



राष्ट्रीय कृषि मौसम परामर्शी सेवाएं बुलेटिन National Agromet Advisory Services Bulletin

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आधारित/based on

विस्तारित अवधि मौसम पूर्वानुमान/Extended Range Weather Forecast (ERFS)

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जारीकर्ता/Issued by

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AICRP on Agro-Meteorology (AICRPAM)

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Central Research Institute for Dryland Agriculture (CRIDA)

भारतीय कृषि अनुसंधान परिषद

Indian Council of Agricultural Research (ICAR)

और

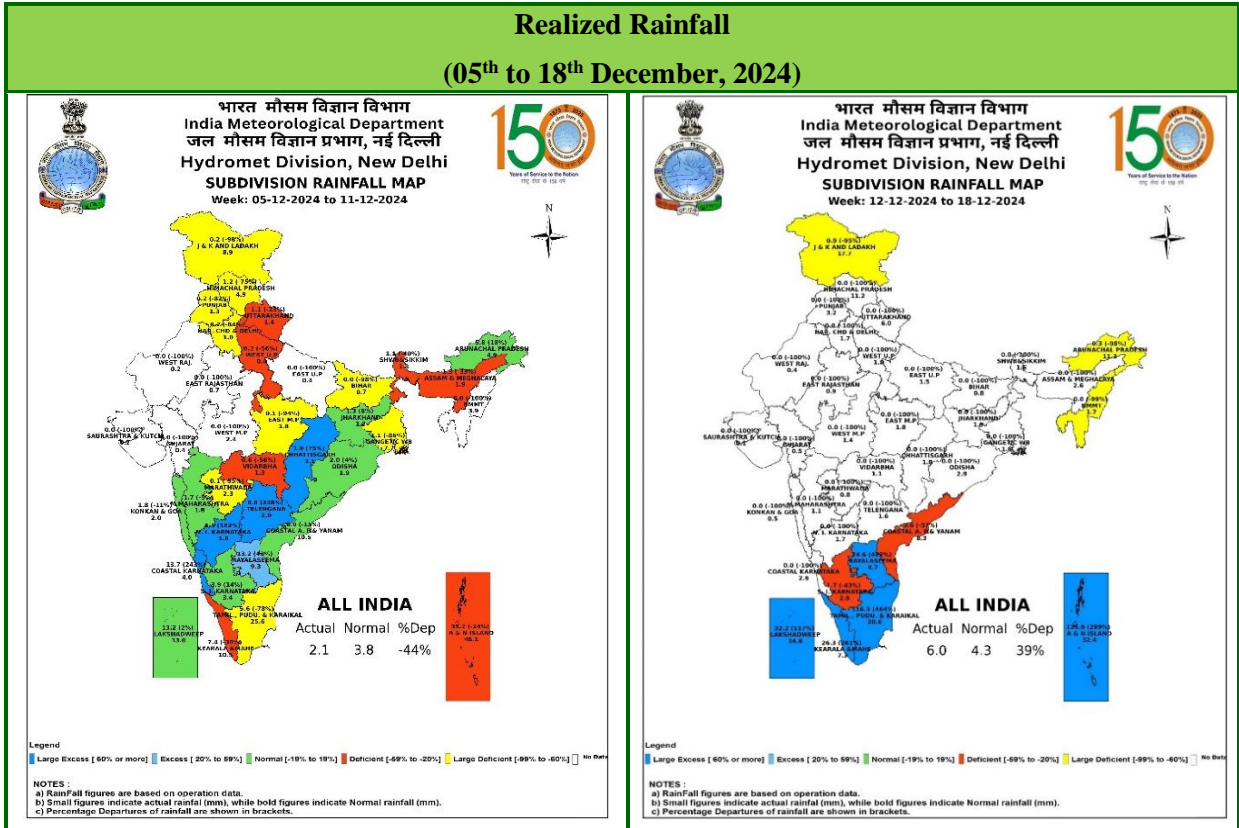
भारतीय मौसम विज्ञान विभाग

India Meteorological Department (IMD)

पृथ्वी प्रणाली विज्ञान संगठन

Earth System Science Organization

वास्तविक वर्षा तथा विस्तारित अवधि पूर्वानुमान
Realized Rainfall and Extended Range Forecast
 (वर्षा और तापमान)
 (Rainfall and Temperature)

