



**ICAR Research Complex for N.E.H. Region  
Manipur Centre, Lamphelpat, Imphal - 795 004**



**“Integrated Agromet Advisory Services”**

**MANIPUR BULLETIN**

**1<sup>st</sup> August, 2014**

**Chandel**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 2<sup>nd</sup> to 6<sup>th</sup> August, 2014 as given below:

Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> to 31<sup>st</sup> July, 2014)

During past three days sky was mainly clear to partly cloudy but mainly cloudy during afternoon hours of 30<sup>th</sup> July. **3.4 mm** rainfall was recorded during past three days. Maximum temperature range observed was 33.5 – 34.0 °C, range of minimum temperature observed was 22.0 – 23.4 °C, mean relative humidity observed in morning and afternoon were 71.0 % and 58.3 % respectively. The average wind speed range was 0.6 – 1.1 km/hr.

Weather forecast for next five days of Chandel (2<sup>nd</sup> to 6<sup>th</sup> August, 2014)

There may be light rain upto Sunday then moderate to heavy rains upto Wednesday. Sky may be partly cloudy to cloudy with maximum temp. of 32.0 – 34.0 °C & minimum temp. 22.0 – 23.0 °C. Relative humidity may reach a maximum of 100 % (maximum RH) & 87 % (minimum RH). The average wind speed may be 2-4 km/hr during next five days.

Name of the crop	Stage	Pest and disease infestation	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Rice</b>	Transplanting to tillering of <i>Main Kharif</i>		- Maintain water level of 5-8cm. - One hand weeding may be done at 20-30 days after transplanting. - Drain out the water and apply 33kg of urea as top dress after 30days of transplanting. Drain in water after 48hrs of top-dressing.
		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water).
		Tikka disease	- Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
<b>Horticulture Crops</b>			
<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
<b>Cucurbits</b>	Fruiting to harvesting	Powdery mildew/ Downey mildew	- Monitor for powdery mildew/ downey mildew. For minimum risk, fungicide must be sprayed as per scheduled time of interval as prophylactic measure. Canopy pruning (removal of unwanted leaves and foliage) may be done for proper aeration and sunshine.
<b>Passion fruit</b>	Fruiting	Collar rot	- Spray Redomil MZ-27 WP @ 2.5 g/lit water and drench soil with 1% Bordeaux mixture.
		Anthraxnose	- Spray Carbendazim + Mancozeb @ 1mg/ lit water.
		Fruit fly	- Spray Carbaryl 0.1% or Malathion 0.05% or poison baiting with jaggery + fruit juice+ Malathion (20:20:1) @ 40-50 baits/ ha.
<b>King Chilli</b>	Fruiting	Fruit rot and aphid	- Spray Redomil Gold @ 2g/lit water + Imidacloprid @ 3ml/10lit of water.
<b>Ginger &amp; Turmeric</b>	Rhizome initiation	Leaf spot & Soft rot in ginger and Rhizome rot in turmeric	- Spray Redomil MZ 72 WP @ 2g/lit water alternately with Carbendazim @ 2g/lit water at 14 days interval. - Drain out excess water from the field.



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Animal Sciences			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry	All susceptible age groups (as and when required)	Ranikhet disease	Vaccinate against Ranikhet disease.
		Fowl pox	- Vaccinate against fowl pox. If already infected, paint with Iodine tincture or Betadine liquid daily on pox growth.
		Management	Add Furazolidone @ 100g in 100 kg of feed for one week. Keep litter material dry and add lime powder (deactivated) @ 3-4 kg per 100sq. ft.
		Parasites (external)	Spray Butox liquid @ 2 ml/ lit of water twice a week.
Sheep/ Goat	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	Deworm using Minthal bolus @ ½ bolus per 20 kg body weight accompanied with Livozyme @ 50ml daily.
		H.S.	- Vaccinate against H.S. @ ½ ml sub- cutaneously.
Pig	Above 3 months of age (as and when required)	Deworming	- Deworming against Helminth parasites using Piperazine citrate @ 30 ml per adult animal once.
		Ticks	Add Butox liquid @ 2 ml/ lit of water and use the solution twice a week while brushing the animal.
			Give mineral mixture like Vimicon and Ascagold suspension in pregnant sow @ 20g and 20ml resp. in feed.
Cattle / Buffalo/ Mithun	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	- Inject Parid @ 1 ml/ 50 kg body weight.
		Tick	Add Butox @ 2cc/ lit of water and bath animal using the solution at fortnight interval.
		Deworming (Helminth parasites)	- Deworming against using Albendazole @ 5-10 g/kg b.wt.
			Give Minamil powder @ 20g twice daily in feed.
Fishery:			
Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Breeding	Pond and water	- Clean and clear water having 7.0-7.8 pH free from unwanted vegetation and insects. Water depth should be maintained at 1.0-1.5m.
		Fish	- Select good quality of carp brooders (2-4 years old) having more than 1kg b. wt. for Rohu, Mrigal, Catla, Kuri for seed production. For Pengba & Khabak b. wt. May be less than 300g.
		Hormone dose	- Ovitide/ Wova-FH/ Ovaprim@ 0.5ml/kg body weight can be injected to induce for spawning.
	nurseries		- Ponds should be free from unwanted vegetation and insects and water depth should be maintained at 1.0-1.5m. p <sup>H</sup> of pond water should be maintained at 7.0-7.5. Feeds should be provided 2-3 times a day @ 5-10 body weight per day. 20-30 million spawn can be stock in 1 ha.
	Grow - out	Pond and water	- Regular manuring at interval of 30 days with a slurry of RCD @ 1500kg/ha. Maintained p <sup>H</sup> of pond water at 7.0-7.5. Greenish colouration of water is desirable. If any change in colour, odour of water half of the water should be drain out and replace with fresh water.
		Fish	- 8000-10,000 fingerlings/ha can be stocked. Sampling of fish should be done by regular netting.
Feed		- Well balanced feed fortified with vitamins and minerals should be provided @ 3-5% body weight per day. Feed can be fed at 2-3 times a day.	
Paddy cum fish culture	Water management		- Maintained 1.0 m water depth of the trenches in paddy field. Provide rice bran and mustard oil cake (1:1) as supplementary feed. Avoid insecticide/pesticide application.
Cat fish (Ngakra)	Breeding	- Inject Ovitide or Wova-FH or Ovaprim @ 0.7-0.8ml/kg body weight in 1 to 3 years old mature and healthy <i>Clarias magur</i> weighing 230 g-300 g for breeding.	
	Water management	- Water depth should be maintained at 0.5m -0.8m for nurseries. Ponds should be manured with RCD @ 5000 kg/ha at initial and 500-800 kg/ha at 15 days interval.	
	Feed & Fish	- Feed with high protein content 35-40% CP @ 5-8% body weight. 8000-10000 fingerlings can be stocked per ha.	

