GRAMIN KRISHI MAUSAM SEWA

ICAR RESEARCH COMPLEX FOR NEH REGION

Mizoram Centre, Kolasib- 796081, MIZORAM

(Prepared based on District wise Weather Forecast received from IMD, Guwahati)

District: Kolasib **Period: 20 - 24 June, 2015**

Bulletin No: -528/2015/ Bulletin/English **Date of issue: 19th June, 2015**

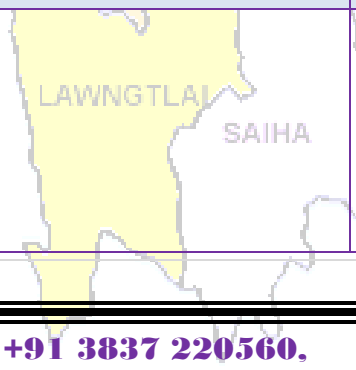
Parameters	20.06.2015	21.06.2015	22.06.2015	23.06.2015	24.06.2015
Rainfall (mm)	10	15	6	15	6
Max Temp (oC)	32	32	32	31	31
Min Temp (oC)	22	23	23	22	22
Cloud Coverage	Mainly cloudy	Partially clear	Mainly cloudy	Partially clear	Mainly cloudy
Max RH (%)	97	98	97	99	97
Min RH (%)	64	78	71	76	63
Wind Speed (KmpH)	2	3	2	4	3
***Wind Direction**	E	E	E	S-E	S-E

Northerly- N, North-Easterly- N-E, Easterly- E, South-Easterly- S-E, Southerly- S, South-Westerly- S-W, Westerly-W, North-westerly- N-W.

STATUS OF PREMONSOON- May 1-31, 2015 (*Percent of deviation from normal in parenthesis*)

Aizawl- 383.68mm (341.8mm)	Champhai- 239.49mm (250.30mm)	Saiha- 109.52 mm (87.2mm)	Kolasib- 352.38mm (380.9mm)
Lawngtlai-321.51mm (285.5mm)	Lunglei-344.00mm (186.21mm)	Mamit-449.48mm (442.80mm)	Serchhip-411.72mm (25.9mm)

Weather summary of the past three days	Weather forecast valid from 20th June, 2015 To 24th June, 2015.
The temperature range for maximum and minimum were 27.4-30.8oC and 20.6-22.5oC respectively. Dense cloudy sky was observed. Wind direction is southeasterly. Maximum RH observed 84-92% & minimum of 60-62%. Rainfall recorded for the past three days is **56.20mm.**	There are chances of moderate to light rainfall during the next 5 day. The maximum and minimum temperatures for the next 5 days may range for 31-32oC and 22-23oC. Maximum relative humidity is expected in the range of 97-99% and minimum may from 63-78%. Wind direction would be southeasterly with the wind speed of 2-4 km per hour. Dense cloudy sky will prevail during the next five days. ***Weekly cumulative rainfall:* 52.0 mm**

Main Crop/ Animal /Fisheries	Stage	Cultural practices/ Pest/ Diseases	Agricultural / Horticultural/ animal husbandry advisories
Khasi Mandarin and acid lime	**Transplant stage**		✦ Well rotten FYM @ 500g/pit is applied at 15-20 days before planting along with 12 g each of N and K_2O/plant and 4 g of P_2O_5/plant. ✦ 12 g Nitrogen and Potash/plant is recommended for first and second

