

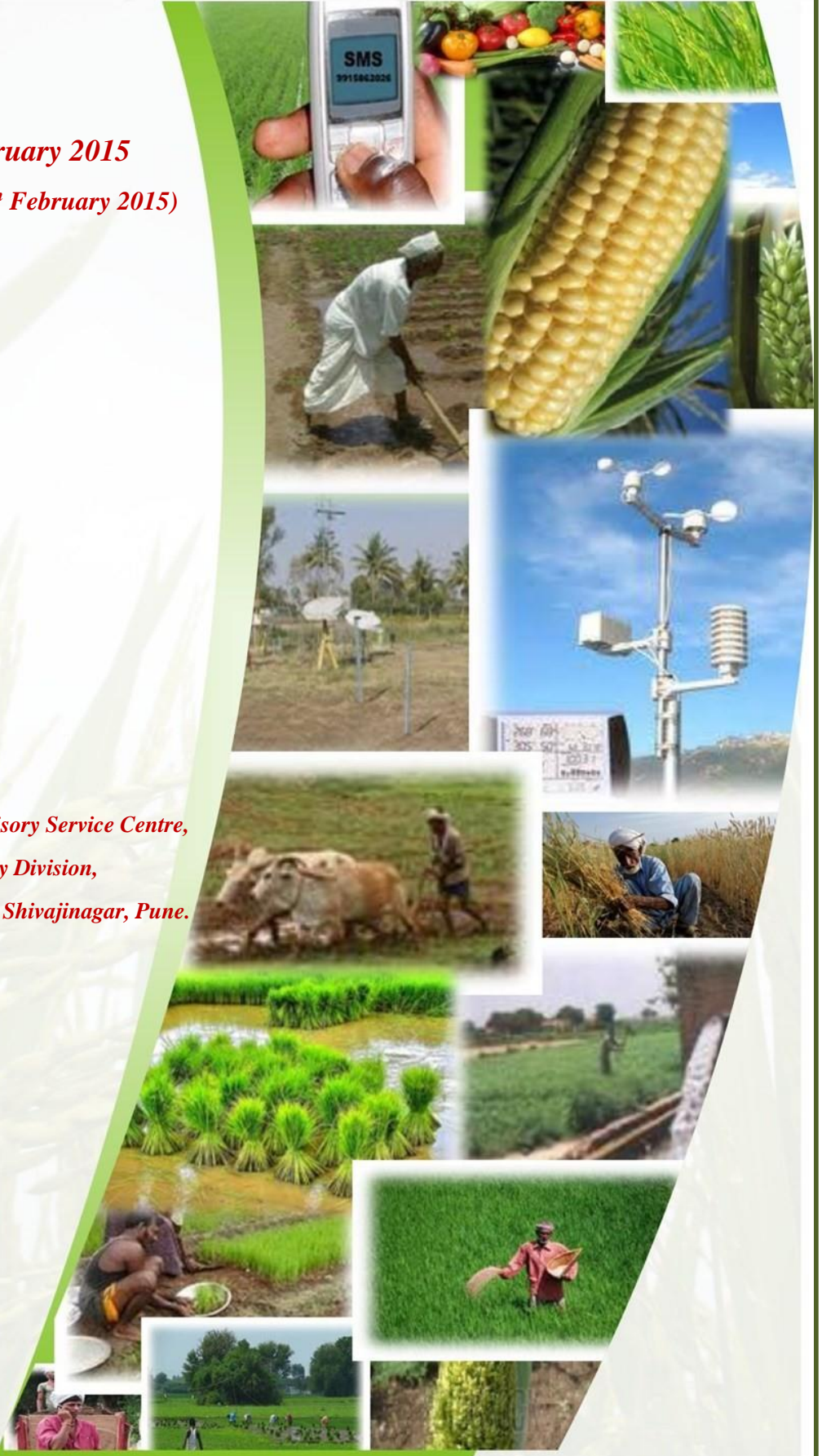
National Agromet Advisory Service Bulletin

Tuesday 3rd February 2015
(For the period 3rd to 6th February 2015)



Issued by

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



Realised Weather on 3rd February 2015

- **Significant Weather Observations:** Heavy rain/snowfall has occurred at isolated places over Jammu & Kashmir and Himachal Pradesh during past 24 hours.
- **Rainfall:** (From 0830 hours IST of yesterday to 0830 hours IST of today): Rain/snowfall has occurred at most places over Jammu & Kashmir and Himachal Pradesh and at many places over Uttarakhand. Rain/thundershower has occurred at many places over Punjab; at a few places over Andaman & Nicobar Islands and Haryana, Chandigarh & Delhi. Weather remained dry over rest of the country. The amounts of rainfall (1cm and more) recorded at 0830 hours IST of today are: Katra, Badarwaha & Kalpa 5 each; Qazigund, Batote, Jammu, Manali, Dharmsala & Banihal 4 each; Kukurnag 3; Pahalgam, Chandigarh, Solan, Shimla & Bhuntar 2 each and Kupwara, Gulmarg, Amritsar, Ludhiana, Tehri, Ambala, Nahan, Sundernagar and Una 1 each.
- **Temperature: Minimum temperatures** are below normal by 2-5°C at many places over West Bengal & Sikkim and Odisha; at a few places over Assam & Meghalaya, Jharkhand and Vidarbha; at isolated places over Chhattisgarh and Tamil Nadu. They are above normal by 2-5°C at most places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh; at many places over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Rajasthan, Madhya Pradesh and Gujarat; at a few places over Madhya Maharashtra and Marathwada; at isolated places over East Uttar Pradesh, Karnataka and Telangana and nearly normal over rest of the country.

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 6th February, 2015).

