

Manipur Centre, Lamphelpat, Imphal - 795 004





# MANIPUR BULLETIN 20<sup>th</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 21<sup>st</sup> to 25<sup>th</sup> December, 2016 as below:

## Significant past weather for the preceding bi-weekly of Imphal - West (16<sup>th</sup> to 19<sup>th</sup> December, 2016)

Observed fair to variable sky during and shallow fog with cloudy sky on  $18^{th}$  Dec and no rainfall in the past four days. Maximum temperature range of 23.3 to 23.8  $^{\circ}$  C and a rise in Minimum temperature from7.1 to 10.9  $^{\circ}$  C with mean relative humidity 92.5 % max and 51.0 % min was recorded in the past four days. The average wind speed range remained 2.9 to 4.0 km/hr.

### Weather forecast for next five days of Bishnupur (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp. 23 – 24  $^{\circ}$  C & minimum temp. 8 - 10  $^{\circ}$  C. Relative humidity may reach up to 100 % (max RH) & 54 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be North Easterly to Easterly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25<sup>th</sup> December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops		.!	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>- Avoid plucking off of young shoots of pea plant.</li> <li>- Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	<ul> <li>- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.</li> <li>- For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.</li> </ul>
Rabi maize	Land preparation to sowing		<ul> <li>Land preparation for sowing rabi maize may be started.</li> <li>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.</li> <li>It may be intercropped with rapeseed/lentil/pea.</li> </ul>
Seeds storage	Post harvest management		<ul> <li>➤ 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.</li> </ul>
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops	Nursery raising		Nursery for late crops may be raised.
Tomato	Nursery raising to transplanting		During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean	Early vegeta	ıtive	- Broad bean may be sown. Avoid sowing in damped and shed area as the crops	
0:	Transplantin	ag of	are prone to fungal disease.	-
Onion	raised seedli		<ul> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Thinning of onion nursery may be followed if there is shortage of land and</li> </ul>	
	and early	.ngs	manpower for transplanting. Give light irrigation during morning and evening	
	vegetative		hours till the plant get established.	
Broccoli	Transplantin	1σ	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with	-
Dioccon	Transplantin	15	30x45 cm plant spacing.	
Cauliflower	Transplantin	ng to	- Transplanting of 26-30 days old seedlings may be done.	1
Cuuliiowei	early vegetar		- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf	
			curling, development of purple coloured vein due to absence of micronutrient. If	
Coriander Sowing to			required repeat it after 10 days.	
Coriander Sowing to			* Apply Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage	
			infested by cut-worms.	_
Coriander	Sowing to ea	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat	
	vegetative		soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
			seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
C · 1 (D 11) Coming to		ouls:	improve soil fertility. Seed rate is 100g seeds for 100 sq. m.	-
Spinach (Palak)		агту	- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
	vegetative		sq m. If broadcasting is done, double the dose is required.	
Tomato	Nursery		Nursery raising may be done.	-
Animal Sciences	,		ivursery raising may be done.	-
Name of the anim				G
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	_
(Chicken/	An age groups	Care & management	Proper ventilation must be provided to protect from moisture inside the shed. Litter	
Turkey/ Duck)			must be kept dry.	
1411105/124011)		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with	1
			half the dose at regular interval of 3 weeks.	
Sheep/ Goat	All age groups	Coccidiosis	➤ Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking	1
	excepts the		water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5	-
	All aga groups		mg/kg b.wt. or Ivermectin @50mg/kg b. wt.	
Pig	All age groups except the	Care and management	➤ Mineral mixture be added in feed @ 10-20 g/adult animal.	
1 ig	young ones		Treat drinking water with potassium permanganate/ sanitizer.	
	young ones		Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds	
		Mites infestation	Spray with Skin Heal Spray in sufficient quantity.	
	All age groups	Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.	_
	excepts the		If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,	
	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.	_
Cattle		Ectoparasites	Butox@ 2ml/lit of water at forth night.	
Cattle		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.	1
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.	
	ļ	Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their	1
			udders should be cleaned with disinfectant.	
	ļ	Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.	1
				-
Fishery: Type of Farming				S
			- Stocking of fish for next year may be done in ponds having 1.5m water depth @	T
Carp/ Catfish	Harvesting and		10,000/ ha.	
culture	stock		- Feeds should be provided @ 3 % body weight per day.	
	maintenance		- Well balanced feed fortified with vitamins and minerals should be provided.	
			- Apply Lime @ 30-35 kg/ha at 30days interval.	



