



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 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 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Bishnupur (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 30- 32 °C & minimum temp. 25.0 °C. Relative humidity may reach upto 100 % (max RH) & 89 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

		Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
		Care & management	➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given. ➤ Food supplements may be given @20-30 gm/animals. ➤ Do not let animals graze in irrigated fodder fields/meadows ➤ After the birth of the self the new born must be fed with Colostrum within the first two hours. ➤ Give Calmore Forte @100ml orally once daily
		Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.
<b>Fishery:</b>			
<b>Type of Farming</b>	<b>Stage</b>	<b>Management</b>	<b>Agro-metrological advisories</b>
<b>Carp culture</b>	Fish nurseries	Pond and water	➤ Water depth should be maintain at 1.0-1.5m ➤ Agri-lime should be applied in ponds ➤ Ponds should be free from aquatic weed, predatory insects and fish. ➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond ➤ Duration is 25-45 days.
	Grow out	Pond and water	➤ Water depth should be maintain at 1.5-2.0m ➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval
		Feed	➤ Sampling of fish for growth, disease (if any) should be done by regular netting. ➤ Partial harvesting of marketable size fishes are also recommended
		Fish	➤ Feed should be provided @ 3-5 % body weight per day ➤ Feed can be fed at 2 times a day.
	Paddy cum fish culture	water	➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture. ➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches ➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field. ➤ Feeding should be done @ 2% body weigh5t per day.

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



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 2016****Chandel**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Chandel (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 29 – 30 °C & minimum temp. 24.0 - 25.0 °C. Relative humidity may reach upto 99 % (max RH) & 96 % (min RH). The average wind speed may be 3-5 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

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

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

		Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
		Care & management	➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given. ➤ Food supplements may be given @20-30 gm/animals. ➤ Do not let animals graze in irrigated fodder fields/meadows ➤ After the birth of the self the new born must be fed with Colostrum within the first two hours. ➤ Give Calmore Forte @100ml orally once daily
		Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.
<b>Fishery:</b>			
<b>Type of Farming</b>	<b>Stage</b>	<b>Management</b>	<b>Agro-metrological advisories</b>
<b>Carp culture</b>	Fish nurseries	Pond and water	➤ Water depth should be maintain at 1.0-1.5m ➤ Agri-lime should be applied in ponds ➤ Ponds should be free from aquatic weed, predatory insects and fish. ➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond ➤ Duration is 25-45 days.
	Grow out	Pond and water	➤ Water depth should be maintain at 1.5-2.0m ➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval
		Feed	➤ Sampling of fish for growth, disease (if any) should be done by regular netting. ➤ Partial harvesting of marketable size fishes are also recommended
		Fish	➤ Feed should be provided @ 3-5 % body weight per day ➤ Feed can be fed at 2 times a day.
	Paddy cum fish culture	water	➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture. ➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches ➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field. ➤ Feeding should be done @ 2% body weigh5t per day.

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



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 2016****Churachandpur**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Churachandpur (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 30 - 32 °C & minimum temp. 25.0 °C. Relative humidity may reach upto 99 % (max RH) & 85 % (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			<ul style="list-style-type: none"> <li>■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

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

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>



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

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

**“Gramin Krishi Mausam Seva”**



	Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
	Care & management	<ul style="list-style-type: none"> <li>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</li> <li>➤ Food supplements may be given @20-30 gm/animals.</li> <li>➤ Do not let animals graze in irrigated fodder fields/meadows</li> <li>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</li> <li>➤ Give Calmore Forte @100ml orally once daily</li> </ul>
	Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.

<b>Fishery:</b>			
<b>Type of Farming</b>	<b>Stage</b>	<b>Management</b>	<b>Agro-metrological advisories</b>
<b>Carp culture</b>	Fish nurseries	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.0-1.5m</li> <li>➤ Agri-lime should be applied in ponds</li> <li>➤ Ponds should be free from aquatic weed, predatory insects and fish.</li> <li>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</li> </ul>
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	<ul style="list-style-type: none"> <li>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</li> <li>➤ Duration is 25-45 days.</li> </ul>
	Grow out	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.5-2.0m</li> <li>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</li> </ul>
		Feed	<ul style="list-style-type: none"> <li>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</li> <li>➤ Partial harvesting of marketable size fishes are also recommended</li> </ul>
		Fish	<ul style="list-style-type: none"> <li>➤ Feed should be provided @ 3-5 % body weight per day</li> <li>➤ Feed can be fed at 2 times a day.</li> </ul>
	Paddy cum fish culture	water	<ul style="list-style-type: none"> <li>➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture.</li> <li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches</li> <li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li> <li>➤ Feeding should be done @ 2% body weigh5t per day.</li> </ul>

