



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



**MANIPUR BULLETIN**  
**20<sup>th</sup> January, 2017**

**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 21<sup>st</sup> to 25<sup>th</sup> January, 2017 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (17<sup>th</sup> to 19<sup>th</sup> January, 2017)**

Observed mainly clear sky but foggy at foothills during morning hours of 13<sup>th</sup> and 14<sup>th</sup> Jan, 2017 and no rainfall in past three days. Maximum temperature range of 22.8 to 23.3 °C and minimum temperature range of 3.5 to 4.1 °C with mean relative humidity 90.7 % max and 42.7 % min was recorded in the past four days. The average wind speed range remained 1.4 to 2.3 km/hr.

**Weather forecast for next five days of Ukhrul (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

Likely to have no rain upto Sunday. Shallow to moderate fog during morning hours of next three days and mainly clear sky during day time with maximum temp. 17 – 19 °C & minimum temp. 1 - 3 °C. Relative humidity may reach up to 94 % (max RH) & 29 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be North Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Vegetative to flowering		- Irrigate if soil is dry. - If it is 40-45 days old, light hoeing/ earthing up may be done followed by top dressing with 30-35 Kg DAP/ sangam.
		Cut worm	If cut-worm is observed then prepare poison bait of Trichlorfon (mixture of 1kg husk + 40g sugar + 5g Trichlorfon + water) and apply manually by putting near the stem of plant above the soil surface.
		Late Blight	- As a prophylactic measure against late blight, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/lit of water at 14 days interval for 2-3 times.
<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
		Aphid	- Use yellow plates for every 3 sq.m to attract the aphids or spray Pyrethrum @ 2ml/ litre of water on the infected patches.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
<b>Pulses</b>	Vegetative to flowering and fruiting		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Imidachloprid 17.8 SL @ 7-10ml/ 15 litre of water against aphid.
<b>Rabi maize</b>	Sowing to vegetative		- Sowing of rabi maize may be done. - Irrigate field, if the soil is dry.
<b>Seeds storage</b>	Post harvest management		- For seed purpose dry, clean and store the seeds in <b>RC-seed bins</b> 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 <b>godowns</b> .
<b>Horticulture Crops</b>			
<b>Banana</b>		Sigatoka Leaf Spot	- If Sigatoka Leaf Spot disease is observed then spray Calixin @ 1 ml/ lit of water.
			- 200g, 300g and 500g Urea, SSP and MOP respectively should be applied in three split doses at two, six and eight months after planting.
<b>Citrus</b>	After harvesting		Remove water sprouts (tender green shoots emerged from main stem), dried and dead branches after harvesting of fruits. Paste the cut ends with Bordeaux paste.
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost poly-house or naturally ventilated polyhouse. - Land preparation for transplanting may be started.
<b>French bean and Bhindi</b>	Land Preparation		Land preparation for sowing may be started.
<b>Rabi Vegetable (cole crops)</b>	Vegetative to head formation		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
<b>Tomato</b>	Vegetative		- Light watering may be done to maintain soil moisture.



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**“Gramin Krishi Mausam Seva”**



<b>Garden pea/ Broad bean</b>	Vegetative to flowering		- Light watering may be done to maintain soil moisture. - Earthing up and top dressing with 20kg urea per ha followed by watering may be advised to the farmers.
		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		- Give light irrigation if the soil is dry. - 30 to 45 days old transplanted onion should be top dressed with 20-25 kg urea/ sangam depending upon the fertility.
<b>Cauliflower</b>	Vegetative to head formation		- Light watering may be done to maintain soil moisture.
		Plutella, Daimond Black Moth	Spray Dichlorovos 76 EC @ 1ml/ lit of water may be sprayed at 7 days interval depending upon the severity of the infestation.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture. - For late, treat seed with Trichoderma harzianum @ 4g/kg seed is recommended to protect against soil borne diseases.
<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.
		Ranikhet disease	1. F-1 Strain may be first administered within 7 days of age and second dose may be given at 30days for all birds. 2. R <sub>2</sub> B vaccine of 8-9 weeks of age group birds (layers). 3. Killed ND virus vaccine of 16-18 weeks of age group birds (layers).
<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.
		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 nightly interval.
<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 BULLETIN**  
**20<sup>th</sup> January, 2017**