- Rain/snow would occur at most places over Jammu & Kashmir, Himachal Pradesh during next 24 hours and decreased thereafter.
- Rain/snow would occur at many places over Uttarakhand during next 24 hours; at a few places on 4th and dry weather would prevail thereafter.
- Rain/thundershowers would occur at many places over Punjab during next 24 hours; at isolated places on 4th and dry weather would prevail thereafter.
- Rain/thundershowers would occur at a few places over Haryana & Delhi during next 24 hours; at isolated places on 4th and dry weather would prevail thereafter.
- Rain/thundershowers would occur at isolated places over Rajasthan and West Madhya Pradesh, Saurashtra & Kutch during next 24 hours; over Uttar Pradesh during next 48 hours and dry weather would prevail thereafter.
- Dry weather would prevail over Tamil Nadu & Puducherry during next 24 hours; over Kerala and Andaman & Nicobar Islands during next 48 hours and rain/thundershowers would occur at isolated places thereafter.
- Dry weather would prevail over rest parts of the country during the period.
- Minimum temperatures would fall by 3-4°C and maximum temperatures would rise by 2-4°C over northwest India from 4th February.

Weather Warning during next 3 days

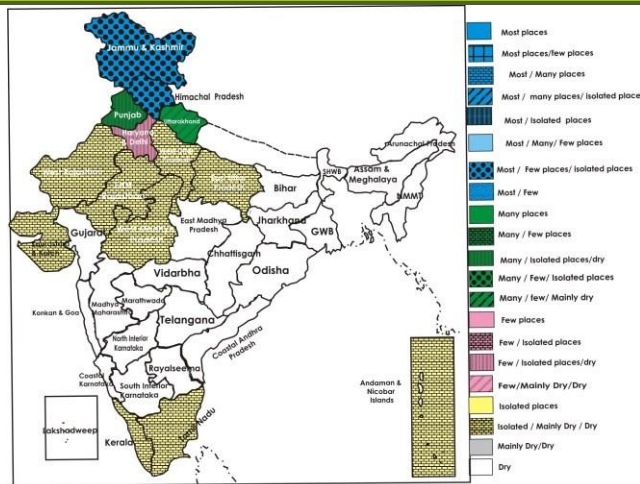
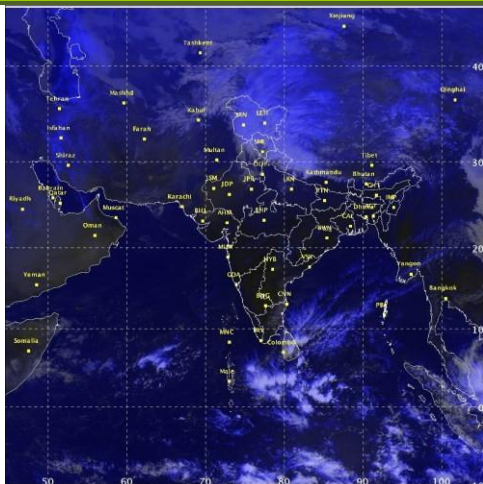
- **03 February (Day 1):** Heavy rain/ snowfall would occur at a few places over Jammu & Kashmir and Himachal Pradesh with isolated very heavy falls. Heavy rain/snowfall would occur at isolated places over Uttarakhand.
- **04 February (Day 2):** No weather warning.
- **05 February (Day 3):** No Weather Warning.

Weather Outlook for subsequent 4 days from 6th to 10th February, 2015

- A fresh Western Disturbance would affect Western Himalayan region from 7th February.
- Rain/thundershowers would occur at isolated to few places over extreme south peninsular India.

Satellite image dated, 03.02.2015, 0600 UTC

Weather Forecast Map (Valid upto 0830 hours of 6th February, 2015)



Salient Advisories

- As rain/ snowfall would occur at most places over **Jammu & Kashmir** and **Himachal Pradesh** along with isolated heavy to very heavy falls; rain/snowfall would occur at many places over **Uttarakhand** along with isolated heavy rain/snowfall at isolated places on 03rd February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers in the standing crops. Also provide adequate drainage in standing crops to remove excess water.
- As rain/thundershowers would occur at many places over **Punjab** on 03rd February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.

Detailed Zonewise Agromet Advisories

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



Sorghum



Sugarcane



Chilli



Rice Transplanting

- Realised Weather:** Weather remained dry over the region. Minimum temperatures are below normal by 2-5°C at isolated places over Tamil Nadu. They are above normal by 2-5°C at isolated places over Karnataka and Telangana and nearly normal over rest of the region.
- Weather Forecast:** Dry weather would prevail over Tamil Nadu & Puducherry during next 24 hours; over Kerala 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.
- Weather Warning:** Nil
- Weather Outlook:** Rain/thundershowers would occur at isolated to few places over extreme south peninsular India.
- Advisories:**
 - Andhra Pradesh:**
 - Complete harvesting of red gram and Bengal gram in the Scarce Rainfall Zone.
 - Complete harvesting of sugarcane and undertake spraying of Propiconazole @ 1 ml/litre of water on sugarcane immediately after stubble shaving against smut disease in ratoon crop in the North Coastal Zone.
 - As dry weather prevailing, apply light and frequent irrigations to mango crop to get synchronised flowering in the Southern Zone.
 - In the Scarce Rainfall Zone, prevailing dry weather conditions are congenial for incidence of mango hoppers. For control, undertake spraying of Dichlorvos @ 0.5 ml/ litre or Carbaryl @ 3g/ litre of water in the early stages

of flowering and Monocrotophos @ 1.6-2 ml/litre of water at the time of flowering.

- Prevailing dry weather is congenial for incidence of stem borer in maize in the Southern Zone. To control, apply Carbofuron granules @ 3 kilo/acre 12-13 days of sowing and Monocrotophos @ 1.6 ml or Carbaryl @ 3 g/litre of water at later stage with 15 days interval.

▪ **Telangana:**

- In Telangana, as dry weather is prevailing, apply irrigation in rice nurseries.
- Prevailing dry weather condition is congenial for incidence of jassid, leaf miner and tikka leaf spot in groundnut in the Southern Telangana Zone. Spray Dimethoate @ 2 ml or Monocrotophos @ 1.6 ml per litre of water to manage jassid, Quinolphos @ 2 ml per litre of water to manage leaf miner and Mancozeb @ 2g + Carbendazim @ 1g per litre of water to manage tikka leaf spot.