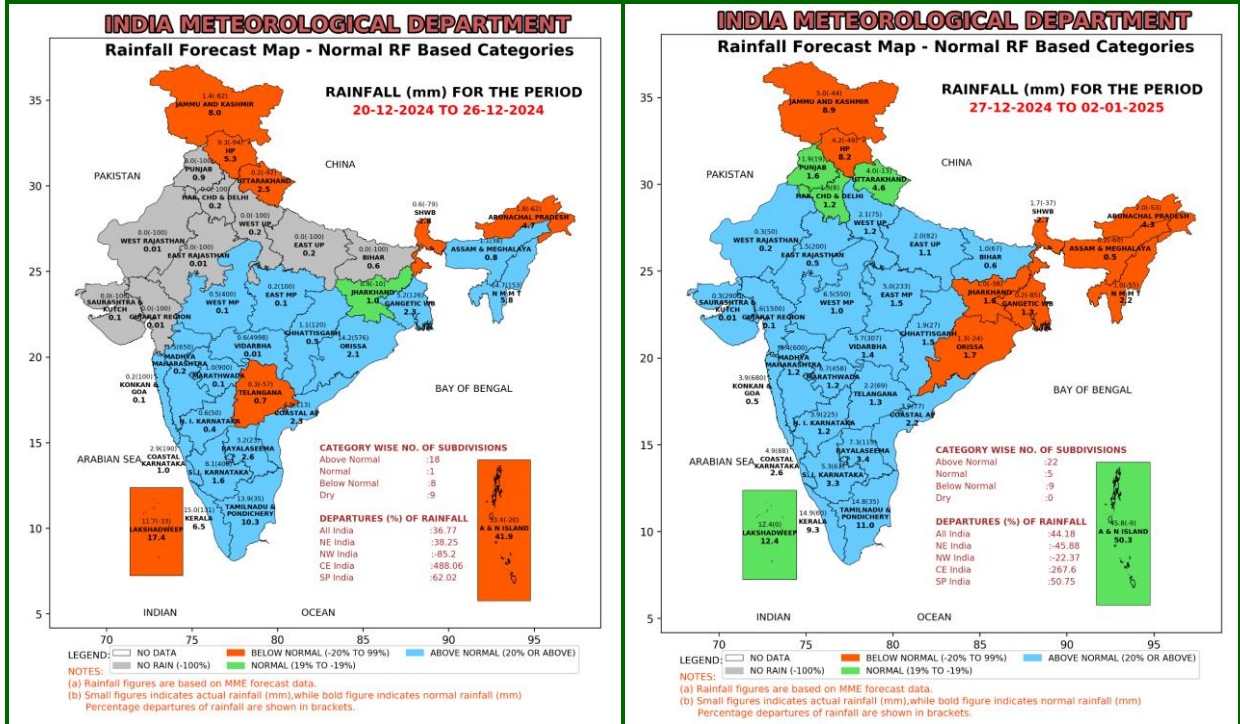


- Normal or above normal rainfall occurred in both the weeks over Rayalaseema and Lakshadweep.
- Normal or above normal rainfall occurred in either of the two weeks over Arunachal Pradesh, Jharkhand, Odisha, Konkan & Goa, Madhya Maharashtra, Chhattisgarh, Telangana, Coastal Andhra Pradesh & Yanam, Karnataka, Tamil Nadu Puducherry & Karaikal, Kerala & Mahe and Andaman & Nicobar Islands.
- Below Normal rainfall/no rain occurred in both the weeks over rest of the States & UTs.

Extended Range Forecast System

Rainfall forecast maps for the next 2 weeks (IC- 18th December, 2024)

(20th December, 2024 to 02nd January, 2025)

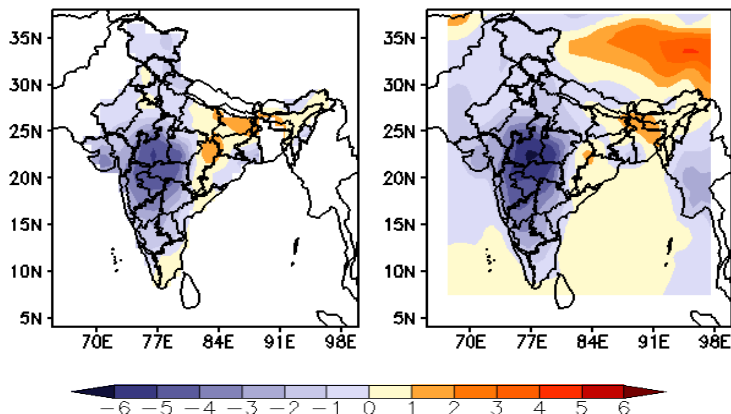


- **Week 1 (20.12.2024 to 26.12.2024):** Rainfall is likely to be above normal over Kerala, coastal Andhra Pradesh, coastal Odisha and some parts of Tamil Nadu and South Interior Karnataka.
- **Week 2 (27.12.2024 to 02.01.2025):** Rainfall is likely to be above normal over some parts of Maharashtra and West Madhya Pradesh and close to normal over rest of the country.

**Maximum and Minimum temperature anomaly ($^{\circ}$ C) forecast
for the next 2 weeks (IC- 18th December, 2024)
(20th December, 2024 to 02nd January, 2025)**

MME forecast Tmax anomaly (Deg C)

(Week1: 20Dec-26Dec) (Week2: 27Dec-02Jan)

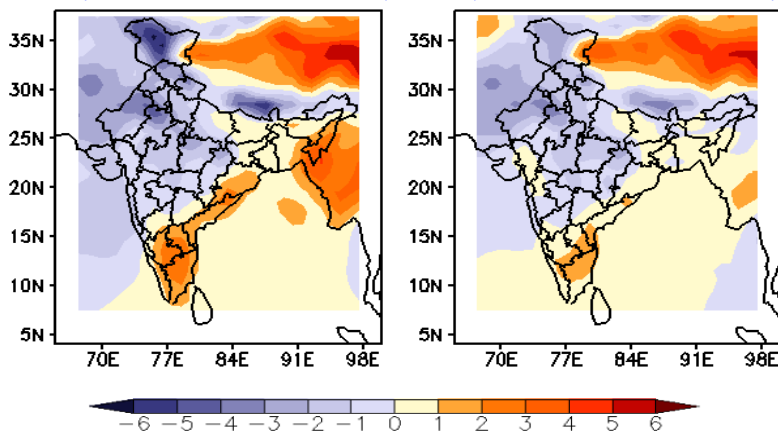


Maximum Temperature (Tmax)

- **Week 1 (20.12.2024 to 26.12.2024):** Maximum temperature is likely to be below normal over Central India, many parts of North West India, West India and some parts of South India. However, it is likely to be above normal over Chhattisgarh, Bihar, East Uttar Pradesh and some parts of North East India.
- **Week 2 (27.12.2024 to 02.01.2025):** Maximum temperature is likely to be below normal over most of the country. However, it is likely to be above normal over some parts of East India and North East India.

MME forecast Tmin anomaly (Deg C)

(Week1: 20Dec-26Dec) (Week2: 27Dec-02Jan)



Minimum Temperature (Tmin)

- **Week 1 (20.12.2024 to 26.12.2024):** Minimum temperature is likely to be below normal over North West India, Central India and West India. It is likely to be above normal over South India, East India and North East India.
- **Week 2 (27.12.2024 to 02.01.2025):** Minimum temperature is likely to be below normal over North West India, Central India and most parts of West India and above normal over South India.

Strategic Agricultural Planning based on rainfall till 23 December 2024

Agromet Advisories

Kerala

Kerala received rainfall of 484.9 mm (0% normal) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) is above normal rainfall for week 1 and week 2.

