

Manipur Centre, Lamphelpat, Imphal - 795 004





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 $^{\circ}$ C & Minimum temperature of 6.4 to 7.0 $^{\circ}$ 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 $^{\circ}$ C & minimum temp. 6-8 $^{\circ}$ 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.

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

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	L	I	1
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	Aphid	 - 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. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing	Rust or Powdery mildew Aphid	 - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning. - 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.







Onion	Transplanting raised seedle and early vegetative		 - 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	- Garlic bulblets may be planted.
Broccoli	vegetative Transplantin	ng	 Give light irrigation during morning and evening hours to keep soil moist. 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 Chloropyriphos (1.5%) dust @25 kg/ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to e vegetative	early	 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 e vegetative	early	- 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	Growth stage	Disease/ infestation	Agro-meteorological advisories
animal	Growin stage	Disease/ intestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	Poultry All age groups (Chicken/		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. Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with
		Deworming	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 De-worming	 Vaccinate against sheep/ goat pox and Enterotoxaemia. 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 Deworming	 Spray with Skin Heal Spray in sufficient quantity. Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the	B.Q./ H.S/FMD	 Give Piperazine inquit @ 10-15iiii orarly once only. If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
	young ones	Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management Mastitis	Oat/ Bersum seeds must be sown from the middle of this month. 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:		T	
Type of Farming Carp/ Catfish	Harvesting and	Management	Agro-metrological advisories - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.
culture	stock maintenance		 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.



Manipur Centre, Lamphelpat, Imphal - 795 004

"Gramin Krishi Mausam Seva"



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 $15^{\rm th}$ 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.

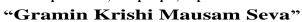
Weather forecast for next five days of Senapati (17th to 21st December, 2016)

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 $^{\circ}$ C & minimum temp. 4-6 $^{\circ}$ 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.

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

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	Aphid	 - 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. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing	Rust or Powdery mildew Aphid	 - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning. - 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.
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







	vegetative		hours till the plant get established.
Garlic	Planting to	early	- Garlic bulblets may be planted.
Broccoli	vegetative Transplanting	nα	 Give light irrigation during morning and evening hours to keep soil moist. Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with
Broccon	Transplanti	ing	30x45 cm plant spacing.
Cauliflower	Transplanti early vegeta		 - 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 Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to e vegetative	arly	 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 e vegetative	arly	- 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 Science		'	
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management Deworming Coccidiosis	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. ➤ 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. 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 De-worming	 Vaccinate against sheep/ goat pox and Enterotoxaemia. 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 Mites infestation Deworming	 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 Spray with Skin Heal Spray in sufficient quantity. Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD Ectoparasites Care & management Mastitis Mastitis Diarrhoea & Acidosis	 If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc. Butox@ 2ml/lit of water at forth night. Oat/ Bersum seeds must be sown from the middle of this month. Adequate care must be taken to prevent occurrence of Masitis. To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant. Limited quantity of green fodder must be given in animal feed.
Fishery:	1	1	
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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Tamenglong

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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 $^{\circ}$ C & Minimum temperature of 6.4 to 7.0 $^{\circ}$ 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 $^{\rm o}$ C & minimum temp. 6-8 $^{\rm o}$ 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.

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

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	- I	I	1
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	Aphid	 - 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. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing	Rust or Powdery mildew Aphid	 - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning. - 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.







Onion	Transplantir raised seedli and early vegetative		 - 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 6	early	- Garlic bulblets may be planted.
Broccoli	vegetative Transplantir	ng	 Give light irrigation during morning and evening hours to keep soil moist. Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with
			30x45 cm plant spacing.
Cauliflower	Transplantir early vegeta		 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 Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to e vegetative	arly	 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 e vegetative	arly	- 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 Science			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management Deworming Coccidiosis	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. ➤ 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. 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 De-worming	 Vaccinate against sheep/ goat pox and Enterotoxaemia. 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 Mites infestation Deworming	 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 Spray with Skin Heal Spray in sufficient quantity. Give Piperazine liquid @ 10-15ml orally once only.
Cattle All age groups excepts the		B.Q./ H.S/FMD Ectoparasites	 If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc. Butox@ 2ml/lit of water at forth night.
	young ones	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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MANIPUR BULLETIN 16th December, 2016

Thoubal

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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 $^{\circ}$ C & minimum temp. 5-7 $^{\circ}$ 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.