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		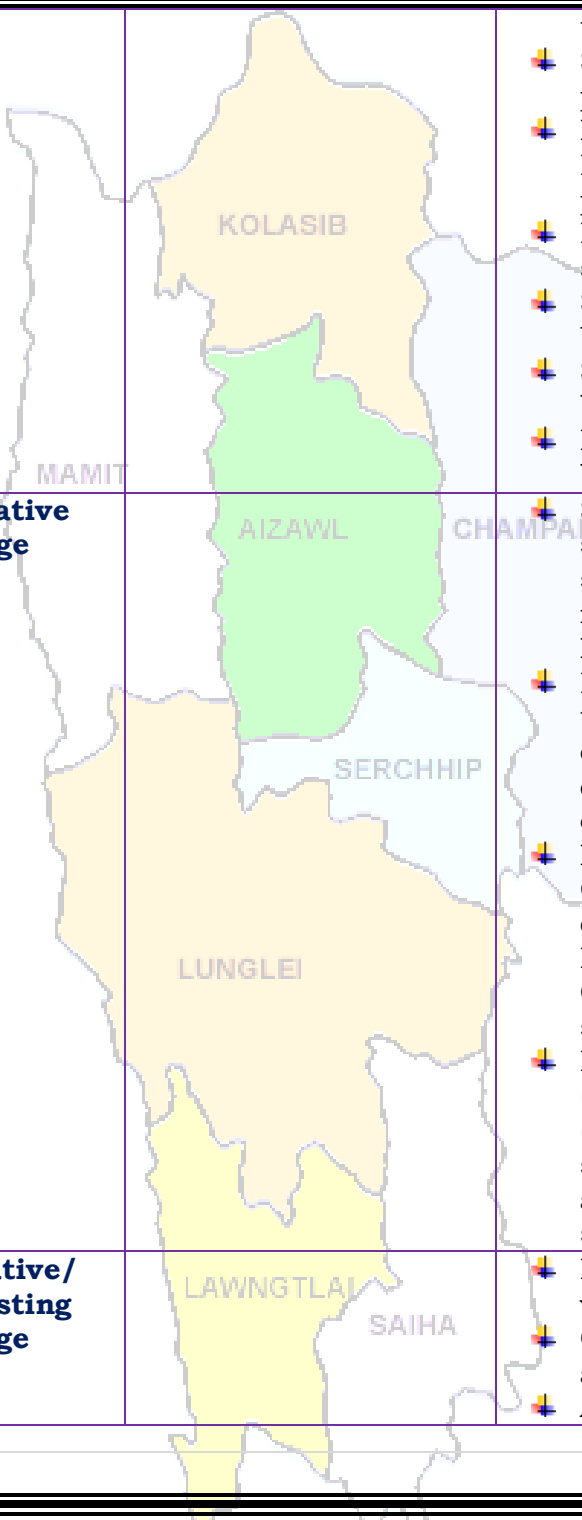	top dressing. - Sucker and slips are usually preferred for planting. - Potting mixture of soil, sand and FYM or compost should be in proper ratio. - For nursery only certified seed should be used. - Stagnation of water in beds should be avoided. - Seedling of uniform height should be selected for planting. - Plant protection measures should be apliked.
Khasi Mandarin and acid lime	**Vegetative stage**		- Spray (10 ppm) of Gibberellic acid should be done at colour break stage to delay colour development, maintain firmness, extend harvesting period. - Fruit drops, which occur at least twice in each crop, should be controlled with the recommended doses of GA3, urea, benomyl and carbendazim at right time. - Insect pests like Blackfly (Kolshi), Citrus Psylla, Leaf miner, Bark eating caterpillar, Fruit sucking Moth, Mites, Twing Blight, Gummosis, Root rot and Collar rot should be controlled. - Recommended fungicide (Carbendazium) and proper doses (0.1% or 1000 ppm) should be sprayed at proper time (One month and 15 days before harvest i.e. two sprays).
Oil plam	**Vegetative/ Harvesting stage**		- Remove all dead plants and replace with healthy seedling. - Cleaning near base of the plant and cut unwanted branches. - Application of split dose of fertilizer

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		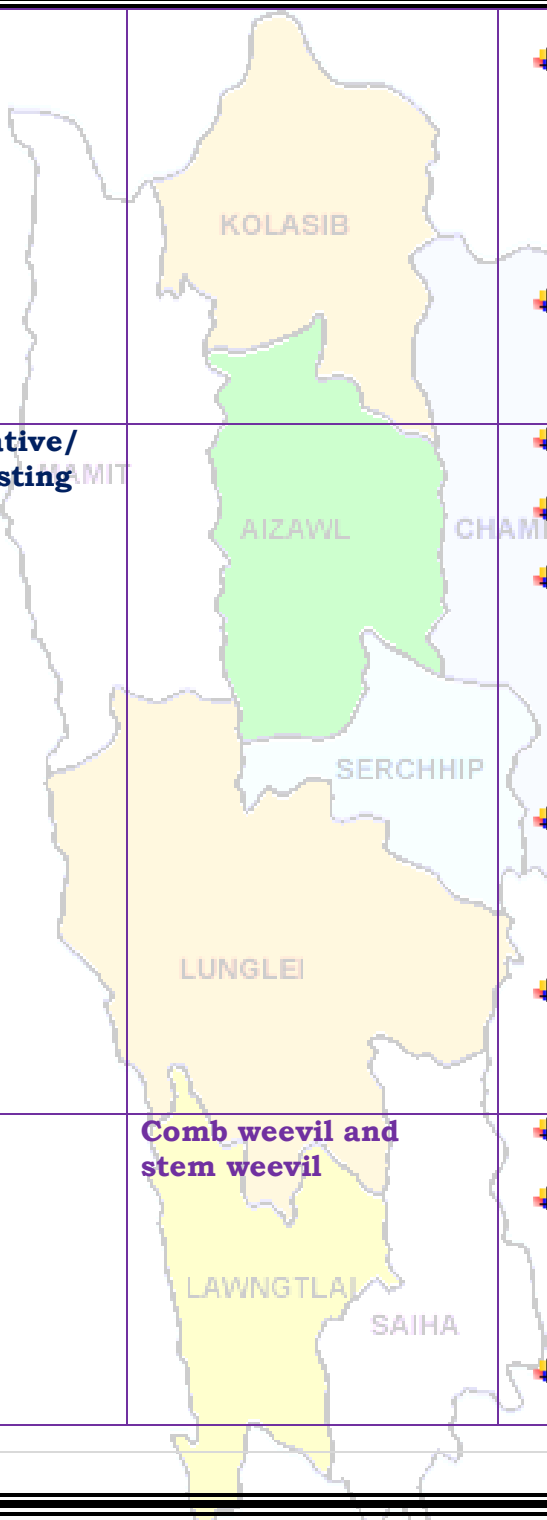	600: 200:100 (g/pt). • Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. • Fruits are harvested when they attain full size, develop attractive colour with optimum sugar and acid blend.
Banana	**Vegetative/ harvesting**		• Cleaning near base of the plant and cut unwanted branches. • Application of split dose of fertilizer 600: 200:100 (g/pt). • Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. • Pruning on a regular basis removes unwanted or a sucker, keep production mats in optimum condition, saves fertilizer, reduces pest and disease. • Fruits are harvested when they attain full size, develop attractive yellow colour.
		Comb weevil and stem weevil	• Applications of neem powder effectively controlled weevils. • Application of 60 to 100 g of neem seed powder or neem cake at planting and then at 4 months intervals significantly diminished pest damage and increased yields. • Application of over 100 g or neem oil was phytotoxic (harmful to

