

Manipur Centre, Lamphelpat, Imphal - 795 004





MANIPUR BULLETIN 30th 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 31st December, 2016 to 4th January, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (27th to 29th December, 2016)

Observed foggy to mainly cloudy during morning hours and mainly clear to partly cloudy sky during afternoon hours and no rainfall in past three days. Maximum temperature range of 22.8 to 23.4 $^{\rm o}$ C and a rise in Minimum temperature from 6.6 to 10.6 $^{\rm o}$ C with mean relative humidity 99.0 % max and 54.3 % min was recorded in the past four days. The average wind speed range remained 2.1 to 3.6 km/hr.

Weather forecast for next five days of Bishnupur $(31^{st}$ December, 2016 to 4^{th} January, 2017)

Likely to have no rain upto Wednesday. Mainly clear to partly cloudy sky during afternoon hours with maximum temp. $22-24\,^{\circ}$ C & minimum temp. 6-8 $^{\circ}$ C. Relative humidity may reach up to 96 % (max RH) & 46 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be North Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- keep soil moist for good vegetative growth.
		Early Blight	- Spray Mancozeb at 7-10 days interval against early blight.
Rapeseed/	Vegetative and		- Plant population may be maintained by thinning.
Mustard	late sowing		- Irrigation may be given at 30-35 days after sowing if the soil moisture have
			decline.
			- Top dress with 33 kg Urea/ ha just after irrigation.
			- Late sowing may be done if available soil moisture is as much that impression
			of finger on the soil when pressed. Mulch the field with straw after sowing.
		Hairy caterpillar	- Spray Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and		- Give light irrigation to pea and lentil just to keep soil moist during vegetative
	late sowing		stage. Plant to plant distance may be maintained by thinning.
		Rust or Powdery	- Spray Propiconazole @ 15ml/ 15 litre water.
		mildew	G G 41 00 171 6 4 17 00 5 171 6
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid For organic control against aphid, sprays that consist of azadirachtin, neem oil
			or pyrethrin may be used.
Rabi maize	Land preparation		- Land preparation for sowing rabi maize may be done.
Rabi maize	to sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
	to sowing		ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/ lentil/ pea.
			- Treat seed with Captan 15 days before sowing.
Seeds storage	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
Seeds storage	management		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	-		
Cucurbits	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
			or naturally ventilated polyhouse.
Rabi Vegetable	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops)	vegetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
-			2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray.
			- If the field condition does not permit for transplanting then date of transplanting
			may be postponed for 4-5 days.
Tomato	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
	vegetative		previously grown. It is better to plant it where the previous crop was rice, maize,
			etc. to avoid bacterial wilt.
Garden pea/ Broad	Vegetative		- Light watering may be done to maintain soil moisture.
bean		powdery mildew	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
		and yellow rust	rust especially to the crops grown in moist/ shady area.



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Onion	Vegetative		- 45-60 days old onion seedlings may be transplanted.
			- Thinning of onion nursery may be followed if there is shortage of land and
			manpower for transplanting. Give light irrigation during morning and evening
C 14.07			hours till the plant get established.
Cauliflower	Transplantin vegetative	ig to	- Transplanting of 26-30 days old seedlings may be done.
	vegetative		- Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting) 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.
			- Light watering may be done to maintain soil moisture.
Coriander	Vegetative a	ınd	- Light watering may be done to maintain soil moisture.
	late sowing		- Treat seed with Trichoderma harzianum @ 10g/kg seed is recommended to
			protect against soil borne diseases.
Spinach (Palak) Vegetative		- Light watering may be done to maintain soil moisture.
Animal Science	S		
Name of the anin			
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.
(Chicken/			Proper ventilation must be provided to protect from moisture inside the shed. Litter
Turkey/ Duck)			must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with
Charm/Cast	All ogg manns	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	Coccidiosis	water for 7 days.
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
	young ones	v accination	vaccinate against sneep/ goat pox and Enterotoxacinia.
		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.
8	young ones		Treat drinking water with potassium permanganate/ sanitizer.
	7 2	3.5%	Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
	A 11	Mites infestation	Spray with Skin Heal Spray in sufficient quantity.
	All age groups excepts the	Deworming	 Give Piperazine liquid @ 10-15ml orally once only. If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,
	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.
	young ones	Ectoparasites	Butox@ 2ml/lit of water at forth night.
Cattle			-
		Care & management Mastitis	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis. To protect in-milk animals, all their milk should be removed and after milking, their
		Masuus	udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
		Ziminoca ce i leidosis	Zamico quanto, or grown rouger must be given in annua root.
Fishery:	1	1	
Type of Farming	T		
0 /0 /0 1	TT		- 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 & 30-33 kg/na at 30days interval.