- There is a chance of Lakshmi disease in rice. To control this, spray 2-gram Copper hydroxide in one litre of water.
- To control bud rot in coconut, small-perforated sachets containing 2g of Mancozeb may be tied to the top of the leaf axil. When it rains a small quantity of fungicide is released from the sachets to the leaf base, thus protecting the palm.
- Ideal time for mulching arecanut, keeping the garden clean, and starting irrigation. Spray 0.2% Carbaryl in spindle bug-affected gardens.
- In rubber protect young leaves of budded seedlings from shedding due to fungal diseases spray a solution of Copper oxy chloride 4g in 1 litre of water.
- During high humidity, there is a chance of pollu disease in pepper plants. Control the shade in the garden and spray with 1% Bordeaux mixture.
- Take control measures only if the attack is seen (only if there is scraped marks on peduncle/pedicle of the panicle). If the attack is noticed spray quinalphos + mancozeb (@quinalphos 2ml + mancozeb 2g in one litre of water).
- There is a possibility of thrips infestation on chili plants. To control this, spray a mixture of 2% neem oil and garlic extract on the underside of the leaves at intervals of 10 days. If the infestation is severe, mix 3 ml of Imidacloprid in 10 litres of water and spray.

Tamil Nadu

Tamil Nadu received rainfall of 574.6 mm (34% excess) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) is above normal rainfall for week 1 and week 2.

- In rainfed crops, to prevent crop damage from continuous rainfall, farmers are advised to ensure proper drainage systems to avoid water stagnation in the fields.
- Farmers are advised to postpone the irrigation based on the crop requirement
- In Paddy (crop establishment), Maintain the water level to avoid crop damage and avoid application of fertilizer.
- In sorghum and maize, Continuous rainfall may affect the crop stand; hence farmers are requested to practice earth up and form new ridges to provide additional anchorage to the plants.
- Precaution may be taken to avoid water stagnation in the field. Postpone spraying; however, it may be practiced based on local weather conditions. Due to water stagnation, yellowing of leaves is noticed. Hence, foliar spray of 2% DAP + 1% KCl (MOP) or TNAU pulse wonder @ 2 kg/acre may be given.
- High wind speeds may damage the physical appearance of the crop. Hence, farmers are advised to practice propping. Earthing up should be practiced to avoid lodging in banana.

- Crop residue mulching may be done to reduce the soil erosion. Precaution may be taken to avoid water stagnation in the field. Immediate action for earth up and forms new ridges to avoid lodging of crops due to continuous rainfall.

Karnataka

South Interior Karnataka received rainfall of 283.1 mm (44% excess); Coastal Karnataka received 352.7 mm (34% excess) rainfall and 136.2 mm (5% normal) rainfall was received by North Interior Karnataka from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) is above normal rainfall over Coastal Karnataka, South Interior Karnataka, and North Interior Karnataka for week 1 and week 2.

South Interior Karnataka

- Right time for harvesting late Kharif and early Rabi crops
- The grains of the harvested crops should be properly dried by retaining moisture percentage of Cereals 11-12 %, Pulses-9%, Oilseeds-8%, and Vegetable seeds 5-6% for long storage & also minimizes the store pest damage.
- To protect the pulse grains from storage pests, apply oils Castor/ linseed/pongamia/neem oil @ 3-5 ml per kg of grains.
- Maintain optimum room temperature in the sericulture and poultry unit.
- To control aphids and whiteflies in Field beans and Cowpeas to spray Carbosulfan 25% EC @ 1.5 ml/litre of water.

North Interior Karnataka

- Weather is congenial for the occurrence of leaf reddening take up spraying of Magnesium Sulphate @ 10 gram per litre of water and 2% urea solution. Cotton picking may be taken up.
- As there is no chance of rain provide supplementary irrigation to the crop at grain filling stage. To manage Pod borer Spray 0.6 gram of Thiodicarb 75 WP or 2.0 ml of Profenophos 50 EC or 0.6 gram of methomyl 40 SP at the time of flowering and pod filling stage.
- Cut the matured cane. Do not burn the trash. Spread the trash in between the rows and apply 20 kg of Urea and 20 Kg of Superphosphate fertilizer per acre to it. After this, apply 2.5 Kg of trash-decomposing bacteria mixed in dung slurry to it. This will facilitate the trash's early decomposition.
- To manage pod borer in chickpea, spray Emamectin benzoate 5SG@0.4 grams or Indoxacarb 14.50 % SC@1ml per litre of water. Weather conditions are congenial for sucking pests in safflower, take up spraying of Thiamethoxam 25 WG @0.2 gram or Acephate 75 SP @1gram per litre of water. In maize for fall armyworm, spraying the crop with Emamectin benzoate5SG @0.4g/liter water is advised.

Andhra Pradesh

From 01 October to 22 December 2024, Coastal Andhra received 265.3 mm (-17% normal) and 333.1 mm (43% excess) of rainfall in the Rayalaseema region. The extended-range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) shows above-normal rainfall over Rayalaseema and Coastal Andhra Pradesh for week 1 and week 2.

