

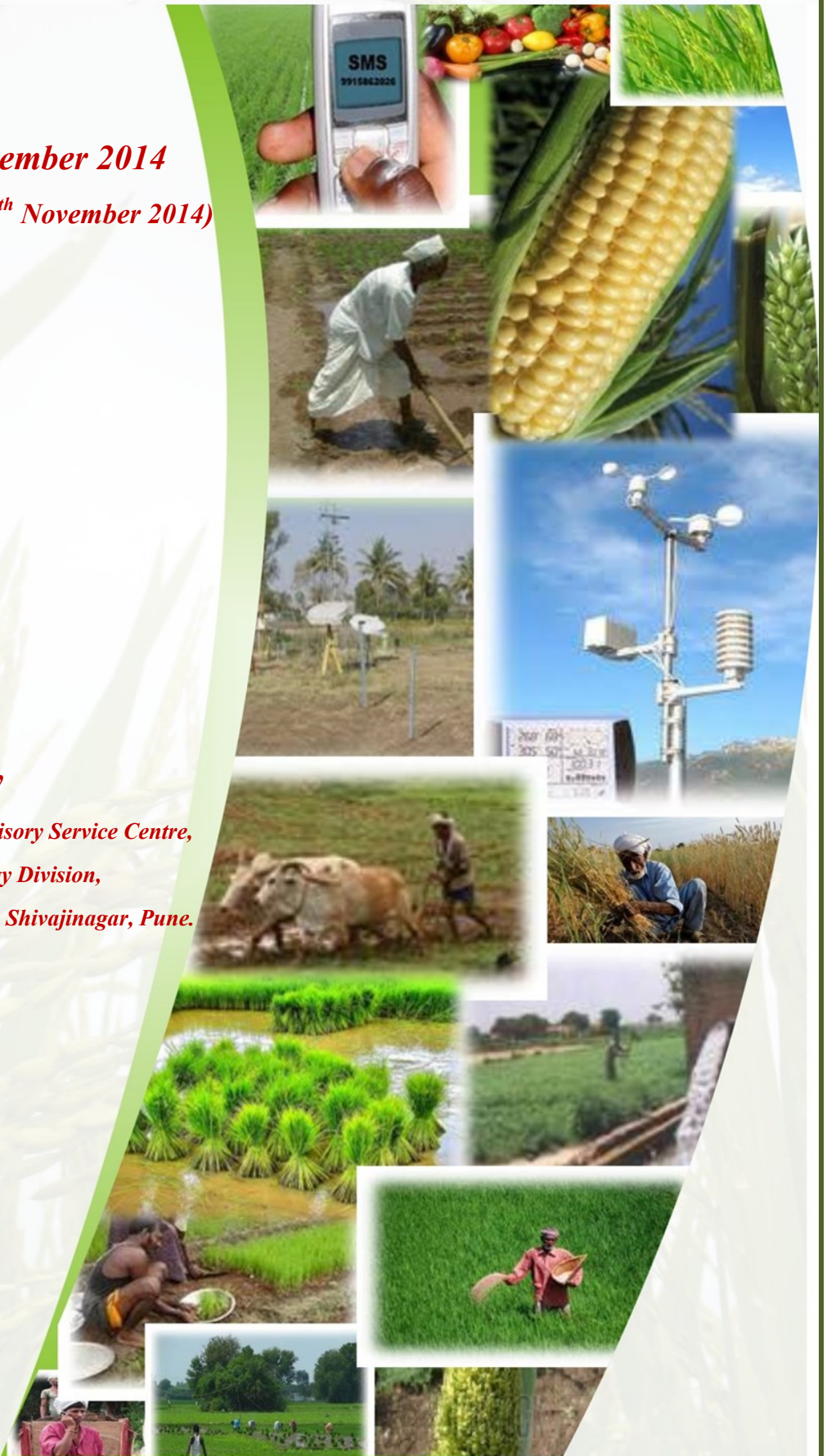
National Agromet Advisory Service Bulletin

Tuesday 25th November 2014
(For the period 25th to 28th November 2014)



Issued by

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



Realised Weather on 25th November 2014

Significant weather observations: Dense fog has occurred at isolated places over Assam & Meghalaya and Tripura and shallow fog occurred at isolated places over Punjab, East Uttar Pradesh and Bihar during morning hours.

Rainfall: (From 0830 hours IST to 1730 hours IST of yesterday): Rain/thundershowers occurred at isolated places over Tamilnadu, Kerala, Lakshadweep and Andaman & Nicobar Islands. Weather remained dry over rest parts of the country. The amount of rainfall (in cm) recorded at 0830 hours IST of today: Hutbay 7.

Temperature: Minimum temperatures are below normal by 2-5°C at most places over Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, Odisha, West Bengal & Sikkim, Punjab, Haryana & Delhi, East Madhya Pradesh and Vidarbha; at many places over Himachal Pradesh; at a few places over Jammu & Kashmir, East Rajasthan, Telangana and Coastal Andhra Pradesh; at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, West Rajasthan and Kerala. They are above normal by 2-4° C at isolated places over Gujarat State, West Madhya Pradesh and Andaman & Nicobar Islands and near normal over rest of the country. **The Lowest minimum temperature of 2.6°C recorded at Muzaffarnagar (Uttar Pradesh) in plains of the country.**

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 28th November, 2014)

- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands during next 24 hours and at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Tamil Nadu & Puducherry during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at isolated places over Kerala and Lakshadweep during the period.
- Dry weather would prevail over Himachal Pradesh, Arunachal Pradesh, Assam & Meghalaya during next 48 hours and rain/thundershowers would occur at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Jammu & Kashmir during next 24 hours; dry weather would prevail on 26th and rain/thundershowers would occur at a few places thereafter.
- Dry weather would prevail over rest parts of the country during the period.
- Rise in temperature by about 2°C over northwest India during next 72 hours.
- Moderate fog likely at isolated pockets over Punjab, Haryana, Uttar Pradesh, Assam & Meghalaya during next 48 hours.