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Chandel

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Weather forecast for next five days of Chandel $(31^{st}$ December, 2016 to 4^{th} January, 2017)

Likely to have no rain upto Wednesday. Mainly clear to partly cloudy sky during afternoon hours with maximum temp. $21-23\,^{\circ}$ C & minimum temp. $5-7\,^{\circ}$ C. Relative humidity may reach up to 97 % (max RH) & 51 % (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be North Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- keep soil moist for good vegetative growth.
		Early Blight	- Spray Mancozeb at 7-10 days interval against early blight.
Rapeseed/	Vegetative and		- Plant population may be maintained by thinning.
Mustard	late sowing		- Irrigation may be given at 30-35 days after sowing if the soil moisture have
			decline.
			- Top dress with 33 kg Urea/ ha just after irrigation.
			- Late sowing may be done if available soil moisture is as much that impression
			of finger on the soil when pressed. Mulch the field with straw after sowing.
		Hairy caterpillar	- Spray Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and		- Give light irrigation to pea and lentil just to keep soil moist during vegetative
	late sowing		stage. Plant to plant distance may be maintained by thinning.
		Rust or Powdery	- Spray Propiconazole @ 15ml/ 15 litre water.
		mildew	
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation		- Land preparation for sowing rabi maize may be done.
Kabi maize	to sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
	to sowing		ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/ lentil/ pea.
			- Treat seed with Captan 15 days before sowing.
Seeds storage	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
Seeds storage	management		drying of seeds along with charcoal at 80:20. Check for moisture content or
			weight of seeds. For grains, after proper drying store in well ventilated godowns.
			Spray Malathion 1% in godowns.
Horticulture Crops	-		
Cucurbits	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
Cucui bits			or naturally ventilated polyhouse.
Rabi Vegetable	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops)	vegetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
			2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray.
			- If the field condition does not permit for transplanting then date of transplanting
			may be postponed for 4-5 days.
Tomato	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
	vegetative		previously grown. It is better to plant it where the previous crop was rice, maize,
			etc. to avoid bacterial wilt.
Garden pea/ Broad	Vegetative		- Light watering may be done to maintain soil moisture.
bean		powdery mildew	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
		and yellow rust	rust especially to the crops grown in moist/ shady area.



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Onion	Vegetative		- 45-60 days old onion seedlings may be transplanted.
			- Thinning of onion nursery may be followed if there is shortage of land and
			manpower for transplanting. Give light irrigation during morning and evening
C 14.07			hours till the plant get established.
Cauliflower	Transplantin vegetative	ig to	- Transplanting of 26-30 days old seedlings may be done.
	vegetative		- Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting) 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.
			- Light watering may be done to maintain soil moisture.
Coriander	Vegetative a	ınd	- Light watering may be done to maintain soil moisture.
	late sowing		- Treat seed with Trichoderma harzianum @ 10g/kg seed is recommended to
			protect against soil borne diseases.
Spinach (Palak) Vegetative		- Light watering may be done to maintain soil moisture.
Animal Science	S		
Name of the anin			
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.
(Chicken/			Proper ventilation must be provided to protect from moisture inside the shed. Litter
Turkey/ Duck)			must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with
Charm/Cast	All ogg manns	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	Coccidiosis	water for 7 days.
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
	young ones	v accination	vaccinate against sneep/ goat pox and Enterotoxacinia.
		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.
8	young ones		Treat drinking water with potassium permanganate/ sanitizer.
	7 2	3.5%	Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
	A 11	Mites infestation	Spray with Skin Heal Spray in sufficient quantity.
	All age groups excepts the	Deworming	 Give Piperazine liquid @ 10-15ml orally once only. If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,
	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.
	young ones	Ectoparasites	Butox@ 2ml/lit of water at forth night.
Cattle			-
		Care & management Mastitis	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis. To protect in-milk animals, all their milk should be removed and after milking, their
		Masuus	udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
		Ziminoca ce i leidosis	Zamico quanto, or grown rouger must be given in annua root.
Fishery:	1	1	
Type of Farming	T		
0 /0 /0 1	TT		- 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 & 30-33 kg/na at 30days interval.

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"Gramin Krishi Mausam Seva"



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Churachandpur

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Weather forecast for next five days of Churachandpur $(31^{st}$ December, 2016 to 4^{th} January, 2017)