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#### Chandel

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## Weather forecast for next five days of Chandel (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp.  $23-25\,^{\circ}$  C & minimum temp.  $8-10\,^{\circ}$  C. Relative humidity may reach upto 99 % (max RH) & 61 % (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be North Easterly to Easterly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25<sup>th</sup> December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops		<u>I</u>	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>- Avoid plucking off of young shoots of pea plant.</li> <li>- Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	<ul> <li>Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.</li> <li>For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.</li> </ul>
Rabi maize	Land preparation to sowing		<ul> <li>- Land preparation for sowing rabi maize may be started.</li> <li>- 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.</li> </ul>
Seeds storage	Post harvest management		<ul> <li>It may be intercropped with rapeseed/ lentil/ pea.</li> <li>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.</li> </ul>
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops Tomato	Nursery raising Nursery raising to transplanting		Nursery for late crops may be raised.  During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean	Early vegeta	itive	- Broad bean may be sown. Avoid sowing in damped and shed area as the crops	
<u> </u>	T 1 1	<u> </u>	are prone to fungal disease.	
Onion	Transplantin		- 45-60 days old onion seedlings may be transplanted.	
	raised seedli	ings	- Thinning of onion nursery may be followed if there is shortage of land and	
	and early		manpower for transplanting. Give light irrigation during morning and evening	
	vegetative		hours till the plant get established.	
Broccoli	Transplantin	ıg	➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.	
Cauliflower	Transplantin	ng to	- Transplanting of 26-30 days old seedlings may be done.	
Caumiowei	early vegeta		- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf	
	, ,		curling, development of purple coloured vein due to absence of micronutrient. If	
			required repeat it after 10 days.	
			* Apply Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage	
			infested by cut-worms.	
Coriander	Sowing to ea	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat	
vegetative			soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
			seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
			improve soil fertility. Seed rate is 100g seeds for 100 sq. m.	
Spinach (Palak)		arly	- Avoid damping off by adding Captan 50WP in the soil of bed.	
	vegetative		Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
			sq m. If broadcasting is done, double the dose is required.	
Tomato	Nursery		Nursery raising may be done.	
Animal Sciences				_
Name of the anim		G 0		G
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	
(Chicken/			Proper ventilation must be provided to protect from moisture inside the shed. Litter	
Turkey/ Duck)	<del> </del>	Dorgonning	must be kept dry.  > Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with	
		Deworming	half the dose at regular interval of 3 weeks.	
Sheen/ Goat	All age groups	Coccidiosis	<ul> <li>Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking</li> </ul>	
	excepts the	Gocciaiosis	water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
		De-worming	De-worming of animals should be done using Abendazole/ Levamisole @7.5	
	All age groups	C 1	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.	
Pig	except the	Care and management	Mineral mixture be added in feed @10-20 g/adult animal.	
O .	young ones		Treat drinking water with potassium permanganate/ sanitizer.	
	<u> </u>	3.6.	➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds	
	All aga agaums	Mites infestation	Spray with Skin Heal Spray in sufficient quantity.	
	All age groups excepts the	Deworming	Give Piperazine liquid @ 10-15ml orally once only.	
	young ones	B.Q./ H.S/FMD	If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.	
	young ones	Ectoparasites	Butox@ 2ml/lit of water at forth night.	
Cattle		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.	
		Mastitis Mastitis	Adequate care must be taken to prevent occurrence of Masitis.	
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			Starking of Sale factors and a large stark of the sale	_
Fishery: Type of Farming	Howasting and		- Stocking of fish for next year may be done in ponds having 1.5m water depth @	_
Type of Farming  Carp/ Catfish	Harvesting and		10,000/ ha.	_
Type of Farming	stock		10,000/ ha Feeds should be provided @ 3 % body weight per day.	_
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## Weather forecast for next five days of Churachandpur (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp.  $23-24\,^{\circ}$  C & minimum temp.  $8-9\,^{\circ}$  C. Relative humidity may reach upto 100 % (max RH) & 53 % (min RH). The average wind speed may be 0-4 km/hr. Wind direction may be North Easterly to Easterly during next five days.

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Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	<u>'</u>	.!	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
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Seeds storage	Post harvest management		For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops			
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	vegetative		hours till the plant get established.	-
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Cualific WCI	early vegeta		- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf	
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			required repeat it after 10 days.	
			* Apply <i>Chloropyriphos</i> (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.	
Coriander	Sowing to ea	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat	-
Cortanuel	vegetative	urry	soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
	vegetative		seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
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Spinach (Palak	Sowing to ea	arly	- Avoid damping off by adding Captan 50WP in the soil of bed.	1
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Poultry (Chicken/	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	
Turkey/ Duck)			Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.	
Turkey/ Duck)	_	Deworming	► Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with	-
		Deworming	half the dose at regular interval of 3 weeks.	
Sheep/ Goat	All age groups	Coccidiosis	➤ Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking	1
e	excepts the		water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5	-
	A 11	20 Worming	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.	
Dia.	All age groups	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.	
Pig	except the young ones		Treat drinking water with potassium permanganate/ sanitizer.	
	young ones		Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds	
		Mites infestation	> Spray with Skin Heal Spray in sufficient quantity.	
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Cattle		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.	-
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Fishery:				Stag
Type of Farming	T	<u> </u>	- Stocking of fish for next year may be done in ponds having 1.5m water depth @	
Carp/ Catfish	Harvesting and		10,000/ ha.	
culture	stock		- Feeds should be provided @ 3 % body weight per day.	
	maintenance		- Well balanced feed fortified with vitamins and minerals should be provided.	
			- Apply Lime @ 30-35 kg/ha at 30days interval.	
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Manipur Centre, Lamphelpat, Imphal - 795 004





# MANIPUR BULLETIN 20th 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 21<sup>st</sup> to 25<sup>th</sup> December, 2016 as below:

## Significant past weather for the preceding bi-weekly of Imphal - West $(16^{th}$ to $19^{th}$ December, 2016)

Observed fair to variable sky during and shallow fog with cloudy sky on  $18^{th}$  Dec and no rainfall in the past four days. Maximum temperature range of 23.3 to 23.8  $^{\circ}$  C and a rise in Minimum temperature from7.1 to 10.9  $^{\circ}$  C with mean relative humidity 92.5 % max and 51.0 % min was recorded in the past four days. The average wind speed range remained 2.9 to 4.0 km/hr.