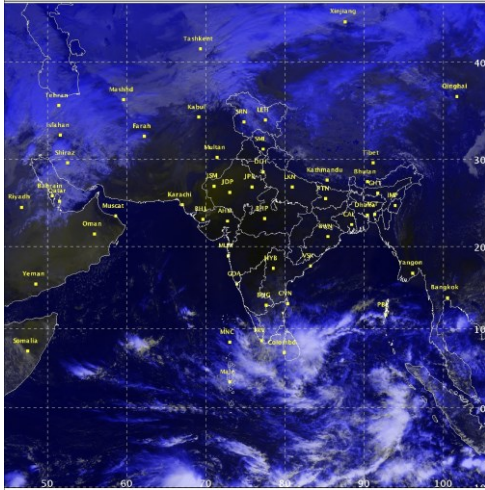
Weather Warning during next 3 days

- **25 November (Day 1):** Dense fog is likely to occur at isolated pockets over Nagaland, Manipur, Mizoram & Tripura.
- **26 November (Day 2):** Dense fog is likely to occur at isolated pockets over Nagaland, Manipur, Mizoram & Tripura.
- **27 November (Day 3):** Heavy rainfall/thundershower would occur at isolated places over coastal Tamilnadu.

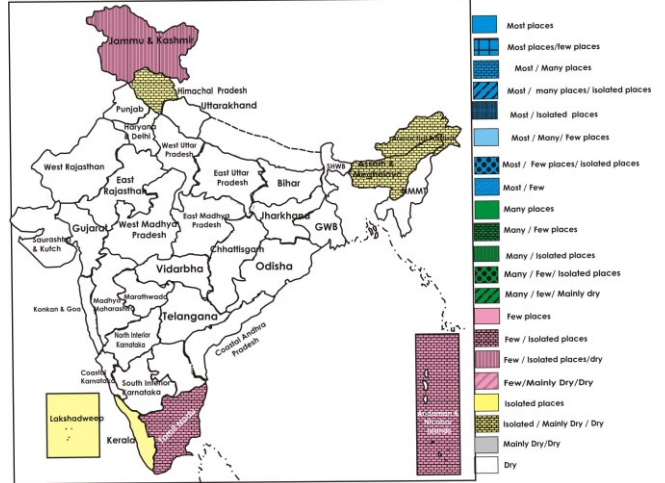
Weather Outlook for subsequent 4 days from 28th Nov 2014 to 02nd December 2014

- Increase in rainfall activity over south peninsular India.
- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands.
- Rain/ thundershowers would occur at isolated places over Western Himalayan Region, Konkan & Goa, Madhya Maharashtra, south Gujarat Region, Saurashtra, Arunachal Pradesh and Assam & Meghalaya.
- Weather would be dry over rest of the country.

Satellite image dated, 25.11.2014, 0600 UTC



Weather Forecast Map (Valid upto 0830 hours of 28th November 2014)



Detailed Zonewise Agromet Advisories

SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]



Land preparation

Sugarcane

Cotton

Rice Transplanting

- **Realised Weather:** Rain/thundershowers occurred at isolated places over Tamilnadu, Kerala and Lakshadweep. Weather remained dry over rest parts of the region. Minimum temperatures are below normal by 2-5°C at a few places over Telangana and Coastal Andhra Pradesh; at isolated places over Kerala.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Tamil Nadu & Puducherry during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over Kerala during the period. Dry weather would prevail over rest parts of the region during the period.
- **Weather Warning:** Heavy rainfall/thundershower would occur at isolated places over Coastal Tamilnadu on 27th November.
- **Weather Outlook:** Increase in rainfall activity over south peninsular India. Weather would be dry over rest of the region.
- **Advisories:**
 - **Andhra Pradesh**
 - Complete sowing of *rabi* groundnut and Bengal gram in Scarce Rainfall Zone. Due to hot and humid weather, black arm disease is noticed in cotton in the region. Spray Plantomycin 1g/10lit of water followed by Copper oxy chloride 3g/lit to manage the disease.
 - Undertake sowing of Bengal gram in High Altitude Tribal Zone with desi varieties like JG-11, NBeg-3 and kabuli varieties like KAK-2 and Vihar.
 - Undertake sowing of *rabi* groundnut in Southern Zone after treating the seed treat with Imidachloprid 2ml/ kg seed followed by Tebuconazole @ 1g or Mancozeb @ 3g/kg seed. Temperature of 31-32^oc with high relative humidity and dew is congenial for incidence of blast in *kharif* rice in the. To control spray Trycyclozole 75 wp @ 0.6g./ml.
 - Weather is congenial for incidence of *Maruca* pod borer on Redgram in North Coastal Zone. Spray Chlorpyriphos @ 2.5 ml and Dichlorvos @ 1 ml per litre of water.
 - **Telangana:**
 - Complete sowing of maize and black gram in the Northern Telangana region utilizing the realized rainfall.
 - Prevailing weather conditions are congenial for the incidence of brown plant hopper in rice in Southern Zone

To control follow alternate drying and wetting of field or provide alley ways of 20 cm for every 2 m before spraying, if not provided at the time of planting or spray Ethofenprox @ 1.5 ml or Acephate @ 1.5 g + Dichlorvos @ 1 ml or Buprofezin @ 1.6 ml per litre of water.

▪ **Karnataka:**

- Continue sowing of wheat and chickpea in the North Dry Zone under irrigated conditions.
- Undertake harvesting of groundnut in North Transition Zone.
- Undertake harvesting of groundnut and Ragi in the Eastern Dry Zone of Karnataka.
- Blast disease was noticed in paddy crop in Southern Dry Zone and weather is congenial for escalation. To manage this disease remove the weed hosts around the field and spray with Carbendazim @ 1gm/ litre of water or Tricyclozole @ 0.6 gm/litre of water.
- As dry weather would prevail, undertake harvesting of rice, continue picking of cotton; Continue sowing *rabi* sorghum, sunflower, maize, wheat, Bengal gram and planting of sugarcane in the North East Dry Zone of Karnataka.
- As dry weather would prevail, undertake harvesting of rice, maize and groundnut in the Southern Transition Zone of Karnataka.
- Continue harvesting of rice and picking of cotton in the Hill Zone of Karnataka.