Likely to have no rain upto Wednesday. Mainly clear to partly cloudy sky during afternoon hours with maximum temp. $22-23\,^{\circ}$ C & minimum temp. $5-7\,^{\circ}$ C. Relative humidity may reach up to 96 % (max RH) & 44 % (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
Field Crops			
Potato	Early vegetative		- keep soil moist for good vegetative growth.
		Early Blight	- Spray Mancozeb at 7-10 days interval against early blight.
Rapeseed/	Vegetative and		- Plant population may be maintained by thinning.
Mustard	late sowing		- Irrigation may be given at 30-35 days after sowing if the soil moisture have
			decline.
			- Top dress with 33 kg Urea/ ha just after irrigation.
			- Late sowing may be done if available soil moisture is as much that impression
			of finger on the soil when pressed. Mulch the field with straw after sowing.
		Hairy caterpillar	- Spray Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and		- Give light irrigation to pea and lentil just to keep soil moist during vegetative
	late sowing		stage. Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil
			or pyrethrin may be used.
Rabi maize	Land preparation		- Land preparation for sowing rabi maize may be done.
	to sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
			ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/ lentil/ pea.
			- Treat seed with Captan 15 days before sowing.
Seeds storage	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
	management		drying of seeds along with charcoal at 80:20. Check for moisture content or
			weight of seeds. For grains, after proper drying store in well ventilated godowns.
			Spray Malathion 1% in godowns.
Horticulture Crops	T	1	
Cucurbits	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
			or naturally ventilated polyhouse.
Rabi Vegetable	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops)	vegetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
			2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray.
			- If the field condition does not permit for transplanting then date of transplanting
TD 4	Turnente d'		may be postponed for 4-5 days.
Tomato	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
	vegetative		previously grown. It is better to plant it where the previous crop was rice, maize, etc. to avoid bacterial wilt.
Garden pea/ Broad	Vegetative		- Light watering may be done to maintain soil moisture.
bean bea/ Broad	vegetative	marydamy milda	
DCAII		powdery mildew and yellow rust	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
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			manpower for transplanting. Give light irrigation during morning and evening hours till the plant get established.
Cauliflower	Transplantin vegetative	ng to	 Transplanting of 26-30 days old seedlings may be done. Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting) 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. Light watering may be done to maintain soil moisture.
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Spinach (Palak)	Vegetative		- Light watering may be done to maintain soil moisture.
Animal Sciences	5		
Name of the anin			
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
Sheep/ Goat	All age groups excepts the	Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
	A 11	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	Pig All age groups except the young ones		 Mineral mixture be added in feed @10-20 g/adult animal. Treat drinking water with potassium permanganate/ sanitizer. Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	> Spray with Skin Heal Spray in sufficient quantity.
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		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
Fishery: Type of Farming	_1		<u> </u>
Carp/ Catfish culture	Harvesting and stock maintenance		- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha Feeds should be provided @ 3 % body weight per day Well balanced feed fortified with vitamins and minerals should be provided Apply Lime @ 30-35 kg/ha at 30days interval.

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		Rust or Powdery	- Spray Propiconazole @ 15ml/ 15 litre water.
		mildew	
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil or pyrethrin may be used.
Rabi maize	Land preparation		- Land preparation for sowing rabi maize may be done.
Kabi maize	to sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
	to sowing		ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/ lentil/ pea.
			- Treat seed with Captan 15 days before sowing.
Seeds storage	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
Seeds storage	management		drying of seeds along with charcoal at 80:20. Check for moisture content or
			weight of seeds. For grains, after proper drying store in well ventilated godowns.
			Spray Malathion 1% in godowns.
Horticulture Crops	-		
Cucurbits	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
Cucui bits			or naturally ventilated polyhouse.
Rabi Vegetable	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops)	vegetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
			2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray.
			- If the field condition does not permit for transplanting then date of transplanting
			may be postponed for 4-5 days.
Tomato	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
	vegetative		previously grown. It is better to plant it where the previous crop was rice, maize,
			etc. to avoid bacterial wilt.
Garden pea/ Broad	Vegetative		- Light watering may be done to maintain soil moisture.
bean		powdery mildew	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
		and yellow rust	rust especially to the crops grown in moist/ shady area.



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Onion	Vegetative		- 45-60 days old onion seedlings may be transplanted.
			- Thinning of onion nursery may be followed if there is shortage of land and
			manpower for transplanting. Give light irrigation during morning and evening
C 14.07			hours till the plant get established.
Cauliflower	Transplantin vegetative	ig to	- Transplanting of 26-30 days old seedlings may be done.
	vegetative		- Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting) 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.
			- Light watering may be done to maintain soil moisture.
Coriander	Vegetative a	ınd	- Light watering may be done to maintain soil moisture.
	late sowing		- Treat seed with Trichoderma harzianum @ 10g/kg seed is recommended to
			protect against soil borne diseases.
Spinach (Palak) Vegetative		- Light watering may be done to maintain soil moisture.
Animal Science	S		
Name of the anin			
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.
(Chicken/			Proper ventilation must be provided to protect from moisture inside the shed. Litter
Turkey/ Duck)			must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with
Charm/Cast	All ogg manns	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	Coccidiosis	water for 7 days.
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
	young ones	v accination	vaccinate against sneep/ goat pox and Enterotoxacinia.
		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.
8	young ones		Treat drinking water with potassium permanganate/ sanitizer.
	7 2	3.5%	Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
	A 11	Mites infestation	Spray with Skin Heal Spray in sufficient quantity.
	All age groups excepts the	Deworming	 Give Piperazine liquid @ 10-15ml orally once only. If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,
	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.
	young ones	Ectoparasites	Butox@ 2ml/lit of water at forth night.
Cattle			-
		Care & management Mastitis	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis. To protect in-milk animals, all their milk should be removed and after milking, their
		Masuus	udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
		Ziminoca ce i leidosis	Zamico quanto, or grown rouger must be given in annua root.
Fishery:	1	1	
Type of Farming	T		
0 /0 /0 1	TT		- 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 & 30-33 kg/na at 30days interval.