### Weather forecast for next five days of Senapati (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp. 17 – 20  $^{\circ}$  C & minimum temp. 5 - 7  $^{\circ}$  C. Relative humidity may reach upto 100 % (max RH) & 47 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be Easterly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25th December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	I	ļi.	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>Avoid plucking off of young shoots of pea plant.</li> <li>Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	<ul> <li>Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.</li> <li>For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.</li> </ul>
Rabi maize	Land preparation to sowing		<ul> <li>Land preparation for sowing rabi maize may be started.</li> <li>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.</li> <li>It may be intercropped with rapeseed/lentil/pea.</li> </ul>
Seeds storage	Post harvest management		<ul> <li>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.</li> </ul>
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops	Nursery raising		Nursery for late crops may be raised.
Tomato	Nursery raising to transplanting		During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean	Early vegeta	ntive	- Broad bean may be sown. Avoid sowing in damped and shed area as the crops	]
			are prone to fungal disease.	_
Onion	Transplantin		- 45-60 days old onion seedlings may be transplanted.	
	raised seedli	ings	- Thinning of onion nursery may be followed if there is shortage of land and	
	and early		manpower for transplanting. Give light irrigation during morning and evening	
	vegetative		hours till the plant get established.	-
Broccoli	Transplantin	ıg	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.	
Cauliflower	Transplantin	ng to	- Transplanting of 26-30 days old seedlings may be done.	1
	early vegetar		- 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</i> (1.5%) <i>dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.	
Coriander	Sowing to ea	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat	-
Corrander	vegetative	arry	soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
vegetative			seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
			improve soil fertility. Seed rate is 100g seeds for 100 sq. m.	
Spinach (Palak	Sowing to ea	arly	- Avoid damping off by adding Captan 50WP in the soil of bed.	
	vegetative		Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
			sq m. If broadcasting is done, double the dose is required.	
Tomato	Nursery		Nursery raising may be done.	
Animal Science				
Name of the anim				Gro
Poultry (Chicken/	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.  Proper ventilation must be provided to protect from moisture inside the shed. Litter	
Turkey/ Duck)	ļ		must be kept dry.	
•		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.	
Shoon/Cont	All age groups	Coccidiosis	➤ Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking	=
	excepts the	Coccidiosis	water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5	-
	All age groups		mg/kg b.wt. or Ivermectin @50mg/kg b. wt.	
Pig	except the	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.	
116	young ones		Treat drinking water with potassium permanganate/ sanitizer.	
	Journe ones		➤ Provide ample ventilation in the shed/dry bedding. Avoid dampness in sheds	
		Mites infestation	> Spray with Skin Heal Spray in sufficient quantity.	4
	All age groups	Deworming	Give Piperazine liquid @ 10-15ml orally once only.	-
	excepts the young ones	B.Q./ H.S/FMD	If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.	
	7	Ectoparasites	Butox@ 2ml/lit of water at forth night.	
Cattle	ļ	Care & management	Oat/ Bersum seeds must be sown from the middle of this month.	
	ļ	Mastitis	Adequate care must be taken to prevent occurrence of Masitis.	1
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.	=
	ļ.	Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.	-
		Diaminea & Acidosis	Limited quantity of green fodder must be given in animal feed.	1
Fishery:				Stag
Type of Farming	Т	<u> </u>		<u> </u>
0 /0 /0 1	TT		- Stocking of fish for next year may be done in ponds having 1.5m water depth @	
Carp/ Catfish culture	Harvesting and stock		10,000/ ha Feeds should be provided @ 3 % body weight per day.	
culture	maintenance		- Feeds should be provided @ 5 % body weight per day.  - Well balanced feed fortified with vitamins and minerals should be provided.	
	mannenance		- Apply Lime @ 30-35 kg/ha at 30days interval.	
	+		FF-J C C C Ng m at C C dajs mortun	-
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Manipur Centre, Lamphelpat, Imphal - 795 004





# MANIPUR BULLETIN 20<sup>th</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 21<sup>st</sup> to 25<sup>th</sup> December, 2016 as below:

## Significant past weather for the preceding bi-weekly of Imphal - West (16<sup>th</sup> to 19<sup>th</sup> December, 2016)

Observed fair to variable sky during and shallow fog with cloudy sky on  $18^{th}$  Dec and no rainfall in the past four days. Maximum temperature range of 23.3 to 23.8  $^{\circ}$  C and a rise in Minimum temperature from7.1 to 10.9  $^{\circ}$  C with mean relative humidity 92.5 % max and 51.0 % min was recorded in the past four days. The average wind speed range remained 2.9 to 4.0 km/hr.