▪ **Karnataka:**

- Continue planting of sugarcane in North Transition and North East Transition Zone after proper set treatment and harvest early sown Bengal gram and pigeon pea in the North East Transition Zone.
- Continue sowing of sunflower, maize, groundnut and ragi in the Eastern Dry Zone.
- As dry weather is prevailing, apply irrigation to wheat and summer groundnut. Continue planting of sugarcane and harvesting of red gram, Bengal gram and safflower in the North East Dry Zone.
- As dry weather is prevailing, continue harvesting of red gram in Southern Transition Zone.
- Provide irrigation to mango and summer groundnut due to prevailing dry weather in the North East Dry Zone.
- Undertake spraying of Indoxicarb @ 0.3 ml or Carbaryl @ 4 g or Rynaxiphyr @ 0.5 ml in one litre of water to manage pod borer pest in chickpea in the North Transition Zone.

▪ **Kerala:**

- Undertake mulching with crop residue and dried leaves in coconut, banana and nutmeg fields to reduce evapotranspiration in the Problem Area Zone.
- Prevailing dry and humid weather is congenial for incidences of brown spot and sheath blight on rice in the Problem Area Zone. Spray Mancozeb @ 2kg/ha to manage brown spot and Propiconazole @500ml/ha to manage sheath blight.
- Due to increase in temperature, attack of insects such as aphids, white flies, hoppers, etc. will be more in vegetables in the Central Zone. For control, apply Verticillium or Metarhizium @5 g / litre of water.

▪ **Tamil Nadu:**

- Continue sowing of rice fallow pulses under waxy condition in *samba* rice fields under rice fallow condition in the Cauvery Delta Zone.
- Undertake spraying of Monocrotophos 36 WSC @ 1 ml/litre of water, uproot and burn infected trees to control stem weevil (*Odoiporus longicollis*) in banana in the Western Zone.
- As mainly dry weather would prevail, provide irrigation to sugarcane in the tillering stage in the South Zone. Undertake sowing of green gram under irrigated conditions.
- Suitable varieties are given in Annexure I.

• **Animal Husbandry**

- Undertake preventive measures to protect animals from Anthrax disease which was observed in few parts of Anantapur district in the Scarce Rainfall Zone.

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



Rice transplanting



Mustard



Potato



Cabbage

- **Realised Weather:** Weather remained dry over the region. Minimum temperatures are below normal by 2-5°C at a few places over Assam & Meghalaya and nearly normal over rest of the region.
- **Weather Forecast:** Dry weather would prevail over the region during the period.
- **Weather Warning:** Nil.
- **Advisories:**
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - In Assam, continue transplanting of *boro* rice of about 45 days old (5- 6 leave stage) seedlings. Maintain 6 cm of standing water in the main fields of transplanted *boro* rice. Continue gap filling in *boro* rice after 10-15 days after transplanting.
 - In Lower Bramhaputra Valley Zone of Assam, continue sowing of sunflower. Undertake land preparation for

- planting of sugarcane in upland area. Apply irrigation to *rabi* maize, lentil, rapeseed & mustard.
- In Central Brahmaputra Valley Zone of Assam, continue land preparation for sowing of summer green gram, black gram and pointed gourd.
- In Hill Zone of Assam, due to humid weather, late blight and leaf eating caterpillars may be found in tomato and cole crops. Apply Ridomil MZ-72 @2g/ lit and Indofil M-45 2.5g / lit at 15 days interval to protect late blight and spray Malathion 50 EC @ 1.5 ml/litre against caterpillars.
- In Meghalaya, complete transplanting of *boro* rice. Gap filling with seedlings of similar age should be done within 7-10 days of transplanting. Apply irrigation to mustard / rapeseed at flowering stage and cole crops. Also prepare basin around plants of khasi mandarin followed by mulching with local grasses and apply irrigation at 15-20 days interval to avoid moisture stress.
- In Barak Valley Zone of Assam, apply Furadon @ 2.5 g/plant at 20 days after transplanting to control fruit and shoot borer and stem borer of brinjal. Undertake soil drenching of Streptocycline @ 6 g/20 litre of water for effective control of wilting in brinjal.
- In Central Brahmaputra Valley Zone and North Bank Plain Zone of Assam, humid and foggy weather are congenial for wilt in lentil, linseed and khesari crops. Drench the soil with Bavistin @ 1ml/litre of water.
- In Meghalaya, due to humid weather, there is chance of attack of blast /brown spot disease in *boro* rice and also aphids may be found in mustard and rapeseed. Spray Carbendazim @ 1g/litre of water against blast/brown spot and spray Chlorpyrifos 20 EC or Dimethoate 30 EC @ 2 ml/lit of water to control the aphids.
- **Nagaland, Manipur, Mizoram and Tripura:**
 - In Mizoram, apply irrigation to mustard, toria, banana, brinjal, early cole crops, pea and tomato.
 - In Manipur, continue sowing of rice under irrigation.
 - In Nagaland, apply light irrigation in toria and pea. Apply mulching in vegetables and cole crops.
 - In Mild Tropical Plain Zone of Tripura, apply light irrigation on every alternate day in cole crops, mustard, maize and lentil. Undertake mulching after irrigation to conserve moisture. Continue transplanting of *boro* rice and nursery preparation for summer brinjal and tomato.
 - In Tripura, due to the prevailing foggy weather condition, there may be infestation of early blight in potato. Apply Cymoxanil+ Mancozeb or Metalaxyl+ Mancozeb @ 1.5 g per litre of water for control of early blight. Also due to humid weather, there is chance of attack of aphids in mustard. Spray Monocrotophos or Imidachloprid @ 2ml per litre of water to manage the attack.
 - In Nagaland, humid and foggy weather is favourable for occurrence of Pseudostem Weevil in banana. Remove the dried and diseased leaves and kill the weevil.
 - In Mizoram, due to foggy weather condition, there is chance of infestation of aphids in pea. For control, apply Imidachloprid @ 1.5 ml/litre of water.
 - Suitable varieties are given in Annexure I.
- **Animal Husbandry**
 - In Northeastern States, provide artificial heating through lighting of electric bulb to protect poultry birds (upto 25 days old) from low temperature. Cover poultry and pig house with gunny bags/ polythene sheet to protect the animals from cold. During this period vaccinate poultry birds against *Ranikhet* disease.
 - In Barak Valley Zone of Assam, prevailing cold weather is favourable for attack of pneumonia in newly born chicks. Special care must be taken against pneumonia.
- **Fishery**
 - During winter season, apply Potash @ 4-5 mg/litre of water / Sukrena WS @ 1 litre per bigha of water / lime in required doses to protect the fish population against various bacterial diseases in Lower, Central and Upper Brahmaputra Valley Zone and North Bank Plain Zone of Assam.