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			plants) and uneconomical.
Passion Fruit	**Nursery stage**		▪ When two to three leaves develop, seedling should be transplanted in polythene bags. ▪ The seedlings are planted in field when they become 3-4 months old. ▪ Mature 30-35 cm long stem with 3 nodes of pencil thickness should be planted in nursery beds/polythene bags having suitable potting media. ▪ Apply well decompose FYM @ 15kg/pit/year along with 100.50.100 g NPK per pit.
Pineapple	**Flowering stage**		▪ Apply flowering inducing chemical (Ethrel 10 PPM+2% urea+0.04% Sodium Carbonate) should be applied in the heart of the plant. In evening and only when plants have at least 32 leaves. ▪ The flowering emergence will come out after 55-60 days after chemical spraying. ▪ Apply split doses of fertilizer @ 60: 50:60 g per plant. ▪ Remove all unwanted leaves, branches and weed near to the plant.
Colocasia	**Vegetative stage**		▪ Remove unwanted plant near base of the plant and cut dead branches. ▪ Earthing up soil at base of the plant along with split doses of fertilizer. ▪ Proper drainage is required to avoid water logging. ▪ Mulching with black polythene is found beneficial for both reducing the weed and increasing the yield.
		Corm borer	▪ Carbofuran 3G @1.5 kg a.i./ha applied in root zone when egg

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			laying ooze is observed at plant base.
Okra	**Flowering stage**	**1. Clean cultivation or remove all unwanted plant from plot.** **2. Provide split doses of fertilizer.**	✚ Mulching (if dry spell is there) ✚ Give irrigation at regular interval ✚ Provide banana shading to transplanted seedling. ✚ Provide split doses of fertilizer @ 30kg/ha. ✚ Shallow rooted inter-row cultivation and hand weeding may be used to minimize weeds in the inter row zone. ✚ Black plastic mulch may be used to suppress weed growth. The black plastic mulch also keeps the soil warm and encourages plant growth.
		1. Aphid (*Aphis gossypii*)	• Spray surf water solution to the plat • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
		3. Flea beetle (*Phylliodes balyi*)	• Shake plants to dislodge grubs, pupae and adults and destroy. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt or Dimethoate 30 % EC 7ml/10lt of water.
		4. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Collect damaged leaves with grubs and egg masses and destroy them. • Spray with methyl parathion 0.5% or dimethoate 0.3% is effective.
		5. Leafhopper (*Empoasca devastans*)	• Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.

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		✓ **Bacterial Wilt (*Pseudomonas solanacearum)***	• Fields should be kept clean and effected plants are to be uprooted and burnt. • Spray Copper fungicides to control the disease (2% Bordeaux mixture.) • The disease is more prevalent in the presence of root knot Nematodes, so control of these nematodes will suppress the disease spread. • Soil drenching (Streptocycline sulphate 0.3 gm/lt of water) and Blitox 50 @ 5gm/ 15lt water.
French bean	**Flowering stage**		• Remove all unwanted leaves, branches and weed near to the plant. • Earthing up the soil for better aeration. • Plant should be supported by bamboo or woods 20-25 days after sowing.
		Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
Brinjal	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ✓ Mulching with black polythene film reduces weed growth, increases the crop growth. ✓ Split dose of fertilizer application @ 50kg/ha urea.
Tomato	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for

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			reduce grass type weed. - Mulching with black polythene film reduces weed growth, increases the crop growth. - Split dose of fertilizer application @ 50kg/ha urea.
		1. Aphid(*Aphis gossypii*)	• Spray surf water solution to the plat. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Epilachna beetle. (*Epilachna viginctioctopanctata*)	• Spray with methyl parathion 0.5% or dimethoate 0.3% is effective against flea beetle.
Rice	**Transplanting stage**	**Kharif Rice**	- Land preparation is done by ploughing, harrowing, and levelling the field to make it suitable for crop establishment. - Ploughing should be done 3-4 weeks prior to sowing. - After ploughing, harrowing the field should be done twice, with one week gap between the two. First harrowing should be done after 1 week of ploughing. The second harrowing should be done across the first harrowing. - Under good management and adequate nitrogen levels, the optimum spacing for rice varieties should be around 20x15 cms both for kharif and rabi crops. - Transplanting two to three seedlings per hill under normal conditions is enough. The use of more seedlings per hill, besides not being any additional advantage, involves an extra expense on seedlings. In case of transplanting