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MANIPUR BULLETIN 30th 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 31st December, 2016 to 4th January, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (27th to 29th December, 2016)

Observed foggy to mainly cloudy during morning hours and mainly clear to partly cloudy sky during afternoon hours and no rainfall in past three days. Maximum temperature range of 22.8 to 23.4 $^{\rm o}$ C and a rise in Minimum temperature from 6.6 to 10.6 $^{\rm o}$ C with mean relative humidity 99.0 % max and 54.3 % min was recorded in the past four days. The average wind speed range remained 2.1 to 3.6 km/hr.

Weather forecast for next five days of Imphal east $(31^{st}$ December, 2016 to 4^{th} January, 2017)

Likely to have no rain upto Wednesday. Mainly clear to partly cloudy sky during afternoon hours with maximum temp. $21-23\,^{\circ}$ C & minimum temp. $5-7\,^{\circ}$ C. Relative humidity may reach up to 99 % (max RH) & 39 % (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
Field Crops			
Potato	Early vegetative		- keep soil moist for good vegetative growth.
		Early Blight	- Spray Mancozeb at 7-10 days interval against early blight.
Rapeseed/	Vegetative and		- Plant population may be maintained by thinning.
Mustard	late sowing		- Irrigation may be given at 30-35 days after sowing if the soil moisture have
			decline.
			- Top dress with 33 kg Urea/ ha just after irrigation.
			- Late sowing may be done if available soil moisture is as much that impression
			of finger on the soil when pressed. Mulch the field with straw after sowing.
		Hairy caterpillar	- Spray Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and		- Give light irrigation to pea and lentil just to keep soil moist during vegetative
	late sowing		stage. Plant to plant distance may be maintained by thinning.
		Rust or Powdery	- Spray Propiconazole @ 15ml/ 15 litre water.
		mildew	
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil
70.11	T 1		or pyrethrin may be used.
Rabi maize	Land preparation		- Land preparation for sowing rabi maize may be done.
	to sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
			ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/ lentil/ pea.
G 1 4	D 41 4		- Treat seed with Captan 15 days before sowing.
Seeds storage	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
	management		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			Spray Maiaunon 1% in godowns.
Cucurbits	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
Cucurbits	Truisery raising		or naturally ventilated polyhouse.
Rabi Vegetable	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops)	vegetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
(cole crops)	vegetative		2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray.
			- If the field condition does not permit for transplanting then date of transplanting
			may be postponed for 4-5 days.
Tomato	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
_ ~*******	vegetative		previously grown. It is better to plant it where the previous crop was rice, maize,
			etc. to avoid bacterial wilt.
Garden pea/ Broad	Vegetative		- Light watering may be done to maintain soil moisture.
bean		powdery mildew	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
		and yellow rust	rust especially to the crops grown in moist/ shady area.



Manipur Centre, Lamphelpat, Imphal - 795 004





	1		
Onion	Vegetative		- 45-60 days old onion seedlings may be transplanted.
			- Thinning of onion nursery may be followed if there is shortage of land and
			manpower for transplanting. Give light irrigation during morning and evening
			hours till the plant get established.
Cauliflower	Transplantir	ng to	- Transplanting of 26-30 days old seedlings may be done.
	vegetative		- Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting)
			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.
			- Light watering may be done to maintain soil moisture.
Coriander	Vegetative a	ınd	- Light watering may be done to maintain soil moisture.
	late sowing		- Treat seed with Trichoderma harzianum @ 10g/kg seed is recommended to
			protect against soil borne diseases.
Spinach (Palak)	Vegetative		- Light watering may be done to maintain soil moisture.
Animal Sciences			
Name of the anima	al	· ·	
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.
(Chicken/			Proper ventilation must be provided to protect from moisture inside the shed. Litter
Turkey/ Duck)			must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with
			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
5	excepts the		water for 7 days.
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
			Antonia against saresty Som Len ann I I I I I I I I I I I I I I I I I
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5
	A 11	C	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
D'.	All age groups	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.
Pig	except the		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.
	-	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
		Mastrus	udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
		Diamilioca & Acidosis	Limited quantity of green fouder must be given in animal reed.
Fishery:	1		1
Type of Farming			
-, po 01 2 mining			- Stocking of fish for next year may be done in ponds having 1.5m water depth @
Carp/ Catfish	Harvesting and		10,000/ ha.
	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 BULLETIN 30th December, 2016

Imphal West

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 31st December, 2016 to 4th January, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (27th to 29th December, 2016)

Observed foggy to mainly cloudy during morning hours and mainly clear to partly cloudy sky during afternoon hours and no rainfall in past three days. Maximum temperature range of 22.8 to 23.4 $^{\rm o}$ C and a rise in Minimum temperature from 6.6 to 10.6 $^{\rm o}$ C with mean relative humidity 99.0 % max and 54.3 % min was recorded in the past four days. The average wind speed range remained 2.1 to 3.6 km/hr.