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



Sugarcane



Wheat



Rice transplanting



Onion

- **Realised Weather:** Rain/thundershower has occurred at a few places over Andaman & Nicobar Islands. Weather remained dry over rest of the region. Minimum temperatures are below normal by 2-5°C at many places over West Bengal & Sikkim and Odisha; at a few places over Jharkhand and nearly normal over rest of the region.

- **Weather Forecast:** Dry weather would prevail over Andaman & Nicobar Islands 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.
- **Weather Warning:** Nil
- **Advisories:**
 - **West Bengal:**
 - In Old Alluvial and Terai Zone, continue transplanting of *boro* rice.
 - Due to high humidity and foggy weather, there are chances of attack of aphids and diamond back moth in vegetables during its fruiting stage in Hill Zone. To control aphids, apply Imidacloprid @ 1ml/4 litres of water and for control of diamond back moth, apply Lambda Cyhalothrin @ 10 ml/15 litres of water.
 - In Coastal Saline Zone of West Bengal, due to high humidity, there is chance of aphids in mustard and late blight in potato. For control of aphids, spray Dimethoate @ 1.5 ml/liter of water and for late blight, spray mixture of Metasistox @ 1.5 ml and Copper Oxichloride @ 4 g/ liter of water.
 - In Old Alluvial Zone and Terai Zone, due to low temperature and foggy weather, there is chance of attack of late blight in potato. For control, spray Mancozeb @ 2 g /litre of water and Blitox @ 4 g/litre of water alternately at 7-10 days interval by completely wetting the leaves.
 - In New Alluvial Zone, Laterite and Red Soil Zone, humid weather condition is favourable for attack of aphids in mustard, late and early blight in potato and leaf-blight infestation in chilli. For control of aphids, apply Imidacloprid 17.8 SL @ 3 ml /10 litres of water or Quinalphos 25 EC @ 2 ml/ litres of water and for early blight, spray Blitox or Mancozeb @ 2.5g / liter of water at an interval of 5-7 days. For leaf-blight, apply Blitox @ 2.5 to 3 g/ litre water and repeat at an interval of 20 days.
 - **Andaman and Nicobar Islands:**
 - In North and Middle Andaman districts, due to cloudy weather, fruit and shoot borer may be found in brinjal during its fruiting stage. To control, spray Carbaryl @ 2g/litre of water.
 - **Odisha:**
 - In Western Undulating Zone of Odisha, as dry weather is prevailing, apply irrigation to vegetables and onion. Undertake harvesting of matured cotton, sugarcane, arhar and niger. Complete nursery sowing for summer rice. Start field preparation for planting of sugarcane.
 - In East and South Eastern Coastal Plain Zone, continue nursery sowing of rice. Continue sowing of sunflower and groundnut. Continue nursery sowing of ragi. Continue planting of sugarcane.
 - In North Eastern Plateau Zone of Odisha, as dry weather is prevailing, apply irrigation in rice nursery. Undertake land preparation for transplanting of rice.
 - In North Eastern Coastal Plain Zone of Odisha, as dry weather is prevailing, apply irrigation to rapeseed and mustard which are at flowering stage.
 - In East and South Eastern Coastal Plain Zone of Odisha, cold and cloudy weather favours the infestation of powdery mildew and aphids in green gram, black gram and pea. To control powdery mildew, spray Sulfex WP @ 1 kg in 200 litres of water per acre and to control aphids, spray Imidacloprid @ 50 ml in 200 litre water per acre.
 - In North Eastern Coastal Plain Zone of Odisha, rise in temperature will favour the growth of stem borer population in rice nurseries. To control it, spray Traizophos or Chloropyriphos @ 2ml/litre of water.
 - In North Eastern Plateau Zone of Odisha, due to cool weather, there is chance of powdery mildew in pulses, spray wettable Sulphur @ 1 kg per acre.
 - **Bihar:**
 - In South Bihar Alluvial Zone, as dry weather is prevailing, continue plucking of matured pods of pea. Continue harvesting of early sown potato, stop irrigation 15 days before harvesting.
 - In North West Alluvial Plain Zone of Bihar, continue transplanting of *rabi* onion. Undertake raising of seedling of early cucurbitaceous crop, tomato, brinjal and chilli in small polythene bags in poly houses.
 - In North East Alluvial Zone of Bihar, continue transplanting of onion and planting of spring sugarcane. Continue preparation of seedling of chili, tomato and brinjal in poly house. Undertake transplanting of *boro* rice and nursery sowing of summer rice. Undertake harvesting of early sown potato.
 - In North West Alluvial Plain Zone of Bihar, due to humid weather there is a chance of white rust in mustard/rapeseed, spray Chlorothalonil 75 WP @ 1 g/ litre of water.
 - In South Bihar Alluvial Zone, cool and humid weather is favourable for the attack of aphids in mustard/toria, spray Cartap Hydrochloride or Metasystox or rogor @ 1.5 ml/litre of water.
 - **Jharkhand:**
 - In Western Plateau Zone, continue nursery sowing of summer rice and harvesting of timely sown potato. Undertake sowing of cucurbitaceous vegetables like sponge gourd, bottle gourd, pumpkin, water melon, musk melon etc. Farmers, who have already raised the seedlings in polythene bag, may transplant the seedlings in the main field @ 2-3 seedlings per pit. Apply light irrigation after transplanting of seedlings. Undertake harvesting of matured rapeseed.
 - In South Eastern Plateau Zone of Jharkhand, apply irrigation in wheat, mustard, field pea and potato. Continue nursery sowing of summer rice. Undertake nursery sowing of vegetables like bottle gourd, khira, kakri, sponge gourd, ridge gourd, bitter gourd, okra, brinjal and Shimla mirch.