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			with old seedlings, the number of seedlings per hill can be increased. Remove the tip of rice seedling which reduces stem borer infestation.
Maize	**Sowing stage**		Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. Remove unwanted plant near base of the plant and cut dead branches. Earting up of soil along with fertilizer mixture. Foliar spray of 0.1 % Endosulfan {2 ml (35 EC) in litre water} at 30 days after germination is very effective against stem borer.
Ginger and turmeric	**Land preparation**		Remove unwanted plant near base of the plant and cut dead branches. Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. Earting up of soil along with fertilizer mixture.
		Thrips	Spray Roger or Monocrotophos (2.5 ml/lt) for controlling thrips.

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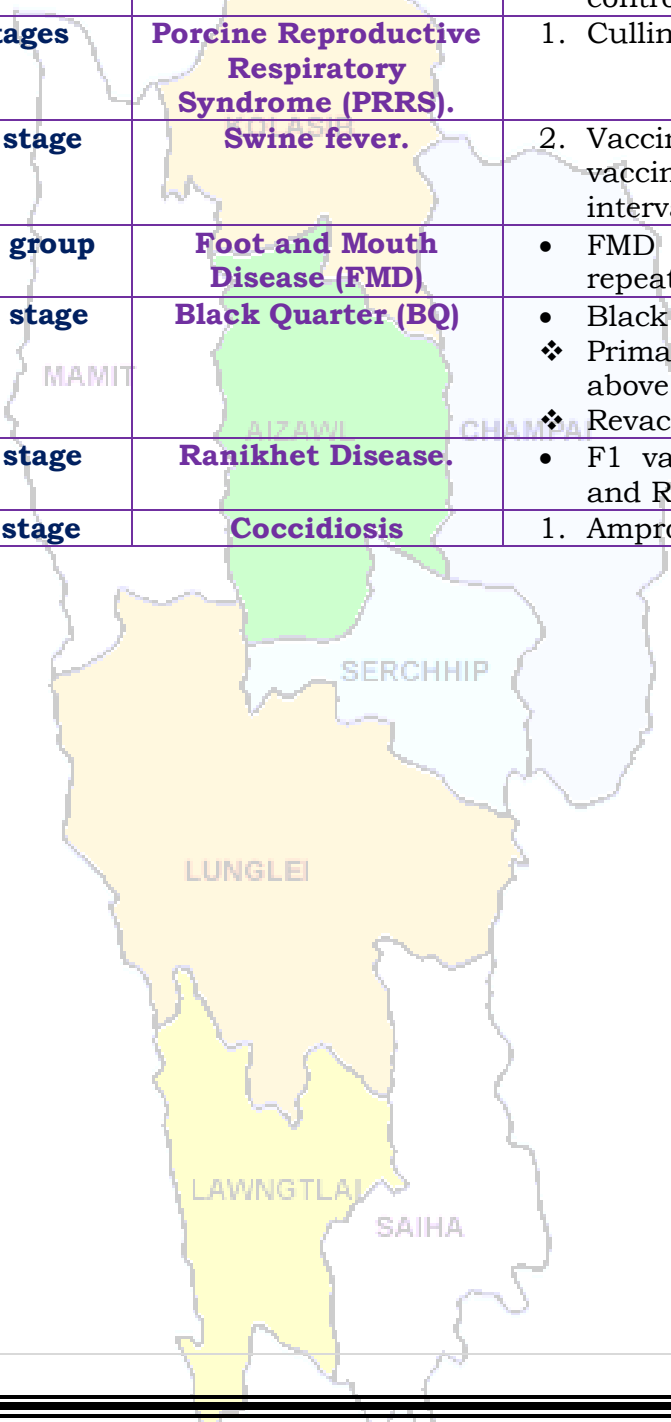
		Scales	➢ Spray Quinalphos or Monocrotophos (2.5 ml/lt) for controlling scales.
Pig	**All stages**	**Porcine Reproductive Respiratory Syndrome (PRRS).**	1. Culling of positive pigs or piglets.
	Adult stage	**Swine fever.**	2. Vaccination of pigs with SF vaccines at 2 months and yearly interval/6 month interval
Cattle	**All age group**	**Foot and Mouth Disease (FMD)**	• FMD vaccine at 16 week and repeat every 6 month.
	Young stage	**Black Quarter (BQ)**	• Black Quarter Vaccine (BQV). ❖ Primary vaccination 6 month or above ❖ Revaccination annually
Poultry	**Adult stage**	**Ranikhet Disease.**	• F1 vaccine at (1-6) days of birth and R_2B vaccine for adult birds.
	Early stage	**Coccidiosis**	1. Amprolium or coccidiostat



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(Prepared based on District wise Weather Forecast received from IMD, Guwahati)

District: Lawngtlai **Period:** 20 - 24 June, 2015

Bulletin No: -528/2015/ Bulletin/English **Date of issue:** 19th June, 2015

Parameters	20.06.2015	21.06.2015	22.06.2015	23.06.2015	24.06.2015
Rainfall (mm)	7	5	7	12	10
Max Temp (oC)	32	32	31	32	31
Min Temp (oC)	22	22	22	22	23
Cloud Coverage	Partially clear	Partially clear	Partially clear	Partially clear	Partially clear
Max RH (%)	94	93	94	93	91
Min RH (%)	68	60	63	57	64
Wind Speed (KmpH)	4	5	6	6	6
*Wind Direction	E	E	E	S-E	S-E

Northerly- N, North-Easterly- N-E, Easterly- E, South-Easterly- S-E, Southerly- S, South-Westerly- S-W, Westerly-W, North-westerly- N-W.

