



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

**MANIPUR BULLETIN****17th October, 2017**Bishnupur

GKMS at AMFU- Lamphelpat, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and India Meteorological Department, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 18th to 22nd October, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 16th October, 2017)

Observed partly cloudy to overcast sky and **10.2 mm** rainfall was recorded during past four days. Maximum temperature range of 27.0 to 31.6 °C and minimum temperature range of 20.0 to 21.4 °C with mean relative humidity 93.5 % max and 69.8 % min was recorded in the past four days.

Weather forecast for next five days of Bishnupur (18th to 22nd October, 2017)

Likely to have heavy rains at isolated places during next five days with partly cloudy to overcast sky and maximum temp. 29-32 °C & minimum temp. 19-20 °C. Relative humidity may reach up to 99 % (max RH) & 91 % (min RH). The average wind speed may be 2-4 km/hr.

<i>Field Crops</i>			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rice	Maturity to harvesting		<ul style="list-style-type: none"> - If the crop has attained maturity then water needs to be drained out nearly 15 days before tentative date of harvesting. Avoid water logging during maturity stage. - Harvesting may be done before rains, if (75-80) % of the spikelet are yellow in colour. Stacking of the harvested panicles for 5-7 days by turning the heap of panicles can help in better threshing.
Rapeseed/ Field Pea/ Lentil	Seed collection		<ul style="list-style-type: none"> - Procure quality seeds from reliable source for planting just after harvest of rice/soybean/ groundnut/ black gram or rice bean.
Soybean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Groundnut	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains.. For seed purpose, bundling should be done and kept for 3-4 days to increase maturity.
Blackgram & Rice bean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Seeds storage	Post harvest management		<ul style="list-style-type: none"> - For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of charcoal and dry if required. - For grains, store grains in well ventilated godowns after drying proper. Spray Malathion 1% on the walls of stores.
<i>Horticulture Crops</i>			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rabi vegetable nursery (Cole Crops/ Tomato/ Garden pea, etc.)	Land preparation for direct sowing/ transplanting		<ul style="list-style-type: none"> - As soon as the field condition permits, land should be ploughed properly. - Incorporate Tricoderma harzianum @ 5-6 kg/ sangam at the time of final land preparation (about 4-5 days ahead of sowing/ transplanting). - Transplant 25-30 days old seedlings (4 leaves stage). - Treat garden pea seeds (variety like Arkel, Azad) with Bavistin @ 2.5 mg/ lit of water before sowing.
Tree Bean			<ul style="list-style-type: none"> - After rains, near the surrounding basin of tree bean plant (of both bearing and pre-bearing, i.e., above 5 yrs old), at a radius of 1 to 2 ft. light hoeing may be done and apply 60g DAP+ 10g MOP and spray Carbendazim @ 2g/ lit water to moist the soil to a depth of 1 ft. - After rains, apply 20g Carbofuran 3G/ plant if not applied earlier as prophylactic measure.
French Bean & Broad bean	Land preparation		<ul style="list-style-type: none"> - Sowing of pea/ French bean may be done in the plot where colocasia/ cucurbits, etc. had been harvested and where there is proper drainage facility. Recommended varieties for French bean are – Pant Anupam, Anupam (to be planted at a spacing of 30cm x 45cm) and Tangkhul Hawaii (local) (to be planted at a spacing of 30cm x 60cm with 2-3 seeds per hill). For broad bean, plant local variety at a spacing of 30cm x 45cm.
Potato	Tuber seed treatment		<ul style="list-style-type: none"> - Collect seed tubers from reliable source and treated it with Sixer (Carbendazim + Mancozeb) @ 2 gm/lit of water or Carbaryl 50 WP or Ridomil @ 2 gm/kg tuber seed for 20 minutes and let it dry in shed before planting as preventive measure against soil borne diseases.



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Manipur Centre, Lamphelpat, Imphal - 795 004
“Gramin Krishi Mausam Seva”



Ginger/ Turmeric	Rhizome formation	Rhizome rot	- Spray Carbendazim @2.5 g/lit of water for rhizome rot.
		Soil nutrition management	- Apply Phosphate solubilizing bacteria @ 3-5kg/ acre (1.6 sangam) with soil to improve soil fertility.

Animal Sciences

- Provide clean drinking water to birds and animals. Avoid water logging around the sheds as it may help in mosquito breeding.
- Take up measures to reduce flies and mosquitoes population in and around the birds/ animals sheds.

Name of bird/ animal	Stage	Disease and Management	Agro-meteorological advisories
Poultry (Chicken/ / Duck)	All age groups	)] Deworming	)] Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half of the dose in empty stomach
		)] Litter Management	)] Use dry litter material in the shed;)] if there is moisture, apply lime powder @ 1kg per 100 ft ² area)] Litter may be come wet due to sudden and unexpected rain during this time, wet litter must be replaced immediately
Sheep/ Goat	All age groups	)] Vaccination	)] Vaccinate against B.Q./ H.S. this time.)] Lambs should be vaccinated against Enterotoxaemia.
		)] De-worming	)] Administer Tolzan-F @ 2.5ml orally/ 50kg b. wt.
		)] Shearing for wool	)] Sheep should be sheared during this month.
Pig	All age groups except the young ones	)] Coccidial infection (Diarrhea)	)] Ofloxacin/ Ornidazole (O ₂) tab twice daily for 5 days.
		)] De-worming	)] De-worm with Albendazole @7.5 mg/kg b.wt.
		)] Vaccination	)] Vaccinate against FMD.
		)] Skin disease	)] Sprayer of Anti- <i>Psoroptic</i> may be used
Cattle	All age groups excepts the young ones	)] Vaccination	)] Vaccinate against B.Q., F.M.D. & H.S.if not yet vaccinated.)] Cases of H.S. may be encountered during this period)] Immediate treatment using appropriate drugs with the help of Consultant must be advocated to safe the animals.
		)] Deworming	)] De-worm with Albomac suspension@60-90ml for 300kg body weight or 20-30ml for 100 kg body weight.
		)] Care & Management	)] Mixture of mineral/ salts should be added in the feed.)] Avoid the cattle from chiting/biting by Flies)] Adopt tick control measures
		Milk fever in Milch cow	)] 70-100ml of a mixture of Ca ⁺ and Phosphorus daily @ 5-7days.