Weather forecast for next five days of Imphal West $(31^{st}$ December, 2016 to 4^{th} January, 2017)

Likely to have no rain upto Wednesday. Mainly clear to partly cloudy sky during afternoon hours with maximum temp. $21-23\,^{\circ}$ C & minimum temp. 5- $7\,^{\circ}$ C. Relative humidity may reach up to 94 % (max RH) & 38 % (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
Field Crops	•		
Potato	Early vegetative		- keep soil moist for good vegetative growth.
		Early Blight	- Spray Mancozeb at 7-10 days interval against early blight.
Rapeseed/	Vegetative and		- Plant population may be maintained by thinning.
Mustard	late sowing		- Irrigation may be given at 30-35 days after sowing if the soil moisture have
			decline.
			- Top dress with 33 kg Urea/ ha just after irrigation.
			- Late sowing may be done if available soil moisture is as much that impression
			of finger on the soil when pressed. Mulch the field with straw after sowing.
		Hairy caterpillar	- Spray Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and		- Give light irrigation to pea and lentil just to keep soil moist during vegetative
	late sowing		stage. Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil
			or pyrethrin may be used.
Rabi maize	Land preparation		- Land preparation for sowing rabi maize may be done.
	to sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
			ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/lentil/pea.
			- Treat seed with Captan 15 days before sowing.
Seeds storage	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
	management		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			
Cucurbits	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
			or naturally ventilated polyhouse.
Rabi Vegetable	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops)	vegetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
			2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray.
			- If the field condition does not permit for transplanting then date of transplanting
			may be postponed for 4-5 days.
Tomato	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
	vegetative		previously grown. It is better to plant it where the previous crop was rice, maize,
			etc. to avoid bacterial wilt.
Garden pea/ Broad	Vegetative		- Light watering may be done to maintain soil moisture.
bean		powdery mildew	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
		and yellow rust	rust especially to the crops grown in moist/ shady area.



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Onion	Vegetative		- 45-60 days old onion seedlings may be transplanted.
			- Thinning of onion nursery may be followed if there is shortage of land and
			manpower for transplanting. Give light irrigation during morning and evening
			hours till the plant get established.
Cauliflower	Transplantir	ng to	- Transplanting of 26-30 days old seedlings may be done.
	vegetative		- Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting)
			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.
			- Light watering may be done to maintain soil moisture.
Coriander	Vegetative a	ınd	- Light watering may be done to maintain soil moisture.
	late sowing		- Treat seed with Trichoderma harzianum @ 10g/kg seed is recommended to
			protect against soil borne diseases.
Spinach (Palak)	Vegetative		- Light watering may be done to maintain soil moisture.
Animal Sciences			
Name of the anima	al	· ·	
Poultry	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night.
(Chicken/			Proper ventilation must be provided to protect from moisture inside the shed. Litter
Turkey/ Duck)			must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with
			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
5	excepts the		water for 7 days.
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
			Antonia against saresty Som Len ann I I I I I I I I I I I I I I I I I
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5
	A 11	C	mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
D'.	All age groups	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.
Pig	except the		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.
	-	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
		Mastrus	udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
		Diamilioca & Acidosis	Limited quantity of green fouder must be given in animal reed.
Fishery:	1		1
Type of Farming			
-, po 01 2 mining			- Stocking of fish for next year may be done in ponds having 1.5m water depth @
Carp/ Catfish	Harvesting and		10,000/ ha.
	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 BULLETIN 30th 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 31st December, 2016 to 4th January, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (27th to 29th December, 2016)

Observed foggy to mainly cloudy during morning hours and mainly clear to partly cloudy sky during afternoon hours and no rainfall in past three days. Maximum temperature range of 22.8 to 23.4 $^{\rm o}$ C and a rise in Minimum temperature from 6.6 to 10.6 $^{\rm o}$ C with mean relative humidity 99.0 % max and 54.3 % min was recorded in the past four days. The average wind speed range remained 2.1 to 3.6 km/hr.