▪ **Kerala:**

- Undertake nursery sowing of *puncha* rice in the Problem Area Zone.
- Complete transplanting of rice crop in Northern zone.
- Due to high humidity, there is a chance of leaf folder attack on rice crop in Central zone. It can be controlled using 2 CC Trichogramma cards per one acre. Cut it into small pieces and fix within the plant in different regions of field. If the attack is severe, spray Quinalphos @ 2ml per 1 litre of water.
- Prevailing high temperatures are congenial for stem borer and sheath blight on rice in Southern zone. Use of Trichogramma cards @ 2 cards per acre is an efficient control measure for the rice stem borer. If the attack is more than this apply Quinalphos (Ekalux 25EC) @ 750ml per ha. If the sheath blight is very severe, spray any one of the following fungicides– Bavistin (200g/acre), Carbendazim 50 WP 500 g/ ha, Vitavax (200g/acre)

➤ **Tamil Nadu:**

- As heavy rain would occur at isolated places over coastal Tamilnadu on 27th November, postpone irrigation intercultural operations, application of fertilizer and plant protection measures in standing crops. Provide adequate drainage in crop fields to remove excess water.
- Continue transplanting of *thaladi* rice in the Cauvery Delta Zone of Tamil Nadu.
- Due to prevailing humid weather conditions, bacterial leaf blight and bacterial leaf streak in samba rice and alternaria leaf spot incidence in cotton is noticed in the Cauvery Delta Zone of Tamil Nadu. Spray streptomycin alongwith tetracycline 120 g and Copper oxy chloride 500 g mixture/acre or Copper hydroxide at @500 g/acre in 200 litre of water to control bacterial leaf blight and bacterial leaf streak and Mancozeb 400g/ac, Debuconazole @ 200g/ac or Propiconazole @200ml/ac. to prevent spread of the infestation.
- Due to continuous wet weather, vegetative growth is observed in mango in the Western Zone of Tamil Nadu. Spray Paclobutrazole @10 g/ ac or 1% KNO₃ to induce flowering. Anticipating dry spell, spray Tricyclozole @ 1g / litre initially followed by second spray with Carbendazim @1g / litre of water to control blast incidence in rice and undertake top dressing with 40 kg Nitrogen and 120 kg Potassium followed by earthing up and irrigation in irrigated tapioca.
- Prevailing weather with high cloud cover and humidity is congenial for the incidence of leaf curl disease in green gram the South Zone of Tamil Nadu. Rough out the infected plants upto 45 days, set up yellow sticky trap 12 nos./ ha and spray Dimethoate 30 EC 500 ml/ ha or Methyl demeton 25 EC 500 ml/ ha to control the vector.
- Prevailing high humidity is congenial for the incidence of thrips attack in small onion in the North Western Zone of Tamil Nadu. Border cropping of maize in the onion field will protect the onion from damage.
- Suitable varieties are given in Annexure I.

• **Animal Husbandry**

- Prevailing weather conditions are congenial for Pneumonia & Blue Tongue disease in sheep and goat in the Scarce Rainfall Zone of Andhra Pradesh. Vaccinate the animals to prevent the disease.
- In Western Zone of Tamil Nadu, animals may be given vaccination against foot and mouth disease if not given earlier. Also provide drainage in cattle and poultry sheds.

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



Rice



Okra



Cole Crops (Nursery)



Green Gram

- **Realised Weather:** Dense fog has occurred at isolated places over Assam & Meghalaya and Tripura during morning hours. Weather remained dry over the region. Minimum temperatures are below normal by 2-5°C at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura.
- **Weather Forecast:** Dry weather would prevail over Arunachal Pradesh, Assam & Meghalaya during next 48 hours and rain/thundershowers would occur at isolated places thereafter. Dry weather would prevail over rest parts of the region during the period.
Moderate fog likely at isolated pockets over Assam & Meghalaya during next 48 hours.
- **Weather Warning:** Dense fog is likely to occur at isolated pockets over Nagaland, Manipur, Mizoram & Tripura on 25th and 26th November.
- **Weather Outlook:** Rain/ thundershowers would occur at isolated places over Arunachal Pradesh and Assam & Meghalaya. Weather would be dry over rest of the region.
- **Advisories:**
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - In Upper Bramhaputra Valley Zone and Lower Bramhaputra Valley Zone of Assam, continue sowing of maize, wheat, nursery sowing of winter tomato and transplanting of cole crops to main field. Complete sowing of rapeseed/ mustard and planting of potato.
 - In Hill Zone, North Bank Plain Zone and Lower Bramhaputra Valley Zone of Assam, continue nursery raising and sowing of direct seeded *boro* rice.
 - In Upper Bramhaputra Valley Zone, North Bank Plain Zone, Lower Bramhaputra Valley Zone and Central Bramhaputra Valley Zone of Assam, continue harvesting of matured *sali* rice.
 - In Hill Zone of Assam, continue transplanting of winter vegetables. Continue land preparation and sowing of lentil, planting of potato. Complete sowing rapeseed and mustard at earliest.
 - In Central Bramhaputra Valley Zone and North Bank Plain Zone of Assam, continue transplanting of cole crops, land preparation and sowing of *rabi* pulses like lentil, rajmah, pea, lathyrus and oilseeds, wheat and planting of potato.
 - In Meghalaya, continue harvesting of *Kharif* rice and groundnut. Complete sowing of pea, toria & lentil. Continue sowing of mustard/rapeseed. Apply mulching in ginger/ turmeric and potato with locally available weed biomass, maize stalk, etc.
 - In Hill Zone of Assam, there is chance of Cercospora leaf spot/ YMV in black gram and green gram, spray with Bavistin @ 0.5 g / litre of water on clear weather.
 - **Nagaland, Manipur, Mizoram and Tripura:**
 - In Manipur, continue sowing of rapeseed/ mustard, planting of potato, transplanting of onion and cauliflower, harvesting of ginger/turmeric.
 - In Mizoram, continue sowing of pea, mustard and toria, nursery sowing of tomato.
 - In Nagaland, continue nursery sowing of winter vegetables. Continue sowing of toria, pea and harvesting of matured lowland rice.
 - In Mild Tropical Plain Zone of Tripura, complete planting of potato and undertake transplanting of toria, sesame, lentil etc. Apply light irrigation on every alternate day in cole crops and tomato. Mulching must be done after irrigation to reduce evaporative losses.
 - In Mizoram, weather is congenial for attack of stem borer, gundhi bug and leaf blast in rice, spray Monocrotophos @ 20 ml/10 litres water or Imidacloprid @ 20 ml/10 litres of water against stem borer. Spray Monocrotophos 36 WSC @ 1.5 ml/litre of water against gundhi bug. Spray Triclozole (Beam) @ 0.5 g/litre against leaf blast.
 - Suitable varieties are given in Annexure I.
- **Animal Husbandry**
 - In Meghalaya, provide poultry birds (day old to 25 days old) artificial heating through lighting of electric bulb to protect from low temperature.

