



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



**MANIPUR BULLETIN**  
**18<sup>th</sup> November, 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 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| <b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b><br>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr. | <b>Weather forecast for next five days of Senapati (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b><br>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19 <sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 20 – 23 ° C & minimum temp. 5 - 8 ° C. Relative humidity may reach upto 99 % (max RH) & 34 % (min RH). The average wind speed may be 4 km/hr. Wind direction may be North Easterly during next five days. |
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**Weather Warning during next 5 days \***  
Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                    | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                  |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main kharif rice</b>                                                                                                                                                                                                             | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potato</b>                                                                                                                                                                                                                       | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                  |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                            | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> - Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27. |
| <b>Lentil</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Field pea</b>                                                                                                                                                                                                                    | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Seeds storage</b>                                                                                                                                                                                                                | Post harvest management                                |                         | <ul style="list-style-type: none"> <li>➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| <b>Horticulture Crops</b>                                                                                                                                                                                                           |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| * Light watering during morning hours is advised.<br>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature. |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                   | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                             | Rhizome formation                                      | Leaf blotch & Leaf Spot | <ul style="list-style-type: none"> <li>➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Cauliflower</b>                                                                                                                                                                                                                  | Transplanting                                          |                         | <ul style="list-style-type: none"> <li>- Transplanting of 26-30 days old seedlings may be done.</li> <li>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |



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



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|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                                  |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

Lakliba Yumjakeisa faobadi nong leite. Hectare amada 80-100 kg gi changda hawai tharak marubu til hidak totlaga thabiyu. Kobi thamchetmanbigi mana maton konsanba ngakthoknaba sangam amada 300g Tracel happiyu. Oakta til leitanaba 10-15 ml Piperazine liquid pibiyu.

(I. Meghachandra Singh)



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**“Gramin Krishi Mausam Seva”**



Scientist i/c, GKMS



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**MANIPUR BULLETIN**  
**18<sup>th</sup> November, 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 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b><br>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr. | <b>Weather forecast for next five days of Tamenglong (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b><br>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19 <sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 26 – 28 ° C & minimum temp. 10 - 12 ° C. Relative humidity may reach upto 97 % (max RH) & 37 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be North Easterly during next five days. |
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**Weather Warning during next 5 days \***  
Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                    | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                  |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main kharif rice</b>                                                                                                                                                                                                             | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potato</b>                                                                                                                                                                                                                       | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                  |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                            | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> - Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27. |
| <b>Lentil</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Field pea</b>                                                                                                                                                                                                                    | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Seeds storage</b>                                                                                                                                                                                                                | Post harvest management                                |                         | <ul style="list-style-type: none"> <li>➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| <b>Horticulture Crops</b>                                                                                                                                                                                                           |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| * Light watering during morning hours is advised.<br>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature. |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                   | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                             | Rhizome formation                                      | Leaf blotch & Leaf Spot | <ul style="list-style-type: none"> <li>➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Cauliflower</b>                                                                                                                                                                                                                  | Transplanting                                          |                         | <ul style="list-style-type: none"> <li>- Transplanting of 26-30 days old seedlings may be done.</li> <li>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

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|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos</i> (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed.<br>Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                               |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

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(I. Meghachandra Singh)



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Scientist i/c, GKMS



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**MANIPUR BULLETIN**

**18<sup>th</sup> November, 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 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| <b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b><br>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr. | <b>Weather forecast for next five days of Thoubal (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b><br>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19 <sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 25 – 27 ° C & minimum temp. 9 - 11 ° C. Relative humidity may reach upto 99 % (max RH) & 43 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be North Easterly during next five days. |
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**Weather Warning during next 5 days \***

Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                    | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                  |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main kharif rice</b>                                                                                                                                                                                                             | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potato</b>                                                                                                                                                                                                                       | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                  |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                            | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> - Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27. |
| <b>Lentil</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Field pea</b>                                                                                                                                                                                                                    | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Seeds storage</b>                                                                                                                                                                                                                | Post harvest management                                |                         | <ul style="list-style-type: none"> <li>➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| <b>Horticulture Crops</b>                                                                                                                                                                                                           |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| * Light watering during morning hours is advised.<br>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature. |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                   | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                             | Rhizome formation                                      | Leaf blotch & Leaf Spot | <ul style="list-style-type: none"> <li>➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Cauliflower</b>                                                                                                                                                                                                                  | Transplanting                                          |                         | <ul style="list-style-type: none"> <li>- Transplanting of 26-30 days old seedlings may be done.</li> <li>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |





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



|                        |                           |  |                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                                  |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

Lakliba Yumjakeisa faobadi nong leite. Hectare amada 80-100 kg gi changda hawai tharak marubu til hidak totlaga thabiyu. Kobi thamchetmanbigi mana maton konsanba ngakthoknaba sangam amada 300g Tracel happiyu. Oakta til leitanaba 10-15 ml Piperazine liquid pibiyu.

(I. Meghachandra Singh)





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



Scientist i/c, GKMS



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



**MANIPUR BULLETIN**  
**18<sup>th</sup> November, 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 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b><br>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr. | <b>Weather forecast for next five days of Ukhrul (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b><br>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19 <sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 21 – 23 ° C & minimum temp. 6 - 8 ° C. Relative humidity may reach upto 98 % (max RH) & 42 % (min RH). The average wind speed may be 3 km/hr. Wind direction may be North Easterly during next five days. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Weather Warning during next 5 days \***  
Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                    | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                  |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main kharif rice</b>                                                                                                                                                                                                             | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potato</b>                                                                                                                                                                                                                       | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                  |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                            | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> - Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27. |
| <b>Lentil</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Field pea</b>                                                                                                                                                                                                                    | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Seeds storage</b>                                                                                                                                                                                                                | Post harvest management                                |                         | <ul style="list-style-type: none"> <li>➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| <b>Horticulture Crops</b>                                                                                                                                                                                                           |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| * Light watering during morning hours is advised.<br>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature. |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                   | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                             | Rhizome formation                                      | Leaf blotch & Leaf Spot | <ul style="list-style-type: none"> <li>➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Cauliflower</b>                                                                                                                                                                                                                  | Transplanting                                          |                         | <ul style="list-style-type: none"> <li>- Transplanting of 26-30 days old seedlings may be done.</li> <li>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

|                        |                           |  |                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed.<br>Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                               |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

Lakliba Yumjakeisa faobadi nong leite. Hectare amada 80-100 kg gi changda hawai tharak marubu til hidak totlaga thabiyu. Kobi thamchetmanbigi mana maton konsanba ngakthoknaba sangam amada 300g Tracel happiyu. Oakta til leitanaba 10-15 ml Piperazine liquid pibiyu.

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Scientist i/c, GKMS



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



**MANIPUR BULLETIN**

**18<sup>th</sup> November, 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 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b></p> <p>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr.</p> | <p><b>Weather forecast for next five days of Bishnupur (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b></p> <p>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19<sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 25 – 27 ° C &amp; minimum temp. 10 - 11 ° C. Relative humidity may reach upto 98 % (max RH) &amp; 41 % (min RH). The average wind speed may be 2 km/hr. Wind direction may be North Easterly during next five days.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Weather Warning during next 5 days \***

Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                               | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                             |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Main kharif rice</b>                                                                                                                                                                                                                        | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Potato</b>                                                                                                                                                                                                                                  | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                         |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> <p>- Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27.</p> |
| <b>Lentil</b>                                                                                                                                                                                                                                  | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Field pea</b>                                                                                                                                                                                                                               | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Seeds storage</b>                                                                                                                                                                                                                           | Post harvest management                                |                         | <ul style="list-style-type: none"> <li>➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| <b>Horticulture Crops</b>                                                                                                                                                                                                                      |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>* Light watering during morning hours is advised.</p> <p>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature.</p> |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                              | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                       |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                                        | Rhizome formation                                      | Leaf blotch & Leaf Spot | <ul style="list-style-type: none"> <li>➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Cauliflower</b>                                                                                                                                                                                                                             | Transplanting                                          |                         | <ul style="list-style-type: none"> <li>- Transplanting of 26-30 days old seedlings may be done.</li> <li>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                   |

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

|                        |                           |  |                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed.<br>Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                               |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

Lakliba Yumjakeisa faobadi nong leite. Hectare amada 80-100 kg gi changda hawai tharak marubu til hidak totlaga thabiyu. Kobi thamchetmanbigi mana maton konsanba ngakthoknaba sangam amada 300g Tracel happiyu. Oakta til leitanaba 10-15 ml Piperazine liquid pibiyu.