(I. Meghachandra Singh)  
Scientist i/c, GKMS



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**1<sup>st</sup> August, 2014**

**Churachandpur**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 2<sup>nd</sup> to 6<sup>th</sup> August, 2014 as given below:

<p><u>Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> to 31<sup>st</sup> July, 2014)</u></p> <p>During past three days sky was mainly clear to partly cloudy but mainly cloudy during afternoon hours of 30<sup>th</sup> July. <b>3.4 mm</b> rainfall was recorded during past three days. Maximum temperature range observed was 33.5 – 34.0 °C, range of minimum temperature observed was 22.0 – 23.4 °C, mean relative humidity observed in morning and afternoon were 71.0 % and 58.3 % respectively. The average wind speed range was 0.6 – 1.1 km/hr.</p>	<p><u>Weather forecast for next five days of Churachandpur (2<sup>nd</sup> to 6<sup>th</sup> August, 2014)</u></p> <p>There may be light rain upto Sunday then moderate to heavy rains upto Wednesday. Sky may be partly cloudy to cloudy with maximum temp. of 31.0 – 33.0 °C &amp; minimum temp. 21.0 – 22.0 °C. Relative humidity may reach a maximum of 100 % (maximum RH) &amp; 92 % (minimum RH). The average wind speed may be 0-2 km/hr during next five days.</p>
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Name of the crop	Stage	Pest and disease infestation	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Rice</b>	Transplanting to tillering of <i>Main Kharif</i>		- Maintain water level of 5-8cm. - One hand weeding may be done at 20-30 days after transplanting. - Drain out the water and apply 33kg of urea as top dress after 30days of transplanting. Drain in water after 48hrs of top-dressing.
		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars  Tikka disease	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water). - Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
<b>Horticulture Crops</b>			
<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
<b>Cucurbits</b>	Fruiting to harvesting	Powdery mildew/ Downey mildew	- Monitor for powdery mildew/ downey mildew. For minimum risk, fungicide must be sprayed as per scheduled time of interval as prophylactic measure. Canopy pruning (removal of unwanted leaves and foliage) may be done for proper aeration and sunshine.
<b>Passion fruit</b>	Fruiting	Collar rot	- Spray Redomil MZ-27 WP @ 2.5 g/lit water and drench soil with 1% Bordeaux mixture.
		Anthraxnose	- Spray Carbendazim + Mancozeb @ 1mg/ lit water.
		Fruit fly	- Spray Carbaryl 0.1% or Malathion 0.05% or poison baiting with jaggery + fruit juice+ Malathion (20:20:1) @ 40-50 baits/ ha.
<b>King Chilli</b>	Fruiting	Fruit rot and aphid	- Spray Redomil Gold @ 2g/lit water + Imidacloprid @ 3ml/10lit of water.
<b>Ginger &amp; Turmeric</b>	Rhizome initiation	Leaf spot & Soft rot in ginger and Rhizome rot in turmeric	- Spray Redomil MZ 72 WP @ 2g/lit water alternately with Carbendazim @ 2g/lit water at 14 days interval. - Drain out excess water from the field.



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Animal Sciences			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry	All susceptible age groups (as and when required)	Ranikhet disease	Vaccinate against Ranikhet disease.
		Fowl pox	- Vaccinate against fowl pox. If already infected, paint with Iodine tincture or Betadine liquid daily on pox growth.
		Management	Add Furazolidone @ 100g in 100 kg of feed for one week. Keep litter material dry and add lime powder (deactivated) @ 3-4 kg per 100sq. ft.
		Parasites (external)	Spray Butox liquid @ 2 ml/ lit of water twice a week.
Sheep/ Goat	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	Deworm using Minthal bolus @ ½ bolus per 20 kg body weight accompanied with Livozyme @ 50ml daily.
		H.S.	- Vaccinate against H.S. @ ½ ml sub- cutaneously.
Pig	Above 3 months of age (as and when required)	Deworming	- Deworming against Helminth parasites using Piperazine citrate @ 30 ml per adult animal once.
		Ticks	Add Butox liquid @ 2 ml/ lit of water and use the solution twice a week while brushing the animal.
			Give mineral mixture like Vimicon and Ascagold suspension in pregnant sow @ 20g and 20ml resp. in feed.
Cattle / Buffalo/ Mithun	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	- Inject Parid @ 1 ml/ 50 kg body weight.
		Tick	Add Butox @ 2cc/ lit of water and bath animal using the solution at fortnight interval.
		Deworming (Helminth parasites)	- Deworming against using Albendazole @ 5-10 g/kg b.wt.
			Give Minamil powder @ 20g twice daily in feed.
Fishery:			
Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Breeding	Pond and water	- Clean and clear water having 7.0-7.8 pH free from unwanted vegetation and insects. Water depth should be maintained at 1.0-1.5m.
		Fish	- Select good quality of carp brooders (2-4 years old) having more than 1kg b. wt. for Rohu, Mrigal, Catla, Kuri for seed production. For Pengba & Khabak b. wt. May be less than 300g.
		Hormone dose	- Ovitide/ Wova-FH/ Ovaprim@ 0.5ml/kg body weight can be injected to induce for spawning.
	nurseries		- Ponds should be free from unwanted vegetation and insects and water depth should be maintained at 1.0-1.5m. p <sup>H</sup> of pond water should be maintained at 7.0-7.5. Feeds should be provided 2-3 times a day @ 5-10 body weight per day. 20-30 million spawn can be stock in 1 ha.
	Grow - out	Pond and water	- Regular manuring at interval of 30 days with a slurry of RCD @1500kg/ha. Maintained p <sup>H</sup> of pond water at 7.0-7.5. Greenish colouration of water is desirable. If any change in colour, odour of water half of the water should be drain out and replace with fresh water.
		Fish	- 8000-10,000 fingerlings/ha can be stocked. Sampling of fish should be done by regular netting.
Feed		- Well balanced feed fortified with vitamins and minerals should be provided @ 3-5% body weight per day. Feed can be fed at 2-3 times a day.	
Paddy cum fish culture	Water management		- Maintained 1.0 m water depth of the trenches in paddy field. Provide rice bran and mustard oil cake (1:1) as supplementary feed. Avoid insecticide/pesticide application.
Cat fish (Ngakra)	Breeding	- Inject Ovitide or Wova-FH or Ovaprim @ 0.7-0.8ml/kg body weight in 1 to 3 years old mature and healthy <i>Clarias magur</i> weighing 230 g-300 g for breeding.	
	Water management	- Water depth should be maintained at 0.5m -0.8m for nurseries. Ponds should be manured with RCD @ 5000 kg/ha at initial and 500-800 kg/ha at 15 days interval.	
	Feed & Fish	- Feed with high protein content 35-40% CP @ 5-8% body weight. 8000-10000 fingerlings can be stocked per ha.	

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**1<sup>st</sup> August, 2014**

**Imphal-West**

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During past three days sky was mainly clear to partly cloudy but mainly cloudy during afternoon hours of 30<sup>th</sup> July. **3.4 mm** rainfall was recorded during past three days. Maximum temperature range observed was 33.5 – 34.0 °C, range of minimum temperature observed was 22.0 – 23.4 °C, mean relative humidity observed in morning and afternoon were 71.0 % and 58.3 % respectively. The average wind speed range was 0.6 – 1.1 km/hr.

