



ICAR Research Complex for N.E.H. Region
Manipur Centre, Lamphelpat, Imphal - 795 004
“Gramin Krishi Mausam Seva”



MANIPUR BULLETIN
16th December, 2016

Churachandpur

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016) Observed clear sky but foggy during morning hours of 15 th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 °C & Minimum temperature of 6.4 to 7.0 °C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.	Weather forecast for next five days of Churachandpur (17th to 21st December, 2016) Likely to have no rain up to Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 23-24 °C & minimum temp. 6-8 °C. Relative humidity may reach up to 100% (max RH) & 43% (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be South East Easterly to South Easterly during next five days.
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Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016
Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.
		Aphid	- After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning. - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
Pulses	Vegetative and late sowing		- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
		Rust or Powdery mildew	- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning.
		Aphid	- Spray Propiconazole @ 15ml/ 15 litre water. - Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid. - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started. - Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds. -It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water. - Transplant 26-30 days old seedlings (4 leaves stage) cole crops. - If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
Broad bean	Early vegetative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.
Colocassia	Maturity to harvesting		- Mature crops may be harvested.



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Onion	Transplanting of raised seedlings and early vegetative		<ul style="list-style-type: none"> - 45-60 days old onion seedlings may be transplanted. - Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening hours till the plant get established.
Garlic	Planting to early vegetative		<ul style="list-style-type: none"> - Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		<ul style="list-style-type: none"> ➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplanting to early vegetative		<ul style="list-style-type: none"> - Transplanting of 26-30 days old seedlings may be done. - Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If required repeat it after 10 days. * Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to early vegetative		<ul style="list-style-type: none"> - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
Spinach (Palak)	Sowing to early vegetative		<ul style="list-style-type: none"> - Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.

Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination	➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> ➤ Mineral mixture be added in feed @ 10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp/ Catfish culture	Harvesting and stock maintenance		<ul style="list-style-type: none"> - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha. - Feeds should be provided @ 3 % body weight per day. - Well balanced feed fortified with vitamins and minerals should be provided. - Apply Lime @ 30-35 kg/ha at 30days interval.

(I. Meghachandra Singh)
Scientist i/c, GKMS



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MANIPUR BULLETIN
16th December, 2016

Senapati

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016) Observed clear sky but foggy during morning hours of 15 th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 °C & Minimum temperature of 6.4 to 7.0 °C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.	Weather forecast for next five days of Senapati (17th to 21st December, 2016) Likely to have no rain up to Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 21-22 °C & minimum temp. 4-6 °C. Relative humidity may reach up to 99% (max RH) & 36% (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be Easterly to South East Easterly during next five days.
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Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016
Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}. - After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning. - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid. - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started. - Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds. -It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water. - Transplant 26-30 days old seedlings (4 leaves stage) cole crops. - If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
Broad bean	Early vegetative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.
Colocassia	Maturity to harvesting		- Mature crops may be harvested.
Onion	Transplanting of raised seedlings and early		- 45-60 days old onion seedlings may be transplanted. - Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening



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	vegetative		hours till the plant get established.
Garlic	Planting to early vegetative		- Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplanting to early vegetative		- Transplanting of 26-30 days old seedlings may be done. - Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If required repeat it after 10 days. * Apply <i>Chloropyrphos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to early vegetative		- Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
Spinach (Palak)	Sowing to early vegetative		- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.

Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination	➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp/ Catfish culture	Harvesting and stock maintenance		- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha. - Feeds should be provided @ 3 % body weight per day. - Well balanced feed fortified with vitamins and minerals should be provided. - Apply Lime @ 30-35 kg/ha at 30days interval.