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



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 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 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Imphal East (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 29- 31 °C & minimum temp. 25.0 °C. Relative humidity may reach upto 99 % (max RH) & 89 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

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

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**



	Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
	Care & management	<ul style="list-style-type: none"> <li>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</li> <li>➤ Food supplements may be given @20-30 gm/animals.</li> <li>➤ Do not let animals graze in irrigated fodder fields/meadows</li> <li>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</li> <li>➤ Give Calmore Forte @100ml orally once daily</li> </ul>
	Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.

<b>Fishery:</b>			
<b>Type of Farming</b>	<b>Stage</b>	<b>Management</b>	<b>Agro-metrological advisories</b>
<b>Carp culture</b>	Fish nurseries	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.0-1.5m</li> <li>➤ Agri-lime should be applied in ponds</li> <li>➤ Ponds should be free from aquatic weed, predatory insects and fish.</li> <li>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</li> </ul>
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	<ul style="list-style-type: none"> <li>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</li> <li>➤ Duration is 25-45 days.</li> </ul>
	Grow out	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.5-2.0m</li> <li>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</li> </ul>
		Feed	<ul style="list-style-type: none"> <li>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</li> <li>➤ Partial harvesting of marketable size fishes are also recommended</li> </ul>
		Fish	<ul style="list-style-type: none"> <li>➤ Feed should be provided @ 3-5 % body weight per day</li> <li>➤ Feed can be fed at 2 times a day.</li> </ul>
	Paddy cum fish culture	water	<ul style="list-style-type: none"> <li>➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture.</li> <li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches</li> <li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li> <li>➤ Feeding should be done @ 2% body weigh5t per day.</li> </ul>

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



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 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 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Imphal West (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 30- 31 °C & minimum temp. 25.0 °C. Relative humidity may reach upto 99 % (max RH) & 85 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

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

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**



	Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
	Care & management	<ul style="list-style-type: none"> <li>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</li> <li>➤ Food supplements may be given @20-30 gm/animals.</li> <li>➤ Do not let animals graze in irrigated fodder fields/meadows</li> <li>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</li> <li>➤ Give Calmore Forte @100ml orally once daily</li> </ul>
	Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.

<b>Fishery:</b>			
<b>Type of Farming</b>	<b>Stage</b>	<b>Management</b>	<b>Agro-metrological advisories</b>
<b>Carp culture</b>	Fish nurseries	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.0-1.5m</li> <li>➤ Agri-lime should be applied in ponds</li> <li>➤ Ponds should be free from aquatic weed, predatory insects and fish.</li> <li>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</li> </ul>
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	<ul style="list-style-type: none"> <li>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</li> <li>➤ Duration is 25-45 days.</li> </ul>
	Grow out	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.5-2.0m</li> <li>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</li> </ul>
		Feed	<ul style="list-style-type: none"> <li>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</li> <li>➤ Partial harvesting of marketable size fishes are also recommended</li> </ul>
		Fish	<ul style="list-style-type: none"> <li>➤ Feed should be provided @ 3-5 % body weight per day</li> <li>➤ Feed can be fed at 2 times a day.</li> </ul>
	Paddy cum fish culture	water	<ul style="list-style-type: none"> <li>➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture.</li> <li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches</li> <li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li> <li>➤ Feeding should be done @ 2% body weigh5t per day.</li> </ul>

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



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 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 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Senapati (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 29 - 31 °C & minimum temp. 25 °C. Relative humidity may reach upto 99 % (max RH) & 88 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

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

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**



	Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
	Care & management	<ul style="list-style-type: none"> <li>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</li> <li>➤ Food supplements may be given @20-30 gm/animals.</li> <li>➤ Do not let animals graze in irrigated fodder fields/meadows</li> <li>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</li> <li>➤ Give Calmore Forte @100ml orally once daily</li> </ul>
	Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.