- The Rabi groundnut crop is at the emergence to flowering stage. Farmers are advised to create stress during the vegetative stage and provide irrigation at 20-25 days after sowing for synchronous flowering and also suggested to apply gypsum @200 kg per acre at the maximum flowering stage followed by take-up hand weeding.
- Prevailing weather conditions are favorable for leaf minor incidence in groundnut. Farmers are advised to spray Oxydemeton-methyl 25 % EC@1ml or Methoxyfenozide 21.8 % w/w SC@1.5ml per litre of water.
- Fall armyworm incidence may occur in the maize crop at the vegetative stage. Go for release of Trichogramma @ 20,000 eggs/acre and spray neem oil @ 5ml/l to control egg masses and first instar larvae or spray chlorpyrifos @ 2ml/l and spray should be directed into whorls.
- In Godavari zone of A, P, the sugar cane crop is at grand growth to the harvesting stage. The current climatic conditions may increase the occurrence of aphids, which can spread the YLD disease. To manage the vector, spray dimethoate at a concentration of 2 mL/L. The rains may cause sugarcane to wilt. To control, and avoid waterlogging, remove and destroy any affected plants. To prevent it from spreading, spray the crop with 3 g/l COC (copper oxychloride).
- At present mango crop is at the flower bud initiation stage. To encourage uniform flowering, farmers are advised to spray potassium nitrate @10 g and boron @ 2 g per litter of water two times at 10 to 15 days intervals.
- Bengal gram crop is at the vegetative to bud development stage. Current weather conditions are congenial for Helicoverpa incidence in gram. For control, advised to spray Emamectin benzoate @ 0.4 g or Indoxacarb 14.50 % SC@1ml per litre of water. Present weather conditions are favorable for sucking pest incidence in mango. For control, full-grown trees, especially centre branches, have to be pruned to facilitate adequate light penetrance. Spray neem oil @ 5 ml per litre of water and based on the intensity of infestation spray systemic insecticides i.e., imidacloprid 17.8SL @ 0.3 ml or thiamethoxam @ 0.2 g per litter of water is recommended.

Odisha

Odisha received rainfall of 99.9 mm (-29% deficit) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) is above normal rainfall over Odisha for week 1 and below normal rainfall during week 2.

- Harvest the rice crop if 85 % of grains are matured in a panicle and stored in a safer place before rain.
- If threshing is not possible then cover the harvested paddy with polythene to keep it safe from rain.
- Make provision for draining out excess rainwater in late-duration rice crops by making alleys (Pahi) and keeping the drain ends open.
- After receding of rain water in case of lodging, tie the panicles of paddy in bundles and keep straight.
- Withhold application of fertilizers and pesticides for the time being.
- Make provision for draining out rain water from pulse crops. Keep the drain ends open.
- Harvest the mature vegetables.
- Make arrangements for covering plastic cover or polythene sheets for vegetable nurseries like tomato, chilli and brinjal.

- Keep the drainage channels open to drain out excess rainwater from vegetable crops.
- Provide staking to tomato plants.
- To manage wilt and rot disease in vegetable crops, drench the root zone with a solution of 1.5-gram Streptocycline and 20-gram Metalaxyl 8% + Mancozeb 64 % WP mixed in 10 litres of water.

Maharashtra

Madhya Maharashtra received rainfall of 104.6 mm (2% normal), 72.3 mm (-24% deficit) rainfall over Marathwada, 241.4 mm (72% large excess) rainfall over Konkan, and 42.4 mm (-43% deficit) rainfall over Vidarbha was recorded from 01 October to 22 December 2024. The extended range weather forecast (rainfall) for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) is above normal rainfall over Madhya Maharashtra, Marathwada, Vidarbha, and Konkan for week 1 and week 2.

Marathwada

- Due to cloudy weather conditions, if an infestation of pod borer & pod fly is observed in pigeonpea crop. Make use of T-shaped bird perches @ 20 per acre and 3 pheromone traps per acre. For management of pod borer in pigeonpea take a spray of Emamectin Benzoate 5% @ 4.4 g or Spinosad 45% @ 3 ml or indoxacarb 14.5% @ 8 ml or Chlorantraniliprole 18.5% @ 3ml per 10 litres of water. For management of pod fly take a spray of Lamda cyhalothrin 5% @ 8 ml or Lufenuron 5.4% @ 12 ml per 10 litres of water
- For management of Rhizome fly in turmeric take a spray of Quinalphos 25 % @ 20 ml or Dimethoate 30 % @ 15 ml per 10 litres of water with an interval of 15 days during clear weather conditions. Cover the rhizome with the help of soil. (As the label claim was not given by the Central Insecticides Board for Rhizome fly in turmeric the research recommendation of a university is mentioned here). For management of leaf spot disease in the Turmeric crop take a spray of Azoxystrobin 18.2% + Difenconazole 11.4% (Premixed Fungicide) @ 10 ml + 5 ml Sticker per 10 litre of water during clear weather conditions. As per requirement irrigation management should be done in turmeric crop.
- If infestation of fall armyworm is observed in early sown Rabi Sorghum crop, For management of fall armyworm take a spray of Emamectin Benzoate 5 % @ 4 g or Spinetoram 11.7 SC @ 4 ml per 10 litre of water. Top dressing of Nitrogen i.e. 87 Kg Urea per hectare should be given 30 days after sowing in Rabi Sorghum. As per requirement irrigation management should be done in rabbi sorghum.
- To protect the banana orchard from low-temperature flood irrigation should be given early in the morning. Due to the fall in minimum temperature cover banana bunches with porous polythene bags (Skirting in a banana). Organic mulching should be done in banana orchards. If Sigatoka disease is observed in banana orchards, for management take a spray of Propiconazole 10 % EC @ 10 ml or Metiram 55% + Pyraclostrobin 5% WG @ 20 g per 10 liters of water.

Vidarbha

- Undertake clean picking of burst bolls immediately and keep the picked cotton variety wise at safe place. Harvest of first and second picking of Desi improved variety be kept separately so as to use its cotton seed for next year's sowing.
- Undertake need-based intercultural in earlier sown crops and keep the field weed-free. Need-based protective irrigation is advisable in earlier sown chickpea.

- In a timely sown irrigated wheat crop, top dressing of nitrogenous fertilizer (@ 50 kg N/ha) 20-25 days after sowing (CRI stage) at the time of irrigation is advisable.