Weather forecast for next five days of Imphal-West (2<sup>nd</sup> to 6<sup>th</sup> August, 2014)

There may be light rain upto Sunday then moderate to heavy rains upto Wednesday. Sky may be partly cloudy to cloudy with maximum temp. of 30.0 – 32.0 °C & minimum temp. 22.0 °C. Relative humidity may reach a maximum of 100 % (maximum RH) & 87 % (minimum RH). The average wind speed may be 0-2 km/hr during next five days.

Name of the crop	Stage	Pest and disease infestation	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Rice</b>	Transplanting to tillering of <i>Main Kharif</i>		- Maintain water level of 5-8cm. - One hand weeding may be done at 20-30 days after transplanting. - Drain out the water and apply 33kg of urea as top dress after 30days of transplanting. Drain in water after 48hrs of top-dressing.
		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water).
		Tikka disease	- Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
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<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
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		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water).
		Tikka disease	- Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
<b>Horticulture Crops</b>			
<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
<b>Cucurbits</b>	Fruiting to harvesting	Powdery mildew/ Downey mildew	- Monitor for powdery mildew/ downey mildew. For minimum risk, fungicide must be sprayed as per scheduled time of interval as prophylactic measure. Canopy pruning (removal of unwanted leaves and foliage) may be done for proper aeration and sunshine.
<b>Passion fruit</b>	Fruiting	Collar rot	- Spray Redomil MZ-27 WP @ 2.5 g/lit water and drench soil with 1% Bordeaux mixture.
		Anthraxnose	- Spray Carbendazim + Mancozeb @ 1mg/ lit water.
		Fruit fly	- Spray Carbaryl 0.1% or Malathion 0.05% or poison baiting with jaggery + fruit juice+ Malathion (20:20:1) @ 40-50 baits/ ha.
<b>King Chilli</b>	Fruiting	Fruit rot and aphid	- Spray Redomil Gold @ 2g/lit water + Imidacloprid @ 3ml/10lit of water.
<b>Ginger &amp; Turmeric</b>	Rhizome initiation	Leaf spot & Soft rot in ginger and Rhizome rot in turmeric	- Spray Redomil MZ 72 WP @ 2g/lit water alternately with Carbendazim @ 2g/lit water at 14 days interval. - Drain out excess water from the field.



**ICAR Research Complex for N.E.H. Region  
Manipur Centre, Lamphelpat, Imphal - 795 004**



**“Integrated Agromet Advisory Services”**

Animal Sciences			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry	All susceptible age groups (as and when required)	Ranikhet disease	Vaccinate against Ranikhet disease.
		Fowl pox	- Vaccinate against fowl pox. If already infected, paint with Iodine tincture or Betadine liquid daily on pox growth.
		Management	Add Furazolidone @ 100g in 100 kg of feed for one week. Keep litter material dry and add lime powder (deactivated) @ 3-4 kg per 100sq. ft.
		Parasites (external)	Spray Butox liquid @ 2 ml/ lit of water twice a week.
Sheep/ Goat	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	Deworm using Minthal bolus @ ½ bolus per 20 kg body weight accompanied with Livozyme @ 50ml daily.
		H.S.	- Vaccinate against H.S. @ ½ ml sub- cutaneously.
Pig	Above 3 months of age (as and when required)	Deworming	- Deworming against Helminth parasites using Piperazine citrate @ 30 ml per adult animal once.
		Ticks	Add Butox liquid @ 2 ml/ lit of water and use the solution twice a week while brushing the animal.
			Give mineral mixture like Vimicon and Ascagold suspension in pregnant sow @ 20g and 20ml resp. in feed.
Cattle / Buffalo/ Mithun	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	- Inject Parid @ 1 ml/ 50 kg body weight.
		Tick	Add Butox @ 2cc/ lit of water and bath animal using the solution at fortnight interval.
		Deworming (Helminth parasites)	- Deworming against using Albendazole @ 5-10 g/kg b.wt.
			Give Minamil powder @ 20g twice daily in feed.
Fishery:			
Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Breeding	Pond and water	- Clean and clear water having 7.0-7.8 pH free from unwanted vegetation and insects. Water depth should be maintained at 1.0-1.5m.
		Fish	- Select good quality of carp brooders (2-4 years old) having more than 1kg b. wt. for Rohu, Mrigal, Catla, Kuri for seed production. For Pengba & Khabak b. wt. May be less than 300g.
		Hormone dose	- Ovitide/ Wova-FH/ Ovaprim@ 0.5ml/kg body weight can be injected to induce for spawning.
	nurseries		- Ponds should be free from unwanted vegetation and insects and water depth should be maintained at 1.0-1.5m. p <sup>H</sup> of pond water should be maintained at 7.0-7.5. Feeds should be provided 2-3 times a day @ 5-10 body weight per day. 20-30 million spawn can be stock in 1 ha.
	Grow - out	Pond and water	- Regular manuring at interval of 30 days with a slurry of RCD @1500kg/ha. Maintained p <sup>H</sup> of pond water at 7.0-7.5. Greenish colouration of water is desirable. If any change in colour, odour of water half of the water should be drain out and replace with fresh water.
		Fish	- 8000-10,000 fingerlings/ha can be stocked. Sampling of fish should be done by regular netting.
Feed		- Well balanced feed fortified with vitamins and minerals should be provided @ 3-5% body weight per day. Feed can be fed at 2-3 times a day.	
Paddy cum fish culture	Water management		- Maintained 1.0 m water depth of the trenches in paddy field. Provide rice bran and mustard oil cake (1:1) as supplementary feed. Avoid insecticide/pesticide application.
Cat fish (Ngakra)	Breeding		- Inject Ovitide or Wova-FH or Ovaprim @ 0.7-0.8ml/kg body weight in 1 to 3 years old mature and healthy <i>Clarias magur</i> weighing 230 g-300 g for breeding.
	Water management		- Water depth should be maintained at 0.5m -0.8m for nurseries. Ponds should be manured with RCD @ 5000 kg/ha at initial and 500-800 kg/ha at 15 days interval.
	Feed & Fish		- Feed with high protein content 35-40% CP @ 5-8% body weight. 8000-10000 fingerlings can be stocked per ha.

(I. Meghachandra Singh)  
Scientist i/c, GKMS





**ICAR Research Complex for N.E.H. Region  
Manipur Centre, Lamphelpat, Imphal - 795 004**



**“Integrated Agromet Advisory Services”**

**MANIPUR BULLETIN**

**1<sup>st</sup> August, 2014**

**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 2<sup>nd</sup> to 6<sup>th</sup> August, 2014 as given below:

Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> to 31<sup>st</sup> July, 2014)

During past three days sky was mainly clear to partly cloudy but mainly cloudy during afternoon hours of 30<sup>th</sup> July. **3.4 mm** rainfall was recorded during past three days. Maximum temperature range observed was 33.5 – 34.0 °C, range of minimum temperature observed was 22.0 – 23.4 °C, mean relative humidity observed in morning and afternoon were 71.0 % and 58.3 % respectively. The average wind speed range was 0.6 – 1.1 km/hr.

