



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

**MANIPUR BULLETIN****2<sup>nd</sup> August, 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 3<sup>rd</sup> to 7<sup>th</sup> August, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> July to 1<sup>st</sup> August, 2016)**

The sky remained partly cloudy to cloudy and rainfall of **18.0 mm** was recorded during past four days. Maximum temperature range observed was 29.4 to 32.4 °C, range of minimum temperature observed was 21.3 to 22.2 °C, mean relative humidity observed in morning and afternoon were 86.8 % and 72.8 % respectively. The average wind speed range was 4.1 to 6.2 km/hr.

**Weather forecast for next five days of Bishnupur (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 33 - 35 °C & minimum temp. 23 - 24 °C. Relative humidity may reach upto 100 % (max RH) & 78 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016****Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
		Thrips & Leaf folder	<ul style="list-style-type: none"> <li>➤ Spray Lambda cyhalothrin 5% EC @ 15 ml/ 15 lit of water.</li> </ul>
<b>Kharif maize</b>	Cob formation to Maturity and Harvesting		<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> <li>➤ Mature cobs may be harvested.</li> </ul>
<b>Soybean</b>	Vegetative		<ul style="list-style-type: none"> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> <li>➤ For control of red hairy caterpillars in crops at vegetative stage, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 76 EC 0.05% (0.6ml/ lit of water).</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>			
* Drain-out excess water from the crop area.			
<b>Turmeric/ Ginger</b>	Vegetative to rhizome formation	Rhizome rot	<ul style="list-style-type: none"> <li>➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.</li> </ul>
			<ul style="list-style-type: none"> <li>➤ For grown up plants spray Dithan M45 @ 2 to 2.5 ml/lit of water as prophylactic measures after the rain.</li> <li>➤ Earthing up of soil at least twice in the growing period is recommended.</li> </ul>
<b>Bhindi</b>	Sowing		<ul style="list-style-type: none"> <li>➤ Bhindi can be sown as it is a crop of tropical and sub tropical climate requiring a long warm and humid growing season. Soil should be friable and proper drainage is strictly required. So this is one of the most favorable vegetables in the Kitchen garden</li> <li>➤ For standing crop also it can withstand at least 10-15 days in submerged condition.</li> <li>➤ For kitchen garden 8-10 gm/10m<sup>2</sup> is required for sowing</li> <li>➤ Varieties: Arka Anamika, Prabhani Kranti, Pusa makhmali, Pusa sawani may be used.</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>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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**“Gramin Krishi Mausam Seva”**



			Kashi Kanchan, RCCP-1 (pole type) ➤ Seed rate is 12-15 gm/10m <sup>2</sup>
<b>Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)</b>	Bearing stage to harvesting		➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.

#### 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	➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season. ➤ Use water sanitizer in drinking water/potassium permanganate (few grains) ➤ Keep the litter dry & add 2 kg lime powder for 100 sq. ft. area and mix it properly.
		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	➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem ➤ Give multivitamins @ 15ml orally. ➤ Use quality disinfectants for disinfecting the surrounding of the sheds. ➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @ 7.5 mg/kg b.wt. or Ivermectin @ 50mg/kg b. wt.
<b>Pig</b>	All age groups except the young ones	Care and management	➤ Mineral mixture be added in feed @ 10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation Enteric disease Diarrhoea & Dysentery	➤ Spray with Skin Heal Spray in sufficient quantity. ➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days. ➤ Prompt treatment with Antibiotics Sulpha drugs.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
<b>Cattle</b>	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot & Mouth Disease, Enterotoxaemia etc.
		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.

#### Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
<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.

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	Paddy cum fish culture	water	<ul style="list-style-type: none"><li>➤ Water depth of the field should be maintained.</li><li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m deep trenches.</li><li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li><li>➤ Feeding should be done @ 2% body weigh 5t per day.</li></ul>
<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
	Duck		➤ 200-400 ducks of 2-3 months old are sufficient to adequately fertilize a 1 ha pond.

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



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**MANIPUR BULLETIN****2<sup>nd</sup> August, 2016****Chandel**

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The sky remained partly cloudy to cloudy and rainfall of **18.0 mm** was recorded during past four days. Maximum temperature range observed was 29.4 to 32.4 °C, range of minimum temperature observed was 21.3 to 22.2 °C, mean relative humidity observed in morning and afternoon were 86.8 % and 72.8 % respectively. The average wind speed range was 4.1 to 6.2 km/hr.

**Weather forecast for next five days of Chandel (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 31 - 33 °C & minimum temp. 20 - 22 °C. Relative humidity may reach upto 99 % (max RH) & 86 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016**

**Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
		Thrips & Leaf folder	<ul style="list-style-type: none"> <li>➤ Spray Lambda cyhalothrin 5% EC @ 15 ml/ 15 lit of water.</li> </ul>
<b>Kharif maize</b>	Cob formation to Maturity and Harvesting		<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> <li>➤ Mature cobs may be harvested.</li> </ul>
<b>Soybean</b>	Vegetative		<ul style="list-style-type: none"> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> <li>➤ For control of red hairy caterpillars in crops at vegetative stage, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 76 EC 0.05% (0.6ml/ lit of water).</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>
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* Drain-out excess water from the crop area.			
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<b>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)	Bearing stage to harvesting		<p>➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.</p>