**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 21<sup>st</sup> to 25<sup>th</sup> January, 2017 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (17<sup>th</sup> to 19<sup>th</sup> January, 2017)**

Observed mainly clear sky but foggy at foothills during morning hours of 13<sup>th</sup> and 14<sup>th</sup> Jan, 2017 and no rainfall in past three days. Maximum temperature range of 22.8 to 23.3 °C and minimum temperature range of 3.5 to 4.1 °C with mean relative humidity 90.7 % max and 42.7 % min was recorded in the past four days. The average wind speed range remained 1.4 to 2.3 km/hr.

**Weather forecast for next five days of Imphal East (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

Likely to have no rain upto Sunday. Shallow to moderate fog during morning hours of next three days and mainly clear sky during day time with maximum temp. 22 – 23 °C & minimum temp. 2 - 4 °C. Relative humidity may reach up to 95 % (max RH) & 29 % (min RH). The average wind speed may be 4-5 km/hr. Wind direction may be North Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Vegetative to flowering		- Irrigate if soil is dry. - If it is 40-45 days old, light hoeing/ earthing up may be done followed by top dressing with 30-35 Kg DAP/ sangam.
		Cut worm	If cut-worm is observed then prepare poison bait of Trichlorfon (mixture of 1kg husk + 40g sugar + 5g Trichlorfon + water) and apply manually by putting near the stem of plant above the soil surface.
		Late Blight	- As a prophylactic measure against late blight, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/lit of water at 14 days interval for 2-3 times.
<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
		Aphid	- Use yellow plates for every 3 sq.m to attract the aphids or spray Pyrethrum @ 2ml/ litre of water on the infected patches.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
<b>Pulses</b>	Vegetative to flowering and fruiting		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Imidachloprid 17.8 SL @ 7-10ml/ 15 litre of water against aphid.
<b>Rabi maize</b>	Sowing to vegetative		- Sowing of rabi maize may be done. - Irrigate field, if the soil is dry.
<b>Seeds storage</b>	Post harvest management		- For seed purpose dry, clean and store the seeds in <b>RC-seed bins</b> 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 <b>godowns</b> .
<b>Horticulture Crops</b>			
<b>Banana</b>		Sigatoka Leaf Spot	- If Sigatoka Leaf Spot disease is observed then spray Calixin @ 1 ml/ lit of water.
			- 200g, 300g and 500g Urea, SSP and MOP respectively should be applied in three split doses at two, six and eight months after planting.
<b>Citrus</b>	After harvesting		Remove water sprouts (tender green shoots emerged from main stem), dried and dead branches after harvesting of fruits. Paste the cut ends with Bordeaux paste.
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost poly-house or naturally ventilated polyhouse. - Land preparation for transplanting may be started.
<b>French bean and Bhindi</b>	Land Preparation		Land preparation for sowing may be started.
<b>Rabi Vegetable (cole crops)</b>	Vegetative to head formation		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
<b>Tomato</b>	Vegetative		- Light watering may be done to maintain soil moisture.



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		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		- Give light irrigation if the soil is dry. - 30 to 45 days old transplanted onion should be top dressed with 20-25 kg urea/ sangam depending upon the fertility.
<b>Cauliflower</b>	Vegetative to head formation		- Light watering may be done to maintain soil moisture.
		Plutella, Daimond Black Moth	Spray Dichlorovos 76 EC @ 1ml/ lit of water may be sprayed at 7 days interval depending upon the severity of the infestation.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture. - For late, treat seed with Trichoderma harzianum @ 4g/kg seed is recommended to protect against soil borne diseases.
<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.
		Ranikhet disease	1. F-1 Strain may be first administered within 7 days of age and second dose may be given at 30days for all birds. 2. R <sub>2</sub> B vaccine of 8-9 weeks of age group birds (layers). 3. Killed ND virus vaccine of 16-18 weeks of age group birds (layers).
<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.
		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.
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		Ectoparasites	- Butox @ 2ml/lit of water at forth nightly interval.
<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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**MANIPUR BULLETIN**  
**20<sup>th</sup> January, 2017**