Konkan

- The tree's roots need to be stressed for the mango to bloom. For this, one meter of grass around the trunk of the mango orchards should be removed to pulverize the soil in the basin, shallow ploughing should be done in the open space in the mango orchard, and the orchard should be cleaned as soon as possible so that the amount of water in the soil can be reduced quickly and help the tree bear stress.
- Avoid consecutive spraying of the same insecticide. Clean the cashew orchard by removing weeds and then use the pesticide spray. Additionally, spray nearby native trees along with the grafted cashew trees to achieve effective control over the pest infestation.
- Due to cloudy weather, it likely led to an outbreak of anthracnose disease. The disease causes irregularly shaped hazel spots on the leaves and if the disease intensifies, the whole leaves blight off and fall off. To control disease, spray Mancozeb 20 gm per 10 liters of water.
- Fertilizer's second dose should be applied to the arecanut orchard from December to January. For arecanut plants older than three years, 160 grams of urea and 125 grams of muriate of potash should be applied per tree using the ring method. While applying these fertilizers to orchards under three years of age, one-third of the dose should be given in the first year and two-thirds in the second year.
- For cultivation of mustard, plough the soil after harvest of kharif rice when soil is at field capacity. Incorporate 50 kg/ guntha FYM or compost at the time of ploughing.
- If groundnut cultivation is to be done using transparent plastic mulch (5 to 6 microns), plough the land thoroughly and level it. Then, mix 100 to 150 kg of well-composted farmyard manure per guntha into the soil. Afterward, prepare raised beds of 5-7 cm height and 60 cm width for mulching. Maintain a 30 cm distance between two beds. If drip irrigation is to be used, spread the drip irrigation system on the beds before laying the mulch.
- At the rhizome formation stage, the turmeric crop is likely to experience water scarcity. Additionally, since the rhizome formation stage is highly sensitive to soil moisture, it is essential to ensure an adequate water supply to the crop as needed.
- Cloudy weather and increased humidity may lead to a significant rise in the population of hoppers on mango crops. If the hopper population exceeds the economic threshold level (ETL) (on vegetative flush/flowering stage => 10 hoppers per flush/inflorescence), insecticide spraying should be undertaken. For pale greenish vegetative flush, spray Deltamethrin 2.8% EC at 9 ml per 10 liters of water. During the bud initiation stage, spray Lambda-Cyhalothrin 5% EC at 6 ml per 10 liters of water. Before flowering, spray Imidacloprid 17.8% EC at 3 ml or Buprofezin 25% EC at 20 ml per 10 liters of water. After flowering, during the fruit set stage, spray Thiamethoxam 25% WG at 1 gram per 10 liters of water.

Madhya Maharashtra

- Foliar spray of 2% Urea for chickpea under moisture stress condition is advised and second spray of 2% Potassium Nitrate after 10-15 days after first spray is advised.
- Foliar application of 2% Potassium Nitrate on Sorghum for reduction of severity of moisture stress is advised.
- For control of Alternaria leaf spot disease of safflower, spraying of combi-fungicide Carbendazim (12%) + Mancozeb (63%) @ 2 gm per liter of water is suggested.

- For control of pod borer of chickpea, spraying of biopesticide HANPV (Heliokil) @ 1 ml per litre of water or Insecticide chlorantraniliprole 18.5 % S.C. 2.5 ml per 10 litre of water is recommended.

Gujarat

Gujarat received a rainfall of 41.1 mm (26% excess) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Gujarat is no rainfall for week 1 and above normal rainfall during week 2.

- Prop the sugarcanes by tying together the canes in clumps to protect against high wind speed. Remove 25% lower mature leaf to improve sugar content and yield in sugarcane at 6 months of sowing.
- Undertaking the nipping by plucking the apical buds of the crop at about 30 to 40 DAS is done to stop the apical growth and improve yield of gram.
- Install pheromone traps @ 5/ha for monitoring of pod borer of pigeon pea. To control it, spray Emamectin Benzoate 5% @ 4.4 g or indoxacarb 14.5% @ 8 ml or Spinosad 45% @ 3 ml per 10 litres of water. Sterility mosaic disease is transmitted by mites, so to control it spray Propargite 57 % EC 10 ml 10 litre of water.
- Regularly monitor for fruit and shoot borer of brinjal by using 4-6 pheromone traps per acre. Infested shoots and fruits should be collected and buried into the soil. In heavy incidence, spray Chlorpyrifos 50 EC@20 ml or Emamectin benzoate 5 % SG 3 g or Thiodicarb 75 WP@10 g in 10 liters of water.
- TO control of mango hopper and mango shoot borer, it is advised to spray Thiamethoxam 25 % WG@4 g or Lambda Cyhalothrin 5 EC @ 10 ml per 10 litre water on mango tree for during clear weather conditions.
- Provide adequate quantity of food with balanced nutrients by considering milk production and maintenance. Good quality dry roughage with 15-20 kg green fodder provided to the animals, only after chafing.

Chhattisgarh

Rainfall received over Chhattisgarh was 31.1 mm (-58% deficit) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Chhattisgarh is above normal rainfall for week 1 and week 2.

- Complete the sowing of early maturing varieties of wheat up to 10th December. After that seed rate should be increased by 25%.
- First irrigation should be done 20-25 days after sowing at CRI stage in wheat crop.
- For management and monitoring of pod borer in pigeon pea, install pheromone traps and T-shaped pegs (for birds to sit) and change the pheromone septa every 15 days.
- If there is recurring infestation of wilt and collar rot disease of gram crop in each year, follow crop rotation for rabi wheat, lathyrus, safflower and linseed crops.
- The amount of fertilizer for irrigated 60 kg nitrogen, Phosphorous 30 kg Potash 30 kg Use per hectare and for unirrigated fertilizer, nitrogen 40 kg. Phosphorous 20 kg, Potash 20 kg Use per hectare.
- When the safflower crop is at the stage of 20-25 days, control weeds by weeding.

Madhya Pradesh

Rainfall received over East Madhya Pradesh was 16.9 mm (-68% large deficit), and 34.9 mm (-23% deficit) over West Madhya Pradesh from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Madhya Pradesh is above normal rainfall for week 1 and week 2.