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

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops		<u> </u>	ı
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.
Pulses	Vegetative and late sowing	Aphid	 - 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 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.
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







	vegetative		hours till the plant get established.
Garlic	Planting to e	early	Garlic bulblets may be planted.Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplantir	ng	 Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplantir early vegeta		 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 Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to evegetative	arly	 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 exvegetative	arly	- 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	<u>.</u>	•	•
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 Coccidiosis	 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. Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water
		Coccidiosis	for 7 days.
Sheep/ Goat	All age groups excepts the young ones	Vaccination De-worming	 Vaccinate against sheep/ goat pox and Enterotoxaemia. 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 Mites infestation Deworming	 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 Spray with Skin Heal Spray in sufficient quantity.
Cattle	excepts the		 Give Piperazine liquid @ 10-15ml orally once only. If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc. Butox@ 2ml/lit of water at forth night.
	young ones	Ectoparasites 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.



Manipur Centre, Lamphelpat, Imphal - 795 004





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 $15^{\rm th}$ 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 $^{\rm o}$ C & minimum temp. 4-6 $^{\rm o}$ 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.

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

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	I.	l.	
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	Aphid	 - 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. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing	Rust or Powdery mildew Aphid	 - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning. - 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 of 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







	vegetative		hours till the plant get established.
Garlic	Planting to 6	early	- Garlic bulblets may be planted.
	vegetative		- Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplantir		> Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplantir		- Transplanting of 26-30 days old seedlings may be done.
	early vegeta	tive	- 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>Chloropyriphos (1.5%) dust @25</i> kg /ha to the cauliflower/ cabbage
<u> </u>	G : .	1	infested by cut-worms.
Coriander	Sowing to e	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat
	vegetative		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 e	arly	- Avoid damping off by adding Captan 50WP in the soil of bed.
Spinacii (1 alak	vegetative	arry	Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100
	, ogetati ve		sq m. If broadcasting is done, double the dose is required.
Tomato	Nursery		Nursery raising may be done.
Animal Science			
Name of the	Growth stage	Disease/ infestation	Agro-meteorological advisories
animal	9		
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.
(Chicken/			Proper ventilation must be provided to protect from moisture inside the shed. Litter
Turkey/ Duck)			must be kept dry.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with
		C '1' '	half the dose at regular interval of 3 weeks.
		Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water
Sheep/ Goat	All age groups	Vaccination	for 7 days. Vaccinate against sheep/ goat pox and Enterotoxaemia.
Sheep/ Goat	excepts the		
	young ones	De-worming	De-worming of animals should be done using Abendazole/ Levamisole @7.5
D:a		Cara and management	mg/kg b.wt. or Ivermectin @50mg/kg b. wt. Mineral mixture be added in feed @10-20 g/adult animal.
Pig	All age groups except the	Care and management	 Mineral mixture be added in feed @10-20 g/adult animal. Treat drinking water with potassium permanganate/ sanitizer.
	young ones		 Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
	Jouing ones	Mites infestation	 Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups		➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,
	excepts the	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.
	young ones	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
a 16 .m.			- Stocking of fish for next year may be done in ponds having 1.5m water depth @
Carp/ Catfish	Harvesting and		10,000/ ha.
culture	stock		- Feeds should be provided @ 3 % body weight per day.
	maintenance		- Well balanced feed fortified with vitamins and minerals should be provided Apply Lime @ 30-35 kg/ha at 30days interval.
	1	l .	- Apply Limb & 50-33 kg/na at 300ays michal.



Manipur Centre, Lamphelpat, Imphal - 795 004





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 $15^{\rm th}$ 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 $(17^{th}$ to 21^{st} 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 $^{\circ}$ C & minimum temp. 5-7 $^{\circ}$ 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.

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

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	Aphid	 - 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. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing	Rust or Powdery mildew Aphid	 - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning. - 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.
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







	vegetative		hours till the plant get established.
Garlic	Planting to e	early	Garlic bulblets may be planted.Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplantir	ng	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplantir early vegeta		 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 Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to e vegetative	arly	- 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 e vegetative	arly	- 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 Science	S		
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 De-worming	 Vaccinate against sheep/ goat pox and Enterotoxaemia. 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 Mites infestation Deworming	 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 Spray with Skin Heal Spray in sufficient quantity. Give Piperazine liquid @ 10-15ml orally once only.
Cattle	Cattle All age groups excepts the young ones		If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc. Butox@ 2ml/lit of water at forth night.
		Care & management Mastitis Mastitis	Oat/ Bersum seeds must be sown from the middle of this month. Adequate care must be taken to prevent occurrence of Masitis. 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 Carp/ Catfish	Stage Harvesting and	Management	Agro-metrological advisories - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.
culture	stock maintenance		 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.



Manipur Centre, Lamphelpat, Imphal - 795 004





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 $15^{\rm th}$ 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 $^{\rm o}$ C & minimum temp. 5 - 7 $^{\rm o}$ 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.