STATUS OF PREMONSOON- May 1-31, 2015 (*Percent of deviation from normal in parenthesis*)

Aizawl- 383.68mm (341.8mm)	Champhai- 239.49mm (250.30mm)	Saiha- 109.52 mm (87.2mm)	Kolasib- 352.38mm (380.9mm)
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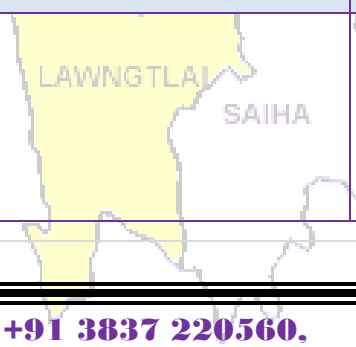
Weather summary of the past three days	Weather forecast valid from 20th June, 2015 To 24th June, 2015.
	There are chances of moderate rainfall during the next 5 day. The maximum and minimum temperatures for the next 5 days may range for 31-32^{0}C and 22-23^{0}C. Maximum relative humidity is expected in the range of 91-94% and minimum may from 57-68%. Wind direction would be southeasterly with the wind speed of 4-6 km per hour. Dense cloudy sky will prevail during the next five days. ***Weekly cumulative rainfall:*** **41.0 mm**

Main Crop/ Animal /Fisheries	Stage	Cultural practices/ Pest/ Diseases	Agricultural / Horticultural/ animal husbandry advisories
Khasi Mandarin and acid lime	**Transplant stage**		➢ Well rotten FYM @ 500g/pit is applied at 15-20 days before planting along with 12 g each of N and K_2O/plant and 4 g of P_2O_5/plant. ➢ 12 g Nitrogen and Potash/plant is

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		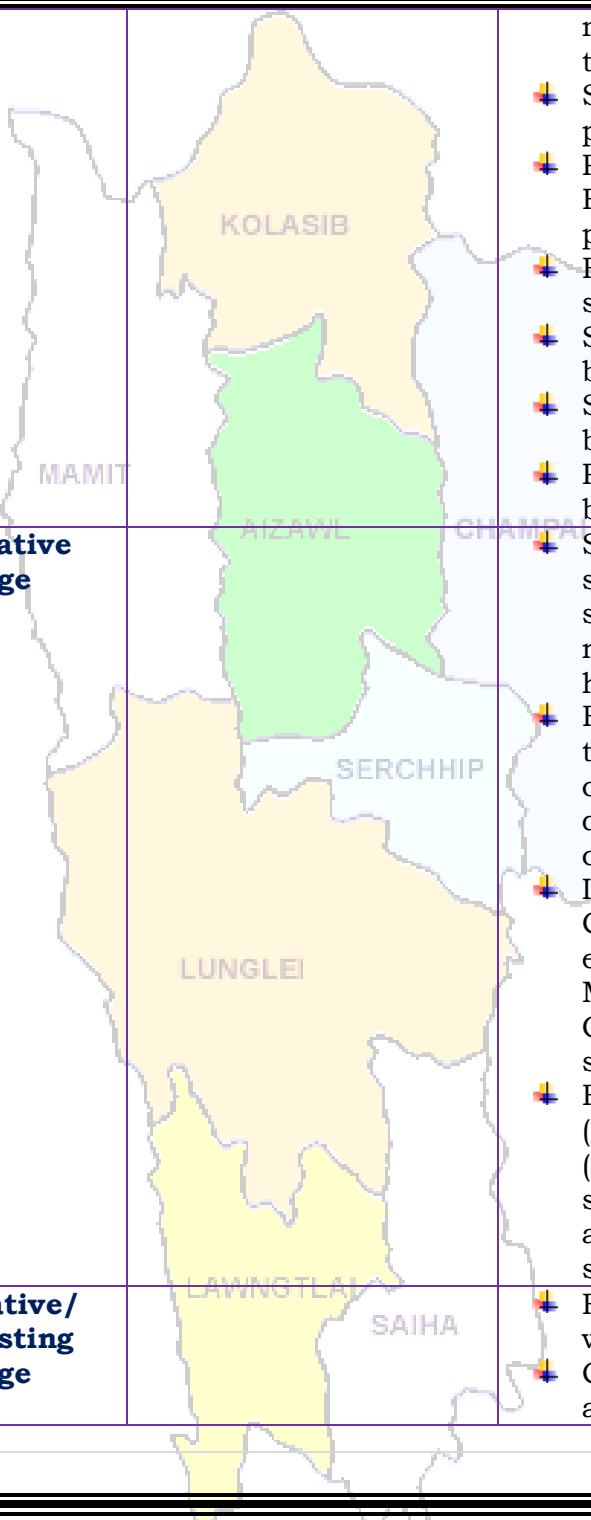	recommended for first and second top dressing. • Sucker and slips are usually preferred for planting. • Potting mixture of soil, sand and FYM or compost should be in proper ratio. • For nursery only certified seed should be used. • Stagnation of water in beds should be avoided. • Seedling of uniform height should be selected for planting. • Plant protection measures should be apliked.
Khasi Mandarin and acid lime	**Vegetative stage**		• Spray (10 ppm) of Gibberellic acid should be done at colour break stage to delay colour development, maintain firmness, extend harvesting period. • Fruit drops, which occur at least twice in each crop, should be controlled with the recommended doses of GA3, urea, benomyl and carbendazim at right time. • Insect pests like Blackfly (Kolshi), Citrus Psylla, Leaf miner, Bark eating caterpillar, Fruit sucking Moth, Mites, Twing Blight, Gummosis, Root rot and Collar rot should be controlled. • Recommended fungicide (Carbendazium) and proper doses (0.1% or 1000 ppm) should be sprayed at proper time (One month and 15 days before harvest i.e. two sprays).
Oil plam	**Vegetative/ Harvesting stage**		• Remove all dead plants and replace with healthy seedling. • Cleaning near base of the plant and cut unwanted branches.