EAST INDIA [JHARKHAND, BIHAR, ODISHA, WEST BENGAL & SIKKIM, ANDAMAN & NICOBAR ISLANDS]



Sugarcane

Groundnut

Onion

Rice

- **Realised Weather:** Shallow fog occurred at isolated places over Bihar during morning hours. Rain/thundershowers occurred at isolated places over Andaman & Nicobar Islands. Weather remained dry over rest parts of the region. Minimum temperatures are below normal by 2-5°C at most places over Bihar, Jharkhand, Odisha, West Bengal & Sikkim. They are above normal by 2-4° C at isolated places over Andaman & Nicobar Islands.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands during next 24 hours and at isolated places thereafter. Dry weather would prevail over rest parts of the region during the period.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands. Weather would be dry over rest of the region.
- **Advisories:**
 - **West Bengal:**
 - Continue field preparation and sowing of wheat, mustard and planting of potato in Laterite and Red Soil Zone. Also continue seed bed preparation for nursery sowing of *boro* rice
 - In New Alluvial Zone, continue land preparation for sowing of mustard and planting of potato. Continue harvesting of *aman* rice.
 - In Coastal Saline Zone, complete harvesting of *aman* rice sowing of lentil at the earliest. Continue land preparation for planting of potato.
 - In Old Alluvial Zone, complete harvesting of matured *aman* rice. Continue land preparation and sowing of wheat and planting potato.
 - In Terai Zone, continue planting of potato and sowing of wheat. As temperature is decreasing thatching of betel vine should be renovated with new straw or kuch grass to make it dense to protect from cold.
 - Due to light foggy weather during early morning hours, there is chance of root rot in winter vegetables like cabbage, cauliflower, tomato etc. in Coastal Saline Zone. Spray Diethane M-45 @2.5g/litre of water.
 - **Andaman and Nicobar**
 - Continue sowing vegetables, pulses and raised nursery beds for sowing of brinjal, chilli and tomato in North and Middle Andaman.
 - **Odisha:**
 - In Western Undulating Zone continue land preparation and sowing of groundnut. Prepare the land for sowing of mustard in residual moisture immediately after harvesting of rice. Apply irrigation to transplanted cabbage, cauliflower and tomato which are at two to three week stage.
 - In North Central Plateau Zone undertake sowing of green pea, sunflower, mustard, groundnut, sesam and planting of potato,
 - In North Eastern Ghat Zone go for Banana planting as dry weather and prevailing temperatures of the November month are favourable for Banana planting.
 - In East and South Eastern Coastal Plain Zone present weather is optimum for sowing of rainfed groundnut, green pea and mustard. Also continue nursery raising of onion. Medium duration rice is at maturity stage. Harvest on 85% maturity of the panicles. The current temperature and weather is favourable for pyra cropping. Go for pyra cropping of green gram, back gram, lentil, mustard etc. Undertake planting of banana and cole crops. Undertake sowing of garlic in irrigated upland and medium land. Complete sowing of sunflower. Undertake sowing of sesame.
 - In North Eastern Plateau Zone continue sowing of wheat, groundnut, gram, peas and onion. Continue harvesting of rice. As dry weather is prevailing apply irrigation to potato. Undertake transplanting of chilli.
 - In North Eastern Coastal Plain Zone of Odisha, undertake sowing of rapeseed and mustard.
 - In Mid Central Table Land Zone of Odisha, undertake harvesting of rice.
 - In East and South Eastern Coastal Plain Zone of Odisha, the cloudy weather may aggravate the infestation of BPH in rice. To control BPH, drain out excess water and spray Chloropyriphos @ 2 ml per litre water to the root zone. To control cutworm in rice, spray Chloropyriphos @ 2 ml in 1 litre water during afternoon. Apply Chloropyriphos dust around the bond to prevent the entry of caterpillar to the unaffected field in early morning.

Spray Ediphenophas @1 ml or 0.5 g Tricychlazole each in litre of water to control neck blast.

▪ **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue sowing of wheat and gram. Complete sowing of maize and planting of potato. Carry Out intercultural operations like thinning and weeding in timely sown mustard also apply light irrigation to mustard crop. As dry weather is prevailing apply light irrigation to early sown onion nursery.
- In North East Alluvial Zone of Bihar, continue transplanting of vegetables. Continue sowing of wheat, maize and mustard. Continue harvesting of matured sugarcane and undertake planting of autumn sugarcane.
- In South Bihar Alluvial Zone, continue sowing of maize. Complete sowing of rai, lentil, peas and gram. Continue sowing of fodder crop berseem. Undertake sowing of wheat. Carry Out intercultural operations like thinning and weeding in timely sown mustard.