(I. Meghachandra Singh)





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



Scientist i/c, GKMS



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



**MANIPUR BULLETIN**  
**18<sup>th</sup> November, 2016**

**Chandel**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b><br>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr. | <b>Weather forecast for next five days of Chandel (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b><br>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19 <sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 25 – 26 ° C & minimum temp. 9 - 10 ° C. Relative humidity may reach upto 97 % (max RH) & 48 % (min RH). The average wind speed may be 2-3 km/hr. Wind direction may be North Easterly during next five days. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Weather Warning during next 5 days \***  
Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                    | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                  |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main kharif rice</b>                                                                                                                                                                                                             | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potato</b>                                                                                                                                                                                                                       | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                  |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                            | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> - Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27. |
| <b>Lentil</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Field pea</b>                                                                                                                                                                                                                    | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Seeds storage</b>                                                                                                                                                                                                                | Post harvest management                                |                         | <ul style="list-style-type: none"> <li>➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| <b>Horticulture Crops</b>                                                                                                                                                                                                           |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| * Light watering during morning hours is advised.<br>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature. |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                   | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                             | Rhizome formation                                      | Leaf blotch & Leaf Spot | <ul style="list-style-type: none"> <li>➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Cauliflower</b>                                                                                                                                                                                                                  | Transplanting                                          |                         | <ul style="list-style-type: none"> <li>- Transplanting of 26-30 days old seedlings may be done.</li> <li>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |



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



|                        |                           |  |                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                                  |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

Lakliba Yumjakeisa faobadi nong leite. Hectare amada 80-100 kg gi changda hawai tharak marubu til hidak totlaga thabiyu. Kobi thamchetmanbigi mana maton konsanba ngakthoknaba sangam amada 300g Tracel happiyu. Oakta til leitanaba 10-15 ml Piperazine liquid pibiyu.

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Scientist i/c, GKMS



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



**MANIPUR BULLETIN**  
**18<sup>th</sup> November, 2016**

**Churachandpur**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b><br>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr. | <b>Weather forecast for next five days of Churachandpur (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b><br>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19 <sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 25 – 27 ° C & minimum temp. 8 - 10 ° C. Relative humidity may reach upto 96 % (max RH) & 41 % (min RH). The average wind speed may be 3 km/hr. Wind direction may be North Easterly during next five days. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Weather Warning during next 5 days \***  
Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                    | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                  |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main kharif rice</b>                                                                                                                                                                                                             | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potato</b>                                                                                                                                                                                                                       | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                  |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                            | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> - Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27. |
| <b>Lentil</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | ➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Field pea</b>                                                                                                                                                                                                                    | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Seeds storage</b>                                                                                                                                                                                                                | Post harvest management                                |                         | ➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Horticulture Crops</b>                                                                                                                                                                                                           |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| * Light watering during morning hours is advised.<br>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature. |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                   | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                             | Rhizome formation                                      | Leaf blotch & Leaf Spot | ➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Cauliflower</b>                                                                                                                                                                                                                  | Transplanting                                          |                         | - Transplanting of 26-30 days old seedlings may be done.<br>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If                                                                                                                                                                                                                                                                                                                                                                                                                                    |



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



|                        |                           |  |                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                                  |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

Lakliba Yumjakeisa faobadi nong leite. Hectare amada 80-100 kg gi changda hawai tharak marubu til hidak totlaga thabiyu. Kobi thamchetmanbigi mana maton konsanba ngakthoknaba sangam amada 300g Tracel happiyu. Oakta til leitanaba 10-15 ml Piperazine liquid pibiyu.

