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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. 88**  **Date: Friday, 7th December , 2018** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** | **Phone No : 06274-240266** |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Begusarai)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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. 88**  **Date: Friday, 7th December , 2018** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** | **Phone No : 06274-240266** |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Darbhanga)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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. 88**  **Date: Friday, 7th December , 2018** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** | **Phone No : 06274-240266** |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(East Champaran)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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** | | |
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**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Gopalganj)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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** | | |
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**Weather during the previous forecast period**

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**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Madhubani)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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. 88**  **Date: Friday, 7th December , 2018** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** | **Phone No : 06274-240266** |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Muzaffarpur)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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. 88**  **Date: Friday, 7th December , 2018** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** | **Phone No : 06274-240266** |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Samastipur)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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. 88**  **Date: Friday, 7th December , 2018** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** | **Phone No : 06274-240266** |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Saran)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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** | | |
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**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Shivhar)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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** | | |
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**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Sitamarhi)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(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. 88**  **Date: Friday, 7th December , 2018** | **F:\15349550_1863725520538190_1704492238980604982_n.jpg** | **Phone No : 06274-240266** |

**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Siwan)**

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| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
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| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(A. Sattar)**

**(Nodal Officer)**

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**Weather during the previous forecast period**

According to meteorological data recorded at Agro meteorological Observatory, Pusa (Bihar), average maximum and minimum temperature were 24.9°C and 10.5°C, respectively. Average relative humidity was 84 percent at 0700 hrs. and 56 percent at 1400 hrs. Soil temperature at 5 cm depth was 13.3°C at 0700 hrs. and 23.1°C at 1400 hrs. Average wind speed, daily sunshine hours and average daily evaporation were 1.3km/hr, 5.8hours and 1.7mm, respectively. Dry weather prevailed during the previous forecasting period. Early morning fog was observed.

**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(Vaishali)**

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| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **95** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
| Gram | Sowing | Complete the sowing of gram at the earliest. Seeds should be treated with rhizobium culture (5 packets/hectare) before sowing. |
| Rabi onion | Land preparation/  Transplanting | * 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. * Farmers are advised to transplant onion seedlings of 50-55 days. 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. After transplanting light irrigation is advised. * Farmers are advised to remove weeds from late sown onion nursery. Give light irrigation after weeding. |
| Garlic | Vegetative | * Weeding is advised in garlic crop. Give light irrigation in garlic at a regular interval in view of low soil moisture and dry condition. * Protect the garlic crop from insect-pest and disease infestation. |
| Wheat | Land preparation/  Sowing | * Low level of soil moisture in the fallow land (after harvesting of paddy) would affect germination of seeds. For proper germination and crop stand, pre-sowing irrigation is advised. * Application of 40 kg nitrogen, 40 kg phosphorus and 20 kg potash per hectare is advised during land preparation for late sowing. Seeds should be treated with Carbendazim @ 2.0 g 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. Seed treatment with chlorpyriphos 20EC@ 8 ml/kg of seeds is advised in termite affected land. * Sowing of late variety of wheat crop is advised.*PBW-373, HD-2285, HW-2045, HUW-234, WR-544, DBW-14, HD-2643, HD-2967, NW-2036* varieties are recommended for late sowing in North Bihar. Farmers are also suggested to procure good quality of seeds of wheat from reputed sources. * Farmers are also advised to give light irrigation in early sown wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation. |
| Potato | Vegetative | Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need. |
| *Rabi* Maize | Vegetative | Weeding is advised. Give light irrigation based on moisture condition of the field. |
| *Rai* | Sowing | Complete the sowing of late varieties of *rai* at the earliest. Weeding is advised in late sown *rai* crop. Thinning is advised to maintain plant to plant spacing at 12-15 cm. |
| Vegetables | Fruiting | * Weeding is advised. Give irrigation as per status of soil moisture. * Monitoring is advised for infestation of fruit and shoot borers in brinjal,tomato,chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1.0 ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying. |
| Animal care: | Milch animals | In view of decreasing trend of temperature, farmers are advised to take care of milch animals. Farmers are advised to give protein enriched diets to the animals. Do not keep the animal in the open. |

**(A. Sattar)**

**(Nodal Officer)**

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**Medium Range Weather Forecast**

**(8-12 December, 2018)**

**(West Champaran)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weather parameters** | **8**  **December** | **9**  **December** | **10**  **December** | **11**  **December** | **12**  **December** | **Remarks** |
| **Rainfall(mm)** | **0** | **0** | **0** | **0** | **0** | **Dry weather** |
| **Max. T (°C)** | **26** | **25** | **25** | **25** | **25** | **-** |
| **Mini. T (°C)** | **11** | **10** | **10** | **10** | **10** |
| **Cloud cover (okta)** | **0** | **0** | **0** | **0** | **2** | **Cloudy sky** |
| **Max Relative Humidity (%)** | **90** | **90** | **90** | **90** | **90** |  |
| **Min Relative Humidity (%)** | **50** | **50** | **45** | **45** | **45** |  |
| **Wind speed (kmph)** | **10** | **10** | **10** | **10** | **10** |  |
| **Wind direction(deg)** | **Westerly** | **Easterly** | **Easterly** | **Westerly** | **Westerly** | **Westerly/Easterly** |

**Advisory for the farmers**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Phenophases** | **Advisory (Based on weather forecast)** |
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**(A. Sattar)**

**(Nodal Officer)**