)] Forage/ fodder cultivation- Sowing of Bersum and Alfalfa should be started now.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Nurseries/ grow-out	Pond and water	Maintain minimum depth of 1.0 - 1.5 m and pH at 7.0 – 7.5. Apply Lime @ 25-30kg/ ha every month or broadcast Green AQ @ 2 litre/ha by mixing with water.
		Feed	Provide feed 2 times @ 3-5 % body weight per day. Provide good feed having 30% crude protein fortified with vitamins and mineral.
		Fish	For semi-intensive farming, 10000-12000 fingerlings can be stocked in one hectare pond. Stocking ratio may be maintained at 40% of surface feeder, 30% column feeder and 30% bottom feeder. Sampling of fish for growth, disease should be done regularly by netting.

* Partial/ total harvesting of fish should be done.

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



ICAR Research Complex for N.E.H. Region
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“Gramin Krishi Mausam Seva”

**MANIPUR BULLETIN****17th October, 2017**Chandel

GKMS at AMFU- Lamphelpat, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and India Meteorological Department, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 18th to 22nd October, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 16th October, 2017)

Observed partly cloudy to overcast sky and **10.2 mm** rainfall was recorded during past four days. Maximum temperature range of 27.0 to 31.6 °C and minimum temperature range of 20.0 to 21.4 °C with mean relative humidity 93.5 % max and 69.8 % min was recorded in the past four days.

Weather forecast for next five days of Chandel (18th to 22nd October, 2017)

Likely to have heavy rains at isolated places during next five days with partly cloudy to overcast sky and maximum temp. 29-31 °C & minimum temp. 20-21 °C. Relative humidity may reach up to 99 % (max RH) & 90 % (min RH). The average wind speed may be 2 km/hr.

<i>Field Crops</i>			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rice	Maturity to harvesting		<ul style="list-style-type: none"> - If the crop has attained maturity then water needs to be drained out nearly 15 days before tentative date of harvesting. Avoid water logging during maturity stage. - Harvesting may be done before rains, if (75-80) % of the spikelet are yellow in colour. Stacking of the harvested panicles for 5-7 days by turning the heap of panicles can help in better threshing.
Rapeseed/ Field Pea/ Lentil	Seed collection		<ul style="list-style-type: none"> - Procure quality seeds from reliable source for planting just after harvest of rice/soybean/ groundnut/ black gram or rice bean.
Soybean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Groundnut	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains.. For seed purpose, bundling should be done and kept for 3-4 days to increase maturity.
Blackgram & Rice bean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Seeds storage	Post harvest management		<ul style="list-style-type: none"> - For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of charcoal and dry if required. - For grains, store grains in well ventilated godowns after drying proper. Spray Malathion 1% on the walls of stores.
<i>Horticulture Crops</i>			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rabi vegetable nursery (Cole Crops/ Tomato/ Garden pea, etc.)	Land preparation for direct sowing/ transplanting		<ul style="list-style-type: none"> - As soon as the field condition permits, land should be ploughed properly. - Incorporate Tricoderma harzianum @ 5-6 kg/ sangam at the time of final land preparation (about 4-5 days ahead of sowing/ transplanting). - Transplant 25-30 days old seedlings (4 leaves stage). - Treat garden pea seeds (variety like Arkel, Azad) with Bavistin @ 2.5 mg/ lit of water before sowing.
Tree Bean			<ul style="list-style-type: none"> - After rains, near the surrounding basin of tree bean plant (of both bearing and pre-bearing, i.e., above 5 yrs old), at a radius of 1 to 2 ft. light hoeing may be done and apply 60g DAP+ 10g MOP and spray Carbendazim @ 2g/ lit water to moist the soil to a depth of 1 ft. - After rains, apply 20g Carbofuran 3G/ plant if not applied earlier as prophylactic measure.
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Potato	Tuber seed treatment		<ul style="list-style-type: none"> - Collect seed tubers from reliable source and treated it with Sixer (Carbendazim + Mancozeb) @ 2 gm/lit of water or Carbaryl 50 WP or Ridomil @ 2 gm/kg tuber seed for 20 minutes and let it dry in shed before planting as preventive measure against soil borne diseases.



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“Gramin Krishi Mausam Seva”



Ginger/ Turmeric	Rhizome formation	Rhizome rot	- Spray Carbendazim @2.5 g/lit of water for rhizome rot.
		Soil nutrition management	- Apply Phosphate solubilizing bacteria @ 3-5kg/ acre (1.6 sangam) with soil to improve soil fertility.

