

Answer to the question for the Rajya Sabha - Dy. No. S59 raised by Shri Balwinder Singh Bhunder regarding "Damage to crops due to rains and hailstorms"

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- a) Whether crops in various states of the country have been damaged due to unprecedented rains and hailstorm;**

Yes.

- b) Whether any assessment has been made about the damage to crop and loss to farmers;**

Yes, assessment has been made about the damage to crop state-wise and advisory has been issued, the details are annexed.

- c) The efforts being made to give relief to farmer whose crop has been damaged;**

N.A.

- d) The details of compensation provided?**

N.A.

I. Climatic variability assessment of unseasonal rains

The southward movement of western disturbance (WD) resulted into the development of trough over the region between Bihar and Vidarbha. A cyclonic circulation has been induced and laid over Rajasthan and Gujarat on 1st and 2nd March. The trough formation has resulted in change of direction of winds which has ultimately led the winds to pick up moisture from Arabian Sea and caused precipitation. The system brought rainfall on 1st March at several places in Maharashtra, Telangana, north interior Karnataka, Himachal Pradesh, Chhattisgarh and Rajasthan. The rains continued on 2nd March in north interior Karnataka, Maharashtra and Telangana. The Cyclonic circulation has become less marked by 3rd March. The WD lying over J&K has moved away northeast onwards on 4th March. The western disturbances caused rain most several parts of J&K, Himachal Pradesh and few places at Punjab during 3rd to 6th March. A cyclonic circulation has developed over Srilanka and adjoining south Tamil Nadu on 04th. This has caused rain during the first week of March at several places in Tamil Nadu and south interior Karnataka and at few places in Kerala. This has extended to east Bihar and south Odisha by 5th March and became less marked by 6th March.

Many districts across the country received excess rainfall compared to normal rainfall during the previous week. Though the rains were wide spread from North to South, states of Jammu and Kashmir, Himachal Pradesh, Arunachal Pradesh, Delhi, Uttarakhand, few districts of Sikkim, UP, Haryana, Punjab, Madhya Pradesh, Vidarbha region of Maharashtra, received high intense rainfall with more than 50 mm. In other states, the quantum of rainfall received was less than 50mm over the week.

The unseasonal rainfall impacted the horticultural crops such as Mango, Pomegranate, Apple, Grapes which are at different stages of flowering, fruit ripening and harvesting. The intense storms caused flower drop, damage to fruits and may cause pest and disease problems due to the conducive moisture conditions. Crops which are harvested and left in the fields for collection suffered extensive damage. The seasonal crops, early sown ones, experienced lodging and waterlogging problems. Parts of North East states received less rainfall than normal causing moisture stress to the standing crops.

Details on crops and damages observed in various states and suggested remedial measures are presented in the following section.

II. Advisory

Madhya Pradesh

(a) Malwa region

Areas affected: Indore, Ujjain, Dewas, Dhar, Jabhua, Mandsaur, Nemach

Crops and damage: Chickpea, Wheat (late sown) were affected. Isabagol (medicinal crop) affected in Mandsaur and Nemach

Advisory

- Shift the harvested produce to safer place and resort to quick drying.
- To prevent grain discoloration in wheat spray Mancozeb (0.2%) and for leaf blight control spray Propiconazole (1 ml/ltr).
- Harvesting of matured mustard crop at the earliest.

(b) Keymore plateau region

Area affected: (Rewa, Sidhi, Satna, and Shahadhol)

Crops and damage: Mustard and lentil affected (30-60%); Chickpea, Pigeonpea, Wheat affected (15%)

Advisory:

- Remove excess water from the fields, if any.
- Harvest the affected lentil crop at the earliest.
- Spray Carbendazim @ 10g/10 ltr on a non rainy day.

Maharashtra

(a) Marathwada region

Areas affected: Hingoli, Beed, Aurangabad, Parbhani

Crops and damage: Rabi sorghum (at harvest) affected more than 50%, and citrus

Advisory:

- Delay harvesting of Chickpea and Rabi sorghum
- Citrus : Protect against fungal diseases with Carbendazim (0.1%) spray

(b) Vidarbha

Areas affected: (Akola, Amaravathi, Yavatmal)

Advisory:

- Delay harvesting of Chickpea and Rabi sorghum
- Pomegranate: Protect against leaf spot with carbendazim (0.1%) or copper oxychloride (0.3%)

(c) Madhya Maharashtra

Areas affected: Sholapur, Pune, Nasik, Jailgaon, Satara, Sangli, Kolhapur, Ahmednagar

Crops and damage: Wheat, Rabi Sorghum, Chickpea, Onion, Mango, fruit cracking in Grapes due to sudden drop in temperature, Pomegranate and vegetables.