(I. Meghachandra Singh)
Scientist i/c, GKMS



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MANIPUR BULLETIN
16th December, 2016

Tamenglong

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016) Observed clear sky but foggy during morning hours of 15 th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 °C & Minimum temperature of 6.4 to 7.0 °C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.	Weather forecast for next five days of Tamenglong (17th to 21st December, 2016) Likely to have no rain up to Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 23-24 °C & minimum temp. 6-8 °C. Relative humidity may reach up to 100% (max RH) & 43% (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be North East Easterly during next five days.
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Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016
Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.
		Aphid	- After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning. - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
Pulses	Vegetative and late sowing		- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
		Rust or Powdery mildew	- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning.
		Aphid	- Spray Propiconazole @ 15ml/ 15 litre water. - Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid. - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started. - Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds. -It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water. - Transplant 26-30 days old seedlings (4 leaves stage) cole crops. - If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
Broad bean	Early vegetative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.
Colocassia	Maturity to harvesting		- Mature crops may be harvested.



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Onion	Transplanting of raised seedlings and early vegetative		<ul style="list-style-type: none"> - 45-60 days old onion seedlings may be transplanted. - Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening hours till the plant get established.
Garlic	Planting to early vegetative		<ul style="list-style-type: none"> - Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		<ul style="list-style-type: none"> ➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplanting to early vegetative		<ul style="list-style-type: none"> - Transplanting of 26-30 days old seedlings may be done. - Apply Tracer @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If required repeat it after 10 days. * Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to early vegetative		<ul style="list-style-type: none"> - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
Spinach (Palak)	Sowing to early vegetative		<ul style="list-style-type: none"> - Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.

Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination	➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> ➤ Mineral mixture be added in feed @10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp/ Catfish culture	Harvesting and stock maintenance		<ul style="list-style-type: none"> - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha. - Feeds should be provided @ 3 % body weight per day. - Well balanced feed fortified with vitamins and minerals should be provided. - Apply Lime @ 30-35 kg/ha at 30days interval.

(I. Meghachandra Singh)
Scientist i/c, GKMS



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Thoubal

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016) Observed clear sky but foggy during morning hours of 15 th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 ° C & Minimum temperature of 6.4 to 7.0 ° C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.	Weather forecast for next five days of Thoubal (17th to 21st December, 2016) Likely to have no rain up to Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 22-23 ° C & minimum temp. 5-7 ° C. Relative humidity may reach up to 100% (max RH) & 45% (min RH). The average wind speed may be 2 km/hr. Wind direction may be Easterly to South South-Easterly during next five days.
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Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016
Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}. - After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning. - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid. - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started. - Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds. -It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water. - Transplant 26-30 days old seedlings (4 leaves stage) cole crops. - If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
Broad bean	Early vegetative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.
Colocassia	Maturity to harvesting		- Mature crops may be harvested.
Onion	Transplanting of raised seedlings and early		- 45-60 days old onion seedlings may be transplanted. - Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening



ICAR Research Complex for N.E.H. Region
Manipur Centre, Lamphelpat, Imphal - 795 004
“Gramin Krishi Mausam Seva”



	vegetative		hours till the plant get established.
Garlic	Planting to early vegetative		- Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplanting to early vegetative		- Transplanting of 26-30 days old seedlings may be done. - Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If required repeat it after 10 days. * Apply <i>Chloropyrphos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to early vegetative		- Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
Spinach (Palak)	Sowing to early vegetative		- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.

Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination	➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp/ Catfish culture	Harvesting and stock maintenance		- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha. - Feeds should be provided @ 3 % body weight per day. - Well balanced feed fortified with vitamins and minerals should be provided. - Apply Lime @ 30-35 kg/ha at 30days interval.

(I. Meghachandra Singh)
Scientist i/c, GKMS



ICAR Research Complex for N.E.H. Region
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“Gramin Krishi Mausam Seva”



MANIPUR BULLETIN
16th December, 2016

Ukhrul

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016) Observed clear sky but foggy during morning hours of 15 th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 ° C & Minimum temperature of 6.4 to 7.0 ° C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.	Weather forecast for next five days of Ukhrul (17th to 21st December, 2016) Likely to have no rain up to Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 20-21 ° C & minimum temp. 4-6 ° C. Relative humidity may reach up to 99% (max RH) & 45% (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be South South-Easterly to South Westerly during next five days.
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Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016
Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}. - After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning. - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid. - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started. - Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds. -It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water. - Transplant 26-30 days old seedlings (4 leaves stage) cole crops. - If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
Broad bean	Early vegetative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.
Colocassia	Maturity to harvesting		- Mature crops may be harvested.
Onion	Transplanting of raised seedlings and early		- 45-60 days old onion seedlings may be transplanted. - Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening



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	vegetative		hours till the plant get established.
Garlic	Planting to early vegetative		- Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplanting to early vegetative		- Transplanting of 26-30 days old seedlings may be done. - Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If required repeat it after 10 days. * Apply <i>Chloropyrphos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to early vegetative		- Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
Spinach (Palak)	Sowing to early vegetative		- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.

Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination	➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp/ Catfish culture	Harvesting and stock maintenance		- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha. - Feeds should be provided @ 3 % body weight per day. - Well balanced feed fortified with vitamins and minerals should be provided. - Apply Lime @ 30-35 kg/ha at 30days interval.

(I. Meghachandra Singh)
Scientist i/c, GKMS



ICAR Research Complex for N.E.H. Region
Manipur Centre, Lamphelpat, Imphal - 795 004
“Gramin Krishi Mausam Seva”



MANIPUR BULLETIN
16th December, 2016

Imphal East

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016) Observed clear sky but foggy during morning hours of 15 th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 °C & Minimum temperature of 6.4 to 7.0 °C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.	Weather forecast for next five days of Imphal East (17th to 21st December, 2016) Likely to have no rain up to Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 22-23 °C & minimum temp. 5-7 °C. Relative humidity may reach up to 100 % (max RH) & 36 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be North East Easterly to Easterly during next five days.
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Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016
Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}. - After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning. - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid. - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started. - Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds. -It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water. - Transplant 26-30 days old seedlings (4 leaves stage) cole crops. - If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
Broad bean	Early vegetative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.
Colocassia	Maturity to harvesting		- Mature crops may be harvested.
Onion	Transplanting of raised seedlings and early		- 45-60 days old onion seedlings may be transplanted. - Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening



ICAR Research Complex for N.E.H. Region
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	vegetative		hours till the plant get established.
Garlic	Planting to early vegetative		- Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplanting to early vegetative		- Transplanting of 26-30 days old seedlings may be done. - Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If required repeat it after 10 days. * Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to early vegetative		- Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
Spinach (Palak)	Sowing to early vegetative		- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.

Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination	➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp/ Catfish culture	Harvesting and stock maintenance		- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha. - Feeds should be provided @ 3 % body weight per day. - Well balanced feed fortified with vitamins and minerals should be provided. - Apply Lime @ 30-35 kg/ha at 30days interval.

(I. Meghachandra Singh)
Scientist i/c, GKMS



ICAR Research Complex for N.E.H. Region
Manipur Centre, Lamphelpat, Imphal - 795 004
“Gramin Krishi Mausam Seva”



MANIPUR BULLETIN

16th December, 2016

Imphal West

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016) Observed clear sky but foggy during morning hours of 15 th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 °C & Minimum temperature of 6.4 to 7.0 °C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.	Weather forecast for next five days of Imphal West (17th to 21st December, 2016) Likely to have no rain upto Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 23 – 24 °C & minimum temp. 5 - 7 °C. Relative humidity may reach up to 100 % (max RH) & 42 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be North Easterly during next five days.
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Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016

Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}. - After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning. - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid. - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started. - Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds. -It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water. - Transplant 26-30 days old seedlings (4 leaves stage) cole crops. - If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
Broad bean	Early vegetative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.
Colocassia	Maturity to harvesting		- Mature crops may be harvested.



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Onion	Transplanting of raised seedlings and early vegetative		<ul style="list-style-type: none"> - 45-60 days old onion seedlings may be transplanted. - Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening hours till the plant get established.
Garlic	Planting to early vegetative		<ul style="list-style-type: none"> - Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		<ul style="list-style-type: none"> ➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplanting to early vegetative		<ul style="list-style-type: none"> - Transplanting of 26-30 days old seedlings may be done. - Apply Tracer @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If required repeat it after 10 days. * Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to early vegetative		<ul style="list-style-type: none"> - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
Spinach (Palak)	Sowing to early vegetative		<ul style="list-style-type: none"> - Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.

Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination	➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> ➤ Mineral mixture be added in feed @10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp/ Catfish culture	Harvesting and stock maintenance		<ul style="list-style-type: none"> - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha. - Feeds should be provided @ 3 % body weight per day. - Well balanced feed fortified with vitamins and minerals should be provided. - Apply Lime @ 30-35 kg/ha at 30days interval.

(I. Meghachandra Singh)
Scientist i/c, GKMS



ICAR Research Complex for N.E.H. Region
Manipur Centre, Lamphelpat, Imphal - 795 004
“Gramin Krishi Mausam Seva”

**MANIPUR BULLETIN****16th December, 2016****Bishnupur**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016)

Observed clear sky but foggy during morning hours of 15th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 °C & Minimum temperature of 6.4 to 7.0 °C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.

Weather forecast for next five days of Bishnupur (17th to 21st December, 2016)

Likely to have no rain up to Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 23-24 °C & minimum temp. 6-8 °C. Relative humidity may reach up to 100 % (max RH) & 44 % (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be Easterly to South Easterly during next five days.

Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016

Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.
			- After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.
		Aphid	- Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.
			- Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.
			- Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
Pulses	Vegetative and late sowing		- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
			- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
			- Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started.
			- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.
			- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
			- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
Broad bean	Early vegetative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.
Colocassia	Maturity to harvesting		- Mature crops may be harvested.
Onion	Transplanting of raised seedlings and early		- 45-60 days old onion seedlings may be transplanted.
			- Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening



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	vegetative		hours till the plant get established.
Garlic	Planting to early vegetative		- Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplanting to early vegetative		- Transplanting of 26-30 days old seedlings may be done. - Apply Tracerl @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If required repeat it after 10 days. * Apply <i>Chloropyrphos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to early vegetative		- Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
Spinach (Palak)	Sowing to early vegetative		- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.

Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination	➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp/ Catfish culture	Harvesting and stock maintenance		- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha. - Feeds should be provided @ 3 % body weight per day. - Well balanced feed fortified with vitamins and minerals should be provided. - Apply Lime @ 30-35 kg/ha at 30days interval.

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Scientist i/c, GKMS



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MANIPUR BULLETIN
16th December, 2016

Chandel

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 17th to 21st December, 2016 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 15th December, 2016) Observed clear sky but foggy during morning hours of 15 th Dec and no rainfall in the past three days. Maximum temperature range of 22.6 to 23.6 °C & Minimum temperature of 6.4 to 7.0 °C with mean relative humidity 91.3 % max and 51.0 % min was recorded in the past three days. The average wind speed range remained 2.9 to 4.1 km/hr.	Weather forecast for next five days of Chandel (17th to 21st December, 2016) Likely to have no rain up to Wednesday. Moderate to dense fog very likely at isolated places during next three days and mainly clear sky during day time with maximum temp. 21-23 °C & minimum temp. 5-6 °C. Relative humidity may reach up to 99% (max RH) & 51% (min RH). The average wind speed may be 2 km/hr. Wind direction may be South Easterly to South Westerly during next five days.
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Weather Forecast for next 5 days * upto 0830 hours IST of 21st December, 2016
Moderate to dense fog very likely at isolated over Manipur during next 2days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		- Apply foliar application of urea {5 pumps per sangam @ 10g/pump}. - After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning. - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
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Rabi maize	Land preparation to sowing		- Land preparation for sowing rabi maize may be started. - Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high ridges along east-west may be prepared after ploughing. Southern face may be sown with maize and northern with pea seeds. -It may be intercropped with rapeseed/ lentil/ pea.
Seeds storage	Post harvest management		➤ For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
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Onion	Transplanting of raised seedlings and early vegetative		<ul style="list-style-type: none"> - 45-60 days old onion seedlings may be transplanted. - Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening hours till the plant get established.
Garlic	Planting to early vegetative		<ul style="list-style-type: none"> - Garlic bulblets may be planted. - Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplanting		<ul style="list-style-type: none"> ➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
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Coriander	Sowing to early vegetative		<ul style="list-style-type: none"> - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects. - Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility. Seed rate is 100g seeds for 100 sq. m.
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Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
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		Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
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