**Imphal West**

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**Weather forecast for next five days of Imphal West (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

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Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Vegetative to flowering		- Irrigate if soil is dry. - If it is 40-45 days old, light hoeing/ earthing up may be done followed by top dressing with 30-35 Kg DAP/ sangam.
		Cut worm	If cut-worm is observed then prepare poison bait of Trichlorfon (mixture of 1kg husk + 40g sugar + 5g Trichlorfon + water) and apply manually by putting near the stem of plant above the soil surface.
		Late Blight	- As a prophylactic measure against late blight, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/lit of water at 14 days interval for 2-3 times.
<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
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<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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**MANIPUR BULLETIN**  
**20<sup>th</sup> January, 2017**

**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 21<sup>st</sup> to 25<sup>th</sup> January, 2017 as below:

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**Weather forecast for next five days of Bishnupur (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

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<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
		Aphid	- Use yellow plates for every 3 sq.m to attract the aphids or spray Pyrethrum @ 2ml/ litre of water on the infected patches.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
<b>Pulses</b>	Vegetative to flowering and fruiting		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Imidachloprid 17.8 SL @ 7-10ml/ 15 litre of water against aphid.
<b>Rabi maize</b>	Sowing to vegetative		- Sowing of rabi maize may be done. - Irrigate field, if the soil is dry.
<b>Seeds storage</b>	Post harvest management		- For seed purpose dry, clean and store the seeds in <b>RC-seed bins</b> 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 <b>godowns</b> .
<b>Horticulture Crops</b>			
<b>Banana</b>		Sigatoka Leaf Spot	- If Sigatoka Leaf Spot disease is observed then spray Calixin @ 1 ml/ lit of water.
			- 200g, 300g and 500g Urea, SSP and MOP respectively should be applied in three split doses at two, six and eight months after planting.
<b>Citrus</b>	After harvesting		Remove water sprouts (tender green shoots emerged from main stem), dried and dead branches after harvesting of fruits. Paste the cut ends with Bordeaux paste.
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost poly-house or naturally ventilated polyhouse. - Land preparation for transplanting may be started.
<b>French bean and Bhindi</b>	Land Preparation		Land preparation for sowing may be started.
<b>Rabi Vegetable (cole crops)</b>	Vegetative to head formation		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
<b>Tomato</b>	Vegetative		- Light watering may be done to maintain soil moisture.



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



<b>Garden pea/ Broad bean</b>	Vegetative to flowering		- Light watering may be done to maintain soil moisture. - Earthing up and top dressing with 20kg urea per ha followed by watering may be advised to the farmers.
		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		- Give light irrigation if the soil is dry. - 30 to 45 days old transplanted onion should be top dressed with 20-25 kg urea/ sangam depending upon the fertility.
<b>Cauliflower</b>	Vegetative to head formation		- Light watering may be done to maintain soil moisture.
		Plutella, Daimond Black Moth	Spray Dichlorovos 76 EC @ 1ml/ lit of water may be sprayed at 7 days interval depending upon the severity of the infestation.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture. - For late, treat seed with Trichoderma harzianum @ 4g/kg seed is recommended to protect against soil borne diseases.
<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.
		Ranikhet disease	1. F-1 Strain may be first administered within 7 days of age and second dose may be given at 30days for all birds. 2. R <sub>2</sub> B vaccine of 8-9 weeks of age group birds (layers). 3. Killed ND virus vaccine of 16-18 weeks of age group birds (layers).
<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.
		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 nightly interval.
<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**  
**20<sup>th</sup> January, 2017**

**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 21<sup>st</sup> to 25<sup>th</sup> January, 2017 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (17<sup>th</sup> to 19<sup>th</sup> January, 2017)**

Observed mainly clear sky but foggy at foothills during morning hours of 13<sup>th</sup> and 14<sup>th</sup> Jan, 2017 and no rainfall in past three days. Maximum temperature range of 22.8 to 23.3 °C and minimum temperature range of 3.5 to 4.1 °C with mean relative humidity 90.7 % max and 42.7 % min was recorded in the past four days. The average wind speed range remained 1.4 to 2.3 km/hr.