- In Central & North Eastern Plateau Zone of Jharkhand, continue land preparation for sowing of vegetables like long gourd, round gourd, bitter gourd, sponge gourd, cucumber, water melon and musk melon. Continue nursery sowing of summer rice. Continue transplanting of onion. Continue harvesting of matured potato.
- In Central & North Eastern Plateau Zone of Jharkhand, cool and dry weather is favourable for incidence of powdery mildew disease in pea. To control it, spray Kairathen @ 1 ml or Sulfex @ 3 ml per litre of water.
- In South Eastern Plateau Zone of Jharkhand, cool and humid weather in the morning and later on clear sunny weather is favourable for the attack of aphids in mustard/toria, spray Methyl Demitone or roger (Dimethoate) @ 1ml per liter mixed with teepol @ 5 ml per liter. Also decreased sunshine hours with high humidity is congenial for the attack of diamond back moth, aphids and thrips in cole crops and tomato, spray Dimethoate (30%) @ 1 ml per litres of water to control the attack.
- Suitable varieties are given in Annexure I.
- **Animal Husbandry**
- In Bihar and Jharkhand it is advised to keep the animals inside the sheds and provide dry bedding and use heaters inside cattle sheds to protect them from cold. Increase protein level and minerals in the feed concentrate to cattle.
- **Poultry**
- In North East Alluvial Zone of Bihar, provide warmth through lighting of electric bulbs and cover poultry house with gunny bags/ polythene sheets to protect the birds from cold.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane



Wheat



Mustard



Onion

- **Realised Weather:** Weather remained dry over the region. Minimum temperatures are below normal by 2-5°C at isolated places over Chhattisgarh. They are above normal by 2-5°C at many places over Madhya Pradesh.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over West Madhya Pradesh during next 24 hours and dry weather would prevail thereafter. Dry weather would prevail over rest parts of the region during the period.
- **Weather Warning:** Nil.
- **Advisories:**
 - **Madhya Pradesh:**
 - Continue picking up of matured vegetables like pea, tomato, brinjal, chilli etc. in Vindya Plateau Zone and Nimar Valley Zone.
 - Undertake picking up of matured vegetables and transplanting of cabbage and cauliflower in main fields in Kymore Plateau and Satpura Hill Zone.
 - Undertake weeding and hoeing in onion and garlic in Bundelkhand Zone.
 - Due to cloudy weather, there are chances of attack of sucking pests in vegetables in Jhabua Hill Zone; spray Thiomithaxam @ 0.35 g per litre of water.
 - Due to cloudy and foggy weather there are chances of leaf blight disease in mustard in Satpura Plateau Zone and Bundelkhand Zone; spray Dimethoate 30 E.C. @ 2.0 ml. per litre of water.
 - **Chhattisgarh:**
 - As dry weather would prevail, continue digging of matured potato and continue harvesting of matured onion in Bastar Plateau Zone. Undertake land preparation for sowing of cucurbitaceous crops.
 - Continue land preparation for transplanting of summer rice and sowing of cowpea and okra in Chhattisgarh Plain Zone and North Hill Zone. Undertake intercultural operations in sugarcane and sowing of cucurbitaceous crops and leafy vegetables.
 - Due to cloudy weather, there is chance of attack of powdery mildew in pea in Chhattisgarh Plain Zone; spray Sulfex @ 3 g /liter of water.
 - Due to increase in temperature, there are chances of attack of aphids in mustard in Chhattisgarh Plain Zone. For control spray Dimethoate 30 EC @1000 ml/hectare.
- **Animal Husbandry**
- Provide green fodder along with mineral mixture and fresh water for milch animals in Madhya Pradesh. Increase light duration in poultry farms.

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



Wheat



Sugarcane



Mustard



Cabbage

- **Realised Weather:** Heavy rain/snowfall has occurred at isolated places over Jammu & Kashmir and Himachal Pradesh during past 24 hours. Rain/snowfall has occurred at most places over Jammu & Kashmir and Himachal Pradesh and at many places over Uttarakhand. Rain/thundershower has occurred at many places over Punjab; at a few places over Haryana, Chandigarh & Delhi. Weather remained dry over rest of the region. Minimum temperatures are above normal by 2-5°C at most places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh; at many places over Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Rajasthan; at isolated places over East Uttar Pradesh.
- **Weather Forecast:** Rain/snow would occur at most places over Jammu & Kashmir, Himachal Pradesh during next 24 hours and decreased thereafter. Rain/snow would occur at many places over Uttarakhand during next 24 hours; at a few places on 4th and dry weather would prevail thereafter. Rain/thundershowers would occur at many places over Punjab during next 24 hours; at isolated places on 4th and dry weather would prevail thereafter. Rain/thundershowers would occur at a few places over Haryana & Delhi during next 24 hours; at isolated places on 4th and dry weather would prevail thereafter. Rain/thundershowers would occur at isolated places over Rajasthan during next 24 hours and dry weather would prevail thereafter.
Minimum temperatures would fall by 3-4°C and maximum temperatures would rise by 2-4°C over northwest India from 4th February.
- **Weather Warning:** Heavy rain/ snowfall would occur at a few places over Jammu & Kashmir and Himachal Pradesh with isolated very heavy falls on 03rd February. Heavy rain/snowfall would occur at isolated places over Uttarakhand on 03rd February.
- **Weather Outlook:** A fresh Western Disturbance would affect Western Himalayan region from 7th February.
- **Advisories:**
 - As rain/ snowfall would occur at most places over Jammu & Kashmir and Himachal Pradesh along with isolated heavy to very heavy falls; rain/snowfall would occur at many places over Uttarakhand along with isolated heavy rain/snowfall at isolated places on 03rd February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers in the standing crops. Also provide adequate drainage in standing crops to remove excess water.
 - **Jammu & Kashmir:**
 - In Cold Arid Zone of Jammu & Kashmir, continue direct sowing of turnip, coriander and radish in Green Houses. Also keep the trenches covered with UV film to avoid heat loss due to sudden temperature dip (< -15°C). An additional layer of black polythene from sunset to sunrise also will be beneficial for standing crops.
 - In Sub Tropical and Intermediate Zone of Jammu & Kashmir, due to cold and humid weather there may be attack of yellow rust in wheat crop. Spray Dimethoate @ 0.03% to control aphid attack and apply Propiconazole @ 1 ml/litre of water to manage yellow rust after current spells of rain.
 - Due to low temperature and humid weather condition, there may be incidence of yellow rust & loose smut diseases in wheat in Intermediate Zone of Jammu & Kashmir. Prophylactic spray Tebuconazole 25 EC (Folicur) or Propiconazole (Tilt) 25 EC @ 0.1 % (1ml/litre) after current spells of rain. Repeat the spray after 10-15 days interval if the disease persists.
 - **Uttarakhand:**
 - In Bhabar and Tarai Zone of Uttarakhand, undertake nursery sowing of tomato and continue sowing of capsicum after current spells of heavy rain
 - Due to humid weather with low temperature, there is attack of leaf hopper in brinjal, and tomato in Sub humid Sub Tropic Zone of Uttarakhand. To control, apply Dichlorvas @ 1ml/litre of water after current spells of rain.
 - In Hill Zone, due to prevailing cold weather condition, there are chances of attack of Mau in toria. For control, spray Neem oil @ 5 ml per litre of water after current spells of rain and repeat at 10 days interval.
 - In Bhabar and Tarai Zone of Uttarakhand, due to cold weather conditions, there is chance of incidence of aphids in mustard. If the population of these insects is 8 insects per plant then spray Metasystox @250 ml dissolved in 250 litre of water per acre crop area during afternoon hours after current spells of rain.