### Animal Sciences

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Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	<p>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</p> <p>➤ Use water sanitizer in drinking water/potassium permanganate (few grains)</p> <p>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</p>
		Coccidiosis	<p>➤ Use Amprolium @ 1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.</p>
		Deworming	<p>➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.</p>
Sheep/ Goat	All age groups excepts the young ones	Care & management	<p>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</p> <p>➤ Give multivitamins @ 15ml orally.</p> <p>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</p> <p>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</p>
		De-worming	<p>➤ De-worming of animals should be done using Abendazole/Levamisole @ 7.5 mg/kg b.wt. or Ivermectin @ 50mg/kg b. wt.</p>
Pig	All age groups except the young ones	Care and management	<p>➤ Mineral mixture be added in feed @ 10-20 g/adult animal.</p> <p>➤ Treat drinking water with potassium permanganate/ sanitizer.</p> <p>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</p>
		Mites infestation Enteric disease Diarrhoea & Dysentery	<p>➤ Spray with Skin Heal Spray in sufficient quantity.</p> <p>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</p> <p>➤ Prompt treatment with Antibiotics Sulpha drugs.</p>
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		Endoparasites	<p>➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.</p>
		Care & management	<p>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</p> <p>➤ Food supplements may be given @ 20-30 gm/animals.</p> <p>➤ Do not let animals graze in irrigated fodder fields/meadows.</p> <p>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</p> <p>➤ Give Calmore Forte @ 100ml orally once daily.</p>
		Milk Fever	<p>➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.</p>

### Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Fish nurseries	Pond and water	<p>➤ Water depth should be maintain at 1.0-1.5m</p> <p>➤ Agri-lime should be applied in ponds</p> <p>➤ Ponds should be free from aquatic weed, predatory insects and fish.</p> <p>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</p>
		Feed	<p>➤ Fish feed should be provided @ 10-15 % body weight per day.</p>
		Fish	<p>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</p> <p>➤ Duration is 25-45 days.</p>
	Grow out	Pond and water	<p>➤ Water depth should be maintain at 1.5-2.0m</p> <p>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</p>
		Feed	<p>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</p> <p>➤ Partial harvesting of marketable size fishes are also recommended</p>
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**“Gramin Krishi Mausam Seva”**

	Paddy cum fish culture	water	<ul style="list-style-type: none"><li>➤ Water depth of the field should be maintained.</li><li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m deep trenches.</li><li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li><li>➤ Feeding should be done @ 2% body weigh 5t per day.</li></ul>
<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
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**Weather forecast for next five days of Churachandpur (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 32 - 34 °C & minimum temp. 21 - 23 °C. Relative humidity may reach upto 100 % (max RH) & 78 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016**

**Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
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<b>Bhindi</b>	Sowing		<ul style="list-style-type: none"> <li>➤ Bhindi can be sown as it is a crop of tropical and sub tropical climate requiring a long warm and humid growing season. Soil should be friable and proper drainage is strictly required. So this is one of the most favorable vegetables in the Kitchen garden</li> <li>➤ For standing crop also it can withstand at least 10-15 days in submerged condition.</li> <li>➤ For kitchen garden 8-10 gm/10m<sup>2</sup> is required for sowing</li> <li>➤ Varieties: Arka Anamika, Prabhani Kranti, Pusa makhmali, Pusa sawani may be used.</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>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

## “Gramin Krishi Mausam Seva”



			<p>Kashi Kanchan, RCCP-1 (pole type)</p> <p>➤ Seed rate is 12-15 gm/10m<sup>2</sup></p>
Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)	Bearing stage to harvesting		<p>➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.</p>

### 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.			
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	<p>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</p> <p>➤ Use water sanitizer in drinking water/potassium permanganate (few grains)</p> <p>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</p>
		Coccidiosis	<p>➤ Use Amprolium @ 1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.</p>
		Deworming	<p>➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.</p>
Sheep/ Goat	All age groups excepts the young ones	Care & management	<p>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</p> <p>➤ Give multivitamins @ 15ml orally.</p> <p>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</p> <p>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</p>
		De-worming	<p>➤ De-worming of animals should be done using Abendazole/Levamisole @ 7.5 mg/kg b.wt. or Ivermectin @ 50mg/kg b. wt.</p>
Pig	All age groups except the young ones	Care and management	<p>➤ Mineral mixture be added in feed @ 10-20 g/adult animal.</p> <p>➤ Treat drinking water with potassium permanganate/ sanitizer.</p> <p>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</p>
		Mites infestation Enteric disease Diarrhoea & Dysentery	<p>➤ Spray with Skin Heal Spray in sufficient quantity.</p> <p>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</p> <p>➤ Prompt treatment with Antibiotics Sulpha drugs.</p>
		Deworming	<p>➤ Give Piperazine liquid @ 10-15ml orally once only.</p>
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	<p>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</p>
		Endoparasites	<p>➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.</p>
		Care & management	<p>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</p> <p>➤ Food supplements may be given @ 20-30 gm/animals.</p> <p>➤ Do not let animals graze in irrigated fodder fields/meadows.</p> <p>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</p> <p>➤ Give Calmore Forte @ 100ml orally once daily.</p>
		Milk Fever	<p>➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.</p>

### Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Fish nurseries	Pond and water	<p>➤ Water depth should be maintain at 1.0-1.5m</p> <p>➤ Agri-lime should be applied in ponds</p> <p>➤ Ponds should be free from aquatic weed, predatory insects and fish.</p> <p>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</p>
		Feed	<p>➤ Fish feed should be provided @ 10-15 % body weight per day.</p>
		Fish	<p>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</p> <p>➤ Duration is 25-45 days.</p>
	Grow out	Pond and water	<p>➤ Water depth should be maintain at 1.5-2.0m</p> <p>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</p>
		Feed	<p>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</p> <p>➤ Partial harvesting of marketable size fishes are also recommended</p>
		Fish	<p>➤ Feed should be provided @ 3-5 % body weight per day</p>
			<p>➤ Feed can be fed at 2 times a day.</p>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

	Paddy cum fish culture	water	<ul style="list-style-type: none"><li>➤ Water depth of the field should be maintained.</li><li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m deep trenches.</li><li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li><li>➤ Feeding should be done @ 2% body weigh 5t per day.</li></ul>
<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
	Duck		➤ 200-400 ducks of 2-3 months old are sufficient to adequately fertilize a 1 ha pond.

(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****2<sup>nd</sup> August, 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 3<sup>rd</sup> to 7<sup>th</sup> August, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> July to 1<sup>st</sup> August, 2016)**

The sky remained partly cloudy to cloudy and rainfall of **18.0 mm** was recorded during past four days. Maximum temperature range observed was 29.4 to 32.4 °C, range of minimum temperature observed was 21.3 to 22.2 °C, mean relative humidity observed in morning and afternoon were 86.8 % and 72.8 % respectively. The average wind speed range was 4.1 to 6.2 km/hr.

**Weather forecast for next five days of Imphal East (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 32 - 34 °C & minimum temp. 23 - 24 °C. Relative humidity may reach upto 100 % (max RH) & 71 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016****Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
		Thrips & Leaf folder	<ul style="list-style-type: none"> <li>➤ Spray Lambda cyhalothrin 5% EC @ 15 ml/ 15 lit of water.</li> </ul>
<b>Kharif maize</b>	Cob formation to Maturity and Harvesting		<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> <li>➤ Mature cobs may be harvested.</li> </ul>
<b>Soybean</b>	Vegetative		<ul style="list-style-type: none"> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> <li>➤ For control of red hairy caterpillars in crops at vegetative stage, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 76 EC 0.05% (0.6ml/ lit of water).</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>			
* Drain-out excess water from the crop area.			
<b>Turmeric/ Ginger</b>	Vegetative to rhizome formation	Rhizome rot	<ul style="list-style-type: none"> <li>➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.</li> </ul>
			<ul style="list-style-type: none"> <li>➤ For grown up plants spray Dithan M45 @ 2 to 2.5 ml/lit of water as prophylactic measures after the rain.</li> <li>➤ Earthing up of soil at least twice in the growing period is recommended.</li> </ul>
<b>Bhindi</b>	Sowing		<ul style="list-style-type: none"> <li>➤ Bhindi can be sown as it is a crop of tropical and sub tropical climate requiring a long warm and humid growing season. Soil should be friable and proper drainage is strictly required. So this is one of the most favorable vegetables in the Kitchen garden</li> <li>➤ For standing crop also it can withstand at least 10-15 days in submerged condition.</li> <li>➤ For kitchen garden 8-10 gm/10m<sup>2</sup> is required for sowing</li> <li>➤ Varieties: Arka Anamika, Prabhani Kranti, Pusa makhmali, Pusa sawani may be used.</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>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

## “Gramin Krishi Mausam Seva”



			<p>Kashi Kanchan, RCCP-1 (pole type)</p> <p>➤ Seed rate is 12-15 gm/10m<sup>2</sup></p>
Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)	Bearing stage to harvesting		<p>➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.</p>

### 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.			
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	<p>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</p> <p>➤ Use water sanitizer in drinking water/potassium permanganate (few grains)</p> <p>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</p>
		Coccidiosis	<p>➤ Use Amprolium @ 1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.</p>
		Deworming	<p>➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.</p>
Sheep/ Goat	All age groups excepts the young ones	Care & management	<p>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</p> <p>➤ Give multivitamins @ 15ml orally.</p> <p>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</p> <p>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</p>
		De-worming	<p>➤ De-worming of animals should be done using Abendazole/Levamisole @ 7.5 mg/kg b.wt. or Ivermectin @ 50mg/kg b. wt.</p>
Pig	All age groups except the young ones	Care and management	<p>➤ Mineral mixture be added in feed @ 10-20 g/adult animal.</p> <p>➤ Treat drinking water with potassium permanganate/ sanitizer.</p> <p>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</p>
		Mites infestation Enteric disease Diarrhoea & Dysentery	<p>➤ Spray with Skin Heal Spray in sufficient quantity.</p> <p>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</p> <p>➤ Prompt treatment with Antibiotics Sulpha drugs.</p>
		Deworming	<p>➤ Give Piperazine liquid @ 10-15ml orally once only.</p>
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	<p>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</p>
		Endoparasites	<p>➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.</p>
		Care & management	<p>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</p> <p>➤ Food supplements may be given @ 20-30 gm/animals.</p> <p>➤ Do not let animals graze in irrigated fodder fields/meadows.</p> <p>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</p> <p>➤ Give Calmore Forte @ 100ml orally once daily.</p>
		Milk Fever	<p>➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.</p>

### Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Fish nurseries	Pond and water	<p>➤ Water depth should be maintain at 1.0-1.5m</p> <p>➤ Agri-lime should be applied in ponds</p> <p>➤ Ponds should be free from aquatic weed, predatory insects and fish.</p> <p>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</p>
		Feed	<p>➤ Fish feed should be provided @ 10-15 % body weight per day.</p>
		Fish	<p>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</p> <p>➤ Duration is 25-45 days.</p>
	Grow out	Pond and water	<p>➤ Water depth should be maintain at 1.5-2.0m</p> <p>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</p>
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		Fish	<p>➤ Feed should be provided @ 3-5 % body weight per day</p>
			<p>➤ Feed can be fed at 2 times a day.</p>

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**“Gramin Krishi Mausam Seva”**

	Paddy cum fish culture	water	<ul style="list-style-type: none"><li>➤ Water depth of the field should be maintained.</li><li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m deep trenches.</li><li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li><li>➤ Feeding should be done @ 2% body weigh 5t per day.</li></ul>
<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
	Duck		➤ 200-400 ducks of 2-3 months old are sufficient to adequately fertilize a 1 ha pond.

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**MANIPUR BULLETIN****2<sup>nd</sup> August, 2016****Imphal West**

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**Weather forecast for next five days of Imphal West (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 32 - 34 °C & minimum temp. 23 - 24 °C. Relative humidity may reach upto 100 % (max RH) & 68 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016****Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
		Thrips & Leaf folder	<ul style="list-style-type: none"> <li>➤ Spray Lambda cyhalothrin 5% EC @ 15 ml/ 15 lit of water.</li> </ul>
<b>Kharif maize</b>	Cob formation to Maturity and Harvesting		<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> <li>➤ Mature cobs may be harvested.</li> </ul>
<b>Soybean</b>	Vegetative		<ul style="list-style-type: none"> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> <li>➤ For control of red hairy caterpillars in crops at vegetative stage, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 76 EC 0.05% (0.6ml/ lit of water).</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>			
* Drain-out excess water from the crop area.			
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<b>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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## “Gramin Krishi Mausam Seva”



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Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)	Bearing stage to harvesting		<p>➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.</p>

### Animal Sciences

Name of the animal	Growth stage	Disease/ infestation	Agro-meteorological advisories
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Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	<p>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</p> <p>➤ Use water sanitizer in drinking water/potassium permanganate (few grains)</p> <p>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</p>
		Coccidiosis	<p>➤ Use Amprolium @ 1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.</p>
		Deworming	<p>➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.</p>
Sheep/ Goat	All age groups excepts the young ones	Care & management	<p>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</p> <p>➤ Give multivitamins @ 15ml orally.</p> <p>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</p> <p>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</p>
		De-worming	<p>➤ De-worming of animals should be done using Abendazole/Levamisole @ 7.5 mg/kg b.wt. or Ivermectin @ 50mg/kg b. wt.</p>
Pig	All age groups except the young ones	Care and management	<p>➤ Mineral mixture be added in feed @ 10-20 g/adult animal.</p> <p>➤ Treat drinking water with potassium permanganate/ sanitizer.</p> <p>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</p>
		Mites infestation Enteric disease Diarrhoea & Dysentery	<p>➤ Spray with Skin Heal Spray in sufficient quantity.</p> <p>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</p> <p>➤ Prompt treatment with Antibiotics Sulpha drugs.</p>
		Deworming	<p>➤ Give Piperazine liquid @ 10-15ml orally once only.</p>
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	<p>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</p>
		Endoparasites	<p>➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.</p>
		Care & management	<p>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</p> <p>➤ Food supplements may be given @ 20-30 gm/animals.</p> <p>➤ Do not let animals graze in irrigated fodder fields/meadows.</p> <p>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</p> <p>➤ Give Calmore Forte @ 100ml orally once daily.</p>
		Milk Fever	<p>➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.</p>

### Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Fish nurseries	Pond and water	<p>➤ Water depth should be maintain at 1.0-1.5m</p> <p>➤ Agri-lime should be applied in ponds</p> <p>➤ Ponds should be free from aquatic weed, predatory insects and fish.</p> <p>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</p>
		Feed	<p>➤ Fish feed should be provided @ 10-15 % body weight per day.</p>
		Fish	<p>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</p> <p>➤ Duration is 25-45 days.</p>
	Grow out	Pond and water	<p>➤ Water depth should be maintain at 1.5-2.0m</p> <p>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</p>
		Feed	<p>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</p> <p>➤ Partial harvesting of marketable size fishes are also recommended</p>
		Fish	<p>➤ Feed should be provided @ 3-5 % body weight per day</p>
			<p>➤ Feed can be fed at 2 times a day.</p>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

	Paddy cum fish culture	water	<ul style="list-style-type: none"><li>➤ Water depth of the field should be maintained.</li><li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m deep trenches.</li><li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li><li>➤ Feeding should be done @ 2% body weigh 5t per day.</li></ul>
<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
	Duck		➤ 200-400 ducks of 2-3 months old are sufficient to adequately fertilize a 1 ha pond.