▪ **Jharkhand:**

- In Western Plateau Zone of Jharkhand, continue sowing of gram, lentil and linseed. Also continue sowing of mustard and wheat. Continue sowing of barley and planting of potato.
- In South Eastern Plateau Zone of Jharkhand, continue sowing of chick pea, wheat, linseed and lentil. Continue nursery raising of onion. Continue transplanting of cole crops.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of mustard, wheat, lentil, linseed. Continue harvesting of rice.
- Suitable varieties are given in Annexure I.

• **Animal Husbandry**

- In Central & North Eastern Plateau Zone of Jharkhand, to prevent from cold, dairy animal should be covered with blanket gunny sack/ sheet in the evening.
- In North West Alluvial Plain Zone of Bihar, low temperature condition may adversely affect the milk production and performance of domestic animals. Farmers are advised to give protein enriched diet to the animals. Do not keep the animal in the open.
- In Terai Zone of West Bengal, newly hatched chicken must be provided with artificially arranged heating system upto 1.5 months old chicks.

• **Fishery**

- In Terai Zone of West Bengal, due to prevailing weather conditions and as temperature is decreasing do not apply cow dung or any other organic manure and lesser quantity application of supplementary feed should be done in pond. Apply lime @ 60kg/bigha with 2.5 m water level.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane



Land preparation



Okra



Onion

- **Realised Weather:** Weather remained dry over the region. Minimum temperatures are below normal by 2-5°C at most places over Chhattisgarh, East Madhya Pradesh. They are above normal by 2-4° C at isolated places over West Madhya Pradesh.
- **Weather Forecast:** Dry weather would prevail over the region during the period.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be dry over rest of the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - Continue sowing of wheat in Bundelkhand Zone. Also continue transplanting of tomato, chilli, brinjal, cauliflower and cabbage on raised beds. Complete sowing of chickpea and linseed. As dry weather is prevailing, apply irrigation in mustard crop. Undertake transplanting of onion in the main fields.
 - Continue sowing of wheat, green pea and nursery sowing of tomato, chilli, brinjal, cauliflower, cabbage, capsicum, onion, early planting of potato and ginger in Vindhya Plateau Zone of Madhya Pradesh.
 - Continue sowing of vegetable pea, mustard, toria and field preparation for planting of potato, undertake nursery sowing of cabbage, cauliflower and sowing of carrot and radish in Kymore Plateau and Satpura Hill Zone.
 - Continue sowing of pea and planting of potato in Malwa Plateau Zone. Also undertake transplanting of onion, tomato, brinjal, chilli, cabbage and cauliflower on the prepared beds. Continue sowing of wheat.
 - Irrigate early winter vegetables i.e. tomato, chilli, brinjal, cauliflower, cabbage, capsicum etc. and early potato &

early green pea crop under moisture stress condition in Jhabua Hill Zone.

- Continue harvesting of matured soybean and continue land preparation and sowing of wheat, gram in Nimar Valley Zone.
- Due to cloudy weather there are chances of attack of sucking pest in vegetables in Vindhya Plateau Zone of Madhya Pradesh, spray Imidacloprid or Thiamethoxam @ 0.35 g per litre of water.
- Due to cloudy weather there are chances of attack of semi looper in cauliflower crop in Bundelkhand Zone, for control spray Malathion 50 E.C. @ 2ml/L of water.
- **Chhattisgarh:**
- Continue harvesting of matured rice in North Hill Zone. Continue transplanting of vegetables like cauliflower, tomato, brinjal, chilli etc. Undertake planting of potato, garlic and raising seedlings of onion. Continue sowing of wheat and land preparation of other *rabi* crops.
- Continue sowing of gram, wheat, peas, lentil, chickpea and linseed, transplanting of cauliflower, tomato, brinjal, chilli etc. in Chhattisgarh Plain Zone. Undertake sowing of garlic, planting of potato and raising seedlings of onion. Continue harvesting of matured rice.
- Undertake sowing of toria, green pea, linseed, gram, wheat and nursery sowing of vegetables like, chilli, cauliflower, tomato etc. in Bastar Plateau Zone.
- Suitable varieties are given in Annexure I.

NORTH INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]



Land preparation

Sugarcane

Bottle Gourd

Onion

- **Realised Weather:** Shallow fog occurred at isolated places over Punjab and East Uttar Pradesh during morning hours. Weather remained dry over the region. Minimum temperatures are below normal by 2-5°C at most places over Uttar Pradesh, Punjab, Haryana & Delhi; at many places over Himachal Pradesh; at a few places over Jammu & Kashmir, East Rajasthan; at isolated places over West Rajasthan. The Lowest minimum temperature of 2.6°C recorded at Muzaffarnagar (Uttar Pradesh).
- **Weather Forecast:** Dry weather would prevail over Himachal Pradesh during next 48 hours and rain/thundershowers would occur at isolated places thereafter. Rain/thundershowers would occur at isolated places over Jammu & Kashmir during next 24 hours; dry weather would prevail on 26th and rain/thundershowers would occur at a few places thereafter. Dry weather would prevail over rest parts of the country during the period. Rise in temperature by about 2°C over northwest India during next 72 hours. Moderate fog likely at isolated pockets over Punjab, Haryana and Uttar Pradesh during next 48 hours.
- **Weather Warning:** Nil
- **Weather Outlook:** Rain/ thundershowers would occur at isolated places over Western Himalayan Region. Weather would be dry over rest of the region.
- **Advisories:**
 - **Jammu & Kashmir:**
 - Continue sowing of wheat, barley, pulses (gram, lentil, pea) in Intermediate Zone of Jammu & Kashmir. Undertake weed control in mustard crops, apply Fluchloralin @ 0.70 kg a.i./ha as Pre plant incorporation (PPI) or Pendimethalin @ 1.0 kg/ha (pre-emergence) dissolved in 500-600 litre of water during non rainy day for effective control on annual grasses and broad leaved weeds.
 - In Sub-Tropical Zone of Jammu & Kashmir, continue nursery sowing of *rabi* onion wheat, barley, oilseeds crops (toria, mustard), *rabi* pulses (peas, gram, lentil), and planting of potato and garlic.
 - In Cold and Arid zone of Jammu & Kashmir, undertake field preparation for sowing of cereal crops and direct sowing of spinach, turnip and radish in greenhouses
 - Continue sowing of peas and planting of garlic in Valley Temperate Zone of Jammu & Kashmir. In saffron fields, apply top dose of urea @ 3.6 kg/kanal and also open drainage channels to avoid water stagnation.
 - Due to decrease in temperature there may be aphid infestation in toria crops, to control spray Chlorpyrifos 20EC @ 0.05% or Monocrotophos 36 SL @ 0.04% In Sub-Tropical Zone of Jammu & Kashmir.
 - **Himachal Pradesh:**
 - Continue sowing of wheat, planting of potato and sowing of early varieties of pea and onion in Lower and Mid Hills regions of Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Continue direct