**Weather forecast for next five days of Chandel (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

Likely to have no rain upto Sunday. Shallow to moderate fog during morning hours of next three days and mainly clear sky during day time with maximum temp. 21 – 23 °C & minimum temp. 2 - 4 °C. Relative humidity may reach up to 93 % (max RH) & 32 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be Westerly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Vegetative to flowering		- Irrigate if soil is dry. - If it is 40-45 days old, light hoeing/ earthing up may be done followed by top dressing with 30-35 Kg DAP/ sangam.
		Cut worm	If cut-worm is observed then prepare poison bait of Trichlorfon (mixture of 1kg husk + 40g sugar + 5g Trichlorfon + water) and apply manually by putting near the stem of plant above the soil surface.
		Late Blight	- As a prophylactic measure against late blight, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/lit of water at 14 days interval for 2-3 times.
<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
		Aphid	- Use yellow plates for every 3 sq.m to attract the aphids or spray Pyrethrum @ 2ml/ litre of water on the infected patches.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
<b>Pulses</b>	Vegetative to flowering and fruiting		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Imidachloprid 17.8 SL @ 7-10ml/ 15 litre of water against aphid.
<b>Rabi maize</b>	Sowing to vegetative		- Sowing of rabi maize may be done. - Irrigate field, if the soil is dry.
<b>Seeds storage</b>	Post harvest management		- For seed purpose dry, clean and store the seeds in <b>RC-seed bins</b> 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 <b>godowns</b> .
<b>Horticulture Crops</b>			
<b>Banana</b>		Sigatoka Leaf Spot	- If Sigatoka Leaf Spot disease is observed then spray Calixin @ 1 ml/ lit of water.
			- 200g, 300g and 500g Urea, SSP and MOP respectively should be applied in three split doses at two, six and eight months after planting.
<b>Citrus</b>	After harvesting		Remove water sprouts (tender green shoots emerged from main stem), dried and dead branches after harvesting of fruits. Paste the cut ends with Bordeaux paste.
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost poly-house or naturally ventilated polyhouse. - Land preparation for transplanting may be started.
<b>French bean and Bhindi</b>	Land Preparation		Land preparation for sowing may be started.
<b>Rabi Vegetable (cole crops)</b>	Vegetative to head formation		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
<b>Tomato</b>	Vegetative		- Light watering may be done to maintain soil moisture.



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



<b>Garden pea/ Broad bean</b>	Vegetative to flowering		- Light watering may be done to maintain soil moisture. - Earthing up and top dressing with 20kg urea per ha followed by watering may be advised to the farmers.
		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		- Give light irrigation if the soil is dry. - 30 to 45 days old transplanted onion should be top dressed with 20-25 kg urea/ sangam depending upon the fertility.
<b>Cauliflower</b>	Vegetative to head formation		- Light watering may be done to maintain soil moisture.
		Plutella, Daimond Black Moth	Spray Dichlorovos 76 EC @ 1ml/ lit of water may be sprayed at 7 days interval depending upon the severity of the infestation.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture. - For late, treat seed with Trichoderma harzianum @ 4g/kg seed is recommended to protect against soil borne diseases.
<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.
		Ranikhet disease	1. F-1 Strain may be first administered within 7 days of age and second dose may be given at 30days for all birds. 2. R <sub>2</sub> B vaccine of 8-9 weeks of age group birds (layers). 3. Killed ND virus vaccine of 16-18 weeks of age group birds (layers).
<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.
		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 nightly interval.
<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**  
**20<sup>th</sup> January, 2017**

**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 21<sup>st</sup> to 25<sup>th</sup> January, 2017 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (17<sup>th</sup> to 19<sup>th</sup> January, 2017)**

Observed mainly clear sky but foggy at foothills during morning hours of 13<sup>th</sup> and 14<sup>th</sup> Jan, 2017 and no rainfall in past three days. Maximum temperature range of 22.8 to 23.3 °C and minimum temperature range of 3.5 to 4.1 °C with mean relative humidity 90.7 % max and 42.7 % min was recorded in the past four days. The average wind speed range remained 1.4 to 2.3 km/hr.