(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****2<sup>nd</sup> August, 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 3<sup>rd</sup> to 7<sup>th</sup> August, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> July to 1<sup>st</sup> August, 2016)**

The sky remained partly cloudy to cloudy and rainfall of **18.0 mm** was recorded during past four days. Maximum temperature range observed was 29.4 to 32.4 °C, range of minimum temperature observed was 21.3 to 22.2 °C, mean relative humidity observed in morning and afternoon were 86.8 % and 72.8 % respectively. The average wind speed range was 4.1 to 6.2 km/hr.

**Weather forecast for next five days of Senapati (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 28 - 31 °C & minimum temp. 19 - 21 °C. Relative humidity may reach upto 99 % (max RH) & 69 % (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016**

**Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
		Thrips & Leaf folder	<ul style="list-style-type: none"> <li>➤ Spray Lambda cyhalothrin 5% EC @ 15 ml/ 15 lit of water.</li> </ul>
<b>Kharif maize</b>	Cob formation to Maturity and Harvesting		<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> <li>➤ Mature cobs may be harvested.</li> </ul>
<b>Soybean</b>	Vegetative		<ul style="list-style-type: none"> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> <li>➤ For control of red hairy caterpillars in crops at vegetative stage, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 76 EC 0.05% (0.6ml/ lit of water).</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>			
* Drain-out excess water from the crop area.			
<b>Turmeric/ Ginger</b>	Vegetative to rhizome formation	Rhizome rot	<ul style="list-style-type: none"> <li>➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.</li> </ul>
			<ul style="list-style-type: none"> <li>➤ For grown up plants spray Dithan M45 @ 2 to 2.5 ml/lit of water as prophylactic measures after the rain.</li> <li>➤ Earthing up of soil at least twice in the growing period is recommended.</li> </ul>
<b>Bhindi</b>	Sowing		<ul style="list-style-type: none"> <li>➤ Bhindi can be sown as it is a crop of tropical and sub tropical climate requiring a long warm and humid growing season. Soil should be friable and proper drainage is strictly required. So this is one of the most favorable vegetables in the Kitchen garden</li> <li>➤ For standing crop also it can withstand at least 10-15 days in submerged condition.</li> <li>➤ For kitchen garden 8-10 gm/10m<sup>2</sup> is required for sowing</li> <li>➤ Varieties: Arka Anamika, Prabhani Kranti, Pusa makhmali, Pusa sawani may be used.</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>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

## “Gramin Krishi Mausam Seva”



			Kashi Kanchan, RCCP-1 (pole type) ➤ Seed rate is 12-15 gm/10m <sup>2</sup>
Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)	Bearing stage to harvesting		➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.

### 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.			
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season. ➤ Use water sanitizer in drinking water/potassium permanganate (few grains) ➤ Keep the litter dry & add 2 kg lime powder for 100 sq. ft. area and mix it properly.
		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.
Sheep/ Goat	All age groups excepts the young ones	Care & management	➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem ➤ Give multivitamins @ 15ml orally. ➤ Use quality disinfectants for disinfecting the surrounding of the sheds. ➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @ 7.5 mg/kg b.wt. or Ivermectin @ 50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	➤ Mineral mixture be added in feed @ 10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation Enteric disease Diarrhoea & Dysentery	➤ Spray with Skin Heal Spray in sufficient quantity. ➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days. ➤ Prompt treatment with Antibiotics Sulpha drugs.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot & Mouth Disease, Enterotoxaemia etc.
		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.

### Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	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.

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

	Paddy cum fish culture	water	<ul style="list-style-type: none"><li>➤ Water depth of the field should be maintained.</li><li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m deep trenches.</li><li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li><li>➤ Feeding should be done @ 2% body weigh 5t per day.</li></ul>
<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
	Duck		➤ 200-400 ducks of 2-3 months old are sufficient to adequately fertilize a 1 ha pond.

(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****2<sup>nd</sup> August, 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 3<sup>rd</sup> to 7<sup>th</sup> August, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> July to 1<sup>st</sup> August, 2016)**

The sky remained partly cloudy to cloudy and rainfall of **18.0 mm** was recorded during past four days. Maximum temperature range observed was 29.4 to 32.4 °C, range of minimum temperature observed was 21.3 to 22.2 °C, mean relative humidity observed in morning and afternoon were 86.8 % and 72.8 % respectively. The average wind speed range was 4.1 to 6.2 km/hr.

**Weather forecast for next five days of Tamenglong (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 33 - 35 °C & minimum temp. 23 - 24 °C. Relative humidity may reach upto 100 % (max RH) & 67 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016**

**Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
		Thrips & Leaf folder	<ul style="list-style-type: none"> <li>➤ Spray Lambda cyhalothrin 5% EC @ 15 ml/ 15 lit of water.</li> </ul>
<b>Kharif maize</b>	Cob formation to Maturity and Harvesting		<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> <li>➤ Mature cobs may be harvested.</li> </ul>
<b>Soybean</b>	Vegetative		<ul style="list-style-type: none"> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> <li>➤ For control of red hairy caterpillars in crops at vegetative stage, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 76 EC 0.05% (0.6ml/ lit of water).</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>			
* Drain-out excess water from the crop area.			
<b>Turmeric/ Ginger</b>	Vegetative to rhizome formation	Rhizome rot	<ul style="list-style-type: none"> <li>➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.</li> </ul>
			<ul style="list-style-type: none"> <li>➤ For grown up plants spray Dithan M45 @ 2 to 2.5 ml/lit of water as prophylactic measures after the rain.</li> <li>➤ Earthing up of soil at least twice in the growing period is recommended.</li> </ul>
<b>Bhindi</b>	Sowing		<ul style="list-style-type: none"> <li>➤ Bhindi can be sown as it is a crop of tropical and sub tropical climate requiring a long warm and humid growing season. Soil should be friable and proper drainage is strictly required. So this is one of the most favorable vegetables in the Kitchen garden</li> <li>➤ For standing crop also it can withstand at least 10-15 days in submerged condition.</li> <li>➤ For kitchen garden 8-10 gm/10m<sup>2</sup> is required for sowing</li> <li>➤ Varieties: Arka Anamika, Prabhani Kranti, Pusa makhmali, Pusa sawani may be used.</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>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