Weather forecast for next five days of Senapati (2<sup>nd</sup> to 6<sup>th</sup> August, 2014)

There may be light rain upto Sunday then moderate to heavy rains upto Wednesday. Sky may be partly cloudy to cloudy with maximum temp. of 30.0 – 32.0 °C & minimum temp. 20.0 – 22.0 °C. Relative humidity may reach a maximum of 99 % (maximum RH) & 83 % (minimum RH). The average wind speed may be 0-2 km/hr during next five days.

Name of the crop	Stage	Pest and disease infestation	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Rice</b>	Transplanting to tillering of <i>Main Kharif</i>		- Maintain water level of 5-8cm. - One hand weeding may be done at 20-30 days after transplanting. - Drain out the water and apply 33kg of urea as top dress after 30days of transplanting. Drain in water after 48hrs of top-dressing.
		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water).
		Tikka disease	- Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
<b>Horticulture Crops</b>			
<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
<b>Cucurbits</b>	Fruiting to harvesting	Powdery mildew/ Downey mildew	- Monitor for powdery mildew/ downey mildew. For minimum risk, fungicide must be sprayed as per scheduled time of interval as prophylactic measure. Canopy pruning (removal of unwanted leaves and foliage) may be done for proper aeration and sunshine.
<b>Passion fruit</b>	Fruiting	Collar rot	- Spray Redomil MZ-27 WP @ 2.5 g/lit water and drench soil with 1% Bordeaux mixture.
		Anthraxnose	- Spray Carbendazim + Mancozeb @ 1mg/ lit water.
		Fruit fly	- Spray Carbaryl 0.1% or Malathion 0.05% or poison baiting with jaggery + fruit juice+ Malathion (20:20:1) @ 40-50 baits/ ha.
<b>King Chilli</b>	Fruiting	Fruit rot and aphid	- Spray Redomil Gold @ 2g/lit water + Imidacloprid @ 3ml/10lit of water.
<b>Ginger &amp; Turmeric</b>	Rhizome initiation	Leaf spot & Soft rot in ginger and Rhizome rot in turmeric	- Spray Redomil MZ 72 WP @ 2g/lit water alternately with Carbendazim @ 2g/lit water at 14 days interval. - Drain out excess water from the field.



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**“Integrated Agromet Advisory Services”**

Animal Sciences			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry	All susceptible age groups (as and when required)	Ranikhet disease	Vaccinate against Ranikhet disease.
		Fowl pox	- Vaccinate against fowl pox. If already infected, paint with Iodine tincture or Betadine liquid daily on pox growth.
		Management	Add Furazolidone @ 100g in 100 kg of feed for one week. Keep litter material dry and add lime powder (deactivated) @ 3-4 kg per 100sq. ft.
		Parasites (external)	Spray Butox liquid @ 2 ml/ lit of water twice a week.
Sheep/ Goat	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	Deworm using Minthal bolus @ ½ bolus per 20 kg body weight accompanied with Livozyme @ 50ml daily.
		H.S.	- Vaccinate against H.S. @ ½ ml sub- cutaneously.
Pig	Above 3 months of age (as and when required)	Deworming	- Deworming against Helminth parasites using Piperazine citrate @ 30 ml per adult animal once.
		Ticks	Add Butox liquid @ 2 ml/ lit of water and use the solution twice a week while brushing the animal.
			Give mineral mixture like Vimicon and Ascagold suspension in pregnant sow @ 20g and 20ml resp. in feed.
Cattle / Buffalo/ Mithun	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	- Inject Parid @ 1 ml/ 50 kg body weight.
		Tick	Add Butox @ 2cc/ lit of water and bath animal using the solution at fortnight interval.
		Deworming (Helminth parasites)	- Deworming against using Albendazole @ 5-10 g/kg b.wt.
			Give Minamil powder @ 20g twice daily in feed.
Fishery:			
Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Breeding	Pond and water	- Clean and clear water having 7.0-7.8 pH free from unwanted vegetation and insects. Water depth should be maintained at 1.0-1.5m.
		Fish	- Select good quality of carp brooders (2-4 years old) having more than 1kg b. wt. for Rohu, Mrigal, Catla, Kuri for seed production. For Pengba & Khabak b. wt. May be less than 300g.
		Hormone dose	- Ovitide/ Wova-FH/ Ovaprim@ 0.5ml/kg body weight can be injected to induce for spawning.
	nurseries		- Ponds should be free from unwanted vegetation and insects and water depth should be maintained at 1.0-1.5m. p <sup>H</sup> of pond water should be maintained at 7.0-7.5. Feeds should be provided 2-3 times a day @ 5-10 body weight per day. 20-30 million spawn can be stock in 1 ha.
	Grow - out	Pond and water	- Regular manuring at interval of 30 days with a slurry of RCD @1500kg/ha. Maintained p <sup>H</sup> of pond water at 7.0-7.5. Greenish colouration of water is desirable. If any change in colour, odour of water half of the water should be drain out and replace with fresh water.
		Fish	- 8000-10,000 fingerlings/ha can be stocked. Sampling of fish should be done by regular netting.
Feed		- Well balanced feed fortified with vitamins and minerals should be provided @ 3-5% body weight per day. Feed can be fed at 2-3 times a day.	
Paddy cum fish culture	Water management		- Maintained 1.0 m water depth of the trenches in paddy field. Provide rice bran and mustard oil cake (1:1) as supplementary feed. Avoid insecticide/pesticide application.
Cat fish (Ngakra)	Breeding		- Inject Ovitide or Wova-FH or Ovaprim @ 0.7-0.8ml/kg body weight in 1 to 3 years old mature and healthy <i>Clarias magur</i> weighing 230 g-300 g for breeding.
	Water management		- Water depth should be maintained at 0.5m -0.8m for nurseries. Ponds should be manured with RCD @ 5000 kg/ha at initial and 500-800 kg/ha at 15 days interval.
	Feed & Fish		- Feed with high protein content 35-40% CP @ 5-8% body weight. 8000-10000 fingerlings can be stocked per ha.

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**ICAR Research Complex for N.E.H. Region  
Manipur Centre, Lamphelpat, Imphal - 795 004**



**“Integrated Agromet Advisory Services”**

**MANIPUR BULLETIN**

**1<sup>st</sup> August, 2014**

**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 2<sup>nd</sup> to 6<sup>th</sup> August, 2014 as given below:

Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> to 31<sup>st</sup> July, 2014)

During past three days sky was mainly clear to partly cloudy but mainly cloudy during afternoon hours of 30<sup>th</sup> July. **3.4 mm** rainfall was recorded during past three days. Maximum temperature range observed was 33.5 – 34.0 °C, range of minimum temperature observed was 22.0 – 23.4 °C, mean relative humidity observed in morning and afternoon were 71.0 % and 58.3 % respectively. The average wind speed range was 0.6 – 1.1 km/hr.

