ball, B-96                        | 200 gm          |
| Cabbage      | Rareball, Delhiball-65, Pusa bahar, Golden acre | 200 gm          |
| Onion        | Agrifound, lightred, N-53, Nasikred             | 4 kg            |
| Potato       | K.Jyoti, K.Lalima,K.Chandramukhi                | 480 kg          |

- Apply irrigation to late transplanted rice.
- Weather is favourable for the incidence of White backed plant hopper. Wherever the ETL (8-10 nymphs / hill) for WBPH has been crossed, the farmers are advised to drain out water from the field, dry the field for 3-4 days and then to irrigate. Spray the crop with monocrotophos or hostathion or ferobucarb @ 2 ml / litre of water or ethofesprox @ 1 ml / litre of water. Rice crop has been severely attacked by bacterial leaf blight, immediately spray the crop with streptomycin @ 1 g / 10 lit water and repeat spraying 2-3 times at an interval of 7 days.

## West Bengal

- **Major Standing Crops:** Sugarcane (cane development), *aman* rice (flowering / milk / dough), groundnut (pod maturity / harvesting), wheat and mustard (land preparation / sowing).
- As rain is likely to occur at a few places over coastal areas of the State during next 24 hours and increase thereafter, postpone irrigation to the standing crops over this region. As mainly dry weather is likely to prevail over the remaining areas of the State during next five days and there was no significant rain during last couple of weeks in all the districts, apply irrigation to the standing crops. As dry condition is likely to prevail, also apply irrigation to *aman* rice to maintain 3 – 5 cm water in the field.
- As weather condition is favourable, start land preparation and sowing of seeds for mustard and wheat. Sow improved varieties of mustard like Sita, vagirathi, baruna, Agrani, Panchali, Sarama etc. and early varieties of wheat like Rajlakshmi, H.P. 1701, Janak, HP-1209, BW-11 etc. for wheat for sowing. Divide the mustard field into small plots so that irrigation can be applied easily at later stage.

### Plant Protection:

- There is a chance of enhanced attack of brown spot and blast disease in *aman* rice under the prevailing weather condition in New Alluvial Zone. Apply 2 g Mancozeb per litre of water to control brown spot disease. To control blast disease, apply 1 ml Hinosan or 1 gm Carbendazim per litre of water.

## Sikkim

- **Major Standing Crops:** Orange (fruiting / harvesting), large cardamom (capsule maturity / harvesting), ginger (rhizome formation / development), maize (harvesting), rice (active tillering). This is proper time for sowing of *rabi* crops.
- 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 standing crops.
- Undertake land preparation and transplanting of *rabi* vegetable crops like cabbage, cauliflower, carrot, Chinese cabbage, knoll khol, garden peas, raddish, turnip, lettuce, celery, spinach, etc. in medium and low hills. Also 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 and may be hand picked and destroyed mechanically. 1% Bordeaux mixture or copper oxychloride @ 3 g / litre 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 high 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:** Sugarcane (vegetative), arhar (vegetative), *sali* rice (flowering / grain formation), black gram and green gram (vegetative / flowering), vegetables (sowing / vegetative / flowering / fruiting).
- As there was no significant rain in most of the districts of the State during last couple of weeks and there is possibility of only isolated rain during next three days, farmers are advised to apply irrigation to the standing crops.
- In view of prevailing poor rainfall condition, farmers are also advised to apply irrigation in *Sali* rice to maintain 3 – 5 cm water in the field.
- As only isolated rain is likely to occur, farmers are advised to undertake intercultural operation to keep the fields weed free.

- Under prevailing weather condition, farmers are advised to apply following recommended fertilizers to coconut and areca nut. Fertilizers should be applied in ring method at a depth of 15 cm and in a distance of 90 cm from the plant.
  - Coconut: Urea @ 750 g, SSP @ 1250 g, MOP @ 850 g and borax @ 25 g per plant.
  - Areca nut: Urea @ 115 g, SSP @ 125 g, MOP @ 137 g and borax @ 5 g per plant.
- As the weather condition is favourable, this is proper time to prepare land and sow cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion, carrot etc.
- Condition is also favourable to undertake sowing of mustard, lentil and pea and planting of potato.
- Details of crop varieties are mentioned in Annexure I.