## Weather forecast for next five days of Tamenglong (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp.  $22-24\,^{\circ}$  C & minimum temp. 8 -  $10\,^{\circ}$  C. Relative humidity may reach upto  $100\,$ % (max RH) & 47 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be North Easterly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25<sup>th</sup> December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	<u>'</u>	.!	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>- Avoid plucking off of young shoots of pea plant.</li> <li>- Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew Aphid	<ul> <li>Spray Propiconazole @ 15ml/ 15 litre water.</li> <li>Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.</li> <li>For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.</li> </ul>
Rabi maize	Land preparation to sowing		<ul> <li>Land preparation for sowing rabi maize may be started.</li> <li>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.</li> <li>It may be intercropped with rapeseed/lentil/pea.</li> </ul>
Seeds storage	Post harvest management		For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops	<u> </u>		<u>,</u>
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops	Nursery raising		Nursery for late crops may be raised.
Tomato	Nursery raising to transplanting		During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean	Early vegeta	ative	- Broad bean may be sown. Avoid sowing in damped and shed area as the crops	
0:	Transplantin	ag of	are prone to fungal disease.	-
Onion	raised seedli		<ul> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Thinning of onion nursery may be followed if there is shortage of land and</li> </ul>	
	and early	ings	manpower for transplanting. Give light irrigation during morning and evening	
	vegetative		hours till the plant get established.	
Broccoli	Transplantin	10	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with	-
Dioccon	Transplantin	15	30x45 cm plant spacing.	
Cauliflower	Transplantin	ng to	- Transplanting of 26-30 days old seedlings may be done.	1
Cuuliiowei	early vegeta		- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf	
			curling, development of purple coloured vein due to absence of micronutrient. If	
Coriander Sowing to			required repeat it after 10 days.	
Coriander Sowing to			* Apply Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage	
			infested by cut-worms.	_
Coriander	Sowing to ea	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat	
	vegetative		soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
			seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
G : 1 (D 11) Samirata		ouls:	improve soil fertility. Seed rate is 100g seeds for 100 sq. m.  - Avoid damping off by adding Captan 50WP in the soil of bed.	-
Spinach (Palak)	Sowing to early vegetative	arry	Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
	vegetative		sq m. If broadcasting is done, double the dose is required.	
Tomato	Nursery		Nursery raising may be done.	1
Animal Sciences	•		runsery runsing may be done.	-
Name of the anim				G
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	_
(Chicken/	ran uge groups		Proper ventilation must be provided to protect from moisture inside the shed. Litter	
Turkey/ Duck)			must be kept dry.	
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with	1
		O O	half the dose at regular interval of 3 weeks.	
Sheep/ Goat	All age groups	Coccidiosis	➤ Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking	
e	excepts the		water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5	
	All age groups		mg/kg b.wt. or Ivermectin @50mg/kg b. wt.	
Pig	except the	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.	
116	young ones		Treat drinking water with potassium permanganate/ sanitizer.	
	Journey ones		Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds	_
		Mites infestation	> Spray with Skin Heal Spray in sufficient quantity.	_
	All age groups	Deworming	Give Piperazine liquid @ 10-15ml orally once only.	_
	excepts the	DO / H G/EMD	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,	
	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.	-
Cattle		Ectoparasites	Butox@ 2ml/lit of water at forth night.	
Cattle		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.	4
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.	1
Fishery:				S
Type of Farming				
			- Stocking of fish for next year may be done in ponds having 1.5m water depth @	Ī
Carp/ Catfish	Harvesting and		10,000/ ha.	
culture	stock		- Feeds should be provided @ 3 % body weight per day.	
	maintenance		- Well balanced feed fortified with vitamins and minerals should be provided.	
			- Apply Lime @ 30-35 kg/ha at 30days interval.	-
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## Weather forecast for next five days of Thoubal (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp.  $22-24\,^{\circ}$  C & minimum temp.  $7-9\,^{\circ}$  C. Relative humidity may reach upto 100 % (max RH) & 58 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be North Easterly to Easterly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25<sup>th</sup> December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	<u>'</u>	.!	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>- Avoid plucking off of young shoots of pea plant.</li> <li>- Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew Aphid	- Spray Propiconazole @ 15ml/ 15 litre water.  - Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.  - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		<ul> <li>Land preparation for sowing rabi maize may be started.</li> <li>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.</li> <li>It may be intercropped with rapeseed/lentil/pea.</li> </ul>
Seeds storage	Post harvest management		For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops	<u> </u>		<u> </u>
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops	Nursery raising		Nursery for late crops may be raised.
Tomato	Nursery raising to transplanting		During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean	Early veg	etative		- Broad bean may be sown. Avoid sowing in damped and shed area as the crops	
<b>^</b> •	Transplan	ting of	+	are prone to fungal disease.	-
Onion	Transplan raised see			<ul><li>- 45-60 days old onion seedlings may be transplanted.</li><li>- Thinning of onion nursery may be followed if there is shortage of land and</li></ul>	
	and early	Jiiiga		- Thinning of onion nursery may be followed if there is shortage of land and manpower for transplanting. Give light irrigation during morning and evening	
	vegetative			hours till the plant get established.	
Broccoli	Transplan		+	➤ Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with	+
Broccon	Hanspian	ang		30x45 cm plant spacing.	
Cauliflower	Transplan	ting to		- Transplanting of 26-30 days old seedlings may be done.	
Caumino c_	early vege			- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf	
				curling, development of purple coloured vein due to absence of micronutrient. If	
				required repeat it after 10 days.	
				* Apply <i>Chloropyriphos (1.5%) dust @25</i> kg /ha to the cauliflower/ cabbage	
			<u> </u>	infested by cut-worms.	_
Coriander	Sowing to			- Select area with full sunshine rich in organic matter for preparing beds. Treat	
	vegetative	į.		soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
				seeds from ant and other insects.  Apply 200, 250 kg of EVM (@ 1/4 cort load) in 100 kg, m and mix thoroughly to	
				- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
C ' sk (Dalak)	Sowing to	- 0-01x7	-	improve soil fertility. Seed rate is 100g seeds for 100 sq. m.  - Avoid damping off by adding Captan 50WP in the soil of bed.	-
Spinach (Palak)		-		- Avoid damping off by adding Captan 50WP in the soil of bed.  Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
	vegetative			sq m. If broadcasting is done, double the dose is required.	
Tomato	Nursery		-	Nursery raising may be done.	
Animal Sciences			-	rediscry raising may be done.	-
Name of the anim				<u> </u>	Gro
Poultry	All age group	s Care	& management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	
(Chicken/				Proper ventilation must be provided to protect from moisture inside the shed. Litter	
Turkey/ Duck)				must be kept dry.	
		Dewc	orming	➤ 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.	
Sheep/ Goat	All age group excepts the	s Cocci	diosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.	
	young ones	Vacci	ination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	1
			rorming	De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.	
T-1		All age groups Care a		➤ Mineral mixture be added in feed @10-20 g/adult animal.	
Pig	except the			➤ Treat drinking water with potassium permanganate/ sanitizer.	
	young ones			<ul> <li>Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>	
	<u> </u>		infestation	> Spray with Skin Heal Spray in sufficient quantity.	
	All age group		orming	➤ Give Piperazine liquid @ 10-15ml orally once only.	
	excepts the			➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,	
	young ones		H.S/FMD	Foot & Mouth Disease, etc.	
Cattle		Ectop	parasites	Butox@ 2ml/lit of water at forth night.	
Cattle		Care &	& management	Oat/ Bersum seeds must be sown from the middle of this month.  Adequate care must be taken to prevent occurrence of Masitis.	-
		Masti		To protect in-milk animals, all their milk should be removed and after milking, their	-
		1V1uoc.		udders should be cleaned with disinfectant.	
		Diarrl	hoea & Acidosis	Limited quantity of green fodder must be given in animal feed.	
					ļ
-					Stag
Fishery:				C4-1-1	
Fishery: Type of Farming		$\overline{}$		- Stocking of their for next year may be done in bonds having 1.5m water depth @	1
Type of Farming	Harvesting and			- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.	
	Harvesting and stock				
Type of Farming  Carp/ Catfish	_			10,000/ ha.	