Weather forecast for next five days of Tamenglong (2<sup>nd</sup> to 6<sup>th</sup> August, 2014)

There may be light rain upto Sunday then moderate to heavy rains upto Wednesday. Sky may be partly cloudy to cloudy with maximum temp. of 33.0 – 34.0 °C & minimum temp. 22.0 – 23.0 °C. Relative humidity may reach a maximum of 100 % (maximum RH) & 88 % (minimum RH). The average wind speed may be 2 km/hr during next five days.

Name of the crop	Stage	Pest and disease infestation	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Rice</b>	Transplanting to tillering of <i>Main Kharif</i>		- Maintain water level of 5-8cm. - One hand weeding may be done at 20-30 days after transplanting. - Drain out the water and apply 33kg of urea as top dress after 30days of transplanting. Drain in water after 48hrs of top-dressing.
		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water).
		Tikka disease	- Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
<b>Horticulture Crops</b>			
<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
<b>Cucurbits</b>	Fruiting to harvesting	Powdery mildew/ Downey mildew	- Monitor for powdery mildew/ downey mildew. For minimum risk, fungicide must be sprayed as per scheduled time of interval as prophylactic measure. Canopy pruning (removal of unwanted leaves and foliage) may be done for proper aeration and sunshine.
<b>Passion fruit</b>	Fruiting	Collar rot	- Spray Redomil MZ-27 WP @ 2.5 g/lit water and drench soil with 1% Bordeaux mixture.
		Anthraxnose	- Spray Carbendazim + Mancozeb @ 1mg/ lit water.
		Fruit fly	- Spray Carbaryl 0.1% or Malathion 0.05% or poison baiting with jaggery + fruit juice+ Malathion (20:20:1) @ 40-50 baits/ ha.
<b>King Chilli</b>	Fruiting	Fruit rot and aphid	- Spray Redomil Gold @ 2g/lit water + Imidacloprid @ 3ml/10lit of water.
<b>Ginger &amp; Turmeric</b>	Rhizome initiation	Leaf spot & Soft rot in ginger and Rhizome rot in turmeric	- Spray Redomil MZ 72 WP @ 2g/lit water alternately with Carbendazim @ 2g/lit water at 14 days interval. - Drain out excess water from the field.



**ICAR Research Complex for N.E.H. Region  
Manipur Centre, Lamphelpat, Imphal - 795 004**



**“Integrated Agromet Advisory Services”**

Animal Sciences			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry	All susceptible age groups (as and when required)	Ranikhet disease	Vaccinate against Ranikhet disease.
		Fowl pox	- Vaccinate against fowl pox. If already infected, paint with Iodine tincture or Betadine liquid daily on pox growth.
		Management	Add Furazolidone @ 100g in 100 kg of feed for one week. Keep litter material dry and add lime powder (deactivated) @ 3-4 kg per 100sq. ft.
		Parasites (external)	Spray Butox liquid @ 2 ml/ lit of water twice a week.
Sheep/ Goat	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	Deworm using Minthal bolus @ ½ bolus per 20 kg body weight accompanied with Livozyme @ 50ml daily.
		H.S.	- Vaccinate against H.S. @ ½ ml sub- cutaneously.
Pig	Above 3 months of age (as and when required)	Deworming	- Deworming against Helminth parasites using Piperazine citrate @ 30 ml per adult animal once.
		Ticks	Add Butox liquid @ 2 ml/ lit of water and use the solution twice a week while brushing the animal.
			Give mineral mixture like Vimicon and Ascagold suspension in pregnant sow @ 20g and 20ml resp. in feed.
Cattle / Buffalo/ Mithun	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	- Inject Parid @ 1 ml/ 50 kg body weight.
		Tick	Add Butox @ 2cc/ lit of water and bath animal using the solution at fortnight interval.
		Deworming (Helminth parasites)	- Deworming against using Albendazole @ 5-10 g/kg b.wt.
			Give Minamil powder @ 20g twice daily in feed.
Fishery:			
Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Breeding	Pond and water	- Clean and clear water having 7.0-7.8 pH free from unwanted vegetation and insects. Water depth should be maintained at 1.0-1.5m.
		Fish	- Select good quality of carp brooders (2-4 years old) having more than 1kg b. wt. for Rohu, Mrigal, Catla, Kuri for seed production. For Pengba & Khabak b. wt. May be less than 300g.
		Hormone dose	- Ovitide/ Wova-FH/ Ovaprim@ 0.5ml/kg body weight can be injected to induce for spawning.
	nurseries		- Ponds should be free from unwanted vegetation and insects and water depth should be maintained at 1.0-1.5m. p <sup>H</sup> of pond water should be maintained at 7.0-7.5. Feeds should be provided 2-3 times a day @ 5-10 body weight per day. 20-30 million spawn can be stock in 1 ha.
	Grow - out	Pond and water	- Regular manuring at interval of 30 days with a slurry of RCD @ 1500kg/ha. Maintained p <sup>H</sup> of pond water at 7.0-7.5. Greenish colouration of water is desirable. If any change in colour, odour of water half of the water should be drain out and replace with fresh water.
		Fish	- 8000-10,000 fingerlings/ha can be stocked. Sampling of fish should be done by regular netting.
Feed		- Well balanced feed fortified with vitamins and minerals should be provided @ 3-5% body weight per day. Feed can be fed at 2-3 times a day.	
Paddy cum fish culture	Water management		- Maintained 1.0 m water depth of the trenches in paddy field. Provide rice bran and mustard oil cake (1:1) as supplementary feed. Avoid insecticide/pesticide application.
Cat fish (Ngakra)	Breeding		- Inject Ovitide or Wova-FH or Ovaprim @ 0.7-0.8ml/kg body weight in 1 to 3 years old mature and healthy <i>Clarias magur</i> weighing 230 g-300 g for breeding.
	Water management		- Water depth should be maintained at 0.5m -0.8m for nurseries. Ponds should be manured with RCD @ 5000 kg/ha at initial and 500-800 kg/ha at 15 days interval.
	Feed & Fish		- Feed with high protein content 35-40% CP @ 5-8% body weight. 8000-10000 fingerlings can be stocked per ha.

(I. Meghachandra Singh)  
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Manipur Centre, Lamphelpat, Imphal - 795 004**



**“Integrated Agromet Advisory Services”**

**MANIPUR BULLETIN**

**1<sup>st</sup> August, 2014**

**Thoubal**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 2<sup>nd</sup> to 6<sup>th</sup> August, 2014 as given below:

Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> to 31<sup>st</sup> July, 2014)

During past three days sky was mainly clear to partly cloudy but mainly cloudy during afternoon hours of 30<sup>th</sup> July. **3.4 mm** rainfall was recorded during past three days. Maximum temperature range observed was 33.5 – 34.0 °C, range of minimum temperature observed was 22.0 – 23.4 °C, mean relative humidity observed in morning and afternoon were 71.0 % and 58.3 % respectively. The average wind speed range was 0.6 – 1.1 km/hr.