- Nipping is required in chickpea to increase the number of branches per plant. Light irrigation is applied at the flowering stage. For Garden pea at pod pod-picking stage. Picking is done followed by light sprinkler irrigation.
- Irrigation at the CRI stage, followed by urea application. Care should be taken that the leaf should not be wet while applying/broadcasting urea in the field. Post-emergence herbicide application in 20-25 days old crop.
- Intercultural operation is practiced between rows of pigeonpea.
- Light irrigation in spinach, fenugreek, cauliflower, cabbage, carrot and radish. Potato farmers are advised for earthing up followed by fertilizer application followed by irrigation in one-month-old crop.
- Weed is controlled under fruit canopy. Apply fertilizers under the fruit trees as per the recommendations. In mango, due to dryness around the tree, termite infestation may occur. Soil drenching with suitable insecticide.
- In mustard (vegetative flower), Due to dryness in the atmosphere in the coming days, a light irrigation is needed at 30-35 DAS.
- Apply insecticide application against fruit borer in tomato and brinjal vegetables, after consulting scientists from a nearby KVK.

Assam

Rainfall received over Assam was 210.9 mm (13% normal) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks for Assam is (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) above normal rainfall for week 1 and below normal rainfall for week 2.

- The optimum sowing time of seed in a seedbed for boro paddy is November to December. Therefore, it is advised to collect seeds of recommended varieties of Boro rice such as Dinanath, Swamabh, Joymati etc. Flat seedbed of 125 cm wide, 10 cm long with 30 cm gap between two beds. Six to eight such beds are required for transplanting 1 bigha. About 6 Kg of seeds are required for transplanting 1 bigha of main field.
- Land preparation and sowing may be continued for rabi pulses like lentil, rajmah, pea, lathyrus and oilseeds like linseed and niger. Thinning and weeding of already sown oilseed and pulse crops may be done within 15-21 days of sowing.
- Due to favourable weather appearance of Sigatoka leaf spot may be observed in the Banana plant. Spray Carbendazim @ 0.5gm/liter of water at first appearance followed by 4 numbers of sprays at 30 days interval. Maintain the banana orchard weed free and avoid water stagnation.
- Bacterial wilt may be seen in Tomato and Brinjal fields. To control the disease soil drenching with 200 ppm of streptomycin should be done immediately only to the infected plant. Moreover, due to prevailing dry weather, it is therefore advised to irrigate the newly transplanted seedling every alternate day as per requirement for better root establishment as well as growth and development of the seedling.

West Bengal

Gangetic West Bengal received rainfall of 208.4 mm (25% excess) and Sub Himalayan West Bengal received 177.0 mm (9% normal) rainfall from 01 October to 22 December 2024. The extended range weather forecast (rainfall) for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) is above normal rainfall over Gangetic West Bengal and below normal rainfall over Sub-Himalayan West Bengal during week 1 and below normal rainfall over Gangetic West Bengal and Sub-Himalayan West Bengal during week 2.

- Paddy seeds may be treated with *Trichoderma viride* to prevent future fungal infection. Swarna Sub-1, IR-64, MTU 1010, Pusa Basmati, Arize 6444 Gold are some of the popular rice varieties. In the upcoming days, temperature is expected to substantially fall so farmers are advised to cover the seed bed to avoid yellowing.
- Drainage channels in mustard fields should be cleared periodically. One hand weeding may be given if weed infestation prevails. No irrigation is required now.
- No extra irrigation is required in lentils. Pusa Ageti, Bidhan-lentil, and L-4727 are the recommended varieties in the lentil. As there is a delay in sowing, short-duration varieties may be promising this year. The recommended fertilizer dose for lentil is 20:40:20 kg/ha (N:P: K). 20 kg/ha Sulphur may be helpful in better seed quality.
- Regular monitoring of Fruit and Shoot borer, aphids, jassid, and spider mites are suggested. Remove and destroy affected parts immediately, then spray Spinosad 45 SC (1 ml/4 liters of water) or Emamectin Benzoate 5 SG (4 g/10 liters of water). Spray Propargite 57 EC (2 ml/liter of water) for effective control of spider mites.

Jharkhand

Jharkhand received rainfall of 62.9 mm (-27% deficit) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Jharkhand is normal rainfall for week 1 and below normal rainfall during week 2.

- Farmers who want to cultivate wheat at this time should choose only its recommended late varieties (HI-1583, DBW-107, HD-3118 etc.). While sowing late, use seed rate as a little more than usual (50 kg per acre) and treat the seeds with fungicide drug Bavistin (2-2.5 g per kg seed) at a distance of 18-20 cm (row to row) and 7-9 cm (Sow at a distance of (plant to plant). To conserve soil moisture and control weeds, irrigate crops sown 20-25 days before by weeding and one day after irrigation, apply urea as per requirement (20-22 kg per acre).
- The mustard crop sown on time is in its vegetative stage. If there are too many plants in one place, ensure thinning so that the plants keep getting moisture, air and temperature properly.
- Complete earthing up in 25 to 30 days old potato crop and after making the soil friable, add the remaining quantity of nitrogen (65 kg urea per acre).
- As Onion is a shallow-rooted crop, so at bulb developing stage (after 60 days) due to forecasted dry weather farmers are advised to go for irrigation.
- Farmers who want to cultivate early Peas, should arrange for good-quality seeds, fertilizers etc. Choose the recommended early pea variety, Arkel. For sowing in one acre, 40 kg seeds, 35 kg urea, 200 kg SSP. And 25 kg of murate of potash is required.

- When transplanted cabbage and cauliflower seedlings are established in three weeks, go for hoeing, weeding and apply 55kg urea per acre followed by irrigation.
- To get a linseed crop, farmers are advised to take seeds at the rate of 8 – 10 kg per acre and go for line sowing, keeping the distance at 30 cm. Improved varieties are - Divya, Priyam and Birsa Tisi. Intercropping is also beneficial when linseed is sown with gram and wheat (three-one-one row).

Bihar

Bihar received rainfall of 19.7 mm (-69% large deficit) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Bihar is a no rainfall for week 1 and above normal rainfall during week 2.