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			▪ Application of split dose of fertilizer 600: 200:100 (g/pt). ▪ Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. ▪ Fruits are harvested when they attain full size, develop attractive colour with optimum sugar and acid blend.
Banana	**Vegetative/ harvesting**		▪ Cleaning near base of the plant and cut unwanted branches. ▪ Application of split dose of fertilizer 600: 200:100 (g/pt). ▪ Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. ▪ Pruning on a regular basis removes unwanted or a sucker, keep production mats in optimum condition, saves fertilizer, reduces pest and disease. ▪ Fruits are harvested when they attain full size, develop attractive yellow colour.
		Comb weevil and stem weevil	▪ Applications of neem powder effectively controlled weevils. ▪ Application of 60 to 100 g of neem seed powder or neem cake at planting and then at 4 months intervals significantly diminished pest damage and increased yields. ▪ Application of over 100 g or neem

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			oil was phytotoxic (harmful to plants) and uneconomical.
Passion Fruit	**Nursery stage**		▪ When two to three leaves develop, seedling should be transplanted in polythene bags. ▪ The seedlings are planted in field when they become 3-4 months old. ▪ Mature 30-35 cm long stem with 3 nodes of pencil thickness should be planted in nursery beds/polythene bags having suitable potting media. ▪ Apply well decompose FYM @ 15kg/pit/year along with 100.50.100 g NPK per pit.
Pineapple	**Flowering stage**		▪ Apply flowering inducing chemical (Ethrel 10 PPM+2% urea+0.04% Sodium Carbonate) should be applied in the heart of the plant. In evening and only when plants have at least 32 leaves. ▪ The flowering emergence will come out after 55-60 days after chemical spraying. ▪ Apply split doses of fertilizer @ 60: 50:60 g per plant. ▪ Remove all unwanted leaves, branches and weed near to the plant.
Colocasia	**Vegetative stage**		▪ Remove unwanted plant near base of the plant and cut dead branches. ▪ Earthing up soil at base of the plant along with split doses of fertilizer. ▪ Proper drainage is required to avoid water logging. ▪ Mulching with black polythene is found beneficial for both reducing the weed and increasing the yield.
		Corm borer	▪ Carbofuran 3G @1.5 kg a.i./ha

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			applied in root zone when egg laying ooze is observed at plant base.
Okra	**Flowering stage**	**1. Clean cultivation or remove all unwanted plant from plot.** **2. Provide split doses of fertilizer.**	✦ Mulching (if dry spell is there) ✦ Give irrigation at regular interval ✦ Provide banana shading to transplanted seedling. ✦ Provide split doses of fertilizer @ 30kg/ha. ✦ Shallow rooted inter-row cultivation and hand weeding may be used to minimize weeds in the inter row zone. ✦ Black plastic mulch may be used to suppress weed growth. The black plastic mulch also keeps the soil warm and encourages plant growth.
		1. Aphid (*Aphis gossypii*)	• Spray surf water solution to the plat • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
		3. Flea beetle (*Phylliodes balyi*)	• Shake plants to dislodge grubs, pupae and adults and destroy. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt or Dimethoate 30 % EC 7ml/10lt of water.
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			30 % EC 7ml/10lt of water.
		✓ **Bacterial Wilt (*Pseudomonas solanacearum)***	• Fields should be kept clean and effected plants are to be uprooted and burnt. • Spray Copper fungicides to control the disease (2% Bordeaux mixture.) • The disease is more prevalent in the presence of root knot Nematodes, so control of these nematodes will suppress the disease spread. • Soil drenching (Streptocycline sulphate 0.3 gm/lt of water) and Blitox 50 @ 5gm/ 15lt water.
French bean	**Flowering stage**		• Remove all unwanted leaves, branches and weed near to the plant. • Earthing up the soil for better aeration. • Plant should be supported by bamboo or woods 20-25 days after sowing.
		Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
Brinjal	**Vegetative stage**		✚ Remove unwanted plant near base of the plant and cut dead branches. ✚ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ✚ Mulching with black polythene film reduces weed growth, increases the crop growth. ✚ Split dose of fertilizer application @ 50kg/ha urea.
Tomato	**Vegetative stage**		✚ Remove unwanted plant near base of the plant and cut dead branches. ✚ Pre emergence application of