Weather forecast for next five days of Thoubal (2<sup>nd</sup> to 6<sup>th</sup> August, 2014)

There may be light rain upto Sunday then moderate to heavy rains upto Wednesday. Sky may be partly cloudy to cloudy with maximum temp. of 31.0 – 33.0 °C & minimum temp. 22.0 – 23.0 °C. Relative humidity may reach a maximum of 100 % (maximum RH) & 91 % (minimum RH). The average wind speed may be 2-4 km/hr during next five days.

Name of the crop	Stage	Pest and disease infestation	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Rice</b>	Transplanting to tillering of <i>Main Kharif</i>		- Maintain water level of 5-8cm. - One hand weeding may be done at 20-30 days after transplanting. - Drain out the water and apply 33kg of urea as top dress after 30days of transplanting. Drain in water after 48hrs of top-dressing.
		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water).
		Tikka disease	- Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
<b>Horticulture Crops</b>			
<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
<b>Cucurbits</b>	Fruiting to harvesting	Powdery mildew/ Downey mildew	- Monitor for powdery mildew/ downey mildew. For minimum risk, fungicide must be sprayed as per scheduled time of interval as prophylactic measure. Canopy pruning (removal of unwanted leaves and foliage) may be done for proper aeration and sunshine.
<b>Passion fruit</b>	Fruiting	Collar rot	- Spray Redomil MZ-27 WP @ 2.5 g/lit water and drench soil with 1% Bordeaux mixture.
		Anthraxnose	- Spray Carbendazim + Mancozeb @ 1mg/ lit water.
		Fruit fly	- Spray Carbaryl 0.1% or Malathion 0.05% or poison baiting with jaggery + fruit juice+ Malathion (20:20:1) @ 40-50 baits/ ha.
<b>King Chilli</b>	Fruiting	Fruit rot and aphid	- Spray Redomil Gold @ 2g/lit water + Imidacloprid @ 3ml/10lit of water.
<b>Ginger &amp; Turmeric</b>	Rhizome initiation	Leaf spot & Soft rot in ginger and Rhizome rot in turmeric	- Spray Redomil MZ 72 WP @ 2g/lit water alternately with Carbendazim @ 2g/lit water at 14 days interval. - Drain out excess water from the field.





**ICAR Research Complex for N.E.H. Region  
Manipur Centre, Lamphelpat, Imphal - 795 004**



**“Integrated Agromet Advisory Services”**

Animal Sciences			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry	All susceptible age groups (as and when required)	Ranikhet disease	Vaccinate against Ranikhet disease.
		Fowl pox	- Vaccinate against fowl pox. If already infected, paint with Iodine tincture or Betadine liquid daily on pox growth.
		Management	Add Furazolidone @ 100g in 100 kg of feed for one week. Keep litter material dry and add lime powder (deactivated) @ 3-4 kg per 100sq. ft.
		Parasites (external)	Spray Butox liquid @ 2 ml/ lit of water twice a week.
Sheep/ Goat	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	Deworm using Minthal bolus @ ½ bolus per 20 kg body weight accompanied with Livozyme @ 50ml daily.
		H.S.	- Vaccinate against H.S. @ ½ ml sub- cutaneously.
Pig	Above 3 months of age (as and when required)	Deworming	- Deworming against Helminth parasites using Piperazine citrate @ 30 ml per adult animal once.
		Ticks	Add Butox liquid @ 2 ml/ lit of water and use the solution twice a week while brushing the animal.
			Give mineral mixture like Vimicon and Ascagold suspension in pregnant sow @ 20g and 20ml resp. in feed.
Cattle / Buffalo/ Mithun	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	- Inject Parid @ 1 ml/ 50 kg body weight.
		Tick	Add Butox @ 2cc/ lit of water and bath animal using the solution at fortnight interval.
		Deworming (Helminth parasites)	- Deworming against using Albendazole @ 5-10 g/kg b.wt.
			Give Minamil powder @ 20g twice daily in feed.
Fishery:			
Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Breeding	Pond and water	- Clean and clear water having 7.0-7.8 pH free from unwanted vegetation and insects. Water depth should be maintained at 1.0-1.5m.
		Fish	- Select good quality of carp brooders (2-4 years old) having more than 1kg b. wt. for Rohu, Mrigal, Catla, Kuri for seed production. For Pengba & Khabak b. wt. May be less than 300g.
		Hormone dose	- Ovitide/ Wova-FH/ Ovaprim@ 0.5ml/kg body weight can be injected to induce for spawning.
	nurseries		- Ponds should be free from unwanted vegetation and insects and water depth should be maintained at 1.0-1.5m. p <sup>H</sup> of pond water should be maintained at 7.0-7.5. Feeds should be provided 2-3 times a day @ 5-10 body weight per day. 20-30 million spawn can be stock in 1 ha.
	Grow - out	Pond and water	- Regular manuring at interval of 30 days with a slurry of RCD @1500kg/ha. Maintained p <sup>H</sup> of pond water at 7.0-7.5. Greenish colouration of water is desirable. If any change in colour, odour of water half of the water should be drain out and replace with fresh water.
		Fish	- 8000-10,000 fingerlings/ha can be stocked. Sampling of fish should be done by regular netting.
Feed		- Well balanced feed fortified with vitamins and minerals should be provided @ 3-5% body weight per day. Feed can be fed at 2-3 times a day.	
Paddy cum fish culture	Water management		- Maintained 1.0 m water depth of the trenches in paddy field. Provide rice bran and mustard oil cake (1:1) as supplementary feed. Avoid insecticide/pesticide application.
Cat fish (Ngakra)	Breeding	- Inject Ovitide or Wova-FH or Ovaprim @ 0.7-0.8ml/kg body weight in 1 to 3 years old mature and healthy <i>Clarias magur</i> weighing 230 g-300 g for breeding.	
	Water management	- Water depth should be maintained at 0.5m -0.8m for nurseries. Ponds should be manured with RCD @ 5000 kg/ha at initial and 500-800 kg/ha at 15 days interval.	
	Feed & Fish	- Feed with high protein content 35-40% CP @ 5-8% body weight. 8000-10000 fingerlings can be stocked per ha.	

(I. Meghachandra Singh)  
Scientist i/c, GKMS



**ICAR Research Complex for N.E.H. Region  
Manipur Centre, Lamphelpat, Imphal - 795 004**



**“Integrated Agromet Advisory Services”**

**MANIPUR BULLETIN**

**1<sup>st</sup> August, 2014**

**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 2<sup>nd</sup> to 6<sup>th</sup> August, 2014 as given below:

Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> to 31<sup>st</sup> July, 2014)

During past three days sky was mainly clear to partly cloudy but mainly cloudy during afternoon hours of 30<sup>th</sup> July. **3.4 mm** rainfall was recorded during past three days. Maximum temperature range observed was 33.5 – 34.0 °C, range of minimum temperature observed was 22.0 – 23.4 °C, mean relative humidity observed in morning and afternoon were 71.0 % and 58.3 % respectively. The average wind speed range was 0.6 – 1.1 km/hr.