Advisory:

- Keep the harvested produce in safer place.
- Delay harvesting of crops
- Onion : Spray Tebuconazole (1 ml/lt) or Chlorothalonil (2 gm/lt) to prevent leaf blight.
- Grapes: Remove affected fruits to prevent spread of disease and use hail net to protect from mechanical damage.

(d) Konkan Maharashtra

Crops and damage: Mango

Advisory:

- Spray carbendazim 0.1% + Mancozeb 0.5% to prevent infestation of anthracnose on inflorescence and fruits

Gujarat

Areas affected: Rajkot, Junagadh, Amreli, Jamnagar

Crops and damage: Wheat, Cumin, Mango, Chickpea affected by 15-30% (Harvested crop in the field)

Advisory:

- Spray Mancozeb (0.2%) to control fungal diseases in leaf and grain

Telangana

Areas affected: Nizamabad, Adilabad, Ranga Reddy, Mahabubnagar

Crops and damage: Turmeric, Safflower, Onion, Chillies and Rabi sorghum affected

Advisory:

- Provide surface drainage in standing crop
- Quick drying of harvested rhizomes and bulbs
- Postpone harvesting of maize crop.
- Spray Mancozeb @ 2.0g + Carbendazim @ 1.0g or Chlorothalonil @ 2.0g or Hexaconazole @ 1.0 ml/lt.

Andhra Pradesh

Areas affected: Coastal districts

Crops and damage: Rice fallow pulses and rabi maize affected

Advisory:

- Harvest green cobs
- Drain out excess water from fields in standing maize
- Shift harvested cobs for safe drying

Punjab

Areas affected: Ludhiana, Amritsar and Patiala

Crops and damage: Wheat on heavy textured soils affected

Advisory:

- Provide surface drainage in standing crop

Karnataka

Areas affected: Bidar, Belgaum, Dharwad

Crops and damage: Rabi Sorghum (10-15%), Chickpea (around 20%), Safflower affected

Advisory:

- Provide surface drainage in standing crop

Haryana

Areas affected: Fatehabad, Rohtak, Sirsa, Hisar

Crops and damage: Wheat and Mustard crops affected

Advisory:

- Drain out the excess water from the fields.
- Spray mancozeb (0.2%) to prevent grain discoloration.
- Harvesting of matured mustard crop at the earliest.

Bihar

Areas affected: South Bihar

Crops and damage: Wheat, oilseeds and pulses affected due to lodging and water logging

Advisory:

- Drain out excess water from the fields.

Jharkhand

Areas affected:

Crops and damage: Oilseeds and pulses crops affected due to lodging and water logging

Advisory:

- Spray Karathane @1 ml or Sulfex@ 2g/lt.

Uttar Pradesh

Areas affected: Central plain zone

Crops and damage: Wheat and mustard affected due to lodging and water logging

Advisory:

- Drain out the excess water from the fields.
- Harvesting of matured mustard crop at the earliest.
- Spray Monocrotophos @1ml/lit, thrice at fortnightly interval and spray Propiconazole@1 ml/lit.

Assam and Meghalaya

Crops and damage: Boro rice, mustard , potato and cabbage affected

Advisory:

- In North Bank Plain Zone of Assam apply 'Darsban' or Monocrotophos@ 2 teaspoon full/5lt to prevent stem borer in boro rice.
- In Hill Zone of Assam spray Mancozeb 0.2%@2g/lit. or Ediphenphos 0.1%@1g/lit to prevent blast disease in boro rice.
- In Central Brhamaputra Valley Zone of Assam apply Dimethoate(Rogor) @ 2 ml/lit to control aphids in affected wheat fields.
- In Meghalaya spray Carbendazim @1g/lit against blast/brown spot in boro rice.

Manipur and Tripura

Crops and damage: Boro rice and maize crops affected

Advisory:

- In Tripura, apply Fipronil @ 2g/lit to prevent yellow stem borer in boro rice.
- In Manipur, apply Carbofuran 3G in maize whorl to prevent damage to maize crop