Animal Sciences

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Sheep/ Goat	All age groups)] Vaccination)] Vaccinate against B.Q./ H.S. this time.)] Lambs should be vaccinated against Enterotoxaemia.
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Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
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“Gramin Krishi Mausam Seva”



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		Soil nutrition management	- Apply Phosphate solubilizing bacteria @ 3-5kg/ acre (1.6 sangam) with soil to improve soil fertility.

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**MANIPUR BULLETIN****17th October, 2017**Senapati

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French Bean & Broad bean	Land preparation		<ul style="list-style-type: none"> - Sowing of pea/ French bean may be done in the plot where colocasia/ cucurbits, etc. had been harvested and where there is proper drainage facility. Recommended varieties for French bean are – Pant Anupam, Anupam (to be planted at a spacing of 30cm x 45cm) and Tangkhul Hawaii (local) (to be planted at a spacing of 30cm x 60cm with 2-3 seeds per hill). For broad bean, plant local variety at a spacing of 30cm x 45cm.
Potato	Tuber seed treatment		<ul style="list-style-type: none"> - Collect seed tubers from reliable source and treated it with Sixer (Carbendazim + Mancozeb) @ 2 gm/lit of water or Carbaryl 50 WP or Ridomil @ 2 gm/kg tuber seed for 20 minutes and let it dry in shed before planting as preventive measure against soil borne diseases.



ICAR Research Complex for N.E.H. Region
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“Gramin Krishi Mausam Seva”



Ginger/ Turmeric	Rhizome formation	Rhizome rot	- Spray Carbendazim @2.5 g/lit of water for rhizome rot.
		Soil nutrition management	- Apply Phosphate solubilizing bacteria @ 3-5kg/ acre (1.6 sangam) with soil to improve soil fertility.

Animal Sciences

- Provide clean drinking water to birds and animals. Avoid water logging around the sheds as it may help in mosquito breeding.
- Take up measures to reduce flies and mosquitoes population in and around the birds/ animals sheds.

Name of bird/ animal	Stage	Disease and Management	Agro-meteorological advisories
Poultry (Chicken/ / Duck)	All age groups	)] Deworming	)] Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half of the dose in empty stomach
		)] Litter Management	)] Use dry litter material in the shed;)] if there is moisture, apply lime powder @ 1kg per 100 ft ² area)] Litter may be come wet due to sudden and unexpected rain during this time, wet litter must be replaced immediately
Sheep/ Goat	All age groups	)] Vaccination	)] Vaccinate against B.Q./ H.S. this time.)] Lambs should be vaccinated against Enterotoxaemia.
		)] De-worming	)] Administer Tolzan-F @ 2.5ml orally/ 50kg b. wt.
		)] Shearing for wool	)] Sheep should be sheared during this month.
Pig	All age groups except the young ones	)] Coccidial infection (Diarrhea)	)] Ofloxacin/ Ornidazole (O ₂) tab twice daily for 5 days.
		)] De-worming	)] De-worm with Albendazole @7.5 mg/kg b.wt.
		)] Vaccination	)] Vaccinate against FMD.
		)] Skin disease	)] Sprayer of Anti- <i>Psoroptic</i> may be used
Cattle	All age groups excepts the young ones	)] Vaccination	)] Vaccinate against B.Q., F.M.D. & H.S.if not yet vaccinated.)] Cases of H.S. may be encountered during this period)] Immediate treatment using appropriate drugs with the help of Consultant must be advocated to safe the animals.
		)] Deworming	)] De-worm with Albomac suspension@60-90ml for 300kg body weight or 20-30ml for 100 kg body weight.
		)] Care & Management	)] Mixture of mineral/ salts should be added in the feed.)] Avoid the cattle from chiting/biting by Flies)] Adopt tick control measures
		Milk fever in Milch cow	)] 70-100ml of a mixture of Ca ⁺ and Phosphorus daily @ 5-7days.

)] Forage/ fodder cultivation- Sowing of Bersum and Alfalfa should be started now.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Nurseries/ grow-out	Pond and water	Maintain minimum depth of 1.0 - 1.5 m and pH at 7.0 – 7.5. Apply Lime @ 25-30kg/ ha every month or broadcast Green AQ @ 2 litre/ha by mixing with water.
		Feed	Provide feed 2 times @ 3-5 % body weight per day. Provide good feed having 30% crude protein fortified with vitamins and mineral.
		Fish	For semi-intensive farming, 10000-12000 fingerlings can be stocked in one hectare pond. Stocking ratio may be maintained at 40% of surface feeder, 30% column feeder and 30% bottom feeder. Sampling of fish for growth, disease should be done regularly by netting.

* Partial/ total harvesting of fish should be done.

(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****17th October, 2017**Tamenglong

GKMS at AMFU- Lamphelpat, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and India Meteorological Department, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 18th to 22nd October, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 16th October, 2017)

Observed partly cloudy to overcast sky and **10.2 mm** rainfall was recorded during past four days. Maximum temperature range of 27.0 to 31.6 °C and minimum temperature range of 20.0 to 21.4 °C with mean relative humidity 93.5 % max and 69.8 % min was recorded in the past four days.

Weather forecast for next five days of Tamenglong (18th to 22nd October, 2017)

Likely to have heavy rains at isolated places during next five days with partly cloudy to overcast sky and maximum temp. 29-32 °C & minimum temp. 22-23 °C. Relative humidity may reach up to 98 % (max RH) & 89 % (min RH). The average wind speed may be 2-4 km/hr.