▪ **Rajasthan:**

- In Semi Arid Eastern Plain Zone of Rajasthan, continue land preparation for sowing of early cucurbits like muskmelon, watermelon, ridge gourds, bitter gourds, round gourd etc.
- Undertake field preparation for sowing of summer groundnut in Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan.
- Due to cloudy weather, there are chances of attack of downy mildew in *rabi* onion in Semi Arid Eastern Plain Zone of Rajasthan. To control, spray Mencozeb @ 2 gm per litre water. Also blight disease may attack cumin, coriander, fenugreek & saunf crops, to control spray Mancozeb @ 2 g or Copper Oxychloride @ 3 g or Diphenconazole (score 25 E.C.) @ 0.5 ml per litre water.
- Due to cool and humid weather conditions there are chances of thrips and aphids attack in brinjal, tomato and chilli in Flood Prone Eastern Plain Zone; to control, spray Malathion @ 0.1% at 10 day interval.
- Due to cloudy weather condition, there is chance of attack of blight in mustard in Arid Western Plain Zone of Rajasthan. To control, spray Mancozeb @ 2 g/ litre of water.
- In Southern Humid Plain Zone of Rajasthan, due to cool and humidity weather conditions, there are chances of attack of aphids in gram. To control, apply Malathion 5% or Carbaryl 5% @ 20-25 kg/ha or spray Dimethoate 30 EC @ 875 ml/ha.

▪ **Himachal Pradesh:**

- In Mid Hills Sub-Humid Zone, continue transplanting of late season cauliflower (Pusa-snowball) and cabbage and planting of onion at a distance of 15x10cm after current spells of heavy rain.
- Under prevailing low temperature and cloudy weather condition, there are chances of occurrence of Downy mildew in cruciferous vegetable in Sub-Montane and Low Hills Sub-Humid Tropical Zone. For control, spray Redomil M-Z @ 25 g/litre of water and repeat at 15 days interval. Also there are chances of attack of aphids in mustard and gobhi-sarson and powdery mildew in peas. Spray Cypermethrin or Metasystax @ 750ml/750 litres of water/ha to manage aphids. For control of powdery mildew in peas, spray Celfex @ 25g or Karathane @ 5 ml per 10 litres of water after current spells of rain.
- Under prevailing low temperature and cloudy weather condition, there is chance of attack of woolly apple aphid in apple orchards in Mid Hills Sub-Humid Zone. Spray Thiamethoxam (Ektara) @ 100g or Carbosulfan (Marshal) @ 100ml or Chlorpyrifos (Durmet) @ 200ml per 100 litres of water and for control of attack of aphids in vegetables, spray Methyl Demeton (Metasystax) @ 10ml/10litres of water after current spells of rain.
- Under low temperature condition, there are chances of incidence of collar rot in apple in Mild Hills Sub Humid Zone. For control, spray Ridomil @ 75 g per 20 litres of water or Bavistin @ 15-20g/20 litres of water or Dithane-M-45 @ 90-100g/15 litres of water after current spells of rain.

▪ **Punjab, Haryana and Delhi:**

- As rain/thundershowers would occur at many places over Punjab on 03rd February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- In Western Zone of Haryana, provide polythene sheet/Sarkanda/Kahi/ rice straw to protect the plants from cold/frost injury. Dwarf vegetable varieties can be protected from frost injury by covering with 100 gauge thick white plastic bags of 35 x 25 cm size.
- In Undulating Plain Zone of Punjab, apply light irrigation and cover the newly planted plants with thatches for protection from cold and apply light irrigation in mustard in the evening to protect from cold/frost injury.
- In Western Zone of Haryana, apply light and frequent irrigation to vegetables and young fruit plants to protect from cold and cover the young fruit plants with Bhusa /thatch to protect from cold weather.
- Due to foggy weather, constant monitoring of aphids in mustard in Western Semi-Arid Zone of Delhi. If the attack reaches above ETL, spray Dimethoate 30 EC or Quinalphos 25 EC @ 2.0 ml\ litre of water.
- Due to foggy weather, there is chance of incidence of late blight disease on potato and tomato in Western Zone and Undulating Plain Zone of Punjab. To control, spray Indofil-M-45/Kavach/Antracol @ 500-700 g/acre or Blitox @ 750-1000 g/acre using 250-350 litres of water/acre after current spells of rain.
- In Punjab and Western Semi-Arid Zone of Delhi, due to foggy weather, there is chance of incidence of yellow rust in wheat in the form of yellow powder/stripes on the leaves. The susceptible varieties are PBW-343, PBW-502, PBW-550, HPW-184, HPW-42, HS-240, HS-295, HS-420, UP-2328 and WL-711. Farmers are advised to monitor the crop and spray the fungicides Tilt (Propiconazole) 25 EC/folicure (Tebuconazole) 25 EC/Bayletan 25 WP @ 0.1% i.e. 30 ml or 30 g per 30 litres of water per kanal after current spells of rain and repeat the spray after 15 days interval.
- Due to foggy weather, there is chance of aphids in mustard/rapeseed in Western plain Zone of Punjab; spray Actara 25 WG @ 40 g or Metasystox 25 EC @ 400 ml in 80-125 litres of water/acre after current spells of rain.