**Weather forecast for next five days of Churachandpur (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

Likely to have no rain upto Sunday. Shallow to moderate fog during morning hours of next three days and mainly clear sky during day time with maximum temp. 21 – 23 °C & minimum temp. 2 - 4 °C. Relative humidity may reach up to 98 % (max RH) & 26 % (min RH). The average wind speed may be 4 km/hr. Wind direction may be South Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Vegetative to flowering		- Irrigate if soil is dry. - If it is 40-45 days old, light hoeing/ earthing up may be done followed by top dressing with 30-35 Kg DAP/ sangam.
		Cut worm	If cut-worm is observed then prepare poison bait of Trichlorfon (mixture of 1kg husk + 40g sugar + 5g Trichlorfon + water) and apply manually by putting near the stem of plant above the soil surface.
		Late Blight	- As a prophylactic measure against late blight, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/lit of water at 14 days interval for 2-3 times.
<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
		Aphid	- Use yellow plates for every 3 sq.m to attract the aphids or spray Pyrethrum @ 2ml/ litre of water on the infected patches.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
<b>Pulses</b>	Vegetative to flowering and fruiting		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Imidachloprid 17.8 SL @ 7-10ml/ 15 litre of water against aphid.
<b>Rabi maize</b>	Sowing to vegetative		- Sowing of rabi maize may be done. - Irrigate field, if the soil is dry.
<b>Seeds storage</b>	Post harvest management		- For seed purpose dry, clean and store the seeds in <b>RC-seed bins</b> 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 <b>godowns</b> .
<b>Horticulture Crops</b>			
<b>Banana</b>		Sigatoka Leaf Spot	- If Sigatoka Leaf Spot disease is observed then spray Calixin @ 1 ml/ lit of water.
			- 200g, 300g and 500g Urea, SSP and MOP respectively should be applied in three split doses at two, six and eight months after planting.
<b>Citrus</b>	After harvesting		Remove water sprouts (tender green shoots emerged from main stem), dried and dead branches after harvesting of fruits. Paste the cut ends with Bordeaux paste.
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost poly-house or naturally ventilated polyhouse. - Land preparation for transplanting may be started.
<b>French bean and Bhindi</b>	Land Preparation		Land preparation for sowing may be started.
<b>Rabi Vegetable (cole crops)</b>	Vegetative to head formation		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
<b>Tomato</b>	Vegetative		- Light watering may be done to maintain soil moisture.



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



<b>Garden pea/ Broad bean</b>	Vegetative to flowering		- Light watering may be done to maintain soil moisture. - Earthing up and top dressing with 20kg urea per ha followed by watering may be advised to the farmers.
		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		- Give light irrigation if the soil is dry. - 30 to 45 days old transplanted onion should be top dressed with 20-25 kg urea/ sangam depending upon the fertility.
<b>Cauliflower</b>	Vegetative to head formation		- Light watering may be done to maintain soil moisture.
		Plutella, Daimond Black Moth	Spray Dichlorovos 76 EC @ 1ml/ lit of water may be sprayed at 7 days interval depending upon the severity of the infestation.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture. - For late, treat seed with Trichoderma harzianum @ 4g/kg seed is recommended to protect against soil borne diseases.
<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.
		Ranikhet disease	1. F-1 Strain may be first administered within 7 days of age and second dose may be given at 30days for all birds. 2. R <sub>2</sub> B vaccine of 8-9 weeks of age group birds (layers). 3. Killed ND virus vaccine of 16-18 weeks of age group birds (layers).
<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.
		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 nightly interval.
<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**  
**20<sup>th</sup> January, 2017**

**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 21<sup>st</sup> to 25<sup>th</sup> January, 2017 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (17<sup>th</sup> to 19<sup>th</sup> January, 2017)**

Observed mainly clear sky but foggy at foothills during morning hours of 13<sup>th</sup> and 14<sup>th</sup> Jan, 2017 and no rainfall in past three days. Maximum temperature range of 22.8 to 23.3 °C and minimum temperature range of 3.5 to 4.1 °C with mean relative humidity 90.7 % max and 42.7 % min was recorded in the past four days. The average wind speed range remained 1.4 to 2.3 km/hr.

