



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



**MANIPUR BULLETIN**  
**23<sup>rd</sup> 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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b>  Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Churachandpur (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b>  Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 21 – 23 °C &amp; minimum temp. 8 - 9 °C. Relative humidity may reach up to 100 % (max RH) &amp; 40 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be South Easterly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



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**Manipur Centre, Lamphelpat, Imphal - 795 004**  
**“Gramin Krishi Mausam Seva”**



<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leaflets may be done with 30x45 cm plant spacing.
<b>Tomato</b>	Transplanting and vegetative		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
<b>Cauliflower</b>	Transplanting to 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. - Light watering may be done to maintain soil moisture.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Spinach (Palak)</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
		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.	

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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****23<sup>rd</sup> 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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b> Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Senapati (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b> Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 18 – 20 °C &amp; minimum temp. 5 - 7 °C. Relative humidity may reach up to 99 % (max RH) &amp; 47 % (min RH). The average wind speed may be 2-5 km/hr. Wind direction may be North Easterly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



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**“Gramin Krishi Mausam Seva”**



<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leaflets may be done with 30x45 cm plant spacing.
<b>Tomato</b>	Transplanting and vegetative		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
<b>Cauliflower</b>	Transplanting to 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. - Light watering may be done to maintain soil moisture.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Spinach (Palak)</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
		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.	

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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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**“Gramin Krishi Mausam Seva”**



**MANIPUR BULLETIN**  
**23<sup>rd</sup> 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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b>  Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Tamenglong (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b>  Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 22 – 24 °C &amp; minimum temp. 8 - 10 °C. Relative humidity may reach up to 100 % (max RH) &amp; 47 % (min RH). The average wind speed may be 3-5 km/hr. Wind direction may be North Easterly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



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<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leaflets may be done with 30x45 cm plant spacing.
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		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
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<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
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		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.	

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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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**“Gramin Krishi Mausam Seva”**



**MANIPUR BULLETIN**  
**23<sup>rd</sup> December, 2016**

**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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b>  Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Thoubal (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b>  Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 20 – 22 °C &amp; minimum temp. 8 - 10 °C. Relative humidity may reach up to 100 % (max RH) &amp; 57 % (min RH). The average wind speed may be 2-6 km/hr. Wind direction may be North Easterly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



**ICAR Research Complex for N.E.H. Region**

**Manipur Centre, Lamphelpat, Imphal - 795 004**

**“Gramin Krishi Mausam Seva”**



<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leaflets may be done with 30x45 cm plant spacing.
<b>Tomato</b>	Transplanting and vegetative		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
<b>Cauliflower</b>	Transplanting to 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. - Light watering may be done to maintain soil moisture.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Spinach (Palak)</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
		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.	

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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**  
**23<sup>rd</sup> 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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b>  Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Ukhrul (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b>  Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 18 – 20 °C &amp; minimum temp. 5 - 7 °C. Relative humidity may reach up to 99 % (max RH) &amp; 52 % (min RH). The average wind speed may be 2-5 km/hr. Wind direction may be South-Westerly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



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



<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
<b>Tomato</b>	Transplanting and vegetative		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
<b>Cauliflower</b>	Transplanting to 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>Chloropyriphos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms. - Light watering may be done to maintain soil moisture.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Spinach (Palak)</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
		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.

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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 Centre, Lamphelpat, Imphal - 795 004**  
**“Gramin Krishi Mausam Seva”**



**MANIPUR BULLETIN**  
**23<sup>rd</sup> 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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b>  Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Imphal East (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b>  Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 21 – 23 °C &amp; minimum temp. 8 - 10 °C. Relative humidity may reach up to 100 % (max RH) &amp; 51 % (min RH). The average wind speed may be 2-5 km/hr. Wind direction may be North Easterly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



**ICAR Research Complex for N.E.H. Region**

**Manipur Centre, Lamphelpat, Imphal - 795 004**

**“Gramin Krishi Mausam Seva”**



<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leaflets may be done with 30x45 cm plant spacing.
<b>Tomato</b>	Transplanting and vegetative		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
<b>Cauliflower</b>	Transplanting to 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. - Light watering may be done to maintain soil moisture.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Spinach (Palak)</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
		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.	