Weather forecast for next five days of Senapati $(31^{st}$ December, 2016 to 4^{th} January, 2017)

Likely to have no rain upto Wednesday. Mainly clear to partly cloudy sky during afternoon hours with maximum temp. 20-22 $^{\circ}$ C & minimum temp. 5 - 7 $^{\circ}$ C. Relative humidity may reach up to 98 % (max RH) & 34 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be North East Easterly to Easterly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops	•		•
Potato	Early vegetative		- keep soil moist for good vegetative growth.
		Early Blight	- Spray Mancozeb at 7-10 days interval against early blight.
Rapeseed/	Vegetative and		- Plant population may be maintained by thinning.
Mustard	late sowing		- Irrigation may be given at 30-35 days after sowing if the soil moisture have
			decline.
			- Top dress with 33 kg Urea/ ha just after irrigation.
			- Late sowing may be done if available soil moisture is as much that impression
			of finger on the soil when pressed. Mulch the field with straw after sowing.
		Hairy caterpillar	- Spray Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and		- Give light irrigation to pea and lentil just to keep soil moist during vegetative
	late sowing		stage. Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil
			or pyrethrin may be used.
Rabi maize	Land preparation		- Land preparation for sowing rabi maize may be done.
	to sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
			ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/lentil/pea.
			- Treat seed with Captan 15 days before sowing.
Seeds storage	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
	management		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			
Cucurbits	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
			or naturally ventilated polyhouse.
Rabi Vegetable	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops)	vegetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
			2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray.
			- If the field condition does not permit for transplanting then date of transplanting
			may be postponed for 4-5 days.
Tomato	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
	vegetative		previously grown. It is better to plant it where the previous crop was rice, maize,
			etc. to avoid bacterial wilt.
Garden pea/ Broad	Vegetative		- Light watering may be done to maintain soil moisture.
bean		powdery mildew	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
		and yellow rust	rust especially to the crops grown in moist/ shady area.



Manipur Centre, Lamphelpat, Imphal - 795 004





Onion	Vegetative		- 45-60 days old onion seedlings may be transplanted.
			- Thinning of onion nursery may be followed if there is shortage of land and
			manpower for transplanting. Give light irrigation during morning and evening
C 14.07	- I -		hours till the plant get established.
Cauliflower	Cauliflower Transplantin		- Transplanting of 26-30 days old seedlings may be done.
	vegetative		- Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting) 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.
			- Light watering may be done to maintain soil moisture.
Coriander	Vegetative a	ınd	- Light watering may be done to maintain soil moisture.
	late sowing		- Treat seed with Trichoderma harzianum @ 10g/kg seed is recommended to
			protect against soil borne diseases.
Spinach (Palak	() Vegetative		- Light watering may be done to maintain soil moisture.
Animal Science	rs .		
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)			must be kept dry.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with
GI / G /	A 11	0 11 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
	excepts the	Vaccination	water for 7 days. Vaccinate against sheep/ goat pox and Enterotoxaemia.
	young ones	vaccination	vaccinate against sneep/ goat pox and Enterotoxaenna.
		De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5
Pig	All age groups		mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
	except the	Care and management	➤ Mineral mixture be added in feed @10-20 g/adult animal.
	young ones		Treat drinking water with potassium permanganate/ sanitizer.
	,	3.60	Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
	4.11	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/HC/EMD	 If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.
	young ones	B.Q./ H.S/FMD 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
		D:1 0- A -: 1:-	udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
Fishery:	<u> </u>		1
Type of Farming			
			- 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 BULLETIN 30th 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 31st December, 2016 to 4th January, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (27th to 29th December, 2016)

Observed foggy to mainly cloudy during morning hours and mainly clear to partly cloudy sky during afternoon hours and no rainfall in past three days. Maximum temperature range of 22.8 to 23.4 $^{\circ}$ C and a rise in Minimum temperature from 6.6 to 10.6 $^{\circ}$ C with mean relative humidity 99.0 % max and 54.3 % min was recorded in the past four days. The average wind speed range remained 2.1 to 3.6 km/hr.

Weather forecast for next five days of Tamenglong $(31^{st}$ December, 2016 to 4^{th} January, 2017)

Likely to have no rain upto Wednesday. Mainly clear to partly cloudy sky during afternoon hours with maximum temp. 21-23 $^{\circ}$ C & minimum temp. 5 - 7 $^{\circ}$ C. Relative humidity may reach up to 91 % (max RH) & 35 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be North Easterly to North East Easterly during next five days.