sowing of radish, turnip, carrot and fenugreek, sowing of gobhi sarson, linseed and transplanting of cabbage, cauliflower and broccoli. Also undertake sowing of berseem, lucerne and oats as fodder crops. Continue sowing of barley in high altitude areas.

- Undertake intercultural operation in wheat and gobhi sarson by spraying Isoproturon 75 WP @ 70 g per 30 litres of water in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh on non rainy day.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, continue transplanting of late season cauliflower (Pusa-snowball) and cabbage and planting of onion at a distance of 15X10cm.
- Continue harvesting of apple and sowing of Chinese cabbage, cabbage and coriander in High Hill Dry Temperate Zone of Himachal Pradesh.
- Under prevailing humid weather condition, there are chances of damping off disease in vegetable crop. For control, mix thoroughly Dithane M 45 dust 10-15 g in 1X3 metre beds in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh.
- Under prevailing low temperature condition, there are chances of attack of cut worm in cauliflower in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Chloropyriphos 20 EC @ 80ml mixed in 1kg of sand can be spread in the fields.
- Under prevailing dry weather condition, there are chances of aphids attack in vegetables in Mid Hills Sub-Humid Zone of Himachal Pradesh. Spray Methyl Demeton (Metasystox) @10ml per 10 litres of water.

▪ **Uttarakhand:**

- Continue land preparation for sowing of wheat and planting of potato in Hill Zone. Complete transplanting of onion and sowing of garlic, mustard, palak, methi, radish, early toria, pea.
- As dry weather would prevail apply light irrigation in early sown mustard crops of 30 days duration, and top dress half kg Urea per Nali & do weeding & thinning operations for better crop growth. Also continue sowing of wheat, mustard and planting of autumn sugarcane in Bhabar and Tarai Zone of Uttarakhand.
- As dry weather would prevail, apply a light irrigation in mustard, chickpea and pea. Continue planting of potato and planting of winter sugarcane in Sub Humid Sub Tropical Zone of Uttarakhand.

▪ **Punjab, Haryana and Delhi:**

- In Western Undulating Zone of Punjab, continue nursery sowing of mid-season cauliflower, desi varieties of radish, carrot under irrigation and turnip and planting of mango, litchi and apply irrigation in rice, cotton and maize.
- In Central Plain Zone of Punjab, continue sowing of desi varieties of carrot, radish and turnip crops and undertake transplanting of tomato under irrigation. Complete planting of potato, sowing of peas, leafy vegetables and nursery sowing of cauliflower. Continue harvesting of matured maize and groundnut in Ludhiana district. Continue planting of early maturing autumn sugarcane. Undertake sowing of early wheat under irrigated condition, African sarson, raya, gobhi sarson, nursery of chilli, capsicum, brinjal, tomato and onion.
- In Undulating Plain Zone of Punjab, continue sowing of long duration wheat, lentil and continue sowing of gram. Undertake sowing of mustard.
- In Western Plain Zone of Punjab, undertake nursery sowing of tomato and onion. Apply light irrigation to early sown wheat and weather is favourable for sowing of wheat under delayed and late conditions. Complete sowing of pea. Also apply irrigation to sugarcane at monthly interval.
- Present foggy weather is favourable for incidence of late blight in potato in Western Zone of Punjab, spray Indofil-M-45/Kavach/Antracol @ 500-700g/acre or Blitox @ 750-1000g/ 250-350 litre of water/acre at weekly interval.
- In Western Zone of Punjab, continue sowing of raya, gobhi sarson, rabi onion, carrot, tomato. Prepare the field for planting of potato and undertake sowing of wheat. Complete the sowing of gram under rainfed conditions by this week.
- In Western Zone of Haryana, continue sowing of mustard and gram. As dry weather would prevail, harvest rice crop and continue the picking of matured cotton bolls of early sown cotton.
- Present weather is favourable for attack of top borer in sugarcane in Western Zone of Haryana, apply Carbofuran 3G @13 kg or Phorate 10G @ 8 kg in furrows and apply light irrigation.
- In Delhi, continue transplanting of onion seedlings and planting of early potato, winter sugarcane. Continue land preparation for sowing of early mustard, pea and early toria and sowing of radish, spinach, sarson, rabi onion, carrot and coriander.

▪ **Uttar Pradesh:**

- Undertake sowing of barley crop upto November in Eastern and western U.P. and under irrigated condition in Bundelkhand region of Uttar Pradesh.
- Undertake sowing of wheat in Central Plain Zone of Uttar Pradesh. Complete planting of potato and harvesting of rice. Apply light irrigation in toria crops.
- Continue sowing of wheat, rapeseed, gram, peas, matar and maize and planting of potato in Central Plain Zone of Uttar Pradesh with available soil moisture. Complete transplanting of cauliflower, cabbage, chilli, brinjal and tomato and continue sowing of spinach, fenugreek, radish, carrot and garlic.
- Complete sowing of normal wheat and undertake sowing of late varieties of wheat in Eastern Plain Zone of Uttar Pradesh. Also undertake sowing of gram, lentil, matar and flax seed.