<i>Field Crops</i>			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rice	Maturity to harvesting		<ul style="list-style-type: none"> - If the crop has attained maturity then water needs to be drained out nearly 15 days before tentative date of harvesting. Avoid water logging during maturity stage. - Harvesting may be done before rains, if (75-80) % of the spikelet are yellow in colour. Stacking of the harvested panicles for 5-7 days by turning the heap of panicles can help in better threshing.
Rapeseed/ Field Pea/ Lentil	Seed collection		<ul style="list-style-type: none"> - Procure quality seeds from reliable source for planting just after harvest of rice/soybean/ groundnut/ black gram or rice bean.
Soybean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Groundnut	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains.. For seed purpose, bundling should be done and kept for 3-4 days to increase maturity.
Blackgram & Rice bean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Seeds storage	Post harvest management		<ul style="list-style-type: none"> - For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of charcoal and dry if required. - For grains, store grains in well ventilated godowns after drying proper. Spray Malathion 1% on the walls of stores.
<i>Horticulture Crops</i>			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rabi vegetable nursery (Cole Crops/ Tomato/ Garden pea, etc.)	Land preparation for direct sowing/ transplanting		<ul style="list-style-type: none"> - As soon as the field condition permits, land should be ploughed properly. - Incorporate Tricoderma harzianum @ 5-6 kg/ sangam at the time of final land preparation (about 4-5 days ahead of sowing/ transplanting). - Transplant 25-30 days old seedlings (4 leaves stage). - Treat garden pea seeds (variety like Arkel, Azad) with Bavistin @ 2.5 mg/ lit of water before sowing.
Tree Bean			<ul style="list-style-type: none"> - After rains, near the surrounding basin of tree bean plant (of both bearing and pre-bearing, i.e., above 5 yrs old), at a radius of 1 to 2 ft. light hoeing may be done and apply 60g DAP+ 10g MOP and spray Carbendazim @ 2g/ lit water to moist the soil to a depth of 1 ft. - After rains, apply 20g Carbofuran 3G/ plant if not applied earlier as prophylactic measure.
French Bean & Broad bean	Land preparation		<ul style="list-style-type: none"> - Sowing of pea/ French bean may be done in the plot where colocasia/ cucurbits, etc. had been harvested and where there is proper drainage facility. Recommended varieties for French bean are – Pant Anupam, Anupam (to be planted at a spacing of 30cm x 45cm) and Tangkhul Hawai (local) (to be planted at a spacing of 30cm x 60cm with 2-3 seeds per hill). For broad bean, plant local variety at a spacing of 30cm x 45cm.
Potato	Tuber seed treatment		<ul style="list-style-type: none"> - Collect seed tubers from reliable source and treated it with Sixer (Carbendazim + Mancozeb) @ 2 gm/lit of water or Carbaryl 50 WP or Ridomil @ 2 gm/kg tuber seed for 20 minutes and let it dry in shed before planting as preventive measure against soil borne diseases.



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“Gramin Krishi Mausam Seva”



Ginger/ Turmeric	Rhizome formation	Rhizome rot	- Spray Carbendazim @2.5 g/lit of water for rhizome rot.
		Soil nutrition management	- Apply Phosphate solubilizing bacteria @ 3-5kg/ acre (1.6 sangam) with soil to improve soil fertility.

Animal Sciences

- Provide clean drinking water to birds and animals. Avoid water logging around the sheds as it may help in mosquito breeding.
- Take up measures to reduce flies and mosquitoes population in and around the birds/ animals sheds.

Name of bird/ animal	Stage	Disease and Management	Agro-meteorological advisories
Poultry (Chicken/ / Duck)	All age groups	)] Deworming	)] Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half of the dose in empty stomach
		)] Litter Management	)] Use dry litter material in the shed;)] if there is moisture, apply lime powder @ 1kg per 100 ft ² area)] Litter may be come wet due to sudden and unexpected rain during this time, wet litter must be replaced immediately
Sheep/ Goat	All age groups	)] Vaccination	)] Vaccinate against B.Q./ H.S. this time.)] Lambs should be vaccinated against Enterotoxaemia.
		)] De-worming	)] Administer Tolzan-F @ 2.5ml orally/ 50kg b. wt.
		)] Shearing for wool	)] Sheep should be sheared during this month.
Pig	All age groups except the young ones	)] Coccidial infection (Diarrhea)	)] Ofloxacin/ Ornidazole (O ₂) tab twice daily for 5 days.
		)] De-worming	)] De-worm with Albendazole @7.5 mg/kg b.wt.
		)] Vaccination	)] Vaccinate against FMD.
		)] Skin disease	)] Sprayer of Anti- <i>Psoroptic</i> may be used
Cattle	All age groups excepts the young ones	)] Vaccination	)] Vaccinate against B.Q., F.M.D. & H.S.if not yet vaccinated.)] Cases of H.S. may be encountered during this period)] Immediate treatment using appropriate drugs with the help of Consultant must be advocated to safe the animals.
		)] Deworming	)] De-worm with Albomac suspension@60-90ml for 300kg body weight or 20-30ml for 100 kg body weight.
		)] Care & Management	)] Mixture of mineral/ salts should be added in the feed.)] Avoid the cattle from chiting/biting by Flies)] Adopt tick control measures
		Milk fever in Milch cow	)] 70-100ml of a mixture of Ca ⁺ and Phosphorus daily @ 5-7days.