#### **Plant protection:**

- As there is chance of attack of rice bug in *sali* rice in Karbi Anglong and North Cachar Hills districts and only isolated rain is likely to occur, farmers are advised to apply Endosulfan powder @ 3.3 kg or malathion powder @ 2.6 kg / bigha of land in order to protect from rice bug infestation.

#### **Arunachal Pradesh**

- **Major Standing crops:** Ginger (rhizome formation), Vegetables (transplanting), Wet seeded rice (grain formation / harvesting), *Jhum* rice (harvesting), and millets (grain formation / harvesting).
- As there was no significant rainfall in most of the districts during last two weeks, apply irrigation to the standing crops like ginger.
- Farmers are advised to continue land preparation and sowing of potato, wheat, rapeseed and mustard, pea, *rabi* maize and transplanting of winter cole vegetables.

#### **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 (tillering to panicle initiation), chilli (vegetative)
- As rain / thundershowers are likely at many places over Coastal Andhra Pradesh, postpone irrigation to the crops like sugarcane and chilli. Arrange for drainage facilities as heavy rainfall is likely to occur at isolated places during next 48 hours.
- As rain / thundershowers are likely only at a few / isolated places over remaining parts of the State, apply irrigation to the standing crops.

##### **Coastal AP**

##### **Plain Land**

- Farmers in Srikakulam are advised to continue harvesting groundnut, jowar, bajra, maize, ragi and maize crops. Postpone harvesting during spells of heavy rain.
- Farmers in upland areas of West Godavari, Krishna, Guntur and Praskasam districts are advised to undertake *rabi* sowing of green gram (var: LGG 450, 460, 407, ML 267 and Pusa 105) and black gram (LBG 623, 20 and T 9). Postpone sowing during spells of heavy rain.

**Plant Protection:** Weather conditions are congenial for the incidences of –

- thrips in chilli in Guntur; undertake plant protection measures after spells of rain.
- sheath blight, bacterial leaf blight, BPH and mealy bug in rice (at tillering to panicle initiation stage), white fly and internode borer in sugarcane and leaf webber in red gram in Srikakulam, Vijayanagaram and Visakappattinam districts; undertake plant protection measures after spells of rain.
- red mite in brinjal and bhendi; undertake plant protection measures after spells of rain.

##### **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 *khairf* crops after spells of rain.
- Farmers are advised to continue harvesting ragi. Postpone harvesting during spells of heavy rain.

- Complete sowing of mustard. Postpone sowing during spells of heavy rain.
  - **Plant Protection:** Weather conditions are congenial for
  - leaf folder, gall midge and blast in paddy; undertake plant protection measures after spells of rain.
- Royalaseema**
- Farmers in Anantapur are advised to continue sowing of coriander, Bengal gram, sunflower and maize with a possibility of good amount of rainfall during next five days.
  - Farmers in Chiththoor are advised to undertake sowing of rice in the nursery.
  - **Plant Protection:** Weather conditions are favourable for mild incidences of
  - late leaf spot in groundnut in Anantapur district; undertake plant protection measures on a non rainy day.
  - stem borer and brown plant hopper in paddy, leaf spot and rust in groundnut, *Heliothis* in tomato and sucking pests in cotton in Cuddappah district; undertake plant protection measures on a non rainy day..

#### **Telangana**

- Farmers in Karimnagar, Nizamabad and Adilabad districts are advised to apply supplementary irrigation to red gram, maize and turmeric as dry spell condition prevails in the districts for 2-3 weeks.
- Undertake sowing of *rabi* crops with supplementary irrigation.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- stem borer in rice. Spray Carbofuran @ 10 kg/acre.
- *Spodoptera* in soyabean in Adilabad; undertake plant protection measures.
- Stem borer in rice, leaf folder in red gram, *Spodoptera* in groundnut, leaf spot in turmeric, powdery mildew, phyllody and Bihar hairy caterpillar in sesamum and sucking pests in cotton in Karimnagar, Nizamabad, Warranagl and Medak districts; undertake plant protection measures.