Rapeseed/ Volume In the International Intern	Early vegetative Vegetative and ate sowing Vegetative and ate sowing	Early Blight Hairy caterpillar Aphid Rust or Powdery	 keep soil moist for good vegetative growth. Spray Mancozeb at 7-10 days interval against early blight. Plant population may be maintained by thinning. Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. Top dress with 33 kg Urea/ ha just after irrigation. Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing. Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
Rapeseed/ Volume In the International Intern	Vegetative and ate sowing	Hairy caterpillar Aphid	 Spray Mancozeb at 7-10 days interval against early blight. Plant population may be maintained by thinning. Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. Top dress with 33 kg Urea/ ha just after irrigation. Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing. Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
Mustard la	ate sowing Vegetative and	Hairy caterpillar Aphid	 Plant population may be maintained by thinning. Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. Top dress with 33 kg Urea/ ha just after irrigation. Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing. Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
Mustard la	ate sowing Vegetative and	Aphid	 - Irrigation may be given at 30-35 days after sowing if the soil moisture have decline. - Top dress with 33 kg Urea/ ha just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing. - Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
Mustard la Pulses Vo	/egetative and	Aphid	decline. - Top dress with 33 kg Urea/ ha just after irrigation. - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing. - Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
		Aphid	 Top dress with 33 kg Urea/ ha just after irrigation. Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing. Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
		Aphid	 - Late sowing may be done if available soil moisture is as much that impression of finger on the soil when pressed. Mulch the field with straw after sowing. - Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
		Aphid	of finger on the soil when pressed. Mulch the field with straw after sowing. - Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
		Aphid	 - Spray Chloropyriphos @ 2ml/litre of water on the infected patches only. - Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. - Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
		Aphid	 Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only. Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
			- Give light irrigation to pea and lentil just to keep soil moist during vegetative stage. Plant to plant distance may be maintained by thinning.
		Rust or Powdery	stage. Plant to plant distance may be maintained by thinning.
la	ate sowing	Rust or Powdery	
		Rust or Powdery	
	ľ	mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil
			or pyrethrin may be used.
Rabi maize La	and preparation		- Land preparation for sowing rabi maize may be done.
to	o sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
			ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/ lentil/ pea.
			- Treat seed with Captan 15 days before sowing.
	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
m	nanagement		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		T	
Cucurbits N	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
			or naturally ventilated polyhouse.
	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops) ve	regetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
			2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray. - If the field condition does not permit for transplanting then date of transplanting
			may be postponed for 4-5 days.
Tomato Tr	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
	regetative		previously grown. It is better to plant it where the previous crop was rice, maize,
1	CgCtative		etc. to avoid bacterial wilt.
Garden pea/ Broad V	/egetative		- Light watering may be done to maintain soil moisture.
bean	Cacianive	powdery mildew	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
NOW II		and yellow rust	rust especially to the crops grown in moist/ shady area.



Manipur Centre, Lamphelpat, Imphal - 795 004





Onion Vegetative			45-60 days old onion seedlings may be transplanted.Thinning of onion nursery may be followed if there is shortage of land and
			manpower for transplanting. Give light irrigation during morning and evening hours till the plant get established.
Cauliflower	Transplanting to vegetative		 Transplanting of 26-30 days old seedlings may be done. Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting) 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. Light watering may be done to maintain soil moisture.
Coriander	Vegetative a late sowing	and	 Light watering may be done to maintain soil moisture. Treat seed with Trichoderma harzianum @ 10g/kg seed is recommended to protect against soil borne diseases.
Spinach (Palak) Vegetative		- Light watering may be done to maintain soil moisture.
Animal Science	s		
Name of the anin		1	
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
Sheep/ Goat	All age groups excepts the	Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
	A11	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig All age groups except the young ones		Care and management	 Mineral mixture be added in feed @10-20 g/adult animal. Treat drinking water with potassium permanganate/ sanitizer. Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	Spray with Skin Heal Spray in sufficient quantity.
	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.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
Fishery: Type of Farming			
Carp/ Catfish culture	Harvesting and stock maintenance		- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha Feeds should be provided @ 3 % body weight per day Well balanced feed fortified with vitamins and minerals should be provided Apply Lime @ 30-35 kg/ha at 30days interval.

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Manipur Centre, Lamphelpat, Imphal - 795 004





MANIPUR BULLETIN 30th 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 31st December, 2016 to 4th January, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (27th to 29th December, 2016)

Observed foggy to mainly cloudy during morning hours and mainly clear to partly cloudy sky during afternoon hours and no rainfall in past three days. Maximum temperature range of 22.8 to 23.4 $^{\rm o}$ C and a rise in Minimum temperature from 6.6 to 10.6 $^{\rm o}$ C with mean relative humidity 99.0 % max and 54.3 % min was recorded in the past four days. The average wind speed range remained 2.1 to 3.6 km/hr.

Weather forecast for next five days of Ukhrul $(31^{st}$ December, 2016 to 4^{th} January, 2017)

Likely to have no rain upto Wednesday. Mainly clear to partly cloudy sky during afternoon hours with maximum temp. 19-21 $^{\rm o}$ C & minimum temp. 4 - 6 $^{\rm o}$ C. Relative humidity may reach up to 96 % (max RH) & 40 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be South South-Easterly to South Westerly during next five days.