)] Forage/ fodder cultivation- Sowing of Bersum and Alfalfa should be started now.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Nurseries/ grow-out	Pond and water	Maintain minimum depth of 1.0 - 1.5 m and pH at 7.0 – 7.5. Apply Lime @ 25-30kg/ ha every month or broadcast Green AQ @ 2 litre/ha by mixing with water.
		Feed	Provide feed 2 times @ 3-5 % body weight per day. Provide good feed having 30% crude protein fortified with vitamins and mineral.
		Fish	For semi-intensive farming, 10000-12000 fingerlings can be stocked in one hectare pond. Stocking ratio may be maintained at 40% of surface feeder, 30% column feeder and 30% bottom feeder. Sampling of fish for growth, disease should be done regularly by netting.

* Partial/ total harvesting of fish should be done.

(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****17th October, 2017**Thoubal

GKMS at AMFU- Lamphelpat, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and India Meteorological Department, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 18th to 22nd October, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 16th October, 2017)

Observed partly cloudy to overcast sky and **10.2 mm** rainfall was recorded during past four days. Maximum temperature range of 27.0 to 31.6 °C and minimum temperature range of 20.0 to 21.4 °C with mean relative humidity 93.5 % max and 69.8 % min was recorded in the past four days.

Weather forecast for next five days of Thoubal (18th to 22nd October, 2017)

Likely to have heavy rains at isolated places during next five days with partly cloudy to overcast sky and maximum temp. 29-32 °C & minimum temp. 19-20 °C. Relative humidity may reach up to 98 % (max RH) & 91 % (min RH). The average wind speed may be 2 km/hr.

Field Crops			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rice	Maturity to harvesting		<ul style="list-style-type: none"> - If the crop has attained maturity then water needs to be drained out nearly 15 days before tentative date of harvesting. Avoid water logging during maturity stage. - Harvesting may be done before rains, if (75-80) % of the spikelet are yellow in colour. Stacking of the harvested panicles for 5-7 days by turning the heap of panicles can help in better threshing.
Rapeseed/ Field Pea/ Lentil	Seed collection		<ul style="list-style-type: none"> - Procure quality seeds from reliable source for planting just after harvest of rice/soybean/ groundnut/ black gram or rice bean.
Soybean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Groundnut	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains.. For seed purpose, bundling should be done and kept for 3-4 days to increase maturity.
Blackgram & Rice bean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Seeds storage	Post harvest management		<ul style="list-style-type: none"> - For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of charcoal and dry if required. - For grains, store grains in well ventilated godowns after drying proper. Spray Malathion 1% on the walls of stores.
Horticulture Crops			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rabi vegetable nursery (Cole Crops/ Tomato/ Garden pea, etc.)	Land preparation for direct sowing/ transplanting		<ul style="list-style-type: none"> - As soon as the field condition permits, land should be ploughed properly. - Incorporate Tricoderma harzianum @ 5-6 kg/ sangam at the time of final land preparation (about 4-5 days ahead of sowing/ transplanting). - Transplant 25-30 days old seedlings (4 leaves stage). - Treat garden pea seeds (variety like Arkel, Azad) with Bavistin @ 2.5 mg/ lit of water before sowing.
Tree Bean			<ul style="list-style-type: none"> - After rains, near the surrounding basin of tree bean plant (of both bearing and pre-bearing, i.e., above 5 yrs old), at a radius of 1 to 2 ft. light hoeing may be done and apply 60g DAP+ 10g MOP and spray Carbendazim @ 2g/ lit water to moist the soil to a depth of 1 ft. - After rains, apply 20g Carbofuran 3G/ plant if not applied earlier as prophylactic measure.
French Bean & Broad bean	Land preparation		<ul style="list-style-type: none"> - Sowing of pea/ French bean may be done in the plot where colocasia/ cucurbits, etc. had been harvested and where there is proper drainage facility. Recommended varieties for French bean are – Pant Anupam, Anupam (to be planted at a spacing of 30cm x 45cm) and Tangkhul Hawaii (local) (to be planted at a spacing of 30cm x 60cm with 2-3 seeds per hill). For broad bean, plant local variety at a spacing of 30cm x 45cm.
Potato	Tuber seed treatment		<ul style="list-style-type: none"> - Collect seed tubers from reliable source and treated it with Sixer (Carbendazim + Mancozeb) @ 2 gm/lit of water or Carbaryl 50 WP or Ridomil @ 2 gm/kg tuber seed for 20 minutes and let it dry in shed before planting as preventive measure against soil borne diseases.



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Manipur Centre, Lamphelpat, Imphal - 795 004
“Gramin Krishi Mausam Seva”



Ginger/ Turmeric	Rhizome formation	Rhizome rot	- Spray Carbendazim @2.5 g/lit of water for rhizome rot.
		Soil nutrition management	- Apply Phosphate solubilizing bacteria @ 3-5kg/ acre (1.6 sangam) with soil to improve soil fertility.

Animal Sciences

- Provide clean drinking water to birds and animals. Avoid water logging around the sheds as it may help in mosquito breeding.
- Take up measures to reduce flies and mosquitoes population in and around the birds/ animals sheds.