▪ **Uttar Pradesh:**

- Undertake sowing of ladies finger and continue nursery sowing of tomato and chilli, sowing of summer maize, planting of sugarcane and transplanting of onion in Central plain Zone with available soil moisture. Undertake harvesting of winter sugarcane and normal sown potato.
- Continue land preparation for planting summer sugarcane and transplanting of onion (Pusa red) and sowing of urad and moong in Eastern Plain Zone.
- Undertake planting of onion and complete sowing of tomato, chilli and brinjal in Bundelkhand Zone. Undertake

top dressing of remaining half dose of nitrogen and urea in wheat. For control of weeds in wheat, apply Sulphuron Methyl 5% WG @ 40 g in 800 litres of water per hectare. Also undertake intercultural operations like weeding and hoeing in gram, pea, rajma, masoor crops.

- Foggy weather is conducive for the incidence of blight disease in tomato and potato in Central Plain Zone. For control of blight disease in tomato, spray Mancozeb 75 WP or Ridomil MZ-27 (64% Mancozeb + 8% Metalaxyl) @ 2g/litre followed by Dithane M-45 @ 2.5g/litre of water. For control of blight in potato, spray Cymoxanil+ Mancozeb or Metalaxyl+ Mancozeb @ 1.5g/litre of water.
- Under prevailing high humid condition, there is chance of incidence of leaf rot disease in wheat in Bundelkhand Zone. Spray Thiophanate Methyl WP 70% @ 700g or Ziram WP 80% or Mancozeb WP 75 @ 2kg/500 litres of water/ha. Under foggy weather condition, there is chance of powdery mildew in peas. For control, apply soluble Sulphur 80EC @2 kg or Tridemorph 80 EC @500ml/ha.
- Under foggy weather condition, there are chances of incidence of *Alternaria* blight in mustard and late blight in potato in North Eastern Plain Zone and Central Plain Zone. Spray Quinalphos @ 1g or Ridomil MZ @ 2 g/litre of water for control of *Alternaria* blight in mustard and for control of late blight in potato, spray Ridomil MZ @ 2g+ Coper Oxichloride @ 1g per litre of water. For control of attack of aphids in potato and mustard, spray Imidachloprid @ 1ml/litre of water.
- Under foggy weather condition, there is chance of attack of aphids in mustard in Western Plain Zone. For control, spray Metasystax @ 250 ml/250 litres of water.
- Suitable varieties are given in Annexure I.
- **Floriculture**
- Under prevailing low temperature, red scales are observed in roses in Sub-Montane and Low Hills Sub-Humid Zone of Himachal Pradesh. For control, spray Carbofuran @ 1 teaspoon per plant.
- **Apiculture**
- In view of prevailing low temperature, give winter packing immediately to bee colonies in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Check the colonies for nectar and give artificial food to honey bees as there is scarcity of flowers during these days. Keep colonies in sun on clear day.
- **Animal Husbandry**
- Due to prevailing low temperature in Punjab, Haryana & Delhi, East Rajasthan and Uttar Pradesh, keep cattle in cowsheds to protect them from cold. Also give 40-50g mineral mixture with the daily feed. Also make arrangements in poultry houses for protection of birds from cold. Due to light rain, there are chances of spread of H.S. (Haemorrhagic Septicemia or Gall Ghotu) in cattle. Vaccinate the animals.
- Due to prevailing low temperature in Western Zone of Haryana, cover the animal sheds and provide dry bedding during night. New born calves need special care, so provide them dry bedding and clothing (Jhull).

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Banana



Sugarcane



Sorghum



Mango

- **Realised Weather:** Weather remained dry over the region. Minimum temperatures are below normal by 2-5°C at a few places over Vidarbha. They are above normal by 2-5°C at many places over Gujarat; at a few places over Madhya Maharashtra and Marathwada and nearly normal over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Saurashtra & Kutch during next 24 hours and dry weather would prevail thereafter. Dry weather would prevail over rest parts of the region during the period.
- **Weather Warning:** Nil.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, as dry weather is likely to prevail, apply irrigation to groundnut (at 10 – 12 days interval) and vegetables. Apply fertilizers and undertake intercultural operations in groundnut, vegetable crops and mango and cashew orchards. Considering the rise in temperature apply 150 to 200 litres of water per mango tree at 15 days interval. Apply grass mulch in lateritic soil to avoid water loss. Complete transplanting of seedlings of *rabi* rice and finger millet. Maintain 2-3 cm transplanted rice field and finger millet for 8-10 days and maintain water level upto 5 cm at vegetative state.
 - In Madhya Maharashtra, as dry weather prevailed and dry weather is likely to continue during next three days, apply irrigation to vegetables, sugarcane, wheat, gram and pomegranate, banana orchards. Continue intercultural

operations like weeding and apply fertilizers in sugarcane and vegetables. Complete preparatory tillage and continue planting of *suru* sugarcane. As minimum temperature is prevailing around 15°C undertake sowing of summer groundnut. Also undertake the sowing of summer sunflower.