Manipur Centre, Lamphelpat, Imphal - 795 004





# MANIPUR BULLETIN 20<sup>th</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 21<sup>st</sup> to 25<sup>th</sup> December, 2016 as below:

## Significant past weather for the preceding bi-weekly of Imphal - West (16<sup>th</sup> to 19<sup>th</sup> December, 2016)

Observed fair to variable sky during and shallow fog with cloudy sky on  $18^{th}$  Dec and no rainfall in the past four days. Maximum temperature range of 23.3 to 23.8  $^{\circ}$  C and a rise in Minimum temperature from7.1 to 10.9  $^{\circ}$  C with mean relative humidity 92.5 % max and 51.0 % min was recorded in the past four days. The average wind speed range remained 2.9 to 4.0 km/hr.

## Weather forecast for next five days of Ukhrul (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp.  $17-20\,^{\circ}$  C & minimum temp.  $5-7\,^{\circ}$  C. Relative humidity may reach upto 99 % (max RH) & 53 % (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be southerly to south westerly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25th December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	I	<u>I</u>	<u> </u>
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>Avoid plucking off of young shoots of pea plant.</li> <li>Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	<ul> <li>Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.</li> <li>For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.</li> </ul>
Rabi maize	Land preparation to sowing		<ul> <li>Land preparation for sowing rabi maize may be started.</li> <li>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.</li> <li>It may be intercropped with rapeseed/lentil/pea.</li> </ul>
Seeds storage	Post harvest management		<ul> <li>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.</li> </ul>
Horticulture Crops			
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops	Nursery raising		Nursery for late crops may be raised.
Tomato	Nursery raising to transplanting		During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean				1
21044 2041	Early vegeta	tive	- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.	
Onion	Transplantin	ig of	- 45-60 days old onion seedlings may be transplanted.	
	raised seedli	ngs	- Thinning of onion nursery may be followed if there is shortage of land and	
	and early		manpower for transplanting. Give light irrigation during morning and evening	
	vegetative		hours till the plant get established.	
Broccoli	Transplantin	ıg	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.	
Cauliflower	Transplantin	ig to	- Transplanting of 26-30 days old seedlings may be done.	
	early vegetar		- 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</i> (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.	
Coriander	Sowing to ea	orly.	- Select area with full sunshine rich in organic matter for preparing beds. Treat	ļ
Coriander	vegetative	шу	soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
	vegetative		seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
			improve soil fertility. Seed rate is 100g seeds for 100 sq. m.	
Spinach (Palak)	) Sowing to ea	arly	- Avoid damping off by adding Captan 50WP in the soil of bed.	
	vegetative		Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
			sq m. If broadcasting is done, double the dose is required.	
Tomato	Nursery		Nursery raising may be done.	
Animal Sciences	5			
Name of the anim				(
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	
(Chicken/			Proper ventilation must be provided to protect from moisture inside the shed. Litter	
Turkey/ Duck)		<del>-</del>	must be kept dry.	-
	ļ	Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with	
Sheep/ Goat	All aga graups	Coccidiosis	half the dose at regular interval of 3 weeks.  Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking	-
Sheep/ Goat	All age groups excepts the		water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
		<u>1</u>		
		De-worming	De-worming of animals should be done using Abendazole/ Levamisole @7.5	
	All age groups	_	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.	
Pig	All age groups except the	De-worming  Care and management	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.	
Pig		_	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.	
Pig	except the	Care and management	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  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>P</b> ig	except the young ones	Care and management  Mites infestation	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.	
Pig	except the young ones  All age groups	Care and management	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.	
Pig	except the young ones	Care and management  Mites infestation  Deworming	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,	-
	except the young ones  All age groups excepts the	Care and management  Mites infestation	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.	-
	except the young ones  All age groups excepts the	Care and management  Mites infestation  Deworming  B.Q./ H.S/FMD	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.	
Pig Cattle	except the young ones  All age groups excepts the	Care and management  Mites infestation Deworming  B.Q./ H.S/FMD Ectoparasites	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.  Butox@ 2ml/lit of water at forth night.	
Pig Cattle	except the young ones  All age groups excepts the	Care and management  Mites infestation Deworming  B.Q./ H.S/FMD Ectoparasites Care & management	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.  Butox@ 2ml/lit of water at forth night.  Oat/ Bersum seeds must be sown from the middle of this month.	
	except the young ones  All age groups excepts the	Care and management  Mites infestation Deworming  B.Q./ H.S/FMD Ectoparasites Care & management Mastitis	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.  Butox@ 2ml/lit of water at forth night.  Oat/ Bersum seeds must be sown from the middle of this month.  Adequate care must be taken to prevent occurrence of Masitis.  To protect in-milk animals, all their milk should be removed and after milking, their	
Cattle Fishery:	except the young ones  All age groups excepts the	Care and management  Mites infestation Deworming  B.Q./ H.S/FMD Ectoparasites  Care & management Mastitis Mastitis	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.  Butox@ 2ml/lit of water at forth night.  Oat/ Bersum seeds must be sown from the middle of this month.  Adequate care must be taken to prevent occurrence of Masitis.  To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.	
	except the young ones  All age groups excepts the	Care and management  Mites infestation Deworming  B.Q./ H.S/FMD Ectoparasites  Care & management Mastitis Mastitis	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.  Butox @ 2ml/lit of water at forth night.  Oat/ Bersum seeds must be sown from the middle of this month.  Adequate care must be taken to prevent occurrence of Masitis.  To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.	
Cattle  Fishery: Type of Farming	except the young ones  All age groups excepts the young ones	Care and management  Mites infestation Deworming  B.Q./ H.S/FMD Ectoparasites  Care & management Mastitis Mastitis	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.  Butox@ 2ml/lit of water at forth night.  Oat/ Bersum seeds must be sown from the middle of this month.  Adequate care must be taken to prevent occurrence of Masitis.  To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.	
Cattle Fishery:	except the young ones  All age groups excepts the	Care and management  Mites infestation Deworming  B.Q./ H.S/FMD Ectoparasites  Care & management Mastitis Mastitis	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.  Butox @ 2ml/lit of water at forth night.  Oat/ Bersum seeds must be sown from the middle of this month.  Adequate care must be taken to prevent occurrence of Masitis.  To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.  - Stocking of fish for next year may be done in ponds having 1.5m water depth @	
Cattle  Fishery: Type of Farming  Carp/ Catfish	except the young ones  All age groups excepts the young ones  Harvesting and	Care and management  Mites infestation Deworming  B.Q./ H.S/FMD Ectoparasites  Care & management Mastitis Mastitis	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.  Mineral mixture be added in feed @10-20 g/adult animal.  Treat drinking water with potassium permanganate/ sanitizer.  Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds  Spray with Skin Heal Spray in sufficient quantity.  Give Piperazine liquid @ 10-15ml orally once only.  If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.  Butox @ 2ml/lit of water at forth night.  Oat/ Bersum seeds must be sown from the middle of this month.  Adequate care must be taken to prevent occurrence of Masitis.  To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.  - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.	