## “Gramin Krishi Mausam Seva”



			Kashi Kanchan, RCCP-1 (pole type) ➤ Seed rate is 12-15 gm/10m <sup>2</sup>
Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)	Bearing stage to harvesting		➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.

### 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.			
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season. ➤ Use water sanitizer in drinking water/potassium permanganate (few grains) ➤ Keep the litter dry & add 2 kg lime powder for 100 sq. ft. area and mix it properly.
		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.
Sheep/ Goat	All age groups excepts the young ones	Care & management	➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem ➤ Give multivitamins @ 15ml orally. ➤ Use quality disinfectants for disinfecting the surrounding of the sheds. ➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.
		De-worming	➤ De-worming of animals should be done using Abendazole/Levamisole @ 7.5 mg/kg b.wt. or Ivermectin @ 50mg/kg b. wt.
Pig	All age groups except the young ones	Care and management	➤ Mineral mixture be added in feed @ 10-20 g/adult animal. ➤ Treat drinking water with potassium permanganate/ sanitizer. ➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds
		Mites infestation Enteric disease Diarrhoea & Dysentery	➤ Spray with Skin Heal Spray in sufficient quantity. ➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days. ➤ Prompt treatment with Antibiotics Sulpha drugs.
		Deworming	➤ Give Piperazine liquid @ 10-15ml orally once only.
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot & Mouth Disease, Enterotoxaemia etc.
		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.

### Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	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.



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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

	Paddy cum fish culture	water	<ul style="list-style-type: none"><li>➤ Water depth of the field should be maintained.</li><li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m deep trenches.</li><li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li><li>➤ Feeding should be done @ 2% body weigh 5t per day.</li></ul>
<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
	Duck		➤ 200-400 ducks of 2-3 months old are sufficient to adequately fertilize a 1 ha pond.

(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****2<sup>nd</sup> August, 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 3<sup>rd</sup> to 7<sup>th</sup> August, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> July to 1<sup>st</sup> August, 2016)**

The sky remained partly cloudy to cloudy and rainfall of **18.0 mm** was recorded during past four days. Maximum temperature range observed was 29.4 to 32.4 °C, range of minimum temperature observed was 21.3 to 22.2 °C, mean relative humidity observed in morning and afternoon were 86.8 % and 72.8 % respectively. The average wind speed range was 4.1 to 6.2 km/hr.

**Weather forecast for next five days of Thoubal (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 32 - 33 °C & minimum temp. 22 - 24 °C. Relative humidity may reach upto 100 % (max RH) & 82 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016**

**Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
		Thrips & Leaf folder	<ul style="list-style-type: none"> <li>➤ Spray Lambda cyhalothrin 5% EC @ 15 ml/ 15 lit of water.</li> </ul>
<b>Kharif maize</b>	Cob formation to Maturity and Harvesting		<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> <li>➤ Mature cobs may be harvested.</li> </ul>
<b>Soybean</b>	Vegetative		<ul style="list-style-type: none"> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> <li>➤ For control of red hairy caterpillars in crops at vegetative stage, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 76 EC 0.05% (0.6ml/ lit of water).</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>			
* Drain-out excess water from the crop area.			
<b>Turmeric/ Ginger</b>	Vegetative to rhizome formation	Rhizome rot	<ul style="list-style-type: none"> <li>➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.</li> </ul>
			<ul style="list-style-type: none"> <li>➤ For grown up plants spray Dithan M45 @ 2 to 2.5 ml/lit of water as prophylactic measures after the rain.</li> <li>➤ Earthing up of soil at least twice in the growing period is recommended.</li> </ul>
<b>Bhindi</b>	Sowing		<ul style="list-style-type: none"> <li>➤ Bhindi can be sown as it is a crop of tropical and sub tropical climate requiring a long warm and humid growing season. Soil should be friable and proper drainage is strictly required. So this is one of the most favorable vegetables in the Kitchen garden</li> <li>➤ For standing crop also it can withstand at least 10-15 days in submerged condition.</li> <li>➤ For kitchen garden 8-10 gm/10m<sup>2</sup> is required for sowing</li> <li>➤ Varieties: Arka Anamika, Prabhani Kranti, Pusa makhmali, Pusa sawani may be used.</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>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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

Manipur Centre, Lamphelpat, Imphal - 795 004

## “Gramin Krishi Mausam Seva”



			<p>Kashi Kanchan, RCCP-1 (pole type)</p> <p>➤ Seed rate is 12-15 gm/10m<sup>2</sup></p>
Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)	Bearing stage to harvesting		<p>➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.</p>