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Field Crops			
Potato	Early vegetative		- keep soil moist for good vegetative growth.
		Early Blight	- Spray Mancozeb at 7-10 days interval against early blight.
Rapeseed/	Vegetative and		- Plant population may be maintained by thinning.
Mustard	late sowing		- Irrigation may be given at 30-35 days after sowing if the soil moisture have
			decline.
			- Top dress with 33 kg Urea/ ha just after irrigation.
			- Late sowing may be done if available soil moisture is as much that impression
			of finger on the soil when pressed. Mulch the field with straw after sowing.
		Hairy caterpillar	- Spray Chloropyriphos @ 2ml/litre of water on the infected patches only.
		Aphid	- Spray Monocrotophos @ 1.5 ml/lit of water to the infected patches only.
Pulses	Vegetative and		- Give light irrigation to pea and lentil just to keep soil moist during vegetative
	late sowing		stage. Plant to plant distance may be maintained by thinning.
		Rust or Powdery mildew	- Spray Propiconazole @ 15ml/ 15 litre water.
		Aphid	- Spray Cypermethrin @2ml/lit of water or Nuvan @ 0.5ml/ lit of water against
			aphid.
			- For organic control against aphid, sprays that consist of azadirachtin, neem oil
			or pyrethrin may be used.
Rabi maize	Land preparation		- Land preparation for sowing rabi maize may be done.
	to sowing		- Rabi maize may be sown as intercrop with pulses. 60cm width 40cm high
			ridges along east-west may be prepared after ploughing. Southern face may be
			sown with maize and northern with pea seeds.
			-It may be intercropped with rapeseed/ lentil/ pea.
			- Treat seed with Captan 15 days before sowing.
Seeds storage	Post harvest		- For seed purpose dry, clean and store the seeds in RC-seed bins after proper
	management		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			
Cucurbits	Nursery raising		- Prepare for raising nursery of cucurbits in poly-pouch and trays under low cost
			or naturally ventilated polyhouse.
Rabi Vegetable	Transplanting and		- Transplant 26-30 days old seedlings (4 leaves stage) cole crops.
(cole crops)	vegetative		- If there is incidence of leaf eating caterpillar, spray Flubendiamide (Fame) @
			2ml/ 10 lit of water. Spray Imidachloprid 17.8SL @5ml/10 litres of water on
			20days old seedlings as prophylactic spray.
			- If the field condition does not permit for transplanting then date of transplanting
			may be postponed for 4-5 days.
Tomato	Transplanting and		- Avoid transplanting of tomato in the bed/ plots where chilli/ brinjal were
	vegetative		previously grown. It is better to plant it where the previous crop was rice, maize,
C / D	37		etc. to avoid bacterial wilt.
Garden pea/ Broad	Vegetative	1 '11	- Light watering may be done to maintain soil moisture.
bean		powdery mildew	- Spray Bayleton @ 7 g/ 10 litres of water against powdery mildew and yellow
		and yellow rust	rust especially to the crops grown in moist/ shady area.



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Onion Vegetative			- 45-60 days old onion seedlings may be transplanted.- Thinning of onion nursery may be followed if there is shortage of land and
			manpower for transplanting. Give light irrigation during morning and evening hours till the plant get established.
Cauliflower	Transplanting to vegetative		 Transplanting of 26-30 days old seedlings may be done. Apply Tracel @ 300gm/ sangam in 30-35days old (after transplanting) 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. Light watering may be done to maintain soil moisture.
Coriander	Vegetative a late sowing	and	 Light watering may be done to maintain soil moisture. Treat seed with Trichoderma harzianum @ 10g/kg seed is recommended to protect against soil borne diseases.
Spinach (Palak) Vegetative		- Light watering may be done to maintain soil moisture.
Animal Science	s		
Name of the anin		1	
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	Protect from intense cold. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed. Litter must be kept dry.
		Deworming	➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.
Sheep/ Goat	All age groups excepts the	Coccidiosis	Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.
	young ones	Vaccination	Vaccinate against sheep/ goat pox and Enterotoxaemia.
	A11	De-worming	➤ De-worming of animals should be done using Abendazole/ Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wt.
Pig All age groups except the young ones		Care and management	 Mineral mixture be added in feed @10-20 g/adult animal. Treat drinking water with potassium permanganate/ sanitizer. Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation	> Spray with Skin Heal Spray in sufficient quantity.
	All age groups excepts the	Deworming	 Give Piperazine liquid @ 10-15ml orally once only. If not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia,
Cattle	young ones	B.Q./ H.S/FMD	Foot & Mouth Disease, etc.
		Ectoparasites	Butox@ 2ml/lit of water at forth night.
		Care & management	Oat/ Bersum seeds must be sown from the middle of this month.
		Mastitis	Adequate care must be taken to prevent occurrence of Masitis.
		Mastitis	To protect in-milk animals, all their milk should be removed and after milking, their udders should be cleaned with disinfectant.
		Diarrhoea & Acidosis	Limited quantity of green fodder must be given in animal feed.
Fishery: Type of Farming			
Carp/ Catfish culture	Harvesting and stock maintenance		- Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha Feeds should be provided @ 3 % body weight per day Well balanced feed fortified with vitamins and minerals should be provided Apply Lime @ 30-35 kg/ha at 30days interval.

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