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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**  
**23<sup>rd</sup> 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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b>  Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Imphal West (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b>  Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 22 – 23 °C &amp; minimum temp. 8 - 10 °C. Relative humidity may reach up to 100 % (max RH) &amp; 48 % (min RH). The average wind speed may be 2-6 km/hr. Wind direction may be North Easterly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



**ICAR Research Complex for N.E.H. Region**

**Manipur Centre, Lamphelpat, Imphal - 795 004**

**“Gramin Krishi Mausam Seva”**



<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
<b>Tomato</b>	Transplanting and vegetative		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
<b>Cauliflower</b>	Transplanting to 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>Chloropyriphos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms. - Light watering may be done to maintain soil moisture.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Spinach (Palak)</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
		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.	

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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**  
**23<sup>rd</sup> 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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b>  Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Bishnupur (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b>  Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 21 – 22 °C &amp; minimum temp. 7 - 9 °C. Relative humidity may reach up to 100 % (max RH) &amp; 53 % (min RH). The average wind speed may be 2-6 km/hr. Wind direction may be North Easterly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



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



<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.
<b>Tomato</b>	Transplanting and vegetative		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
<b>Cauliflower</b>	Transplanting to 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>Chloropyriphos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms. - Light watering may be done to maintain soil moisture.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Spinach (Palak)</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
		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.	

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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**  
**23<sup>rd</sup> 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 24<sup>th</sup> to 28<sup>th</sup> December, 2016 as below:

<p><b>Significant past weather for the preceding bi-weekly of Imphal - West (20<sup>th</sup> to 22<sup>nd</sup> December, 2016)</b>  Observed partly cloudy to cloudy but mainly clear sky during morning hours of 22<sup>nd</sup> Dec and no rainfall in the past three days. Maximum temperature range of 20.0 to 23.3 °C and a rise in Minimum temperature from 10.0 to 11.3 °C with mean relative humidity 90.0 % max and 61.7 % min was recorded in the past four days. The average wind speed range remained 3.0 to 5.0 km/hr.</p>	<p><b>Weather forecast for next five days of Chandel (24<sup>th</sup> to 28<sup>th</sup> December, 2016)</b>  Likely to have no rain upto Wednesday. Shallow to moderate at few places very likely over Manipur during next 2 days and mainly clear sky during afternoon hours with maximum temp. 22 – 24 °C &amp; minimum temp. 7 - 9 °C. Relative humidity may reach up to 99 % (max RH) &amp; 57 % (min RH). The average wind speed may be 2-5 km/hr. Wind direction may be North Easterly during next five days.</p>
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**Weather Forecast for next 5 days \* upto 0830 hours IST of 28<sup>th</sup> December, 2016**  
Shallow to Moderate fog at isolated places very likely over Manipur during next 2 days

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
		Early Blight	- Spray Mancozeb and Chlorothalonil at 7-10 days interval against early blight.
<b>Rapeseed/ Mustard</b>	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.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
<b>Pulses</b>	Vegetative and late sowing		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. - Late sowing may be done. - Avoid plucking off of young shoots of pea plant. - 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.
<b>Rabi maize</b>	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.
<b>Seeds storage</b>	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.
<b>Horticulture Crops</b>			
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits like water-melon, cucumber, sponge gourd, pumpkin, etc. in poly-pouch and trays under polyhouse.
<b>Rabi Vegetable (cole crops)</b>	Transplanting and vegetative		- 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.
<b>Cole crops</b>	Nursery raising		Nursery for late crops may be raised.



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



<b>Broccoli</b>	Transplanting to Vegetative		- Transplanting of 25-30 days old broccoli having 3-4 leaflets may be done with 30x45 cm plant spacing.
<b>Tomato</b>	Transplanting and vegetative		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
		Early Blight	- As prophylactic and curative measure against early blight, apply Dichlorovos @ 0.5ml/ litre of water or Imidachlorpid @ 2ml/ 5 litres of water. Also apply Dithane M 45 @ 2g/ litre of water.
<b>Garden pea/ Broad bean</b>	Vegetative		- Light watering may be done to maintain soil moisture.
		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow rust especially to the crops grown in moist/ shady area.
<b>Onion</b>	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.
<b>Cauliflower</b>	Transplanting to 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. - Light watering may be done to maintain soil moisture.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Spinach (Palak)</b>	Vegetative		- Light watering may be done to maintain soil moisture.
<b>Animal Sciences</b>			

<b>Name of the animal</b>			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	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.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	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.
		Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
<b>Pig</b>	All age groups except the young ones	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
		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
<b>Cattle</b>	All age groups excepts the young ones	Mites infestation	➤ Spray with Skin Heal Spray in sufficient quantity.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
		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.	

<b>Fishery:</b>			
<b>Type of Farming</b>			
<b>Carp/ Catfish culture</b>	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