### 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.			
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	<p>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</p> <p>➤ Use water sanitizer in drinking water/potassium permanganate (few grains)</p> <p>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</p>
		Coccidiosis	<p>➤ Use Amprolium @ 1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.</p>
		Deworming	<p>➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose.</p>
Sheep/ Goat	All age groups excepts the young ones	Care & management	<p>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</p> <p>➤ Give multivitamins @ 15ml orally.</p> <p>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</p> <p>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</p>
		De-worming	<p>➤ De-worming of animals should be done using Abendazole/Levamisole @ 7.5 mg/kg b.wt. or Ivermectin @ 50mg/kg b. wt.</p>
Pig	All age groups except the young ones	Care and management	<p>➤ Mineral mixture be added in feed @ 10-20 g/adult animal.</p> <p>➤ Treat drinking water with potassium permanganate/ sanitizer.</p> <p>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</p>
		Mites infestation Enteric disease Diarrhoea & Dysentery	<p>➤ Spray with Skin Heal Spray in sufficient quantity.</p> <p>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</p> <p>➤ Prompt treatment with Antibiotics Sulpha drugs.</p>
		Deworming	<p>➤ Give Piperazine liquid @ 10-15ml orally once only.</p>
Cattle	All age groups excepts the young ones	B.Q./ H.S/FMD	<p>➤ If the animals have not yet been vaccinated, give vaccine, now for Black Quarter, Haemorrhagic septicaemia, Foot &amp; Mouth Disease, Enterotoxaemia etc.</p>
		Endoparasites	<p>➤ De-worm orally once using Nilzan-F @ 90ml/ 300 kg body weight.</p>
		Care & management	<p>➤ If the animals do not have access to green fodders, vitamin E injection/ supplements should be given.</p> <p>➤ Food supplements may be given @ 20-30 gm/animals.</p> <p>➤ Do not let animals graze in irrigated fodder fields/meadows.</p> <p>➤ After the birth of the self the new born must be fed with Colostrum within the first two hours.</p> <p>➤ Give Calmore Forte @ 100ml orally once daily.</p>
		Milk Fever	<p>➤ Protect from milk fever by giving daily a mixture of calcium and phosphorus @ 70-100ml.</p>

### Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Fish nurseries	Pond and water	<p>➤ Water depth should be maintain at 1.0-1.5m</p> <p>➤ Agri-lime should be applied in ponds</p> <p>➤ Ponds should be free from aquatic weed, predatory insects and fish.</p> <p>➤ Encircle the pond with net or bamboo mat as a preventive measure for flood.</p>
		Feed	<p>➤ Fish feed should be provided @ 10-15 % body weight per day.</p>
		Fish	<p>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</p> <p>➤ Duration is 25-45 days.</p>
	Grow out	Pond and water	<p>➤ Water depth should be maintain at 1.5-2.0m</p> <p>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</p>
		Feed	<p>➤ Sampling of fish for growth, disease (if any) should be done by regular netting.</p> <p>➤ Partial harvesting of marketable size fishes are also recommended</p>
		Fish	<p>➤ Feed should be provided @ 3-5 % body weight per day</p>
			<p>➤ Feed can be fed at 2 times a day.</p>

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

	Paddy cum fish culture	water	<ul style="list-style-type: none"><li>➤ Water depth of the field should be maintained.</li><li>➤ 20-40% of the paddy plot can be made as 1.0-1.5m deep trenches.</li><li>➤ 1000-3000 fish fingerlings can be stocked in 1 hectare rice field.</li><li>➤ Feeding should be done @ 2% body weigh 5t per day.</li></ul>
<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
	Duck		➤ 200-400 ducks of 2-3 months old are sufficient to adequately fertilize a 1 ha pond.

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



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**MANIPUR BULLETIN****2<sup>nd</sup> August, 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 3<sup>rd</sup> to 7<sup>th</sup> August, 2016 as below:

**Significant past weather for the preceding bi-weekly of Imphal - West (29<sup>th</sup> July to 1<sup>st</sup> August, 2016)**

The sky remained partly cloudy to cloudy and rainfall of **18.0 mm** was recorded during past four days. Maximum temperature range observed was 29.4 to 32.4 °C, range of minimum temperature observed was 21.3 to 22.2 °C, mean relative humidity observed in morning and afternoon were 86.8 % and 72.8 % respectively. The average wind speed range was 4.1 to 6.2 km/hr.

**Weather forecast for next five days of Ukhrul (3<sup>rd</sup> to 7<sup>th</sup> August, 2016)**

Likely to have scattered rainfall upto Wednesday then fairly widespread rainfall thereafter. Sky will remain partly cloudy to mainly cloudy with maximum temp. 29 - 31 °C & minimum temp. 20 - 21 °C. Relative humidity may reach upto 99 % (max RH) & 80 % (min RH). The average wind speed may be 2-4 km/hr. Wind direction may be Easterly upto Saturday and South-Westerly on Sunday during the next five days.