- In Marathwada, as dry weather prevailed during last week and dry weather is likely to prevail, apply irrigation in gram (pod development stage), wheat (booting stage) and vegetables. Apply irrigation to sugarcane by drip irrigation or by alternate furrow method due to water stress condition also apply mulch of crop residue or sugarcane trash to preserve moisture. Undertake intercultural operations in vegetables and sugarcane. Continue planting of *suru* sugarcane and summer okra.
- In Vidarbha, as dry weather is prevailing, apply irrigation to vegetables, gram (pod development stage) and wheat (booting stage). Complete transplanting of 30 -35 days old summer rice seedlings. Maintain 2-3 cm water level in transplanted rice field. As temperature is rising, complete preparatory tillage and undertake sowing of summer groundnut in Central Vidarbha zone. Undertake the planting of water melon and musk melon. Also undertake planting of summer okra. As temperature is prevailing around 10°C in parts of east Vidarbha, postpone the sowing of summer groundnut and summer moong.
- Due to cold and dry weather there may be incidence of rust in wheat in Central Vidarbha zone, spray Mancozeb @ 25 g per 10 litres of water.
- Prevailing partly cloudy weather in Marathwada region is favourable for attack of hopper in mango, spray Monocrotophos 36 EC @ 10 ml per 10 litres of water on whole tree.
- **Gujarat:**
 - Apply irrigation in castor (spike development stage) in Bhal and Coastal Zone of Gujarat. Harvest the matured bolls of cotton during early morning hours.
 - As dry weather is prevailing apply irrigation in wheat crop (milking stage) in Middle Gujarat Zone. Undertake land preparation for sowing of *summer* crops after harvesting cotton crop.
 - Continue land preparation for sowing of *summer* crops (groundnut, moong and pearl millet) in South Gujarat Heavy Rainfall Zone. Undertake transplanting of *summer* paddy.
 - In North Saurashtra Zone, keep inputs ready for summer sowing (sesame, groundnut and green gram). Apply irrigation in wheat (grain development stage), garlic and onion (bulb development stage).
 - As dry weather would prevail, apply irrigation in wheat (milking stage), mustard (pod development stage) and potato in North Gujarat Zone. Carry out intercultural operations and weeding in standing crops (wheat, mustard, cotton etc. Undertake harvesting of matured spikes of castor and continue picking of matured bolls of cotton during early morning hours. Prepare land for sowing of *summer* crops after harvesting cotton crop.
 - Rise in temperature is favourable for infestation of sucking pests in vegetables in South Gujarat Heavy Rainfall Zone; to manage the sucking pests, spray the crop with Dimethoate 30 EC @ 10 ml in 10 litres of water. Infestation of thrips in banana also increases due to rise in temperature; for control, spray the crop with Malathion 50 EC @ 20 ml in 10 litres of water.
 - Due to cold and humid weather there may be attack of powdery mildew in mango orchards (flowering stage) in South Gujarat Zone; spray wettable Sulphur @ 30 g per 10 litres of water for control.
 - Suitable varieties are given in Annexure I.
- **Animal Husbandry**
 - Keep young calves indoors during night time in Gujarat.

Annexure I List of varieties

Karnataka

Sunflower: Mordern, K.B.S.H-1, 41, 42 and 44

Maize: Ganga-11, Deccan-103, N.A.C-6002 & 6004, Nityashree

Groundnut: ICGS-11, K-134, Chintamani-2(KCH-2)

Ragi: Indaf-5, GPU-26 and 48

Sugar-cane: Co-86032, Co-94012

Assam

Boro rice: Mahsuri, IR-50, Dinanath, Bishnuprasad, Jyotiprasad, Kanaklata and Dinanat, Boro-1, -2, -3, Kalinga-3, Joymati, Dinanath, Swarnav.

Sunflower: Jwalamukhi.

Green gram: Pratap, T-44, Kopergaon, AAU-39, K-851 and ML-55.

Black gram: T-9, Pant-U-19, UG-157.

Odisha

Sunflower: Morden, Sunrise, Surya and Hybrid varieties like KBSH-1, KBSH-3 and MSFH.

Groundnut: Smruti, TAG-27, TAG – 24 and JL-24

Onion: Nasik Red, Patna Red, Pune Red, Bellary Red, Pusa Ratnar, Pusa Madhavi, Arka Niketan ,Arka Pragati

Ragi: HYVs. like Subhra, Vairabi, Dibyasingh, Nilachala, Subhra, Godavari and Chilka.

Bihar

Boro rice: Gutum, Prabhat, Richaria, Dhanlaxmi, Saroj Rajendra Bhagvati, and R.A.U

Jharkhand:

Summer Rice: IR-36, IR-64, Naveen, lalat, Parijat (80-85 days).

Jammu & Kashmir

Onion: Agrifound Parvati, Pusa red, N-53.

Uttarakhand

Tomato: VL Tomato-3, Pant T-3, Him Sona, Him Shikhar.

Capsicum: California Vander, Pus Dipti, Anupam. Heera, Indira, Supriya & Bharat.

Himachal Pradesh

Wheat: HPW-155, HPW-89, HPW-147, HPW-236, HPW-211 in low and mid hill and HPW-155, HPW-236, HPW-42 in high hill

Late variety of Cauliflower: broccoli

Cauliflower: Pusa-snowwall

Radish:Japanese white, Chinese pink and mino early white

Turnip: PTWG-1

Carrot: Pusa kesar

Fenugreek: I.C. 74, Kasoori

East Uttar Pradesh

Wheat: Narendra-1012, HD-2824, 2733, HP-1731, UP-2382, PWD-343, CVW-38, DBW-39, UO-2382, HUW-510

Wheat (Late varieties): Malaveey-234, HP-1633, H-1744, Narendra-1014, UP-2425

Onion: Pusa red, Kalynpur red, light red

Lentil: T-8, Pant L-406, 234

Chilli: Patasi-1, Jwala, Sadabahar

West Uttar Pradesh:

Wheat (non-irrigated): K-9644, Maghar(K-8027), Mandakini(K-9351), Indra(K-8962), Gomati(K-9465), HDR-77, HD-2888

Wheat (Irrigated): K-307, DBW-17, PBW-343,502,550, GW-366, K-1006, 607,402, DVW-39

KRL-210, 213, 19, K-8434(Prasad), NW-1067

Lentil: Narendra-1, DPL-62, Pant-5, L-4076, K-75, HUL-57, Shekhar-3, 2, IPL-81

Sunflower: No.1, PAC- 302, SH-322

Rajasthan

Groundnut: T.A.G.24, T.G.37A, G.G.2, D.H.86.

Maharashtra

Madhya Maharashtra

Groundnut: SB-11, JL-286, Phule Unati, TPG-41, TG-26 or JL-501.

Sunflower: SS-56, Modern, EC-68414 or bhanu and hybrid varieties like KBSH-1 or phule Raviraj or MSFH-17.

Marathwada

Jowar: Parbhani Moti or Parbhani Jyoti.

suru Sugarcane: CO-86032, COM- 7125, CO-8014 or CO-740

Okra: Parbhani Kranti

Vidarbha

Groundnut: TAG-24, TG-26 or SB-11.

Water Melon: Sugar baby, Arka Jyoti or Arka Manik.

Okra: Arka Anamika, Parbhani Kranti, Akola Bahar or Phule Utkarsha.