**Fishery:**

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Fish nurseries	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.0-1.5m</li> <li>➤ Agri-lime should be applied in ponds</li> <li>➤ Ponds should be free from aquatic weed, predatory insects and fish.</li> <li>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</li> </ul>
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	<ul style="list-style-type: none"> <li>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</li> <li>➤ Duration is 25-45 days.</li> </ul>
	Grow out	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.5-2.0m</li> <li>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</li> </ul>
		Feed	<ul style="list-style-type: none"> <li>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</li> <li>➤ Partial harvesting of marketable size fishes are also recommended</li> </ul>
		Fish	<ul style="list-style-type: none"> <li>➤ Feed should be provided @ 3-5 % body weight per day</li> <li>➤ Feed can be fed at 2 times a day.</li> </ul>
	Paddy cum fish culture	water	<ul style="list-style-type: none"> <li>➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture.</li> <li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches</li> <li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li> <li>➤ Feeding should be done @ 2% body weigh5t per day.</li> </ul>

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



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 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 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Tamenglong (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 30 - 31 °C & minimum temp. 25 - 26 °C. Relative humidity may reach upto 99 % (max RH) & 82 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

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

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

		Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
		Care & management	➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given. ➤ Food supplements may be given @20-30 gm/animals. ➤ Do not let animals graze in irrigated fodder fields/meadows ➤ After the birth of the self the new born must be fed with Colostrum within the first two hours. ➤ Give Calmore Forte @100ml orally once daily
		Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.
<b>Fishery:</b>			
<b>Type of Farming</b>	<b>Stage</b>	<b>Management</b>	<b>Agro-metrological advisories</b>
<b>Carp culture</b>	Fish nurseries	Pond and water	➤ Water depth should be maintain at 1.0-1.5m ➤ Agri-lime should be applied in ponds ➤ Ponds should be free from aquatic weed, predatory insects and fish. ➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond ➤ Duration is 25-45 days.
	Grow out	Pond and water	➤ Water depth should be maintain at 1.5-2.0m ➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval
		Feed	➤ Sampling of fish for growth, disease (if any) should be done by regular netting. ➤ Partial harvesting of marketable size fishes are also recommended
		Fish	➤ Feed should be provided @ 3-5 % body weight per day ➤ Feed can be fed at 2 times a day.
	Paddy cum fish culture	water	➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture. ➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches ➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field. ➤ Feeding should be done @ 2% body weigh5t per day.

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



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 2016****Thoubal**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Thoubal (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 30- 31 °C & minimum temp. 25.0 °C. Relative humidity may reach upto 100 % (max RH) & 93 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

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

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>



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

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

**“Gramin Krishi Mausam Seva”**



	Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
	Care & management	<ul style="list-style-type: none"> <li>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</li> <li>➤ Food supplements may be given @20-30 gm/animals.</li> <li>➤ Do not let animals graze in irrigated fodder fields/meadows</li> <li>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</li> <li>➤ Give Calmore Forte @100ml orally once daily</li> </ul>
	Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.

<b>Fishery:</b>			
<b>Type of Farming</b>	<b>Stage</b>	<b>Management</b>	<b>Agro-metrological advisories</b>
<b>Carp culture</b>	Fish nurseries	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.0-1.5m</li> <li>➤ Agri-lime should be applied in ponds</li> <li>➤ Ponds should be free from aquatic weed, predatory insects and fish.</li> <li>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</li> </ul>
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	<ul style="list-style-type: none"> <li>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</li> <li>➤ Duration is 25-45 days.</li> </ul>
	Grow out	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.5-2.0m</li> <li>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</li> </ul>
		Feed	<ul style="list-style-type: none"> <li>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</li> <li>➤ Partial harvesting of marketable size fishes are also recommended</li> </ul>
		Fish	<ul style="list-style-type: none"> <li>➤ Feed should be provided @ 3-5 % body weight per day</li> <li>➤ Feed can be fed at 2 times a day.</li> </ul>
	Paddy cum fish culture	water	<ul style="list-style-type: none"> <li>➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture.</li> <li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches</li> <li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li> <li>➤ Feeding should be done @ 2% body weigh5t per day.</li> </ul>

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



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

**MANIPUR BULLETIN****15<sup>th</sup> July, 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 16<sup>th</sup> to 20<sup>th</sup> July, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (12<sup>th</sup> to 14<sup>th</sup> July, 2016)**

The sky remained mainly to overcast. Rainfall of 23.3 mm was recorded during past three days. Maximum temperature range observed was 31.6 to 32.8 °C, range of minimum temperature observed was 22.1 to 24.2 °C, mean relative humidity observed in morning and afternoon were 88.33 % and 65.33 % respectively. The average wind speed range was 3.4 to 5.1 km/hr.