- Application of 30kg nitrogen per hectare is advised in timely sown wheat crop which reaches Crown Root Initiation stage (21-25 days after sowing). Sowing of late varieties of wheat crop such as PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036 are advised for North Bihar region. Farmers are also advised to procure good quality of seeds of wheat from reputed sources. Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation. Seeds should be treated with Carbendazim @ 2.0g per kilogram of seed. For broadcasting method, seed rate @ 150kg per hectare is advised and 125 kg per hectare is recommended for seed drill method.
- Weeding and earthing- up are advised in early sown maize crops. The application of 50kg of nitrogenous fertilizer per hectare is also advised.
- Land preparation is advised for rabi onion. Application of 15-20 ton/ha FYM, 60kg nitrogen, 80 kg phosphorus, 80 kg potash and 40kg sulphur per hectare is advised during land preparation. Transplanting of onion seedlings are advised for those farmers whose seedlings are ready. Transplanting of seedlings should be done in small beds with a size of 3x2 m or 5x2 m and with a spacing of 15 cm line to line and 10cm plant to plant. Deep transplanting should be avoided.

Uttar Pradesh

Western Uttar Pradesh received rainfall of 0.5 mm (-98% large deficit) and 3.1 mm (-92% large deficit) rainfall received over Eastern Uttar Pradesh from 01 October to 22 December 2024. The extended range weather forecast (rainfall) for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) is no rainfall over Eastern Uttar Pradesh and Western Uttar Pradesh during week 1 and above normal rainfall during week 2.

Eastern Uttar Pradesh

- To get higher production under irrigated conditions, sow wheat varieties like DBW 187 (Karan Vandana), PBW-826, HD-3249, K-1006 (salt tolerant), HD2967, K-0307, DBW-39, DBW 222 (Karannarendra), DBW 303 (Karan Vaishnavi), WH-1105, WH-1270, HD-3386, HD-3086 etc. as early as possible.
- In gram (flowering stage), To pick up mature fruits from standing crop, watching insect & pests, if need apply recommended dose of insecticide.
- In lentil (tillering stage), Apply light sprinkler irrigation at 30-35 days after dry sowing conditions.

- Thinning is needed. Apply light sprinkler irrigation at 30-35 days after dry sowing conditions in mustard.
- Irrigation and pick up mature fruits from standing crops, watching insects & pests, if apply the recommended dose of insecticide in brinjal.

Western Uttar Pradesh

- Farmers are advised to the sowing of late sown wheat varieties at an irrigated condition such as HUW-234, K-7903, UP-2338, K-9162, K-9533, HD-2643, HP-1744, NW-1014, K-8020, UP-2425, NW-2036, DBW-14, K-9423, PBW-524 NW-1076 and HUW-510 with 125 kg/ha of seed and 80 :60:40 kg /ha fertilizer. Treated seeds should be used for sowing. Light irrigation should be taken up at CRI stage. In gram (flowering stage),
- Weeding should be taken up after 40 to 50 days of sowing at optimum moisture conditions or spray 50 % Atrazin WP 1.0 lt./ ha with 500 lt. water solution.
- Weeding should be taken up after 20-25 DAS in gram and lentil.
- Late sown crop weeding and thinning should be taken up after 15-20 DAS of mustard crop.

Jammu

Jammu received rainfall of 20.9 mm (-80% large deficit) from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Jammu is a below normal rainfall for week 1 and week 2.

- Farmers are advised to continue sowing of late-sown wheat crop varieties after light pre-sowing irrigation to attain vattar condition of soil. Increase seed rate by 25% i.e. 6.25kg/kanal. Treat the seed with tebuconazole 2DS @1.25 g/kg of seed to protect against seedling blight and root rot disease.
- The first top dressing of nitrogen fertilizer is recommended at 30 to 35 days old in Gobi sarson and mustard crop after irrigation. Farmers can go harvesting and threshing of mature toria crop without any further delay.
- Give need-based irrigation to crops. Farmers may go for nipping in a 3-4-week-old crop. Monitor the crop for the attack of cutworms in crop. Give hoeing and weeding to late sown lentil crop at vattar condition of soil.
- Give shallow hoeing to crops like spinach, coriander and fenugreek after first cut and apply urea @ 1kg/kanal. Weeding and hoeing is recommended. Carry out earthing up operation in potato at a height of 15-22 cm. Top dress Nitrogen @ 30kg/ha or 1.5kg/kanal. To control the Potato virus, uproot virus-affected plants that are bushy with yellow-colored cup-shaped leaves and bury them. Weeding & hoeing are recommended in cole crops.
- Protect young plants from low temperatures. Give a light spray of Urea to weak and pale plants. Remove the water suckers and keep the area clean. Remove the tying material from the bud/graft union.

Rajasthan

East Rajasthan received 11.4 mm rainfall (-53% deficit) and 4.5 mm (-61% large deficit) rainfall was received over West Rajasthan from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) no rainfall over East Rajasthan and West Rajasthan for week 1 and above normal rainfall during week 2.

- For the control of broad leaf weed in wheat spray of 2,4 D Ester salt 38% E.C. @ 500 g or 2, 4 D Amine salt 58 % S.L. @ 750 g in 500-700 liter of water /ha.
- To control Phalaris minor and wild oat in barley spray of isoproturon @ 0.75 kg/ha for light soil and @ 1.25 kg/ha in heavy soil at 30-35 DAS.
- At present mustard crop is at the flowering stage and cloudy weather is prevailed, it may increase the infestation of aphid. So, farmers are advised to spray Dimethoate @875 ml or Nimbecidine @ 500 ml/ha for the control of aphids.
- In gram, when the symptoms of root rot disease appear, the growth of white fungus in the root is seen when the plant is uprooted along with the root. For the control of this disease, spraying Carbendazim 50 WP @ 2g / liter of water.
- Due to high relative humidity, infection of blight may occur in tomato. Farmers are advised to do constant monitoring in the crops. If symptoms appear then a spray of Carbendazim @ 1.0 gm/liter of water or Dithane-M-45 @ 2.0 gm/litre of water is recommended.
- Weather is suitable for sowing of rabi onion. Seed rate- 10 kg/ha. Before sowing seeds should be treated with Captan @ 2.5 g/ kg of seeds.
- Spray solution of Radomil-M-Z @ 2g/liter of water for the control of downy mildew in opium. Make proper arrangements to protect animals from the cold wave.