- Continue sowing of wheat, gram, peas, lentil, rajma in Bundelkhand Zone of Uttar Pradesh. Complete sowing of linseed.
- Apply irrigation to sugarcane crops at 20 days interval in Western Plain Zone of Uttar Pradesh. Undertake application of Nitrogen in sarson, toria and taramira after irrigation.
- Under prevailing hot and humid weather condition, there are chances of attack of fruit borer in brinjal and tomato in Eastern Plain Zone of Uttar Pradesh. For control, spray DDVP-76 EC @ 750 ml or Malathion 50 EC @ 2 litre per 600-800 litres of water per hectare.
- **Rajasthan:**
- In Southern Humid Plain Zone continue sowing of wheat, gram and *rabi* maize. In Flood Prone Eastern Plain Zone of Rajasthan, cluster bean- wheat is the most profitable cropping sequence and continue sowing of gram, carrot, lucerne and irrigate potato crop within 15 days interval. Also continue sowing of wheat and barley in Semi Arid Eastern Plain Zone.
- Undertake weeding, hoeing and thinning in already sown gram and lentil crops in Flood Prone Eastern Plain Zone.
- Continue field preparation for the sowing of wheat and barley and complete sowing of isabgol, cumin and fenugreek in Arid Western Plain Zone (Bikaner) and continue sowing of wheat, cumin in Arid Western Plain Zone of Rajasthan (Jodhpur).
- Continue land preparation for sowing of wheat, barley, fenugreek, lucerne in Transitional Plain Zone of Inland Drainage of Rajasthan.
- Continue sowing of wheat, lentil, gram in South Eastern Humid Plain Zone, Irrigated North Western Plain Zone of Rajasthan. Apply irrigation in already sown sarson and wheat crops.
- In Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan, continue sowing of wheat gram and mustard. Undertake seed bed preparation for nursery sowing of chilli, brinjal and tomato.
- Due to low temperature condition, there is chance of attack of leaf minor in mustard in Flood Prone Eastern Plain Zone of Rajasthan. To control spray Dimethoate 30 EC or Monocrotophos @ 1 litre in 600- 800 ml of water. Also apply @ 0.1% solution of Malathion 50EC to manage fruit fly in guava.
- Mango, guava and pomegranate may be attacked by mealbug insect in Semi Arid Eastern Plain Zone of Rajasthan. Hopper of this bug suck sap of tender leaves of these trees. To control this mix Qinalphos 1.5 % @ 50-100 grams per tree in soil at a depth of 10-25 cm.
- Suitable varieties are given in Annexure I.
- **Floriculture**
- Continue nursery raising of winter flowers in poly houses in Sub Montane and Low Hills Sub-Tropical; Zone of Himachal Pradesh. For the control of blue beetle in roses and balsam, spray Cypermythrin @0.05%. Present weather is conducive for attack of mites in carnation. For control, spray Cypermythrin @0.05% at 15 days interval.
- **Animal Husbandry:**
- Due to fall in night temperature, keep cows in their cowshed to protect them from cold in High Hill Temperate Dry Zone of Himachal Pradesh. Also give 40-50g minerals mixture with the daily.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Onion



Sugarcane



Cotton



Mango

- **Realised Weather:** Weather remained dry over the region. Minimum temperatures are below normal by 2-5°C at most places over Vidarbha. They are above normal by 2-4° C at isolated places over Gujarat State and near normal over rest of the region.
- **Weather Forecast:** Dry weather would prevail over the region during the period.
- **Weather Warning:** Nil
- **Weather Outlook:** Rain/ thundershowers would occur at isolated places over Konkan & Goa, Madhya Maharashtra, south Gujarat Region and Saurashtra. Weather would be dry over the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, apply irrigation, fertilizers and intercultural operations in vegetable crops and mango and cashew orchards. Utilizing the residual moisture in the harvested rice field, complete sowing of *wal*, *kulthi* and cow pea. Prepare the field for the sowing of *rabi* groundnut. Prepare raised bed for nursery sowing of *rabi* rice.

- In Madhya Maharashtra, continue intercultural operations like weeding and fertilizer application in sugarcane, vegetables, rabi jowar, gram, wheat and safflower. Complete sowing of irrigated wheat and gram. Continue picking fully opened cotton bolls during morning hours. Apply irrigation to vegetables, sugarcane, safflower, rabi jowar, gram, wheat and grapes, banana and pomegranate orchards.
- In Marathwada, as dry weather would prevail, apply irrigation to sugarcane, red gram and vegetables. Considering the water stress condition, apply micro irrigation like drip and sprinkle irrigation in sugarcane and orchards like banana, pomegranate, sweet lime and orange. Also apply mulch of crop residue. Continue intercultural operation like weeding and fertilizer application to sugarcane, rabi jowar, wheat and vegetables. Complete sowing irrigated gram and wheat. Continue picking fully opened cotton bolls during morning hours.
- In Vidarbha, as dry weather is prevailing, apply irrigation to vegetables and orange, sweet lime orchards. Apply fertilizers and continue intercultural operations in vegetables. Continue picking fully opened cotton bolls. Complete sowing of irrigated wheat. Continue sowing of linseed in east Vidarbha & complete sowing of irrigated gram. Prepare raised bed for nursery sowing of rabi rice.
- Due to cloudy weather in South Konkan, there may be attack of mango hoppers in new flush and inflorescence. For control, spray 25 % Cypermethrin @ 3 ml per 10 litres of water.
- Cloudy weather in Pune region is favourable for the incidence of downy mildew in cucumber, ridge gourd and bottle gourd; spray Metalaxyl 8 % + Mancozeb 64 % @ 20 g per 10 litres of water at 10-12 days interval.
- **Gujarat**
 - In North Gujarat Zone, undertake sowing of wheat and cumin. Complete sowing of gram and planting of potato. As dry weather would prevail, undertake harvesting of matured sorghum. Apply irrigation to castor.
 - In South Gujarat and Middle Gujarat Zone, undertake sowing of wheat.
 - In North West Gujarat Zone, undertake sowing of mustard, wheat, cumins. Also harvest matured fruits like guava and cluster apple
 - Continue sowing of wheat in Bhal and Coastal Zone. As dry weather would prevail, apply irrigation in castor. Undertake sowing of cumin.
 - Undertake land preparation and sowing of wheat and chickpea in South Saurashtra Zone. Complete picking of matured cotton bolls.
 - Suitable varieties are given in Annexure I.
- **Animal Husbandry**
 - In Gujarat, increase the green fodder quantity for feeding. Arrange adequate amount of fresh drinking water for cattle.