Weather forecast for next five days of Ukhrul (2<sup>nd</sup> to 6<sup>th</sup> August, 2014)

There may be light rain upto Sunday then moderate to heavy rains upto Wednesday. Sky may be partly cloudy to cloudy with maximum temp. of 29.0 – 31.0 °C & minimum temp. 20.0 – 22.0 °C. Relative humidity may reach a maximum of 99 % (maximum RH) & 83 % (minimum RH). The average wind speed may be 2-3 km/hr during next five days.

Name of the crop	Stage	Pest and disease infestation	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Rice</b>	Transplanting to tillering of <i>Main Kharif</i>		- Maintain water level of 5-8cm. - One hand weeding may be done at 20-30 days after transplanting. - Drain out the water and apply 33kg of urea as top dress after 30days of transplanting. Drain in water after 48hrs of top-dressing.
		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water).
		Tikka disease	- Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
<b>Horticulture Crops</b>			
<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
<b>Cucurbits</b>	Fruiting to harvesting	Powdery mildew/ Downey mildew	- Monitor for powdery mildew/ downey mildew. For minimum risk, fungicide must be sprayed as per scheduled time of interval as prophylactic measure. Canopy pruning (removal of unwanted leaves and foliage) may be done for proper aeration and sunshine.
<b>Passion fruit</b>	Fruiting	Collar rot	- Spray Redomil MZ-27 WP @ 2.5 g/lit water and drench soil with 1% Bordeaux mixture.
		Anthraxnose	- Spray Carbendazim + Mancozeb @ 1mg/ lit water.
		Fruit fly	- Spray Carbaryl 0.1% or Malathion 0.05% or poison baiting with jaggery + fruit juice+ Malathion (20:20:1) @ 40-50 baits/ ha.
<b>King Chilli</b>	Fruiting	Fruit rot and aphid	- Spray Redomil Gold @ 2g/lit water + Imidacloprid @ 3ml/10lit of water.
<b>Ginger &amp; Turmeric</b>	Rhizome initiation	Leaf spot & Soft rot in ginger and Rhizome rot in turmeric	- Spray Redomil MZ 72 WP @ 2g/lit water alternately with Carbendazim @ 2g/lit water at 14 days interval. - Drain out excess water from the field.



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**“Integrated Agromet Advisory Services”**

Animal Sciences			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry	All susceptible age groups (as and when required)	Ranikhet disease	Vaccinate against Ranikhet disease.
		Fowl pox	- Vaccinate against fowl pox. If already infected, paint with Iodine tincture or Betadine liquid daily on pox growth.
		Management	Add Furazolidone @ 100g in 100 kg of feed for one week. Keep litter material dry and add lime powder (deactivated) @ 3-4 kg per 100sq. ft.
		Parasites (external)	Spray Butox liquid @ 2 ml/ lit of water twice a week.
Sheep/ Goat	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	Deworm using Minthal bolus @ ½ bolus per 20 kg body weight accompanied with Livozyme @ 50ml daily.
		H.S.	- Vaccinate against H.S. @ ½ ml sub- cutaneously.
Pig	Above 3 months of age (as and when required)	Deworming	- Deworming against Helminth parasites using Piperazine citrate @ 30 ml per adult animal once.
		Ticks	Add Butox liquid @ 2 ml/ lit of water and use the solution twice a week while brushing the animal.
			Give mineral mixture like Vimicon and Ascagold suspension in pregnant sow @ 20g and 20ml resp. in feed.
Cattle / Buffalo/ Mithun	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	- Inject Parid @ 1 ml/ 50 kg body weight.
		Tick	Add Butox @ 2cc/ lit of water and bath animal using the solution at fortnight interval.
		Deworming (Helminth parasites)	- Deworming against using Albendazole @ 5-10 g/kg b.wt.
			Give Minamil powder @ 20g twice daily in feed.
Fishery:			
Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Breeding	Pond and water	- Clean and clear water having 7.0-7.8 pH free from unwanted vegetation and insects. Water depth should be maintained at 1.0-1.5m.
		Fish	- Select good quality of carp brooders (2-4 years old) having more than 1kg b. wt. for Rohu, Mrigal, Catla, Kuri for seed production. For Pengba & Khabak b. wt. May be less than 300g.
		Hormone dose	- Ovitide/ Wova-FH/ Ovaprim@ 0.5ml/kg body weight can be injected to induce for spawning.
	nurseries		- Ponds should be free from unwanted vegetation and insects and water depth should be maintained at 1.0-1.5m. p <sup>H</sup> of pond water should be maintained at 7.0-7.5. Feeds should be provided 2-3 times a day @ 5-10 body weight per day. 20-30 million spawn can be stock in 1 ha.
	Grow - out	Pond and water	- Regular manuring at interval of 30 days with a slurry of RCD @1500kg/ha. Maintained p <sup>H</sup> of pond water at 7.0-7.5. Greenish colouration of water is desirable. If any change in colour, odour of water half of the water should be drain out and replace with fresh water.
		Fish	- 8000-10,000 fingerlings/ha can be stocked. Sampling of fish should be done by regular netting.
Feed		- Well balanced feed fortified with vitamins and minerals should be provided @ 3-5% body weight per day. Feed can be fed at 2-3 times a day.	
Paddy cum fish culture	Water management		- Maintained 1.0 m water depth of the trenches in paddy field. Provide rice bran and mustard oil cake (1:1) as supplementary feed. Avoid insecticide/pesticide application.
Cat fish (Ngakra)	Breeding	- Inject Ovitide or Wova-FH or Ovaprim @ 0.7-0.8ml/kg body weight in 1 to 3 years old mature and healthy <i>Clarias magur</i> weighing 230 g-300 g for breeding.	
	Water management	- Water depth should be maintained at 0.5m -0.8m for nurseries. Ponds should be manured with RCD @ 5000 kg/ha at initial and 500-800 kg/ha at 15 days interval.	
	Feed & Fish	- Feed with high protein content 35-40% CP @ 5-8% body weight. 8000-10000 fingerlings can be stocked per ha.	