Punjab

Rainfall of 2.7 mm (-84% large deficit) was received over Punjab from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Punjab is no rainfall for week 1 and normal rainfall during week 2.

- Under late sown irrigated conditions varieties PBW 752, PBW 771 and PBW 757 should be sown. For wheat sown after 15th December, apply 55 kg DAP or 155 kg single super-phosphate per acre at sowing.
- In sugarcane, to save the crop from frost apply irrigation.
- Apply light irrigation to sensitive crops to protect them from frost. Sow the nursery of chilli and brinjal which is to be transplanted in February-March.
- Efforts can be started to protect the young evergreen fruit plants from cold weather. Apply one irrigation to ber orchards as the trees are laden with fruits. Planning, layout and other preparations can be started to establish new orchards of pear, peach, plum, grapes, fig etc.
- For management of canker in citrus, spray streptomycin 50 g + 25 g copper sulfate in 500 litres of water per acre or Bordeaux mixture (2:2:250) during this month
- To check black scuff, disinfect the tubers with Systiva @80 ml or Concern @250 ml in 100 liters of water. Irrigate all the vegetables in the field as the weather is expected to be dry in the coming 3-4 days.

Himachal Pradesh

Rainfall of 2.4 mm (-96% large deficit) was received over Himachal Pradesh from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Himachal Pradesh is below normal rainfall for week 1 and week 2.

- There is no rainfall and soil are dry advised sowing after rains. Advised irrigation in morning and evening hours.
- The crop sown earlier, Thinning and weeding is recommended in a timely sown mustard crop. Keeping in view of relative humidity farmers are advised to monitor of mustard crop

against attack of white rust. If infection is high then spraying of Dithane-M-45 @ 2 gram/litre of water is advised. Keeping in view of weather, farmers are advised to monitor of mustard crop against aphid attack.

- Keep crop field weed-free in pulses
- Late sown; Ensure proper soil moisture before sowing. In termites-infected soils, treat the seed with 4 ml Chlorpyrifos 20 EC/kg of seed and dry it, and then treat it with Bavistin or Vitavax 2.5g/kg of the seed. In the timely planted wheat crop where weeds are 2-3 leaves stage, spray isoproturon @ 70 g or Vesta @ 16 g per 30 liters of water in one kanal for the control of weeds. Apply after rains as soil is dry. Advised not to apply fertilizer and apply after rains.
- Intercultural Operations and advised irrigation if available in gram.
- Sowing of garlic and onion is advised. Farmers are advised to monitor their fields regularly. Spray of Imidacloprid 17.8 % SC@ 1.0 ml/3 lit of water is recommended against white flies and other sucking pests in all crop and vegetables when sky is clear.
- Advised to complete transplanting of seedlings of cabbage, cauliflower, knoll khol and broccoli. Mix well rotten FYM prior to transplanting. Downy mildew is expected in cruciferous vegetables, for control spray is recommended Chemical at 15-day intervals, Apply irrigation during the evening and morning.

Haryana

Rainfall of 2.7 mm (-84% large deficit) was received over Haryana from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks (20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Haryana is no rainfall for week 1 and normal rainfall during week 2.

- In mustard. the irrigation can be postponed if possible in view of anticipated rains during 27-28 Dec 2024. Keep vigil on the occurrence of white rust disease and at incidence spray the crop with 600-800 g Mancozeb (Dithane M-45) in 250-300 litre of water per acre and repeat after 15 days.
- Adopt weed control measures in crop and keep vigil for insect-pest occurrence in gram.
- Possibility of variable weather and farmers are advised to complete the late sowing of wheat up to 25 Dec with recommended late varieties such as WH 1021, WH 1124, HD 3059, HD 3298, DBW 173, PBW 771. Before sowing seeds should be treated with Bavistin or Vitavax 2.0 g per Kg of seed.
- In the view of variable weather farmers are advised to postpone irrigation as the barley needs first irrigation 40-45 days after sowing. Adopt weed control measures.
- Harvest the mature crop as per the market or sugar mill demand. Avoid irrigation in view of variable weather.
- In view of anticipated variable weather, irrigation may be postponed. The cutting for green fodder should be done after evaporation of dew from leaves.
- Due to the possibility of fall in night temperature keep the animals under a shed. Provide 50 grams iodized salt and 50 to 100 grams mineral mixture daily with animal feed/fodder to keep them healthy.

Uttarakhand

Rainfall of 4.6 mm (-90% large deficit) was received over Uttarakhand from 01 October to 22 December 2024. The extended range weather forecast (rainfall) provided for the next two weeks

(20 December - 26 December 2024 and 27 December 2024 - 02 January 2025) over Uttarakhand is below normal rainfall for week 1 and normal rainfall during week 2.

- Weeding should be done after 30-35 days of sowing. In late sown crops, first irrigation should be done at 21-25 days after sowing at the time of Crown Root Initiation (CRI) stage. After irrigation, apply a second dose of urea when optimum moisture is available in the soil.
- In mustard, Apply light irrigation in the crop at the stage of flowering / grain fills.
- In Onion, maintain proper moisture in the crop field. Weeding/hoeing should be done from time to time for good vegetative growth of the crop.
- Pruning/training work should be start. Cut the damaged branch and apply Bordeaux/Chaubatia paste on the cut surface.
- Crop stage: Harvesting- Harvest of Radish Spinach, Fenugreek and other green leafy vegetables. Apply light irrigation after harvesting.
- Keeping in mind low temperatures, it is advised to increase the amount of dry grasses in the feed. Cover the floor by dry leaves and keep properly closed the windows and doors of the cattle shed. Covered newly born calves with a jute bag. Give lukewarm water for drinking. a 40-50g mineral mixture should be given daily to an animal.

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