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

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	l	l	
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.







raised seedli and early vegetative	ings	 - 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.
	early	Garlic bulblets may be planted.Give light irrigation during morning and evening hours to keep soil moist.
	ıg	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
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 Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
riander 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.
Sowing to exvegetative	arly	- 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.
Nursery		Nursery raising may be done.
	T	
Growth stage	Disease/ intestation	Agro-meteorological advisories
All age groups	Care & management Deworming Coccidiosis	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. ➤ 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. Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water
A 11	77 ' '	for 7 days.
excepts the	De-worming	 Vaccinate against sheep/ goat pox and Enterotoxaemia. De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
All age groups except the young ones	Care and management Mites infestation Deworming	 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 Spray with Skin Heal Spray in sufficient quantity. Give Piperazine liquid @ 10-15ml orally once only.
All age groups excepts the young ones	B.Q./ H.S/FMD Ectoparasites	 If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc. Butox@ 2ml/lit of water at forth night.
	Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
	Mastitis Mastitis	Adequate care must be taken to prevent occurrence of Masitis. 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.
	1	
Harvesting and stock maintenance	Management	Agro-metrological advisories - 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.
	raised seedli and early vegetative Planting to e vegetative Transplantin Transplantin early vegeta Sowing to e vegetative Nursery Growth stage All age groups excepts the young ones All age groups except the young ones	Planting to early vegetative



Manipur Centre, Lamphelpat, Imphal - 795 004





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 $15^{\rm th}$ 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 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 $^{\rm o}$ C & minimum temp. 6-8 $^{\rm o}$ 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

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	Aphid	 - 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. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing	Rust or Powdery mildew Aphid	 - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning. - 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.
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







	vegetative		hours till the plant get established.
Garlic	Planting to e	early	- Garlic bulblets may be planted Give light irrigation during morning and evening hours to keep soil moist.
Broccoli	Transplantir	ng	> Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
Cauliflower	Transplantir early vegeta		 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 Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
Coriander	Sowing to evegetative	arly	 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 evegetative	arly	- 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	5		•
Name of the	Growth stage	Disease/ infestation	Agro-meteorological advisories
animal Poultry (Chicken/ 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
Turkey/ Duck)		Deworming	must be kept dry. ➤ 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 De-worming	 Vaccinate against sheep/ goat pox and Enterotoxaemia. 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 Mites infestation	 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 Spray with Skin Heal Spray in sufficient quantity.
excepts t	All age groups excepts the	Deworming B.Q./ H.S/FMD	 Give Piperazine liquid @ 10-15ml orally once only. If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
	young ones	Ectoparasites Care & management Macticia	Butox@ 2ml/lit of water at forth night. Oat/ Bersum seeds must be sown from the middle of this month. Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
Fishery:		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
	64	Managama	A
Type of Farming Carp/ Catfish culture	Harvesting and stock maintenance	Management	Agro-metrological advisories - 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.
	maintenance		 Well balanced feed fortified with vitamins and minerals should be provided. Apply Lime @ 30-35 kg/ha at 30days interval.



Manipur Centre, Lamphelpat, Imphal - 795 004





MANIPUR BULLETIN 16th December, 2016

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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 $15^{\rm th}$ 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 $^{\rm o}$ C & minimum temp. 5-6 $^{\rm o}$ 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.

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

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	Aphid	 - 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. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and late sowing	Rust or Powdery mildew Aphid	 - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Plant to plant distance may be maintained by thinning. - 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.







raised seedli and early vegetative	ings	 - 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.
	early	Garlic bulblets may be planted.Give light irrigation during morning and evening hours to keep soil moist.
	ıg	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
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 Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.
riander 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.
Sowing to exvegetative	arly	- 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.
Nursery		Nursery raising may be done.
	T	
Growth stage	Disease/ intestation	Agro-meteorological advisories
All age groups	Care & management Deworming Coccidiosis	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. ➤ 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. Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water
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excepts the	De-worming	 Vaccinate against sheep/ goat pox and Enterotoxaemia. De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
All age groups except the young ones	Care and management Mites infestation Deworming	 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 Spray with Skin Heal Spray in sufficient quantity. Give Piperazine liquid @ 10-15ml orally once only.
All age groups excepts the young ones	B.Q./ H.S/FMD Ectoparasites	 If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc. Butox@ 2ml/lit of water at forth night.
	Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
	Mastitis Mastitis	Adequate care must be taken to prevent occurrence of Masitis. 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.
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Harvesting and stock maintenance	Management	Agro-metrological advisories - 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.
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