Manipur Centre, Lamphelpat, Imphal - 795 004





# MANIPUR BULLETIN 20<sup>th</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 21<sup>st</sup> to 25<sup>th</sup> December, 2016 as below:

## Significant past weather for the preceding bi-weekly of Imphal - West (16<sup>th</sup> to 19<sup>th</sup> December, 2016)

Observed fair to variable sky during and shallow fog with cloudy sky on  $18^{th}$  Dec and no rainfall in the past four days. Maximum temperature range of 23.3 to 23.8  $^{\circ}$  C and a rise in Minimum temperature from7.1 to 10.9  $^{\circ}$  C with mean relative humidity 92.5 % max and 51.0 % min was recorded in the past four days. The average wind speed range remained 2.9 to 4.0 km/hr.

## Weather forecast for next five days of Imphal East (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp. 22 – 24  $^{\rm o}$  C & minimum temp. 7 - 9  $^{\rm o}$  C. Relative humidity may reach up to 100 % (max RH) & 49 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be North Easterly to Easterly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25<sup>th</sup> December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	<u>'</u>	.!	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>- Avoid plucking off of young shoots of pea plant.</li> <li>- Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew Aphid	- Spray Propiconazole @ 15ml/ 15 litre water.  - Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.  - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		<ul> <li>Land preparation for sowing rabi maize may be started.</li> <li>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.</li> <li>It may be intercropped with rapeseed/lentil/pea.</li> </ul>
Seeds storage	Post harvest management		For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops	<u> </u>		· · · ·
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops	Nursery raising		Nursery for late crops may be raised.
Tomato	Nursery raising to transplanting		During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean	Early vegeta	itive	- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.	
Onion	Transplantir	ng of	- 45-60 days old onion seedlings may be transplanted.	
Onion	raised seedli		- 43-60 days old ollion seedings may be transplained.  - Thinning of onion nursery may be followed if there is shortage of land and	
	and early	11g5	manpower for transplanting. Give light irrigation during morning and evening	
	vegetative		hours till the plant get established.	
Broccoli	Transplantir	19	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with	1
Dioccon	Tunsplanti	'5	30x45 cm plant spacing.	
Cauliflower	Transplantir	ng to	- Transplanting of 26-30 days old seedlings may be done.	
	early vegeta		- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf	
			curling, development of purple coloured vein due to absence of micronutrient. If	
			required repeat it after 10 days.	
			* Apply Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage	
			infested by cut-worms.	
Coriander	Sowing to e	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat	
	vegetative		soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
			seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
G . 1 (D 1 1)	Ci 4	1	improve soil fertility. Seed rate is 100g seeds for 100 sq. m.  - Avoid damping off by adding Captan 50WP in the soil of bed.	
Spinach (Palak)		arry	Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
	vegetative		sq m. If broadcasting is done, double the dose is required.	
Tomato	Nursery		Nursery raising may be done.	
Animal Sciences	-		Traisery ruising may be done.	
Name of the anim				Gr
Name of the amin Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	GI
(Chicken/	All age groups	Care & management	Proper ventilation must be provided to protect from moisture inside the shed. Litter	
Turkey/ Duck)			must be kept dry.	
rarney (Duen)		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with	
		Deworming	half the dose at regular interval of 3 weeks.	
Sheep/ Goat	All age groups	Coccidiosis	➤ Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking	1
	excepts the		water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
	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.	
Pig		Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.	
1 ig			➤ Treat drinking water with potassium permanganate/ sanitizer.	
	young ones		Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds	
		Mites infestation	> Spray with Skin Heal Spray in sufficient quantity.	
	All age groups	Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.	
	excepts the	D 0 (11 0 F) 15	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,	
	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.	
Cattle		Ectoparasites	Butox@ 2ml/lit of water at forth night.	
Cattle		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.	
O <b></b>			To protect in-milk animals, all their milk should be removed and after milking, their	
		Mastitis		
		Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.	
Fishery:		Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.	Sta
Fishery:		Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.	Sta
Fishery: Type of Farming	Harvesting and	Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.  - Stocking of fish for next year may be done in ponds having 1.5m water depth @	Sta
Fishery: Type of Farming Carp/ Catfish	Harvesting and stock	Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.  - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.	Sta
Fishery: Type of Farming Carp/ Catfish culture		Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.  - Stocking of fish for next year may be done in ponds having 1.5m water depth @	Sta