(I. Meghachandra Singh)  
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**“Integrated Agromet Advisory Services”**

**MANIPUR BULLETIN**

**1<sup>st</sup> August, 2014**

**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 2<sup>nd</sup> to 6<sup>th</sup> August, 2014 as given below:

<p><u>Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> to 31<sup>st</sup> July, 2014)</u></p> <p>During past three days sky was mainly clear to partly cloudy but mainly cloudy during afternoon hours of 30<sup>th</sup> July. <b>3.4 mm</b> rainfall was recorded during past three days. Maximum temperature range observed was 33.5 – 34.0 °C, range of minimum temperature observed was 22.0 – 23.4 °C, mean relative humidity observed in morning and afternoon were 71.0 % and 58.3 % respectively. The average wind speed range was 0.6 – 1.1 km/hr.</p>	<p><u>Weather forecast for next five days of Bishnupur (2<sup>nd</sup> to 6<sup>th</sup> August, 2014)</u></p> <p>There may be light rain upto Sunday then moderate to heavy rains upto Wednesday. Sky may be partly cloudy to cloudy with maximum temp. of 31.0 – 32.0 °C &amp; minimum temp. 22.0 – 23.0 °C. Relative humidity may reach a maximum of 100 % (maximum RH) &amp; 90 % (minimum RH). The average wind speed may be 2 km/hr during next five days.</p>
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Name of the crop	Stage	Pest and disease infestation	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Rice</b>	Transplanting to tillering of <i>Main Kharif</i>		- Maintain water level of 5-8cm. - One hand weeding may be done at 20-30 days after transplanting. - Drain out the water and apply 33kg of urea as top dress after 30days of transplanting. Drain in water after 48hrs of top-dressing.
		Thrips & Leaf folder	- Spray Lambdacythothrin @ 15 ml/ pump.
<b>Maize</b>	<b>Kharif Maize:</b> Cob maturity to harvesting		- Mature cobs may be harvested.
<b>Soybean / Groundnut</b>	Vegetative	Hairy caterpillars	- Hand weeding should be done. Also, earthing-up may be done. - Avoid leaf eating caterpillars/ insects upto 60 days after sowing. For control of red hairy caterpillars, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 7.6 EC 0.05% (0.6ml/ lit of water).
		Tikka disease	- Spray Carbendazim @ 0.5g / lit of water to control Tikka disease in groundnut.
<b>Storage</b>			- Clean and store the seeds in RC-seed bins after proper drying. Check for germination of seeds or fungal growth. After proper drying, store grains/ seeds in well ventilated godowns.
<b>Horticulture Crops</b>			
<b>Early Cauliflower</b>	Nursery		- Prepare temporary rain shelter to protect cauliflower nursery. Proper drainage may be well constructed.
<b>Cucurbits</b>	Fruiting to harvesting	Powdery mildew/ Downey mildew	- Monitor for powdery mildew/ downey mildew. For minimum risk, fungicide must be sprayed as per scheduled time of interval as prophylactic measure. Canopy pruning (removal of unwanted leaves and foliage) may be done for proper aeration and sunshine.
<b>Passion fruit</b>	Fruiting	Collar rot	- Spray Redomil MZ-27 WP @ 2.5 g/lit water and drench soil with 1% Bordeaux mixture.
		Anthraxnose	- Spray Carbendazim + Mancozeb @ 1mg/ lit water.
		Fruit fly	- Spray Carbaryl 0.1% or Malathion 0.05% or poison baiting with jaggery + fruit juice+ Malathion (20:20:1) @ 40-50 baits/ ha.
<b>King Chilli</b>	Fruiting	Fruit rot and aphid	- Spray Redomil Gold @ 2g/lit water + Imidacloprid @ 3ml/10lit of water.
<b>Ginger &amp; Turmeric</b>	Rhizome initiation	Leaf spot & Soft rot in ginger and Rhizome rot in turmeric	- Spray Redomil MZ 72 WP @ 2g/lit water alternately with Carbendazim @ 2g/lit water at 14 days interval. - Drain out excess water from the field.



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**“Integrated Agromet Advisory Services”**

Animal Sciences			
Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Poultry	All susceptible age groups (as and when required)	Ranikhet disease	Vaccinate against Ranikhet disease.
		Fowl pox	- Vaccinate against fowl pox. If already infected, paint with Iodine tincture or Betadine liquid daily on pox growth.
		Management	Add Furazolidone @ 100g in 100 kg of feed for one week. Keep litter material dry and add lime powder (deactivated) @ 3-4 kg per 100sq. ft.
		Parasites (external)	Spray Butox liquid @ 2 ml/ lit of water twice a week.
Sheep/ Goat	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	Deworm using Minthal bolus @ ½ bolus per 20 kg body weight accompanied with Livozyme @ 50ml daily.
		H.S.	- Vaccinate against H.S. @ ½ ml sub- cutaneously.
Pig	Above 3 months of age (as and when required)	Deworming	- Deworming against Helminth parasites using Piperazine citrate @ 30 ml per adult animal once.
		Ticks	Add Butox liquid @ 2 ml/ lit of water and use the solution twice a week while brushing the animal.
			Give mineral mixture like Vimicon and Ascagold suspension in pregnant sow @ 20g and 20ml resp. in feed.
Cattle / Buffalo/ Mithun	Above 3 months of age (as and when required)	Endoparasite/ Ectoparasite	- Inject Parid @ 1 ml/ 50 kg body weight.
		Tick	Add Butox @ 2cc/ lit of water and bath animal using the solution at fortnight interval.
		Deworming (Helminth parasites)	- Deworming against using Albendazole @ 5-10 g/kg b.wt.
			Give Minamil powder @ 20g twice daily in feed.
Fishery:			
Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Breeding	Pond and water	- Clean and clear water having 7.0-7.8 pH free from unwanted vegetation and insects. Water depth should be maintained at 1.0-1.5m.
		Fish	- Select good quality of carp brooders (2-4 years old) having more than 1kg b. wt. for Rohu, Mrigal, Catla, Kuri for seed production. For Pengba & Khabak b. wt. May be less than 300g.
		Hormone dose	- Ovitide/ Wova-FH/ Ovaprim@ 0.5ml/kg body weight can be injected to induce for spawning.
	nurseries		- Ponds should be free from unwanted vegetation and insects and water depth should be maintained at 1.0-1.5m. p <sup>H</sup> of pond water should be maintained at 7.0-7.5. Feeds should be provided 2-3 times a day @ 5-10 body weight per day. 20-30 million spawn can be stock in 1 ha.
	Grow - out	Pond and water	- Regular manuring at interval of 30 days with a slurry of RCD @1500kg/ha. Maintained p <sup>H</sup> of pond water at 7.0-7.5. Greenish colouration of water is desirable. If any change in colour, odour of water half of the water should be drain out and replace with fresh water.
		Fish	- 8000-10,000 fingerlings/ha can be stocked. Sampling of fish should be done by regular netting.
Feed		- Well balanced feed fortified with vitamins and minerals should be provided @ 3-5% body weight per day. Feed can be fed at 2-3 times a day.	
Paddy cum fish culture	Water management		- Maintained 1.0 m water depth of the trenches in paddy field. Provide rice bran and mustard oil cake (1:1) as supplementary feed. Avoid insecticide/pesticide application.
Cat fish (Ngakra)	Breeding		- Inject Ovitide or Wova-FH or Ovaprim @ 0.7-0.8ml/kg body weight in 1 to 3 years old mature and healthy <i>Clarias magur</i> weighing 230 g-300 g for breeding.
	Water management		- Water depth should be maintained at 0.5m -0.8m for nurseries. Ponds should be manured with RCD @ 5000 kg/ha at initial and 500-800 kg/ha at 15 days interval.
	Feed & Fish		- Feed with high protein content 35-40% CP @ 5-8% body weight. 8000-10000 fingerlings can be stocked per ha.

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