(I. Meghachandra Singh)



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



Scientist i/c, GKMS





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



**MANIPUR BULLETIN**

**18<sup>th</sup> November, 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 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b><br>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr. | <b>Weather forecast for next five days of Imphal East (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b><br>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19 <sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 26 – 27 ° C & minimum temp. 9 - 10 ° C. Relative humidity may reach upto 100 % (max RH) & 35 % (min RH). The average wind speed may be 3-4 km/hr. Wind direction may be North Easterly during next five days. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Weather Warning during next 5 days \***

Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                    | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                  |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main kharif rice</b>                                                                                                                                                                                                             | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potato</b>                                                                                                                                                                                                                       | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                  |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                            | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> - Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27. |
| <b>Lentil</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Field pea</b>                                                                                                                                                                                                                    | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Seeds storage</b>                                                                                                                                                                                                                | Post harvest management                                |                         | <ul style="list-style-type: none"> <li>➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| <b>Horticulture Crops</b>                                                                                                                                                                                                           |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| * Light watering during morning hours is advised.<br>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature. |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                   | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                             | Rhizome formation                                      | Leaf blotch & Leaf Spot | <ul style="list-style-type: none"> <li>➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Cauliflower</b>                                                                                                                                                                                                                  | Transplanting                                          |                         | <ul style="list-style-type: none"> <li>- Transplanting of 26-30 days old seedlings may be done.</li> <li>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

|                        |                           |  |                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos</i> (1.5%) dust @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                                  |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

Lakliba Yumjakeisa faobadi nong leite. Hectare amada 80-100 kg gi changda hawai tharak marubu til hidak totlaga thabiyu. Kobi thamchetmanbigi mana maton konsanba ngakthoknaba sangam amada 300g Tracel happiyu. Oakta til leitanaba 10-15 ml Piperazine liquid pibiyu.

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



**MANIPUR BULLETIN**

**18<sup>th</sup> November, 2016**

**Imphal West**

IAAS, ICAR-RC Manipur Centre in association with India Meteorological Department, Regional Meteorological Centre, Guwahati and Northern Hemisphere Analysis Centre, New Delhi, Ministry of Earth Science, Govt. of India reports the weather forecasts for the next five days, i.e., from 19<sup>th</sup> to 23<sup>rd</sup> November, 2016 as below:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Significant past weather for the preceding bi-weekly of Imphal - West (15<sup>th</sup> to 17<sup>th</sup> November, 2016)</b><br>The sky remain foggy during morning and clear during afternoon hours. <b>No</b> rainfall was recorded during past three days. Maximum temperature range observed was 26.2 to 26.6 ° C, range of minimum temperature observed was 10.7 to 12.3 ° C, mean relative humidity observed in morning and afternoon were 90.7 % and 53.0 % respectively. The average wind speed range was 2.0 to 3.0 km/hr. | <b>Weather forecast for next five days of Imphal West (19<sup>th</sup> to 23<sup>rd</sup> November, 2016)</b><br>Likely to have no rain upto Sunday. Moderate to dense fog is very likely at isolated places during morning hours of 19 <sup>th</sup> Nov and mainly clear to partly cloudy during day time with maximum temp. 25 – 27 ° C & minimum temp. 8 - 10 ° C. Relative humidity may reach upto 98 % (max RH) & 35 % (min RH). The average wind speed may be 4 km/hr. Wind direction may be North Easterly during next five days. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Weather Warning during next 5 days \***