Manipur Centre, Lamphelpat, Imphal - 795 004





# MANIPUR BULLETIN 20<sup>th</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 21<sup>st</sup> to 25<sup>th</sup> December, 2016 as below:

## Significant past weather for the preceding bi-weekly of Imphal - West (16<sup>th</sup> to 19<sup>th</sup> December, 2016)

Observed fair to variable sky during and shallow fog with cloudy sky on  $18^{th}$  Dec and no rainfall in the past four days. Maximum temperature range of 23.3 to 23.8  $^{\circ}$  C and a rise in Minimum temperature from7.1 to 10.9  $^{\circ}$  C with mean relative humidity 92.5 % max and 51.0 % min was recorded in the past four days. The average wind speed range remained 2.9 to 4.0 km/hr.

## Weather forecast for next five days of Imphal East (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp. 22 – 24  $^{\rm o}$  C & minimum temp. 7 - 9  $^{\rm o}$  C. Relative humidity may reach up to 100 % (max RH) & 49 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be North Easterly to Easterly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25<sup>th</sup> December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	<u>'</u>	.!	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>- Avoid plucking off of young shoots of pea plant.</li> <li>- Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew Aphid	- Spray Propiconazole @ 15ml/ 15 litre water.  - Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.  - For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation to sowing		<ul> <li>Land preparation for sowing rabi maize may be started.</li> <li>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.</li> <li>It may be intercropped with rapeseed/lentil/pea.</li> </ul>
Seeds storage	Post harvest management		For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops	<u> </u>		· · · ·
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>- If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops	Nursery raising		Nursery for late crops may be raised.
Tomato	Nursery raising to transplanting		During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean	Early vegeta	itive	- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.	
Onion	Transplantir	ng of	- 45-60 days old onion seedlings may be transplanted.	
Onion	raised seedli		- 43-60 days old ollion seedings may be transplained.  - Thinning of onion nursery may be followed if there is shortage of land and	
	and early	11g5	manpower for transplanting. Give light irrigation during morning and evening	
	vegetative		hours till the plant get established.	
Broccoli	Transplantir	19	Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with	1
Dioccon	Tunsplanti	'5	30x45 cm plant spacing.	
Cauliflower	Transplantir	ng to	- Transplanting of 26-30 days old seedlings may be done.	
	early vegeta		- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf	
			curling, development of purple coloured vein due to absence of micronutrient. If	
			required repeat it after 10 days.	
			* Apply Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage	
			infested by cut-worms.	
Coriander	Sowing to e	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat	
	vegetative		soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
			seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
G . 1 (D 1 1)	Ci 4	1	improve soil fertility. Seed rate is 100g seeds for 100 sq. m.  - Avoid damping off by adding Captan 50WP in the soil of bed.	
Spinach (Palak)		arry	Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
	vegetative		sq m. If broadcasting is done, double the dose is required.	
Tomato	Nursery		Nursery raising may be done.	
Animal Sciences	-		Traisery ruising may be done.	
Name of the anim				Gr
Name of the amin Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	GI
(Chicken/	All age groups	Care & management	Proper ventilation must be provided to protect from moisture inside the shed. Litter	
Turkey/ Duck)			must be kept dry.	
rarney (Duen)		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with	
		Deworming	half the dose at regular interval of 3 weeks.	
Sheep/ Goat	All age groups	Coccidiosis	➤ Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking	1
	excepts the		water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
	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.	
Pig		Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.	
1 ig			➤ Treat drinking water with potassium permanganate/ sanitizer.	
	young ones		Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds	
		Mites infestation	> Spray with Skin Heal Spray in sufficient quantity.	
	All age groups	Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.	
	excepts the	D 0 (11 0 F) 15	➤ If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,	
	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.	
Cattle		Ectoparasites	Butox@ 2ml/lit of water at forth night.	
Cattle		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.	
O <b></b>			To protect in-milk animals, all their milk should be removed and after milking, their	
		Mastitis		
		Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.	
Fishery:		Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.	Sta
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Fishery: Type of Farming	Harvesting and	Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.  - Stocking of fish for next year may be done in ponds having 1.5m water depth @	Sta
Fishery: Type of Farming Carp/ Catfish	Harvesting and stock	Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.  - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.	Sta
Fishery: Type of Farming Carp/ Catfish culture		Mastitis Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.  Limited quantity of green fodder must be given in animal feed.  - Stocking of fish for next year may be done in ponds having 1.5m water depth @	Sta



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# MANIPUR BULLETIN 20<sup>th</sup> December, 2016

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## Weather forecast for next five days of Imphal West (21st to 25th December, 2016)

Likely to have no rain upto Sunday. Shallow to moderate at few places and dense fog at isolated places very likely over Manipur during next 2-3 days and mainly clear sky during day time with maximum temp.  $22-24\,^{\circ}$  C & minimum temp.  $7-8\,^{\circ}$  C. Relative humidity may reach up to 100 % (max RH) & 40 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be North East Easterly during next five days.