#### **Karnataka**

- **Major Standing Crops:** Annual sugarcane (grand growth), Early sown *Kharif* crops (grain development/maturity). This is proper time for sowing of *rabi* crops.
- Postpone irrigation in Coastal Karnataka as rain/thundershower are likely to occur at many places during next three days.
- As there was no significant rainfall during last week except in Chamrajnagar and Kodagu districts and rain/thundershower are likely at a few places over South Interior Karnataka and at isolated places over North Interior Karnataka, apply irrigation to the standing crops. Postpone irrigation in the above districts as there was excess rainfall during last week.

#### **Coastal Karnataka**

- Farmers in Udupi and Dakshin Kannada districts are advised to undertake intercultural operations in rice, arecanut, coconut, cashew and banana after spells of rain.
- **Plant Protection:** Due to high humidity in Udupi, Uttar Kannada and Dakshin Kannada districts, Colerago may attack arecanut. Monitor the crop and spray Bordeaux mixture @ 1% after spells of rain.

#### **North Interior Karnataka**

- Due to possibility of light to moderate rainfall during next five days, farmers in Bellary, Bijapur, Bagalkot and Koppal districts are advised to undertake intercultural operations, application of fertilizers and pesticides in early sown sunflower and cotton.
- Farmers in Bidar region are advised to undertake sowing of *rabi* crops like irrigated wheat (October 15<sup>th</sup> to November 15<sup>th</sup>) and Bengal gram (October and November) with a possibility of moderate rainfall during next five days. Also undertake planting of sugarcane during October and November and sowing of vegetable crops like brinjal, tomato, cabbage and cauliflower in the nursery.
- Due to possibility of moderate rainfall during next five days, farmers in Dharwad are advised to undertake sowing of wheat, chickpea, safflower, sorghum and sunflower.



- Farmers in Bijapur are advised to undertake sowing of Bengal gram and wheat during *rabi* season with a possibility of moderate rainfall during next five days. Undertake seed treatment with Calcium chloride @ 2% for 30 minutes and with *Rhizobium* before sowing gram.
- Farmers in Raichur are advised to continue sowing of gram, jowar and safflower with a possibility of moderate rainfall during next five days.
- **Animal Husbandry:** In some parts of Dharwad district goats are affected with Viral Exthima leading to sever fever. To control this, undertake antibiotic treatment and separate the affected animal from the herd to prevent further spread.
- 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:** Attack of necrosis and *Alternaria* leaf spot is noticed in sunflower. Spray Imidachloprid 17.8 S.L @ 0.25 ml or Oxidematon 25 EC @ 1.5 ml per liter of water for necrosis and Zineb @ 2 g/litre of water for leaf spot.

- 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 + Acitamaprid @ 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 ctton.
- sucking pests in early sown Bt cotton in Gulbarga; undertake plant protection measures.

#### **South Interior Karnataka**

- Farmers are advised undertake land preparation and sowing of *rabi* crops as north east monsoon is active over the region.
- Farmers in Bangalore, Kolar and Tumkur are advised to undertake intercultural operations and application of fertilizers in early sown crops on a non rainy day.
- Farmers in Chitradurga and Shimoga are advised to undertake sowing of jowar, Bengal gram and safflower during *rabi* season with a possibility of good amount of rainfall during next five days. Select among A1 and GBS 964 for Bengal gram and A1, S-144 for safflower.

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

- stem borer and leaf roller in rice in Mysore, Mandya and Chamrajnagar districts; undertake plant protection measures on a non rainy day to control the pests.
- sheath blight and neck blast in rice, Sigatoka leaf spot in banana and powdery mildew in bhindi Shimoga. Spray Carbendazim @ 1 g/litre of water for sheath blight and Tricyclozole @ 6 g/litre of water for neck blast in rice; 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. Undertake spraying of chemicals on a non rainy day.

#### **Kerala**

- **Major Standing Crops:** *Virippu* rice (harvesting), *Mundakan* rice (transplanting) and Plantation crops (Coconut, Arecanut, Pepper and Cashew).
- Farmers in all the districts of Kerala are advised to undertake transplanting of *mundakan* rice by utilizing the northeast monsoon rainfall.
- Due to heavy rainfall during last week, water logging is reported in rice fields (*virippu* rice at harvesting stage) in and around Alappuzha district. Farmers are advised to drain out excess water to avoid crop damage. Harvesting may be continued after spells of rain.
- Rain/thundershowers are likely to occur at many places for the next three days, farmers are advised to postpone irrigation to plantation crops. Arrange for drainage facilities as heavy rainfall is likely to occur at isolated places during next 48 hours.