Dense fog very likely at isolated places over Manipur

| Name of the crop                                                                                                                                                                                                                    | Stage                                                  | Pest and disease        | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Field Crops</b>                                                                                                                                                                                                                  |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main kharif rice</b>                                                                                                                                                                                                             | Harvesting to post-harvesting                          |                         | - Stacking of the harvested panicles for 2-3 days by turning the heap of panicles can help in better threshing. Clean and sundry seeds properly before storage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potato</b>                                                                                                                                                                                                                       | Land preparation and selection of seed tuber           |                         | <ul style="list-style-type: none"> <li>➤ Land preparation may be done.</li> <li>➤ Treat the seeds with Sixer (Carbendazim + Mencozeb) @ 3 gm/lit of water for ½ hour and let it dry in shade before planting.</li> <li>➤ Planting may be done at a spacing of 60cm X 15-20cm. Recommended varieties are Kufri Megha and Kufri Jyoti. Seed rate is 25-30 quintals/hectare. Incubation of seeds in the sand bed for at about 7-10 days for sprouting of seed is also advisable. Sow seed at about 3 inch depth.</li> </ul>                                                                                                                                  |
| <b>Rapeseed/ Mustard</b>                                                                                                                                                                                                            | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Sow seeds after the harvesting rice for economic utilization of available soil moisture where there is impression of finger on the soil when pressed.</li> <li>➤ It may be sown as relay cropping (sowing seeds before 2-3 days of harvesting mature crop) or at zero tillage (preferably sandy loam soil with adequate soil moisture).</li> <li>➤ Seed rate is 10 kg/ ha. Treat seeds with Mencozeb @2g/kg seed for the control of white rust and Downey Mildew at early growth stage.</li> </ul> - Apply 65kg Urea + 188kg SSP + 50kg MOP as basal dose per hectare before sowing. Recommended variety – M-27. |
| <b>Lentil</b>                                                                                                                                                                                                                       | Seed collection to sowing                              |                         | <ul style="list-style-type: none"> <li>➤ Procure good quality seeds from reliable sources for sowing as relay cropping or at zero/ minimum tillage. Seed rate is 40kg/ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Field pea</b>                                                                                                                                                                                                                    | Land preparation & seed collection                     |                         | <ul style="list-style-type: none"> <li>➤ Treat seed using Bavistin @ 2.5 mg/ lit of water before sowing.</li> <li>➤ Seed rate is 80-100kg/ ha.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Seeds storage</b>                                                                                                                                                                                                                | Post harvest management                                |                         | <ul style="list-style-type: none"> <li>➤ 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 seeds. After proper drying, store grains in well ventilated godowns. Spray Malathion 1% in godowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| <b>Horticulture Crops</b>                                                                                                                                                                                                           |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| * Light watering during morning hours is advised.<br>* In fruit crops and perennial vegetables, apply organic mulches after earthing up and weeding to conserve residual soil moisture as well as to maintain the soil temperature. |                                                        |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Rabi Vegetable (cole crops/ onion/ Garlic)</b>                                                                                                                                                                                   | Land preparation for transplanting of raised seedlings |                         | <ul style="list-style-type: none"> <li>➤ For raised seedlings, prepare land for transplanting (26-30 days old seedlings) may be done. Apply 50 kg DAP, 25kg MOP and 10 cart loads of FYM/ sangam as basal dose followed by 25 kg Urea.</li> <li>- Transplant 26-30 days old seedlings (4 leaves stage) of cole crops when soil moisture is optimum for transplanting.</li> <li>- 45-60 days old onion seedlings may be transplanted.</li> <li>- Garlic bulblets may be planted.</li> </ul>                                                                                                                                                                |
| <b>Ginger/ Turmeric</b>                                                                                                                                                                                                             | Rhizome formation                                      | Leaf blotch & Leaf Spot | <ul style="list-style-type: none"> <li>➤ Apply of Carbendazim @ 0.1% alternately with spraying of Mancozeb (2.5 g/l) is also recommended.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Cauliflower</b>                                                                                                                                                                                                                  | Transplanting                                          |                         | <ul style="list-style-type: none"> <li>- Transplanting of 26-30 days old seedlings may be done.</li> <li>- Apply Tracel @ 300gm/ sangam in 30-35days old cauliflower to avoid leaf curling, development of purple coloured vein due to absence of micronutrient. If</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |

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

Manipur Centre, Lamphelpat, Imphal - 795 004

**“Gramin Krishi Mausam Seva”**

|                        |                           |  |                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                           |  | required repeat it after 10 days.<br>* Apply <i>Chloropyrifos (1.5%) dust</i> @25 kg /ha to the cauliflower/ cabbage infested by cut-worms.                                                                                                                                                                                                            |
| <b>Coriander</b>       | Land preparation & sowing |  | - Select area with full sunshine rich in organic matter for preparing beds. Treat soil using Dichlorovos @ 1ml/ litre of water 2-3 days before sowing to protect seeds from ant and other insects.<br>- Apply 200-250 kg of FYM (@ ½ cart load) in 100 sq. m and mix thoroughly to improve soil fertility.<br>- Seed rate is 100g seeds for 100 sq. m. |
| <b>Spinach (Palak)</b> | Land preparation & sowing |  | - Well drained soil is best for growing spinach beet.<br>- Avoid damping off by adding Captan 50WP in the soil of bed. Spacing may be maintained at 10cm x 20-25cm apart.<br>- Seed rate is 100-120g/ 100 sq m. If broadcasting is done, double the dose is required.                                                                                  |

**Animal Sciences**

| Name of the animal                     | Growth stage                          | Disease/ infestation | Agro-meteorological advisories                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Poultry (Chicken/ Turkey/ Duck)</b> | All age groups                        | Care & management    | Protect from sudden drop in temperature. Keep the shed wall covered with hessian cloth during night. Proper ventilation must be provided to protect from moisture inside the shed.<br>Litter must be kept dry.                                                                                                                                                                                                                                   |
|                                        |                                       | Deworming            | ➤ Use Albendazole liquid @ 20-40 ml for 100 adult birds and repeat it next day with half the dose at regular interval of 3 weeks.                                                                                                                                                                                                                                                                                                                |
|                                        |                                       | Coccidiosis          | Provide Amprolium Solution to protect from coccidiosis @ 1 gm/litre drinking water for 7 days.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Sheep/ Goat</b>                     | All age groups excepts the young ones | Vaccination          | ➤ Vaccinate against sheep/ goat pox and Enterotoxaemia.                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | 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.<br>➤ Treat drinking water with potassium permanganate/ sanitizer.<br>➤ Provide ample ventilation in the shed/ dry bedding. Avoid dampness in sheds                                                                                                                                                                                                                                     |
|                                        |                                       | Mites infestation    | ➤ Spray with Skin Heal Spray in sufficient quantity.                                                                                                                                                                                                                                                                                                                                                                                             |
|                                        |                                       | 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 not vaccinated, give vaccine for Black Quarter now, Haemorrhagic septicaemia, Foot & Mouth Disease, etc.<br>➤ If the animals are afflicted by FMD, keep it in a separate enclosure.<br>➤ Calves should not be allowed to drink milk from mothers if affected by FMD, it affects heart and cause even death of the calves.<br>➤ The mouth, hooves and udders of diseased animals must be cleaned with 1% solution of Potassium Permanganate. |
|                                        |                                       | Ectoparasites        | Butox@ 2ml/lit of water at forth night.                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                        |                                       | Care & management    | Oat/Bersum seeds must be sown from the middle of this month.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                        |                                       | Mastitis             | Adequate care must be taken to prevent occurrence of Masitis.                                                                                                                                                                                                                                                                                                                                                                                    |

**Fishery:**

| Type of Farming              | Stage                            | Management | Agro-metrological advisories                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carp/ Catfish culture</b> | Harvesting and stock maintenance |            | - Stocking of fish for next year may be done in ponds having 1.5m water depth @ 10,000/ ha.<br>- Feeds should be provided @ 3 % body weight per day.<br>- Well balanced feed fortified with vitamins and minerals should be provided.<br>- Apply Lime @ 30-35 kg/ha at 30days interval. |

SMS:

Lakliba Yumjakeisa faobadi nong leite. Hectare amada 80-100 kg gi changda hawai tharak marubu til hidak totlaga thabiyu. Kobi thamchetmanbigi mana maton konsanba ngakthoknaba sangam amada 300g Tracel happiyu. Oakta til leitanaba 10-15 ml Piperazine liquid pibiyu.

(I. Meghachandra Singh)



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