Name of bird/ animal	Stage	Disease and Management	Agro-meteorological advisories
Poultry (Chicken/ / Duck)	All age groups	)] Deworming	)] Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half of the dose in empty stomach
		)] Litter Management	)] Use dry litter material in the shed;)] if there is moisture, apply lime powder @ 1kg per 100 ft ² area)] Litter may be come wet due to sudden and unexpected rain during this time, wet litter must be replaced immediately
Sheep/ Goat	All age groups	)] Vaccination	)] Vaccinate against B.Q./ H.S. this time.)] Lambs should be vaccinated against Enterotoxaemia.
		)] De-worming	)] Administer Tolzan-F @ 2.5ml orally/ 50kg b. wt.
		)] Shearing for wool	)] Sheep should be sheared during this month.
Pig	All age groups except the young ones	)] Coccidial infection (Diarrhea)	)] Ofloxacin/ Ornidazole (O ₂) tab twice daily for 5 days.
		)] De-worming	)] De-worm with Albendazole @7.5 mg/kg b.wt.
		)] Vaccination	)] Vaccinate against FMD.
		)] Skin disease	)] Sprayer of Anti- <i>Psoroptic</i> may be used
Cattle	All age groups excepts the young ones	)] Vaccination	)] Vaccinate against B.Q., F.M.D. & H.S.if not yet vaccinated.)] Cases of H.S. may be encountered during this period)] Immediate treatment using appropriate drugs with the help of Consultant must be advocated to safe the animals.
		)] Deworming	)] De-worm with Albomac suspension@60-90ml for 300kg body weight or 20-30ml for 100 kg body weight.
		)] Care & Management	)] Mixture of mineral/ salts should be added in the feed.)] Avoid the cattle from chiting/biting by Flies)] Adopt tick control measures
		Milk fever in Milch cow	)] 70-100ml of a mixture of Ca ⁺ and Phosphorus daily @ 5-7days.

)] Forage/ fodder cultivation- Sowing of Bersum and Alfalfa should be started now.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Nurseries/ grow-out	Pond and water	Maintain minimum depth of 1.0 - 1.5 m and pH at 7.0 – 7.5. Apply Lime @ 25-30kg/ ha every month or broadcast Green AQ @ 2 litre/ha by mixing with water.
		Feed	Provide feed 2 times @ 3-5 % body weight per day. Provide good feed having 30% crude protein fortified with vitamins and mineral.
		Fish	For semi-intensive farming, 10000-12000 fingerlings can be stocked in one hectare pond. Stocking ratio may be maintained at 40% of surface feeder, 30% column feeder and 30% bottom feeder. Sampling of fish for growth, disease should be done regularly by netting.

* Partial/ total harvesting of fish should be done.

(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****17th October, 2017**Ukhrul

GKMS at AMFU- Lamphelpat, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and India Meteorological Department, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 18th to 22nd October, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 16th October, 2017)

Observed partly cloudy to overcast sky and **10.2 mm** rainfall was recorded during past four days. Maximum temperature range of 27.0 to 31.6 °C and minimum temperature range of 20.0 to 21.4 °C with mean relative humidity 93.5 % max and 69.8 % min was recorded in the past four days.

Weather forecast for next five days of Ukhrul (18th to 22nd October, 2017)

Likely to have heavy rains at isolated places during next five days with partly cloudy to overcast sky and maximum temp. 28-30 °C & minimum temp. 20-21 °C. Relative humidity may reach up to 98 % (max RH) & 86 % (min RH). The average wind speed may be 2-3 km/hr.

<i>Field Crops</i>			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rice	Maturity to harvesting		<ul style="list-style-type: none"> - If the crop has attained maturity then water needs to be drained out nearly 15 days before tentative date of harvesting. Avoid water logging during maturity stage. - Harvesting may be done before rains, if (75-80) % of the spikelet are yellow in colour. Stacking of the harvested panicles for 5-7 days by turning the heap of panicles can help in better threshing.
Rapeseed/ Field Pea/ Lentil	Seed collection		<ul style="list-style-type: none"> - Procure quality seeds from reliable source for planting just after harvest of rice/soybean/ groundnut/ black gram or rice bean.
Soybean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Groundnut	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains.. For seed purpose, bundling should be done and kept for 3-4 days to increase maturity.
Blackgram & Rice bean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Seeds storage	Post harvest management		<ul style="list-style-type: none"> - For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of charcoal and dry if required. - For grains, store grains in well ventilated godowns after drying proper. Spray Malathion 1% on the walls of stores.
<i>Horticulture Crops</i>			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rabi vegetable nursery (Cole Crops/ Tomato/ Garden pea, etc.)	Land preparation for direct sowing/ transplanting		<ul style="list-style-type: none"> - As soon as the field condition permits, land should be ploughed properly. - Incorporate Tricoderma harzianum @ 5-6 kg/ sangam at the time of final land preparation (about 4-5 days ahead of sowing/ transplanting). - Transplant 25-30 days old seedlings (4 leaves stage). - Treat garden pea seeds (variety like Arkel, Azad) with Bavistin @ 2.5 mg/ lit of water before sowing.
Tree Bean			<ul style="list-style-type: none"> - After rains, near the surrounding basin of tree bean plant (of both bearing and pre-bearing, i.e., above 5 yrs old), at a radius of 1 to 2 ft. light hoeing may be done and apply 60g DAP+ 10g MOP and spray Carbendazim @ 2g/ lit water to moist the soil to a depth of 1 ft. - After rains, apply 20g Carbofuran 3G/ plant if not applied earlier as prophylactic measure.
French Bean & Broad bean	Land preparation		<ul style="list-style-type: none"> - Sowing of pea/ French bean may be done in the plot where colocasia/ cucurbits, etc. had been harvested and where there is proper drainage facility. Recommended varieties for French bean are – Pant Anupam, Anupam (to be planted at a spacing of 30cm x 45cm) and Tangkhul Hawaii (local) (to be planted at a spacing of 30cm x 60cm with 2-3 seeds per hill). For broad bean, plant local variety at a spacing of 30cm x 45cm.
Potato	Tuber seed treatment		<ul style="list-style-type: none"> - Collect seed tubers from reliable source and treated it with Sixer (Carbendazim + Mancozeb) @ 2 gm/lit of water or Carbaryl 50 WP or Ridomil @ 2 gm/kg tuber seed for 20 minutes and let it dry in shed before planting as preventive measure against soil borne diseases.