**Weather forecast for next five days of Senapati (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

Likely to have no rain upto Sunday. Shallow to moderate fog during morning hours of next three days and mainly clear sky during day time with maximum temp. 17 – 19 °C & minimum temp. 1 - 3 °C. Relative humidity may reach up to 92 % (max RH) & 29 % (min RH). The average wind speed may be 4 km/hr. Wind direction may be North Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Vegetative to flowering		- Irrigate if soil is dry. - If it is 40-45 days old, light hoeing/ earthing up may be done followed by top dressing with 30-35 Kg DAP/ sangam.
		Cut worm	If cut-worm is observed then prepare poison bait of Trichlorfon (mixture of 1kg husk + 40g sugar + 5g Trichlorfon + water) and apply manually by putting near the stem of plant above the soil surface.
		Late Blight	- As a prophylactic measure against late blight, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/lit of water at 14 days interval for 2-3 times.
<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
		Aphid	- Use yellow plates for every 3 sq.m to attract the aphids or spray Pyrethrum @ 2ml/ litre of water on the infected patches.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
<b>Pulses</b>	Vegetative to flowering and fruiting		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Imidachloprid 17.8 SL @ 7-10ml/ 15 litre of water against aphid.
<b>Rabi maize</b>	Sowing to vegetative		- Sowing of rabi maize may be done. - Irrigate field, if the soil is dry.
<b>Seeds storage</b>	Post harvest management		- For seed purpose dry, clean and store the seeds in <b>RC-seed bins</b> 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 <b>godowns</b> .
<b>Horticulture Crops</b>			
<b>Banana</b>		Sigatoka Leaf Spot	- If Sigatoka Leaf Spot disease is observed then spray Calixin @ 1 ml/ lit of water.
			- 200g, 300g and 500g Urea, SSP and MOP respectively should be applied in three split doses at two, six and eight months after planting.
<b>Citrus</b>	After harvesting		Remove water sprouts (tender green shoots emerged from main stem), dried and dead branches after harvesting of fruits. Paste the cut ends with Bordeaux paste.
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost poly-house or naturally ventilated polyhouse. - Land preparation for transplanting may be started.
<b>French bean and Bhindi</b>	Land Preparation		Land preparation for sowing may be started.
<b>Rabi Vegetable (cole crops)</b>	Vegetative to head formation		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
<b>Tomato</b>	Vegetative		- Light watering may be done to maintain soil moisture.





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



<b>Garden pea/ Broad bean</b>	Vegetative to flowering		- Light watering may be done to maintain soil moisture. - Earthing up and top dressing with 20kg urea per ha followed by watering may be advised to the farmers.
		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		- Give light irrigation if the soil is dry. - 30 to 45 days old transplanted onion should be top dressed with 20-25 kg urea/ sangam depending upon the fertility.
<b>Cauliflower</b>	Vegetative to head formation		- Light watering may be done to maintain soil moisture.
		Plutella, Daimond Black Moth	Spray Dichlorovos 76 EC @ 1ml/ lit of water may be sprayed at 7 days interval depending upon the severity of the infestation.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture. - For late, treat seed with Trichoderma harzianum @ 4g/kg seed is recommended to protect against soil borne diseases.
<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.
		Ranikhet disease	1. F-1 Strain may be first administered within 7 days of age and second dose may be given at 30days for all birds. 2. R <sub>2</sub> B vaccine of 8-9 weeks of age group birds (layers). 3. Killed ND virus vaccine of 16-18 weeks of age group birds (layers).
<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.
		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 nightly interval.
<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**  
**20<sup>th</sup> January, 2017**

**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 21<sup>st</sup> to 25<sup>th</sup> January, 2017 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (17<sup>th</sup> to 19<sup>th</sup> January, 2017)**

Observed mainly clear sky but foggy at foothills during morning hours of 13<sup>th</sup> and 14<sup>th</sup> Jan, 2017 and no rainfall in past three days. Maximum temperature range of 22.8 to 23.3 °C and minimum temperature range of 3.5 to 4.1 °C with mean relative humidity 90.7 % max and 42.7 % min was recorded in the past four days. The average wind speed range remained 1.4 to 2.3 km/hr.