- Undertake intercultural operations and application of fertilizers and pesticides in plantation crops (coconut, arecanut, pepper and cashew) after spells of rain.
- Farmers in Thrissur district are advised to undertake sowing of bhindi (variety: Arka Anamika and Arka Abhay – mosaic resistant) with a possibility of good amount of rainfall during next five days. Also undertake sowing of *Amaranthus* and cowpea as intercrops in plantation crops. Select Co 1 variety for *Amaranthus* as it is resistant for leaf spot. Postpone sowing during spells of heavy rain.
- Farmers in Thrissur, Malappuram, Kasargod, Kozhikode and Kannur districts are advised to complete planting of Nendran banana.
- Due to increase in the velocity of easterly winds in Thrissur district, farmers are advised to undertake propping in banana (at bunching stage).

**Plant Protection:** Weather conditions are favourable for the attack of

- leaf folder in rice and damping off in vegetable crops in Thrissur; spray Carbaryl @ 2g/litre of water for leaf folder and spray 1% Bordeaux mixture for damping off after spells of rain.
- mahali disease in arecanut in Thrissur, Malappuram, Kasargod, Kozhikode and Kannur districts; apply 1% Bordeaux mixture after spells of rain.
- wilt and anthracnose in pepper and powdery mildew in vegetable crops in Thiruvananthapuram; apply *Pseudomonas* culture @ 10 g/liter of water for wilt and anthracnose and Karathane @ 2 g/litre of water for powdery mildew after spells of rain.

### Tamilnadu

- **Major Standing Crops:** Rice (*Kuruvai*) (grain maturity/harvesting), Early, Mid Sugarcane (harvesting stage), Special season sugarcane (grand growth stage), Sorghum (grain development/maturity), Cotton (boll maturity/picking stage). This is proper time for sowing of *rabi* crops.
- Northeast monsoon is active over the state but due to continuous heavy rains and water logging conditions during last two weeks, sowing of crops can be taken after receding of water. Drain out excess water from earlier sown *rabi* crops.
- Postpone irrigation and arrange for drainage facilities in standing *kharif* crops like groundnut, sugarcane and pulse crops due to water logging conditions.
- Farmers in Namakkal region are advised to undertake sowing of black gram and green gram after spells of rain and receding of water. Select among CO 7, Vamban 4 and Vamban 5 varieties.
- Farmers in Chennai, Cuddalore, Kanchipuram, Thiruvarur, Thiruvannamalai and Villupuram districts are advised to undertake sowing of vegetable crops after spells of rain and receding of water.
- Farmers in Thirunelveli, Tuticorin and Virudunagar are advised to undertake sowing of *rabi* crops after spells of rain and receding of water.
- **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 liveflukes.

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

- scales in turmeric and stem borer in maize in Namakkal; spray Dimethoate @ 2.5 ml/litre of water for scales and Carbaryl @ 4 ml/litre of water for stem borer after spells of rain.
- seedling rot/damping off in chillies nursery in Thirunelveli, Tuticorin and Virudunagar districts. Spray Copper oxy chloride @ 2.5 g/liter of water after spells of rain.
- Sigatoka leaf spot in banana and bacterial leaf blight in rice in Coimbatore; undertake plant protection measures after spells of rain.