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



Ginger/ Turmeric	Rhizome formation	Rhizome rot	- Spray Carbendazim @2.5 g/lit of water for rhizome rot.
		Soil nutrition management	- Apply Phosphate solubilizing bacteria @ 3-5kg/ acre (1.6 sangam) with soil to improve soil fertility.

Animal Sciences

- Provide clean drinking water to birds and animals. Avoid water logging around the sheds as it may help in mosquito breeding.
- Take up measures to reduce flies and mosquitoes population in and around the birds/ animals sheds.

Name of bird/ animal	Stage	Disease and Management	Agro-meteorological advisories
Poultry (Chicken/ / Duck)	All age groups	)] Deworming	)] Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half of the dose in empty stomach
		)] Litter Management	)] Use dry litter material in the shed;)] if there is moisture, apply lime powder @ 1kg per 100 ft ² area)] Litter may be come wet due to sudden and unexpected rain during this time, wet litter must be replaced immediately
Sheep/ Goat	All age groups	)] Vaccination	)] Vaccinate against B.Q./ H.S. this time.)] Lambs should be vaccinated against Enterotoxaemia.
		)] De-worming	)] Administer Tolzan-F @ 2.5ml orally/ 50kg b. wt.
		)] Shearing for wool	)] Sheep should be sheared during this month.
Pig	All age groups except the young ones	)] Coccidial infection (Diarrhea)	)] Ofloxacin/ Ornidazole (O ₂) tab twice daily for 5 days.
		)] De-worming	)] De-worm with Albendazole @7.5 mg/kg b.wt.
		)] Vaccination	)] Vaccinate against FMD.
		)] Skin disease	)] Sprayer of Anti- <i>Psoroptic</i> may be used
Cattle	All age groups excepts the young ones	)] Vaccination	)] Vaccinate against B.Q., F.M.D. & H.S.if not yet vaccinated.)] Cases of H.S. may be encountered during this period)] Immediate treatment using appropriate drugs with the help of Consultant must be advocated to safe the animals.
		)] Deworming	)] De-worm with Albomac suspension@60-90ml for 300kg body weight or 20-30ml for 100 kg body weight.
		)] Care & Management	)] Mixture of mineral/ salts should be added in the feed.)] Avoid the cattle from chiting/biting by Flies)] Adopt tick control measures
		Milk fever in Milch cow	)] 70-100ml of a mixture of Ca ⁺ and Phosphorus daily @ 5-7days.

)] Forage/ fodder cultivation- Sowing of Bersum and Alfalfa should be started now.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Nurseries/ grow-out	Pond and water	Maintain minimum depth of 1.0 - 1.5 m and pH at 7.0 – 7.5. Apply Lime @ 25-30kg/ ha every month or broadcast Green AQ @ 2 litre/ha by mixing with water.
		Feed	Provide feed 2 times @ 3-5 % body weight per day. Provide good feed having 30% crude protein fortified with vitamins and mineral.
		Fish	For semi-intensive farming, 10000-12000 fingerlings can be stocked in one hectare pond. Stocking ratio may be maintained at 40% of surface feeder, 30% column feeder and 30% bottom feeder. Sampling of fish for growth, disease should be done regularly by netting.

* Partial/ total harvesting of fish should be done.

(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****17th October, 2017****Imphal East**

GKMS at AMFU- Lamphelpat, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and India Meteorological Department, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 18th to 22nd October, 2017 as below:

Significant past weather for the preceding bi-weekly of Imphal - West (13th to 16th October, 2017)

Observed partly cloudy to overcast sky and **10.2 mm** rainfall was recorded during past four days. Maximum temperature range of 27.0 to 31.6 °C and minimum temperature range of 20.0 to 21.4 °C with mean relative humidity 93.5 % max and 69.8 % min was recorded in the past four days.

Weather forecast for next five days of Imphal East (18th to 22nd October, 2017)

Likely to have heavy rains at isolated places during next five days with partly cloudy to overcast sky and maximum temp. 29-31 °C & minimum temp. 19-20 °C. Relative humidity may reach up to 98 % (max RH) & 88 % (min RH). The average wind speed may be 2-4 km/hr.