**Weather forecast for next five days of Tamenglong (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

Likely to have no rain upto Sunday. Shallow to moderate fog during morning hours of next three days and mainly clear sky during day time with maximum temp. 22 – 24 °C & minimum temp. 2 - 4 °C. Relative humidity may reach up to 98 % (max RH) & 22 % (min RH). The average wind speed may be 4-5 km/hr. Wind direction may be South Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Vegetative to flowering		- Irrigate if soil is dry. - If it is 40-45 days old, light hoeing/ earthing up may be done followed by top dressing with 30-35 Kg DAP/ sangam.
		Cut worm	If cut-worm is observed then prepare poison bait of Trichlorfon (mixture of 1kg husk + 40g sugar + 5g Trichlorfon + water) and apply manually by putting near the stem of plant above the soil surface.
		Late Blight	- As a prophylactic measure against late blight, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/lit of water at 14 days interval for 2-3 times.
<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
		Aphid	- Use yellow plates for every 3 sq.m to attract the aphids or spray Pyrethrum @ 2ml/ litre of water on the infected patches.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
<b>Pulses</b>	Vegetative to flowering and fruiting		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Imidachloprid 17.8 SL @ 7-10ml/ 15 litre of water against aphid.
<b>Rabi maize</b>	Sowing to vegetative		- Sowing of rabi maize may be done. - Irrigate field, if the soil is dry.
<b>Seeds storage</b>	Post harvest management		- For seed purpose dry, clean and store the seeds in <b>RC-seed bins</b> 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 <b>godowns</b> .
<b>Horticulture Crops</b>			
<b>Banana</b>		Sigatoka Leaf Spot	- If Sigatoka Leaf Spot disease is observed then spray Calixin @ 1 ml/ lit of water.
			- 200g, 300g and 500g Urea, SSP and MOP respectively should be applied in three split doses at two, six and eight months after planting.
<b>Citrus</b>	After harvesting		Remove water sprouts (tender green shoots emerged from main stem), dried and dead branches after harvesting of fruits. Paste the cut ends with Bordeaux paste.
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost poly-house or naturally ventilated polyhouse. - Land preparation for transplanting may be started.
<b>French bean and Bhindi</b>	Land Preparation		Land preparation for sowing may be started.
<b>Rabi Vegetable (cole crops)</b>	Vegetative to head formation		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
<b>Tomato</b>	Vegetative		- Light watering may be done to maintain soil moisture.



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<b>Garden pea/ Broad bean</b>	Vegetative to flowering		- Light watering may be done to maintain soil moisture. - Earthing up and top dressing with 20kg urea per ha followed by watering may be advised to the farmers.
		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		- Give light irrigation if the soil is dry. - 30 to 45 days old transplanted onion should be top dressed with 20-25 kg urea/ sangam depending upon the fertility.
<b>Cauliflower</b>	Vegetative to head formation		- Light watering may be done to maintain soil moisture.
		Plutella, Daimond Black Moth	Spray Dichlorovos 76 EC @ 1ml/ lit of water may be sprayed at 7 days interval depending upon the severity of the infestation.
<b>Coriander</b>	Vegetative		- Light watering may be done to maintain soil moisture. - For late, treat seed with Trichoderma harzianum @ 4g/kg seed is recommended to protect against soil borne diseases.
<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.
		Ranikhet disease	1. F-1 Strain may be first administered within 7 days of age and second dose may be given at 30days for all birds. 2. R <sub>2</sub> B vaccine of 8-9 weeks of age group birds (layers). 3. Killed ND virus vaccine of 16-18 weeks of age group birds (layers).
<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.
		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 nightly interval.
<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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**MANIPUR BULLETIN**  
**20<sup>th</sup> January, 2017**