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

### Maharashtra

- **Major Standing Crops:** Sugarcane (pre-seasonal & suru) (elongation / cane development), irrigated cotton (boll formation / boll maturity), *kharif* groundnut (seed formation in Nagpur, pod maturity / harvesting in other parts of the State), *kharif* cotton (boll formation / boll maturity in Nasik, Pune, Latur, Amravati and Aurangabad divisions and boll formation in Nagpur division), *kharif* rice (early and medium maturing varieties at grain maturity / harvesting stage in Konkan, Nasik, Pune and Kolhapur and late varieties at grain formation / grain maturity in Konkan, flowering / grain formation in Nagpur division), soybean (seed formation in Nagpur, seed maturity / harvesting in other districts), *tur* (flowering / pod formation in Konkan, Pune, Latur and Nashik divisions & flowering in Amravati and Nagpur divisions), sunflower (seed maturity in Konkan and Pune, seed formation in other parts of the State), black gram (pod maturity / picking), safflower, *rabi* jowar, maize and gram in sowing / germination in Pune, Kolhapur, Nasik, Latur, Amravati and Aurangabad division.
- As there was no significant rain during last couple of weeks and significant rain is also not likely to occur during next five days, apply irrigation to maintain 3 – 5 cm water in *kharif* rice field in Nagpur and also in late maturing varieties in Konkan and also apply irrigation to *kharif* groundnut, sunflower and soybean at seed formation, *kharif* cotton at boll formation and *tur* at flowering / pod formation / grain formation stage.
- As the prevailing weather condition is favourable, this is proper time for sowing of *rabi* jowar. Select varieties from Maldandi 35-1, RSV-833, Selection-3, Phule Yeshodha & Mauli for sowing Western Maharashtra Scarcity zone and Western Maharashtra Plain zone. Mauli variety gives good result in the medium soil. Use 10 kg seeds per hectare for sowing.
- As the prevailing weather condition is favourable, this is proper time for sowing of *rabi* safflower in Madhya Maharashtra & Marathwada & West Vidarbha. For sowing of safflower in Western Maharashtra Scarcity zone and Western Maharashtra Plain zone, varieties like Bhima, Tara and Girna may be chosen. Use 45 x 25 cm distance between rows of crop. Give seed treatment of Azotobactor before sowing.
- Under prevailing weather condition, this is proper time for planting of pre-seasonal sugarcane in all the districts of Madhya Maharashtra. Select varieties from Co-740, Co-7219, COM-88121, Co-8014, Co-86032, Co-94012 for planting.
- Under prevailing weather condition, farmers are advised to undertake sowing of *rabi* crops like maize, sunflower, gram and planting of potato and transplanting of onion if seedlings are ready. If sowing is not done till date, undertake sowing with assured irrigation facilities. Select either N 2-4-1 or Phule Suvarna (Yellow) for cultivation in *rabi* season. The seed required is 8 to 10 kg for raising the seedlings to transplant the seedlings per ha.
- Weather condition is favourable to undertake harvesting of already matured rice, soybean, groundnut, bajra and picking of matured pods of black gram.

### Plant protection

- There is chance of infestation of gray mildew on BT Cotton in Central Maharashtra Plateau Zone & in cotton in Central Vidarbha Zone. For control spray 80 % water soluble Sulphur @ 25 g or Bavistin @ 10 gm in 10 liters of water.
- Red gram is likely to be infested by pod borer. For control spray 5% Neem extract or 35% Endosulfan @ 20 ml in 10 liters of water.

### Gujarat

- **Major Standing Crops:** Sugarcane (cane development / early maturity), *Kharif* groundnut (seed maturity / harvesting), *Kharif* cotton (boll formation / boll maturity / picking), *Kharif* rice (milk / dough / maturity), castor (spike formation), mustard and vegetables (sowing / transplanting).
- 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 during next five days, apply irrigation to sugarcane, *kharif* cotton,

castor and vegetables. Also apply irrigation to *kharif* rice at milk / dough stage to maintain 3 – 5 cm water in the field.

- As dry condition is likely to prevail, undertake intercultural operation in above mentioned crops to keep the fields weed free.
- As there is no possibility of rain, apply split dose of nitrogen @ 40 kg per hectare to castor.
- Prevailing weather is conducive for harvesting of already matured crops of *Kharif* groundnut, pulses and also for picking of *kharif* cotton.
- As weather condition is favourable, undertake land preparation and sowing of mustard, cabbage, cauliflower and brinjal in North West Gujarat zone, garlic, cabbage, cauliflower, carrot, onion, raddish, brinjal and gram in North Gujarat zone, wheat, chickpea and cumin in Bhal and Coastal zone.
- 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.

### **Plant protection**

- There is chance of infestation of leaf roller and stem borer in late sown rice in Bhal and Coastal zone. To control leaf roller and stem borer, farmers are advised to spray 30 ml Phosphomidon or 36 ml Monocrotophos with 10 liters water.