Field Crops			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rice	Maturity to harvesting		<ul style="list-style-type: none"> - If the crop has attained maturity then water needs to be drained out nearly 15 days before tentative date of harvesting. Avoid water logging during maturity stage. - Harvesting may be done before rains, if (75-80) % of the spikelet are yellow in colour. Stacking of the harvested panicles for 5-7 days by turning the heap of panicles can help in better threshing.
Rapeseed/ Field Pea/ Lentil	Seed collection		<ul style="list-style-type: none"> - Procure quality seeds from reliable source for planting just after harvest of rice/soybean/ groundnut/ black gram or rice bean.
Soybean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Groundnut	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains.. For seed purpose, bundling should be done and kept for 3-4 days to increase maturity.
Blackgram & Rice bean	Maturity to harvesting		<ul style="list-style-type: none"> - Immediately harvest mature crops before rains. After harvesting, seeds should be dried to attain required moisture content for storage.
Seeds storage	Post harvest management		<ul style="list-style-type: none"> - For seed purpose dry, clean and store the seeds in RC-seed bins after proper drying of seeds along with charcoal at 80:20. Check for moisture content or weight of charcoal and dry if required. - For grains, store grains in well ventilated godowns after drying proper. Spray Malathion 1% on the walls of stores.
Horticulture Crops			
Name of the crop	Stage	Pest and disease	Agro-meteorological advisories
Rabi vegetable nursery (Cole Crops/ Tomato/ Garden pea, etc.)	Land preparation for direct sowing/ transplanting		<ul style="list-style-type: none"> - As soon as the field condition permits, land should be ploughed properly. - Incorporate Tricoderma harzianum @ 5-6 kg/ sangam at the time of final land preparation (about 4-5 days ahead of sowing/ transplanting). - Transplant 25-30 days old seedlings (4 leaves stage). - Treat garden pea seeds (variety like Arkel, Azad) with Bavistin @ 2.5 mg/ lit of water before sowing.
Tree Bean			<ul style="list-style-type: none"> - After rains, near the surrounding basin of tree bean plant (of both bearing and pre-bearing, i.e., above 5 yrs old), at a radius of 1 to 2 ft. light hoeing may be done and apply 60g DAP+ 10g MOP and spray Carbendazim @ 2g/ lit water to moist the soil to a depth of 1 ft. - After rains, apply 20g Carbofuran 3G/ plant if not applied earlier as prophylactic measure.
French Bean & Broad bean	Land preparation		<ul style="list-style-type: none"> - Sowing of pea/ French bean may be done in the plot where colocasia/ cucurbits, etc. had been harvested and where there is proper drainage facility. Recommended varieties for French bean are – Pant Anupam, Anupam (to be planted at a spacing of 30cm x 45cm) and Tangkhul Hawai (local) (to be planted at a spacing of 30cm x 60cm with 2-3 seeds per hill). For broad bean, plant local variety at a spacing of 30cm x 45cm.
Potato	Tuber seed treatment		<ul style="list-style-type: none"> - Collect seed tubers from reliable source and treated it with Sixer (Carbendazim + Mancozeb) @ 2 gm/lit of water or Carbaryl 50 WP or Ridomil @ 2 gm/kg tuber seed for 20 minutes and let it dry in shed before planting as preventive measure against soil borne diseases.



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Ginger/ Turmeric	Rhizome formation	Rhizome rot	- Spray Carbendazim @2.5 g/lit of water for rhizome rot.
		Soil nutrition management	- Apply Phosphate solubilizing bacteria @ 3-5kg/ acre (1.6 sangam) with soil to improve soil fertility.

Animal Sciences

- Provide clean drinking water to birds and animals. Avoid water logging around the sheds as it may help in mosquito breeding.
- Take up measures to reduce flies and mosquitoes population in and around the birds/ animals sheds.

Name of bird/ animal	Stage	Disease and Management	Agro-meteorological advisories
Poultry (Chicken/ / Duck)	All age groups	)] Deworming	)] Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half of the dose in empty stomach
		)] Litter Management	)] Use dry litter material in the shed;)] if there is moisture, apply lime powder @ 1kg per 100 ft ² area)] Litter may be come wet due to sudden and unexpected rain during this time, wet litter must be replaced immediately
Sheep/ Goat	All age groups	)] Vaccination	)] Vaccinate against B.Q./ H.S. this time.)] Lambs should be vaccinated against Enterotoxaemia.
		)] De-worming	)] Administer Tolzan-F @ 2.5ml orally/ 50kg b. wt.
		)] Shearing for wool	)] Sheep should be sheared during this month.
Pig	All age groups except the young ones)] Coccidial infection (Diarrhea))] Ofloxacin/ Ornidazole (O ₂) tab twice daily for 5 days.
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Cattle	All age groups excepts the young ones)] Vaccination)] Vaccinate against B.Q., F.M.D. & H.S.if not yet vaccinated.)] Cases of H.S. may be encountered during this period)] Immediate treatment using appropriate drugs with the help of Consultant must be advocated to safe the animals.
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)] Care & Management)] Mixture of mineral/ salts should be added in the feed.)] Avoid the cattle from chiting/biting by Flies)] Adopt tick control measures
		Milk fever in Milch cow	)] 70-100ml of a mixture of Ca ⁺ and Phosphorus daily @ 5-7days.

)] Forage/ fodder cultivation- Sowing of Bersum and Alfalfa should be started now.

Fishery:

Type of Farming	Stage	Management	Agro-metrological advisories
Carp culture	Nurseries/ grow-out	Pond and water	Maintain minimum depth of 1.0 - 1.5 m and pH at 7.0 – 7.5. Apply Lime @ 25-30kg/ ha every month or broadcast Green AQ @ 2 litre/ha by mixing with water.
		Feed	Provide feed 2 times @ 3-5 % body weight per day. Provide good feed having 30% crude protein fortified with vitamins and mineral.
		Fish	For semi-intensive farming, 10000-12000 fingerlings can be stocked in one hectare pond. Stocking ratio may be maintained at 40% of surface feeder, 30% column feeder and 30% bottom feeder. Sampling of fish for growth, disease should be done regularly by netting.

* Partial/ total harvesting of fish should be done.

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



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**MANIPUR BULLETIN****17th October, 2017**Imphal West

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