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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

**(Begusarai)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Darbhanga)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(East Champaran)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Gopalganj)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

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**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Madhubani)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
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| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
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 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
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* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

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**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Muzaffarpur)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Samastipur)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Saran)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Shivhar)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Sitamarhi)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Siwan)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 30.7°C and 13.0°C, respectively. Average relative humidity was 69 percent at 0700 hrs and 41 percent at 1400 hrs. Soil temperature at 5 cm depth was 20.3°C at 0700 hrs and 31.0°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 3.5km/hr, 8.5hours and 5.9mm, respectively. Dry weather prevailed during the previous forecasting period.

**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(Vaishali)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
| Green gram/Black gram | Sowing | Sowing of green gram *(mung bean)*& black gram *(urd)* is advised. Application of 20 kg nitrogen, 45 kg phosphorus, 20kg potash and 20 kg sulphur/ha is advised during land preparation. *Pusa Vishal, Samrat, SML-668, HUM-16 and Sona* varieties for *mung bean* and *Pant Urd-19 and Pant Urd-31, Uttra and Navin*varieties of*urd* are recommended for sowing in North Bihar. Seed rate @20-25 kg/ha for small sized grain and 30-35 kg/ha for large sized grain with a spacing of 30x10 cm plant to plant is advised. Before sowing, seed should be treated with *rhizobium* culture. Ensure the proper soil moisture before sowing. |
| Fodder crop | Sowing | Sowing of *sweet jowar* (multi-cut) and *Kohwa* varieties of jowar is advised. Cowpea is intercropping with jowar is suggested. *Affrican tall* variety of maize is also advised for sowing as fodder crop. Give irrigation on standing fodder crops for healthy growth.  |
| Vegetables | Sowing/Seedlings/Early vegetative | * Complete the sowing of summer vegetables. Monitoring of red pumpkin beetle is advised in cucurbitaceous vegetables, which are in seedling stage. This is a very harmful insect pest. The grubs damage the plants by boring into the roots and underground stems. The adult beetles injure the flower, foliage by biting holes in to them. Severe infestation result in the death of the plant or retardation of growth. Dusting of Chlorpyriphos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation. In severe cases, spraying of Dichlorvos76EC@1 ml/liter of water is advised.
* Monitoring is advised for aphid infestation in vegetables and other crops. If insect population is above ETL, spraying of Imidacloprid @ 1ml/3 liters of water is advised.
 |
| Mango | Flowering  | * Do not spray any pesticide during the period from flowering till the time mango fruit becomes pea sized.
* Remove the affected inflorescence from the orchard.
* Apply Bordeaux paste (1kg lime + 1 kg copper sulfate+ 10 liters water) in the mango stem.
* Do not apply irrigation at this stage. Irrigation may be applied after fruit attaining the size of pea.
 |
| Onion | Vegetative | * In view of dry weather, give irrigation at a regular interval of 10-12 days. Weeding is also advised.
* Dry and hot weather is favorable for outbreak of onion thrips. Regular monitoring is advised for thrips infestation in onion. The adults as well as nymphs damage the crop. The leaves of damaged plant become curled, wrinkled and gradually dry up. The damaged plants do not form bulbs. If the insect population is above ETL, spraying of Profenofos@1ml/L or Imidacloprid @1ml/4 liter of water is advised. Add sticker@ 1ml/L of water for better result.
 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**

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| **GRAMIN KRISHI MAUSAM SEWA (GKMS)****AGRO-METEOROLOGY DIVISION****Dr. Rajendra Prasad Central Agricultural University, Pusa****Samastipur, Bihar -848 125** |
| **Bulletin No. 22****Date: Tuesday, 19th  March,2019** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** |  |

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**Medium Range Weather Forecast**

**(20-24 March, 2019)**

 **(West Champaran)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **20****March** | **21****March** | **22****March** | **23****March** | **24****March** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Mainly dry weather**  |
| **Max. T (°C)** | **33** | **33** | **34** | **34** | **34** | **-** |
| **Mini. T (°C)** | **14** | **14** | **15** | **15** | **15** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **0** | **Mainly clear sky** |
| **Max Relative Humidity (%)** | **65** | **65** | **65** | **75** | **75** |  |
| **Min Relative Humidity (%)** | **45** | **45** | **40** | **40** | **45** |  |
| **Wind speed (kmph)** | **5** | **5** | **5** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** | **Westerly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| In view of dry weather, farmers are advised to harvest late sown mustard and potato crops by giving top priority. Provide irrigation in summer vegetables and other crops such as late sown wheat, summer and *rabi* maize and sunflower.  |
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 |
| Livestock | **-** |  Provide clean water to the milch animals and keep them in the shaded place in day hours in view of increasing temperature during the forecast period. |

**(A. Sattar)**

**(Nodal Officer)**