Annexure I List of varieties

Tamil Nadu

Late Samba/ Thaladi rice: ADT 38, ADT 46, ADT 49, Improved white Ponni, IR 20, ASD 19, Paiyurl, TRY 1, TRY 3, CO 48, CO 49, BPT 5204 and CO 50

Direct seeded rice: (White Ponni or ADT 39)

Assam

Green gram: T-44, Kopergaon, K-851, ML-56, ML-131 etc.

Black gram : T-9, T-27, Pant U-19, T-122.

Radish : Pusa Deshi, Pusa Chetki, Pusa Himani

Cauliflower : Improved Japanese, Pusa Synthetic, Pusa Snowhall and Main Crop Patna.

Early maturity Cabbage varieties : Golden Acre, Pride of India, Pusa Mukh (Sel – 8).

Early maturity Knol Khol : White Vienna.

Winter brinjal : Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samrat

Meghalaya

Pigeon pea: short duration : UPAS-120, ICPL 87. long duration WB 20, Pusa 9 & Sarita.

Cabbage: H-139, Pride of India

Cauliflower: Meghalaya Local

Carrot: New Karoda, Nantesh

Radish: Local genotype

Broccoli: Puspa, Aiswarya

French bean: Naga Local

Pea: Arkel (for vegetables), TRC P8, TRC P9, Prakash, Rachna.

Potato: Kufri Joyti, Kufri Megha, Kufri Giriraj, Kufri Girdhari, Kufri Himsona, Kufri Himalini.

Pea: Arkel (for vegetables), TRC P8, TRC P9, Prakash, Rachna.

Tripura

Tomato: Trishul, Allrounder, T- 1408, T- 1458, Anup.

Cauliflower: CFL- 4048, Pusa early synthetic, Kamaya, Suhasihi.

Cabbage: BC- 76, Pusa Drum Head, Pusa Synthetic.

Broccoli: Everest, Ayeshwaria.

Odisha

Sesame: Kanak, Kalika, Uma, Usha, Tilotama, Nilima, Prachi

Greengram: K-851, PDM-11, PDM-54, OUM-11-5

Blackgram: T-9, Pant U-11, Pant U-19, Pant U-30

Cowpea: SEB-2, Pusa Barsati Niger: Deomali, Niger-1 and for Okra: Utkal Gourav.

West Bengal

Banana: Mortoman, Chapa, Kathali, Singapuri.

Tomato: Avinash-2, 448.

Cabbage: Pride of India, Pusa early, Kranti.

Cauliflower: Jawhar moti, Bharat Jyoti, Early banaras

Bihar

Shakarkand: Rajendra Shakarkand- 5, Rajendra Shakarkand-35, Rajendra Shakarkand-43, Rajendra Shakarkand-47, Kalmegh and Rajendra Shakarkand-92.

Pigeon Pea: arhar: Bahar, Pusa 9, Narendra Arhar 1

Urd: T-9, Pant U-19, Pant Urd 31, PDU-1

Radish: Pusa Chetki, Pusa Himani, Pusa Rashmi, Japani Saphed

Pointed gourd: Rajendra Parwal-1, Rajendra parwal-2, FP1 and 3

Jharkhand:

Urd: T 9, Pant U 19, 30, 35 and Birsa urd 1

Moong: Pusa Vishal, S M L 668, K 885, P S 16, Pant Moong 2 and P D M 11.

Arhar: Birsa Arhar (210 days), Bahar (240 Days) and ICPH 2671 (210 days),

Maize: short duration variety: Birsa Vikas Maize-2 and medium duration variety: Birsa Maize-1.

Madhya Pradesh

Gram: JG-130, JG-11, JG-315, JG-16

Wheat: Sujata, HW-2004, HI-1500

Winter Sugarcane: KJN 86-572, KJN 86-141

Green Pea: Arkel, PSM-3, Jawahar Pea 1, Jawahar Pea 2

Chickpea: J.G-11, J.G-74

Chhattisgarh

Gram: JG-16, JG-11, JG-74, Vaibhav

Linseed: RLC-92, Indira-32

Wheat: GW-273, Lok-1

Mustard: Pusa Bold

Jammu & Kashmir

Berseem: Mescavi, Pusa Giant, BL-1 and Vardan

Uttarakhand

Pea: VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel

Potato: Kufri- Jyoti, Ashok, Anand

Toria : Pant Toria-30, 303, 507 or local varieties.

Himachal Pradesh

Peas: Palam Triloki, Arkel, VL-7 and Matar Ageta

Late variety of Cauliflower: broccoli

East Uttar Pradesh

Cabbage: Imprabad Japani, Pusa chipali and Pusa kartiki

Radish: Japani white, Pusa chetakij, Hisar Muli No.1 and kalyanpur-1

Toria: T-9, T-36, Pant -30,303, B-9

Potato: Kuferi - Chandramukhi, Bahar

Mustard: Basati, Maya, Kanti, Urvashi, Narendra, Swarna-8, Narendra Ageti-4

Ageti Matar: Kashi - Nandini, Uday, Mukti, Arkel, Azad-3

West Uttar Pradesh:

Toria: Sangam, TL-17, 67

Ageti matar: Azad P-3, Arkel

Maharashtra

Konkan

rabi groundnut: TG-26, TAG-24, TPG-41, Konkan Gaurav and Konkan Tapora.

Madhya Maharashtra

rabi jowar: Selection-3, Phule Mauli, Phule Anuradha in light soil, Phule Chitra, Maldandi-35-1 in medium soil and Phule Vasudha, Phule Yashodha in black soil

Safflower: Bhima or Phule Kusuma

Marathwada

Jowar: Parbhani Moti or Parbhani Jyoti.

Gujarat:

Pea: Pusa Pragati.

Carrot: Pusa Rudhira and Pusa Kesar.