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			Basalin @0.5 ml/lit of water for reduce grass type weed. Mulching with black polythene film reduces weed growth, increases the crop growth. Split dose of fertilizer application @ 50kg/ha urea.
		1. Aphid(*Aphis gossypii*)	• Spray surf water solution to the plat. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Spray with methyl parathion 0.5% or dimethoate 0.3% is effective against flea beetle.
Rice	**Transplanting stage**	**Kharif Rice**	Land preparation is done by ploughing, harrowing, and levelling the field to make it suitable for crop establishment. Ploughing should be done 3-4 weeks prior to sowing. After ploughing, harrowing the field should be done twice, with one week gap between the two. First harrowing should be done after 1 week of ploughing. The second harrowing should be done across the first harrowing. Under good management and adequate nitrogen levels, the optimum spacing for rice varieties should be around 20x15 cms both for kharif and rabi crops. Transplanting two to three seedlings per hill under normal conditions is enough. The use of more seedlings per hill, besides not being any additional advantage, involves an extra expense on

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			seedlings. In case of transplanting with old seedlings, the number of seedlings per hill can be increased. - Remove the tip of rice seedling which reduces stem borer infestation.
Maize	**Sowing stage**		- Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. - Remove unwanted plant near base of the plant and cut dead branches. - Earting up of soil along with fertilizer mixture. - Foliar spray of 0.1 % Endosulfan {2 ml (35 EC) in litre water} at 30 days after germination is very effective against stem borer.
Ginger and turmeric	**Land preparation**		- Remove unwanted plant near base of the plant and cut dead branches. - Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. - Earting up of soil along with fertilizer mixture.
		Thrips	- Spray Roger or Monocrotophos (2.5

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			ml/lt) for controlling thrips.
		Scales	✚ Spray Quinalphos or Monocrotophos (2.5 ml/lt) for controlling scales.
Pig	**All stages**	**Porcine Reproductive Respiratory Syndrome (PRRS).**	1. Culling of positive pigs or piglets.
	Adult stage	**Swine fever.**	2. Vaccination of pigs with SF vaccines at 2 months and yearly interval/6 month interval
Cattle	**All age group**	**Foot and Mouth Disease (FMD)**	• FMD vaccine at 16 week and repeat every 6 month.
	Young stage	**Black Quarter (BQ)**	• Black Quarter Vaccine (BQV). ❖ Primary vaccination 6 month or above ❖ Revaccination annually
Poultry	**Adult stage**	**Ranikhet Disease.**	• F1 vaccine at (1-6) days of birth and R_2B vaccine for adult birds.
	Early stage	**Coccidiosis**	1. Amprolium or coccidiostat

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GRAMIN KRISHI MAUSAM SEWA

ICAR RESEARCH COMPLEX FOR NEH REGION

Mizoram Centre, Kolasib- 796081, MIZORAM

(Prepared based on District wise Weather Forecast received from IMD, Guwahati)

District: Lunglei **Period: 20 - 24 June, 2015**

Bulletin No: -528/2015/ Bulletin/English **Date of issue: 19th June, 2015**

Parameters	20.06.2015	21.06.2015	22.06.2015	23.06.2015	24.06.2015
Rainfall (mm)	7	8	9	13	7
Max Temp (oC)	34	32	31	31	30
Min Temp (oC)	21	21	22	21	22
Cloud Coverage	Partially clear	Partially clear	Partially clear	Partially clear	Partially clear
Max RH (%)	96	96	98	96	95
Min RH (%)	69	72	71	58	66
Wind Speed (KmpH)	2	3	3	5	4
*Wind Direction	E	E	E	E	S-E

Northerly- N, North-Easterly- N-E, Easterly- E, South-Easterly- S-E, Southerly- S, South-Westerly- S-W, Westerly-W, North-westerly- N-W.