### **Rajasthan**

- **Major Standing Crops:** Groundnut, bajra, jowar, maize, sesame, cluster beans, red gram, cotton, vegetables. All the crops are at grain maturity/harvesting stage. This is proper time for sowing *rabi* crops.
- 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 land preparation and sowing of mustard in Alwar, Bharatpur, Dholpur, Karauli and Sawai Madhepur districts. Select among Pusa gold, Maya, Vasundhara, PR 15, 45, Bio 902, NRCSB 506, 101 and Varuna. Complete planting of guava, mango, lime, ber, amla, pomegranate and others fruit crops.
- Undertake land preparation and sowing of irrigated gram in Ajmer, Dausa, Jaipur and Tonk district. Use 70-80 kg seed per hectare. Keep row-to-row distance 30 cm and use varieties RSG-888 (Anubhav), CSJD-884 (Aakash), RSG-44, Pusa-209, C-235, H-208.
- Farmers are advised to complete sowing of mustard in Udaipur during this week as the prevailing mean temperature is around 25<sup>0</sup>C which is suitable temperature for mustard sowing. Undertake hoeing in early sown mustard and maintain optimum plant population.
- Start land preparation and arrange for 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 Barmer, Churu, Jalore and Jodhpur are advised to undertake sowing of *rabi* crops during these days. Select among Pusa kalyani, T-59, Varuna, Pusa Gold, RH 30A, PR-15, Bio-902, Pusa Jai Kisan for mustard. Farmers in Sriganaganagar and Hanumangarh may select among Pusa Gold, RGN 13, RGN-48, Varuna T-59 laxmi and RH 8812 varieties of mustard. Postpone sowing of mustard when temperature is higher.

- Farmers in Bikaner and Jaisalmer are advised to undertake sowing of *rabi* crops. . Select among Pusa bold, T-59, Bio-902, Kranti and Arawali varieties for mustard and GNG-469, GNG-663, GNG-931, RSG-888 and C-235 for gram. In case of gram treat the seeds with Carbendazim @ 2 g/kg seed followed by Chloropyriphos @ 4.5ml/ litre of water then treat with *Rhizobium* culture before sowing. In case of mustard treat the seed with Carbendazim @ 2 g/kg seed. Arrange seeds and other inputs for undertaking sowing of wheat, barley, oats and methi crops.
- Undertake sowing of sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger in Barmer, Churu, Jalore and Jodhpur.  
**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. Attack of leaf curl virus and bacterial leaf spot in chillies; spray Monocrotophos @ 1 ml/litre of water to control vector and to prevent spread of virus. To control bacterial leaf spot, spray Streptocycline @ 200 mg/litre of water + Copper oxy chloride @ 2.5 g/litre of water.
- pink boll worm in cotton and white fly in sugarcane in Sriganganagar and Hanumangarh; undertake plant protection measures.

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

### Madhya Pradesh

- **Major Standing Crops:** Sugarcane (grand growth), soyabean (pod development), maize (cob development), cotton (boll formation) 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, potato and field pea in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts and cauliflower in Bhind, Gwalior, Shivpuri Guna, Sheopur, Ashoknagar.
- Farmers in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh are advised to undertake sowing of mustard, toria, sunflower and safflower. Undertake sowing of potato and pea as early crops if irrigation facilities are available.
- Farmers in Sehore, Bhopal, Damoh, Raisen, Sagar, Vidisha are advised to undertake sowing of *rabi* crops like wheat (Sujata, HW 2004 and HI 1500), gram ( J.G 130, J.G 16, J.G 11, Jaki 92-18), chick pea (KAK 2 and J.G.K 1) and lentil (masoor) (J.L.S 1, J.L. 3, I.P.L 81)
- Undertake sowing of potato, berseem, garlic, pea, coriander, spinach and methi in Chhindwara and Betul districts with irrigation facilities at the earliest. Also undertake planting of *autumn* sugarcane and onion. Under rainfed conditions, undertake sowing of mustard, toria and safflower.
- Farmers in Tikamgarh, Datia and Chattarpur are advised to undertake land preparation and sowing of mustard, chana and als. Do seed treatment before sowing. Also undertake sowing of marigold. (Pusa basanti, full orange). Complete sowing of raddish (Pusa rashim, Pusa white, Desi, Punjab white), carrot (Pusa kesar, meghali), spinach (Pusa jyot, pusa harit, pant composite-1) and methi (kasuri and pusa early). Undertake nursery for cabbage (Golden acre and Pride of India).
- 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.
- Undertake transplanting of winter vegetables i.e. tomato, brinjal, chilli, cauliflower, cabage etc. Berseem and sowing of vegetable pea (var: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 Jhabua
- **Plant Protection:** Weather conditions are favourable for
- Sucking pests (i.e. jassids and white fly) in cotton, fruits and vegetable crops in Jabhua hills zone, spray Methyl Dimethon 25 EC 10 ml/litre. Also fruit borer in tomato; spray Tricophos 40 EC 2ml/l of water.
- Leaf eating and sucking pests on Soyabean, black gram and green gram, with grain eating insects in gird zone. For control spray 500 ml of Methyl Parathyon 50 in 500 litre water/ha or sprinkle Methyl Parathyon (2%) powder 15 to 20 Kg /ha.
- Spotted bollworm and leaf eating caterpillar in cotton in Chhindwara and Betul districts. Spray Endosulfan @ 1.5 litres/ha to control the pests.
- 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

### Chattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), black gram, groundnut (seed maturity / harvesting), *kharif* rice (milk / dough / grain maturity), pigeon pea (seed formation / early maturity).
- 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 during next five days, apply irrigation to the standing crops. Under prevailing weather condition, also apply irrigation to *kharif* rice at milk / dough stage to maintain 3 – 5 cm water in the field.
- Due to clear weather conditions, undertake harvesting of black gram, groundnut and early varieties of rice.
- Temperature is optimum for sowing of gram, lathyrus, toria and linseed in *kharif* fallow. Sowing of *Utera* crops like lathyrus, linseed etc. under relay cropping system can also be done during this month.
- As weather condition is favourable, this is proper time to prepare land and transplant tomato, chilli and brinjal if nurseries are ready.
- Present temperature trend is suitable for proper germination of sugarbeet in Bastar Plateau Zone. Hence, it is advised to prepare the fields well pulverized and complete the sowing of these crops during this month.
- After the harvest of *kharif* crops, undertake ploughing to conserve soil moisture and control weeds. This also favours timely sowing of *rabi* crops.

### Plant protection

- Under present hot and humid weather conditions blast and sheath rot disease may increase in rice crop. Hence, keep watch over the crop and to control this disease farmers are advised to spray tricyclozole @ 8-10 g / 10 liter of water. At least 150-200 liter of solution will be required for spraying in one acre area.
- Under present weather condition incidence of brown plant hopper may occur in rice crop, hence it is advised to keep watch over the crop and in case of higher incidence spray emidachlopid @ 100 – 120 ml / ha or Acetamiprid @ 100 – 120 g / ha or Carbaryl 50 WP @ 2 kg / ha. Spraying of insecticides should be done at the bottom portion of the crop as the nymph and adults of this insect are mostly active at the bottom portion of the rice crop.



## 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.
- **Onion:** Pusa Red, Pusa Ratna, Pusa white.

### Crop varieties of Gujarat

#### North West Gujarat zone

- **Mustard:** GM-1, GM-2, GM-3 etc.
- **Cabbage:** Kranti, Golden Acre, Pride of India, Coppen Market etc.
- **Cauliflower:** Early Kuvvari, Pusa Kartaki, Pusa Deepali etc.
- **Brinjal:** Guj. Brinjal– 6, P.L.R. 1, Junagadh Lambgoal, Mahicco- 11, 16 etc.

#### North Gujarat zone

- **Garlic:** Guj. Garlic1 & 2
- **Cabbage:** Kranti, Golden Acre, Pride of India, Coppen Market etc.
- **Carrot:** Pusa kesar, Pusa Yamadgani, & Hissar Garikan etc.
- **Onion:** Pusa red, Nashik Lal, N 53 & H 48 etc.
- **Raddish:** Pusa Hemadri, White ICL, Japanese white, Pusa rashmi
- **Brinjal:** Guj. – 5 P.L.R. 1, Junagadh Lambgoal, Mahicco 11 etc.
- **Gram:** Guj – Gram-1, 2 or Kuleth – 5

#### Bhal and Coastal zone

**Wheat:** Arnej – 206, GW-1 & 2

**Chickpea:** Gujarat Chickpea – 1 & 2

**Cumin:** Gujarat Cumin-4