**Weather forecast for next five days of Ukhrul (16<sup>th</sup> to 20<sup>th</sup> July, 2016)**

Likely to have light to moderate rain and heavy rain at isolated places upto Sunday. Sky will remain mainly cloudy to overcast, with maximum temp. 29 - 31 °C & minimum temp. 24 - 25 °C. Relative humidity may reach upto 99 % (max RH) & 94 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be South-Westerly to Westerly during the next five days.

**Weather warning for next five days \*****Likely to have heavy rain at isolated places over Manipur on 15<sup>th</sup> & 16<sup>th</sup> July, 2016**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Pre kharif rice</b>	Post Harvesting		➤ Thresh, dry properly on sunny days and clean the grains well before storage.
<b>Main kharif rice</b>	Transplanting to Establishment		<ul style="list-style-type: none"> <li>➤ In replanting flooding fields, prepare rice nurseries in raised beds with RC- Maniphou 7.</li> <li>➤ For <b>Wet Seedling</b>, pre-soaked seeds may be seeded in the fields which can be kept moist (wet). The excess water should be drained out before seedling.</li> <li>➤ During final leveling apply fertilizer @ 65kg Urea, 250 kg SSP and 33kg MOP as basal dose before transplanting seedlings.</li> <li>➤ Uproot 25-35 days old seedlings. About 1200-1300 bundles of seedlings (40cm diameter) are required for transplanting in one hectare area. Row planting of 2-3 seedlings per hill may be done at 25 x 10cm using beaded rope.</li> <li>➤ Maintain a thin film of water upto 7 days after transplanting. Release excess water if accumulated due to rain.</li> </ul>
<b>Kharif maize</b>	Cob formation to maturity		<ul style="list-style-type: none"> <li>➤ Weeding may be done on sunny days to control weeds/ insect-pest.</li> <li>➤ Maintain proper drainage system to avoid water logging.</li> </ul>
<b>Soybean</b>	Sowing to vegetative		<ul style="list-style-type: none"> <li>➤ Sow seed @ 40-45 Kg/ha or 10-11.3 kg of seed/sangam and recommended variety is JS-335 at a spacing of 30x15 sq cm.</li> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ If not sown early, sowing must be done during July.</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> </ul>
<b>Storage (seed)</b>			■ Dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal. Check for moisture content or weight of seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.
<b>Horticulture Crops</b>			
<b>Cauliflower</b>	Nursery		➤ Raise nursery of cauliflower in raised nursery beds (18-20 cm height) under temporary rain shelter, apply 1-2 kg FYM/ m <sup>2</sup> of nursery bed. Drench the soil with Carbendazim or Captan 50 W.P. Select early varieties like Early Himlata, White shot, etc.
<b>Turmeric</b>	Vegetative to rhizome formation	Leaf spot disease	➤ Spray Redomil MZ-72 WP @ 2g/lit of water alternatively with Carbendazim @ 2g/ lit of water at 14 days interval.
		Rhizome rot	➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.



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

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

**“Gramin Krishi Mausam Seva”**



<b>Tree bean</b>	Transplanting/ Fertilizer application		<ul style="list-style-type: none"> <li>➤ One year or more than a year old quality seedling may be transplanted in the pit.</li> <li>➤ Recommended spacing is 10x10 m from plant to plant and row to row</li> <li>➤ At the time of planting apply 5 kg FYM + 30 gm lime+30 gm linden 5% dust + 5 ml Chlorpyriphos 20 EC + 1.5 g Mancozeb + Carbendazim per pit.</li> <li>➤ For 7 yrs and above and for bearing plants apply 7 kg FYM, 120 Kg urea, 300 gm SSP, 80 gm MOP, 1 Kg lime should be applied.</li> </ul>
<b>Turmeric/ Coriander</b>	Intercropping		<ul style="list-style-type: none"> <li>➤ Coriander variety Green Wonder or local one may be sown as intercrop plants in Turmeric field.</li> <li>➤ High density sowing at a spacing of 5 cm x 10 cm may also be done.</li> </ul>
<b>Colocassia</b>	Leaf spot/ Leaf blight		<ul style="list-style-type: none"> <li>➤ Apply Mancozeb @ 2 gm/ltr water at 7 days or Ridomil MZ -72 w.p. @ 2gm/lit water 14 days interval at least twice.</li> </ul>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Vegetative/harvest		<ul style="list-style-type: none"> <li>➤ Avoid water stagnation in the root zone, harvest the mature ones.</li> <li>➤ Avoid the fruits to touch the ground by staking or with the support of dried twigs.</li> </ul>
<b>Chilli</b>	Seed Collection/Harvest		<ul style="list-style-type: none"> <li>➤ Seed collection should be done preferably on bright sunshine hours.</li> <li>➤ After harvesting of matured ones spray Copper oxichloride(0.3% or Mancozeb alternatively with Metalxyl and Mancozeb combination at 15 days interval.</li> </ul>
<b>Passion Fruit</b>	Flowering to fruiting	■ Fruit rot	➤ Spray Metalxyl+Mancozeb @ 2 g/litr water at 7 days interval
		∩ Fruit fly	∩ Apply poison baiting with Jaggary+ fruit juice+Malathion (20:20:1) @ 40-50 baits/ha.
		■ Brown Spot	➤ Remove the infected leaves and burn. Spray Zineb@ 2 mg/ltr water.
		∩ Termite	∩ Apply Chloropyriphos 10%G @ 25kg/ha into the soil.
		∩ Collar rot	∩ Drench the soil of collar region with 1% Bordeaux mixture