**Weather Outlook for subsequent 2 days from 7<sup>th</sup> to 9<sup>th</sup> August, 2016**

**Rainfall at many places very likely over northeastern states**

Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
<b>Field Crops</b>			
<b>Main kharif rice</b>	Transplanting to Tillering stage		<ul style="list-style-type: none"> <li>➤ Thinning may be done in rice fields where plant population is high and replant in area where plants have died due to flood.</li> <li>➤ Maintain optimum water level during tillering stage and drain out excess water if accumulated due to rain.</li> </ul>
		Thrips & Leaf folder	<ul style="list-style-type: none"> <li>➤ Spray Lambda cyhalothrin 5% EC @ 15 ml/ 15 lit of water.</li> </ul>
<b>Kharif maize</b>	Cob formation to Maturity and Harvesting		<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> <li>➤ Mature cobs may be harvested.</li> </ul>
<b>Soybean</b>	Vegetative		<ul style="list-style-type: none"> <li>➤ Maintain proper drainage system to avoid water logging</li> <li>➤ Keep the plot clean to avoid hairy caterpillars. Hand weeding should be done before 30-35 days after sowing.</li> <li>➤ For control of red hairy caterpillars in crops at vegetative stage, dust 5% Malathion @ 20 kg/ ha to control it or spray Dichlorovos 76 EC 0.05% (0.6ml/ lit of water).</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>			
* Drain-out excess water from the crop area.			
<b>Turmeric/ Ginger</b>	Vegetative to rhizome formation	Rhizome rot	<ul style="list-style-type: none"> <li>➤ To prevent rhizome rot spray Redomil MZ 72 W.P. @ 2 g/ lit of water at 15 days interval for 2-3 times.</li> </ul>
			<ul style="list-style-type: none"> <li>➤ For grown up plants spray Dithan M45 @ 2 to 2.5 ml/lit of water as prophylactic measures after the rain.</li> <li>➤ Earthing up of soil at least twice in the growing period is recommended.</li> </ul>
<b>Bhindi</b>	Sowing		<ul style="list-style-type: none"> <li>➤ Bhindi can be sown as it is a crop of tropical and sub tropical climate requiring a long warm and humid growing season. Soil should be friable and proper drainage is strictly required. So this is one of the most favorable vegetables in the Kitchen garden</li> <li>➤ For standing crop also it can withstand at least 10-15 days in submerged condition.</li> <li>➤ For kitchen garden 8-10 gm/10m<sup>2</sup> is required for sowing</li> <li>➤ Varieties: Arka Anamika, Prabhani Kranti, Pusa makhmali, Pusa sawani may be used.</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>Cowpea</b>	Land Preparation/ Sowing		<ul style="list-style-type: none"> <li>➤ However, the crop started bearing fruits, it can be sown as a staggering crop in the kitchen garden areas, when the field is properly managed with due care.</li> <li>➤ The varieties are Pusa Phalguni, Pusa Komal-(Bush type), Arka Garima,</li> </ul>



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Cucurbits (Water-melon, pumpkin, bitter gourd, etc.)	Bearing stage to harvesting		<p>➤ Earthing up of the soil around the plant is required and proper drainage should be provided without disturbing the main trunk.</p>

### 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.			
Poultry (Chicken/ Turkey/ Duck)	All age groups	Care & management	<p>➤ Do not give muddy water as there is chance of <i>colibacillosis</i> during the rainy season.</p> <p>➤ Use water sanitizer in drinking water/potassium permanganate (few grains)</p> <p>➤ Keep the litter dry &amp; add 2 kg lime powder for 100 sq. ft. area and mix it properly.</p>
		Coccidiosis	<p>➤ Use Amprolium @ 1.5g/ltr of drinking water for 5-7 days and electrolyte can be associated.</p>
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Sheep/ Goat	All age groups excepts the young ones	Care & management	<p>➤ Keep the animals on the platform if possible to avoid <i>Pneumonia</i> due to moisture problem</p> <p>➤ Give multivitamins @ 15ml orally.</p> <p>➤ Use quality disinfectants for disinfecting the surrounding of the sheds.</p> <p>➤ 21 days after shearing sheep, their bodies should be drenched with Butox @ 2ml/ lit water. Use medicated water for drenching.</p>
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Pig	All age groups except the young ones	Care and management	<p>➤ Mineral mixture be added in feed @ 10-20 g/adult animal.</p> <p>➤ Treat drinking water with potassium permanganate/ sanitizer.</p> <p>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds</p>
		Mites infestation Enteric disease Diarrhoea & Dysentery	<p>➤ Spray with Skin Heal Spray in sufficient quantity.</p> <p>➤ Use Livocin @ 7.5 mg per kg b.wt. 3-5 days.</p> <p>➤ Prompt treatment with Antibiotics Sulpha drugs.</p>
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		Feed	<p>➤ Fish feed should be provided @ 10-15 % body weight per day.</p>
		Fish	<p>➤ About 5 million feeding fries are stocked per 1 ha for pre-nursing pond</p> <p>➤ Duration is 25-45 days.</p>
	Grow out	Pond and water	<p>➤ Water depth should be maintain at 1.5-2.0m</p> <p>➤ Regular liming should be done @ 30-35 kg/ha at 30 days interval</p>
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<b>Integrated Fish Farming</b>	Pig		➤ About 30-40 two months old pigs may be kept for proper fertilization of the one ha pond. Pigs are feed on mash at an average of 1kg/day. Green grasses or animal folder is also provided. Grass with interlocked soil in the root system (sod) is provided once a week to avoid mineral deficiency.
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