**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 21<sup>st</sup> to 25<sup>th</sup> January, 2017 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (17<sup>th</sup> to 19<sup>th</sup> January, 2017)**

Observed mainly clear sky but foggy at foothills during morning hours of 13<sup>th</sup> and 14<sup>th</sup> Jan, 2017 and no rainfall in past three days. Maximum temperature range of 22.8 to 23.3 °C and minimum temperature range of 3.5 to 4.1 °C with mean relative humidity 90.7 % max and 42.7 % min was recorded in the past four days. The average wind speed range remained 1.4 to 2.3 km/hr.

**Weather forecast for next five days of Thoubal (21<sup>st</sup> to 25<sup>th</sup> January, 2017)**

Likely to have no rain upto Sunday. Shallow to moderate fog during morning hours of next three days and mainly clear sky during day time with maximum temp. 22 – 23 °C & minimum temp. 2 - 4 °C. Relative humidity may reach up to 95 % (max RH) & 26 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be South Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Potato</b>	Vegetative to flowering		- Irrigate if soil is dry. - If it is 40-45 days old, light hoeing/ earthing up may be done followed by top dressing with 30-35 Kg DAP/ sangam.
		Cut worm	If cut-worm is observed then prepare poison bait of Trichlorfon (mixture of 1kg husk + 40g sugar + 5g Trichlorfon + water) and apply manually by putting near the stem of plant above the soil surface.
		Late Blight	- As a prophylactic measure against late blight, spray Metalaxyl based fungicide, like Redomil MZ-72 WP @ 2 gm/lit alternately with Mencozeb @ 2gm/lit of water at 14 days interval for 2-3 times.
<b>Rapeseed/ Mustard</b>	Vegetative to flowering		- Regular monitoring of moisture of soil may be done to ensure good growth. Irrigation may be given if the soil moisture have decline. - If flowering has started, then four bee boxes may be kept for one hectare crop area. Avoid spray of insecticides in such area.
		Aphid	- Use yellow plates for every 3 sq.m to attract the aphids or spray Pyrethrum @ 2ml/ litre of water on the infected patches.
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
<b>Pulses</b>	Vegetative to flowering and fruiting		- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Imidachloprid 17.8 SL @ 7-10ml/ 15 litre of water against aphid.
<b>Rabi maize</b>	Sowing to vegetative		- Sowing of rabi maize may be done. - Irrigate field, if the soil is dry.
<b>Seeds storage</b>	Post harvest management		- For seed purpose dry, clean and store the seeds in <b>RC-seed bins</b> 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 <b>godowns</b> .
<b>Horticulture Crops</b>			
<b>Banana</b>		Sigatoka Leaf Spot	- If Sigatoka Leaf Spot disease is observed then spray Calixin @ 1 ml/ lit of water.
			- 200g, 300g and 500g Urea, SSP and MOP respectively should be applied in three split doses at two, six and eight months after planting.
<b>Citrus</b>	After harvesting		Remove water sprouts (tender green shoots emerged from main stem), dried and dead branches after harvesting of fruits. Paste the cut ends with Bordeaux paste.
<b>Cucurbits</b>	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost poly-house or naturally ventilated polyhouse. - Land preparation for transplanting may be started.
<b>French bean and Bhindi</b>	Land Preparation		Land preparation for sowing may be started.
<b>Rabi Vegetable (cole crops)</b>	Vegetative to head formation		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.
<b>Tomato</b>	Vegetative		- Light watering may be done to maintain soil moisture.



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		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		- Give light irrigation if the soil is dry. - 30 to 45 days old transplanted onion should be top dressed with 20-25 kg urea/ sangam depending upon the fertility.
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<b>Name of the animal</b>			
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<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.
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		Ectoparasites	- Butox @ 2ml/lit of water at forth nightly interval.
<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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