**Animal Sciences**

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
Do not let animals to graze in fodder fields now, as at the time of sudden growth in fodder after long submergence presence of cyanide has been found.			
<b>Poultry (Chicken/ Turkey/ Duck)</b>	All age groups	Care & management	<ul style="list-style-type: none"> <li>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</li> <li>➤ Use water sanitizer in drinking water/potassium permagnate (few grains)</li> <li>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</li> </ul>
		Coccidiosis	Use Amprolium @1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.
		Deworming	Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.
<b>Sheep/ Goat</b>	All age groups excepts the young ones	Care & management	<ul style="list-style-type: none"> <li>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</li> <li>➤ Give multivitamins @15ml orally</li> <li>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</li> <li>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</li> </ul>
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @7.5 mg/kg b.wt. or Ivermectin @50mg/kg b. wl.
<b>Pig</b>	All age groups except the young ones	Care and management	<ul style="list-style-type: none"> <li>➤ Mineral mixture be added in feed @10-20g/adult animal.</li> <li>➤ Treat drinking water with potassium permanganate/ sanitizer.</li> <li>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</li> </ul>
		Mites infestation Enteric disease Diarrhoea & Dysentry	<ul style="list-style-type: none"> <li>➤ Spray with Skin Heal Spray in sufficient quantity.</li> <li>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</li> <li>➤ Prompt treatment with Antibiotics Sulpha drugs.</li> </ul>
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	<ul style="list-style-type: none"> <li>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**



	Endoparasites	➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.
	Care & management	<ul style="list-style-type: none"> <li>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</li> <li>➤ Food supplements may be given @20-30 gm/animals.</li> <li>➤ Do not let animals graze in irrigated fodder fields/meadows</li> <li>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</li> <li>➤ Give Calmore Forte @100ml orally once daily</li> </ul>
	Milk Fever	➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.

<b>Fishery:</b>			
<b>Type of Farming</b>	<b>Stage</b>	<b>Management</b>	<b>Agro-metrological advisories</b>
<b>Carp culture</b>	Fish nurseries	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.0-1.5m</li> <li>➤ Agri-lime should be applied in ponds</li> <li>➤ Ponds should be free from aquatic weed, predatory insects and fish.</li> <li>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</li> </ul>
		Feed	➤ Fish feed should be provided @ 10-15 % body weight per day.
		Fish	<ul style="list-style-type: none"> <li>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</li> <li>➤ Duration is 25-45 days.</li> </ul>
	Grow out	Pond and water	<ul style="list-style-type: none"> <li>➤ Water depth should be maintain at 1.5-2.0m</li> <li>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</li> </ul>
		Feed	<ul style="list-style-type: none"> <li>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</li> <li>➤ Partial harvesting of marketable size fishes are also recommended</li> </ul>
		Fish	<ul style="list-style-type: none"> <li>➤ Feed should be provided @ 3-5 % body weight per day</li> <li>➤ Feed can be fed at 2 times a day.</li> </ul>
	Paddy cum fish culture	water	<ul style="list-style-type: none"> <li>➤ Water depth of the field can be increase by pumping or draining if water is available to continue the culture.</li> <li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m depth trenches</li> <li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li> <li>➤ Feeding should be done @ 2% body weigh5t per day.</li> </ul>

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