#### Weather Forecast for next 5 days \* upto 0830 hours IST of 25<sup>th</sup> December, 2016

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	<u>'</u>	.!	
Potato	Early vegetative		- Light watering during morning hours may be done to keep soil moist for good early vegetative growth.
Rapeseed/ Mustard	Vegetative and late sowing		<ul> <li>Apply foliar application of urea {5 pumps per sangam @ 10g/pump}.</li> <li>After 10-15 days of sowing plant to plant distance may be maintained at 10-15cm by thinning.</li> <li>Irrigation may be given at 30-35 days after sowing if the soil moisture have decline.</li> <li>Top dress with ½ N (@ 66kg Urea/ ha) just after irrigation.</li> <li>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.</li> </ul>
		Hairy caterpillar	- Spray Quinalphos or Chloropyriphos @ 2ml/litre of water on the infected patches only.
Pulses	Vegetative and late sowing	Aphid	<ul> <li>- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.</li> <li>- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage.</li> <li>- Avoid plucking off of young shoots of pea plant.</li> <li>- Plant to plant distance may be maintained by thinning.</li> </ul>
		Rust or Powdery mildew Aphid	<ul> <li>Spray Propiconazole @ 15ml/ 15 litre water.</li> <li>Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against aphid.</li> <li>For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.</li> </ul>
Rabi maize	Land preparation to sowing		<ul> <li>Land preparation for sowing rabi maize may be started.</li> <li>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.</li> <li>It may be intercropped with rapeseed/lentil/pea.</li> </ul>
Seeds storage	Post harvest management		For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
Horticulture Crops	<u> </u>		<u> </u>
Rabi Vegetable (cole crops)	Transplanting and early vegetative		<ul> <li>If yellowing of leaves of mature seedlings is observed, spray Carbendazim @ 1g/ lit of water.</li> <li>Transplant 26-30 days old seedlings (4 leaves stage) cole crops.</li> <li>If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @ 2ml/ 10 lit of water.</li> </ul>
Cole crops	Nursery raising		Nursery for late crops may be raised.
Tomato	Nursery raising to transplanting		During field preparation, before sowing, drench the nursery bed with 2.5 g of Dithane M45 + 1 g of Bavistin in 1 litres of water. Also, land preparation for transplanting nursery may be done.







Broad bean	Early vegeta	ıtive	- Broad bean may be sown. Avoid sowing in damped and shed area as the crops are prone to fungal disease.	
Onion	Transplantin	ng of	- 45-60 days old onion seedlings may be transplanted.	-
Omon	raised seedli		- Thinning of onion nursery may be followed if there is shortage of land and	
	and early	8	manpower for transplanting. Give light irrigation during morning and evening	
	vegetative		hours till the plant get established.	
Broccoli	Transplantin	ıg	<ul> <li>Transplanting of 25-30 days old broccoli having 3-4 leafs may be done with 30x45 cm plant spacing.</li> </ul>	
Cauliflower	Transplantin	ng to	- Transplanting of 26-30 days old seedlings may be done.	=
Caumiower	early vegetar	tive	- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf	
			curling, development of purple coloured vein due to absence of micronutrient. If	
			required repeat it after 10 days.	
			* Apply Chloropyriphos (1.5%) dust @25 kg /ha to the cauliflower/ cabbage	
			infested by cut-worms.	
Coriander	Sowing to ea	arly	- Select area with full sunshine rich in organic matter for preparing beds. Treat	
	vegetative		soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect	
			seeds from ant and other insects.	
			- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to	
~		,	improve soil fertility. Seed rate is 100g seeds for 100 sq. m.	_
Spinach (Palak		arly	- Avoid damping off by adding Captan 50WP in the soil of bed.	
	vegetative		Spacing may be maintained at 10cm x 20-25cm apart. Seed rate is 100-120g/100	
Tama4a	Nurgary		sq m. If broadcasting is done, double the dose is required.  Nursery raising may be done.	-
Tomato	Nursery		Nursery raising may be done.	-
Animal Science				-
Name of the anim		C 0	Durt of from interest and Warred and and another and add to a single design and the	Gr
Poultry (Chicken/	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.	
			Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.	
Turkey/ Duck)		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with	=
		Deworming	half the dose at regular interval of 3 weeks.	
Sheep/ Goat	All age groups	Coccidiosis	➤ Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking	-
энсер вош	excepts the	docciaiosis	water for 7 days.	
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.	
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5	-
	A 11		mg/kg b.wt. or Ivermectin @50mg/kg b. wt.	
Dia	All age groups except the	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.	
Pig	young ones		Treat drinking water with potassium permanganate/ sanitizer.	
	young ones		Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds	
		Mites infestation	Spray with Skin Heal Spray in sufficient quantity.	
	All age groups	Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.	
	excepts the	D 0 / 11 0 ED 1D	If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,	
	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.	4
Cattle		Ectoparasites	Butox@ 2ml/lit of water at forth night.	
Cattle		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.	
	ļ	Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.	
Fishery: Type of Farming				Sta
			- Stocking of fish for next year may be done in ponds having 1.5m water depth @	
Carp/ Catfish	Harvesting and		10,000/ ha.	
culture	stock maintenance		- Feeds should be provided @ 3 % body weight per day Well balanced feed fortified with vitamins and minerals should be provided.	
	mannenance		- Apply Lime @ 30-35 kg/ha at 30days interval.	
			- Appry Linic & 50-55 kg/na at 50days interval.	-
	1	1	1	1