STATUS OF PREMONSOON- May 1-31, 2015 (*Percent of deviation from normal in parenthesis*)

Aizawl- 383.68mm (341.8mm) Champhai- 239.49mm (250.30mm) Saiha- 109.52 mm (87.2mm) Kolasib- 352.38mm (380.9mm)

Lawngtlai-321.51mm (285.5mm) Lunglei-344.00mm (186.21mm) Mamit-449.48mm (442.80mm) Serchhip-411.72mm (25.9mm)

Weather summary of the past three days	Weather forecast valid from 20th June, 2015 To 24th June, 2015.
	There are chances of moderate to light rainfall during the next 5 days. The maximum and minimum temperatures for the next 5 days may range for 31-32^{0}C and 21-22^{0}C. Maximum relative humidity is expected in the range of 95-98% and minimum may from 58-72%. Wind direction would be southeasterly with the wind speed of 2-5 km per hour. Partially cloudy sky will prevail during the next five days. ***Weekly cumulative rainfall:*** **44.0 mm**

Main Crop/ Animal /Fisheries	Stage	Cultural practices/ Pest/ Diseases	Agricultural / Horticultural/ animal husbandry advisories
Khasi Mandarin and acid lime	**Transplant stage**		✦ Well rotten FYM @ 500g/pit is applied at 15-20 days before planting along with 12 g each of N and K_2O/plant and 4 g of P_2O_5/plant. ✦ 12 g Nitrogen and Potash/plant is

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		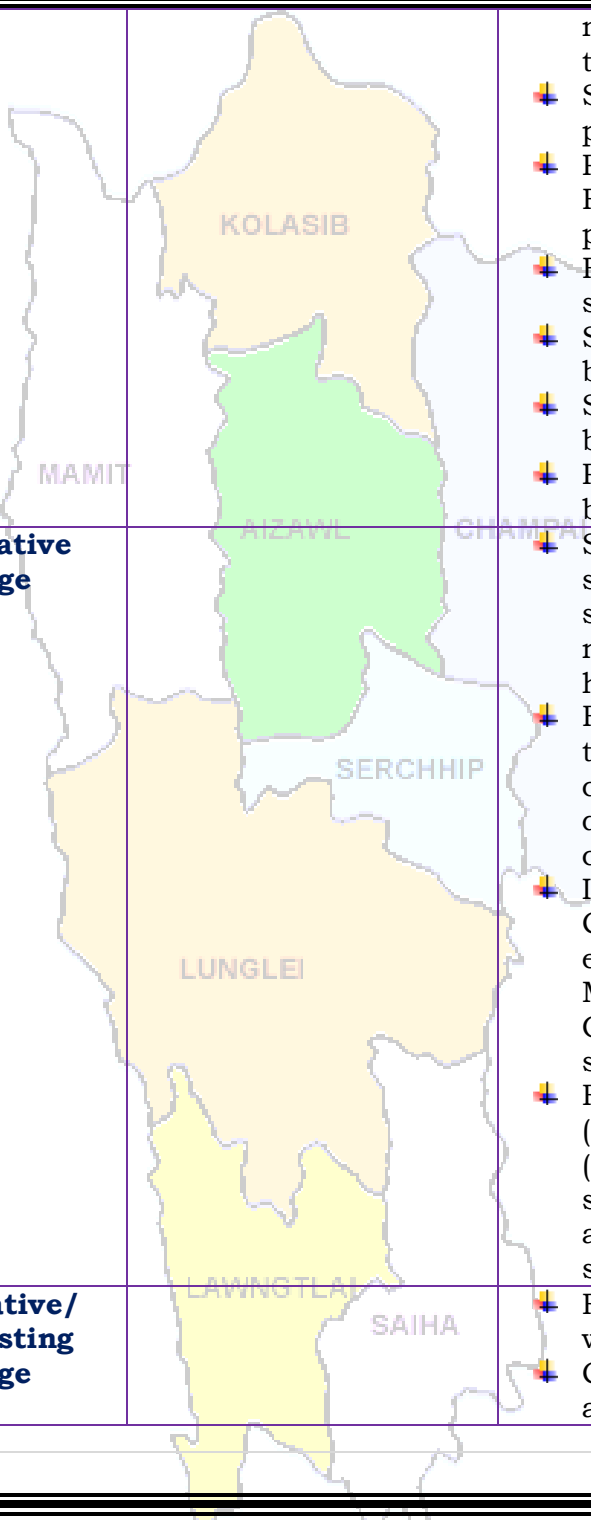	recommended for first and second top dressing. • Sucker and slips are usually preferred for planting. • Potting mixture of soil, sand and FYM or compost should be in proper ratio. • For nursery only certified seed should be used. • Stagnation of water in beds should be avoided. • Seedling of uniform height should be selected for planting. • Plant protection measures should be apliked.
Khasi Mandarin and acid lime	**Vegetative stage**		• Spray (10 ppm) of Gibberellic acid should be done at colour break stage to delay colour development, maintain firmness, extend harvesting period. • Fruit drops, which occur at least twice in each crop, should be controlled with the recommended doses of GA3, urea, benomyl and carbendazim at right time. • Insect pests like Blackfly (Kolshi), Citrus Psylla, Leaf miner, Bark eating caterpillar, Fruit sucking Moth, Mites, Twing Blight, Gummosis, Root rot and Collar rot should be controlled. • Recommended fungicide (Carbendazium) and proper doses (0.1% or 1000 ppm) should be sprayed at proper time (One month and 15 days before harvest i.e. two sprays).
Oil plam	**Vegetative/ Harvesting stage**		• Remove all dead plants and replace with healthy seedling. • Cleaning near base of the plant and cut unwanted branches.

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		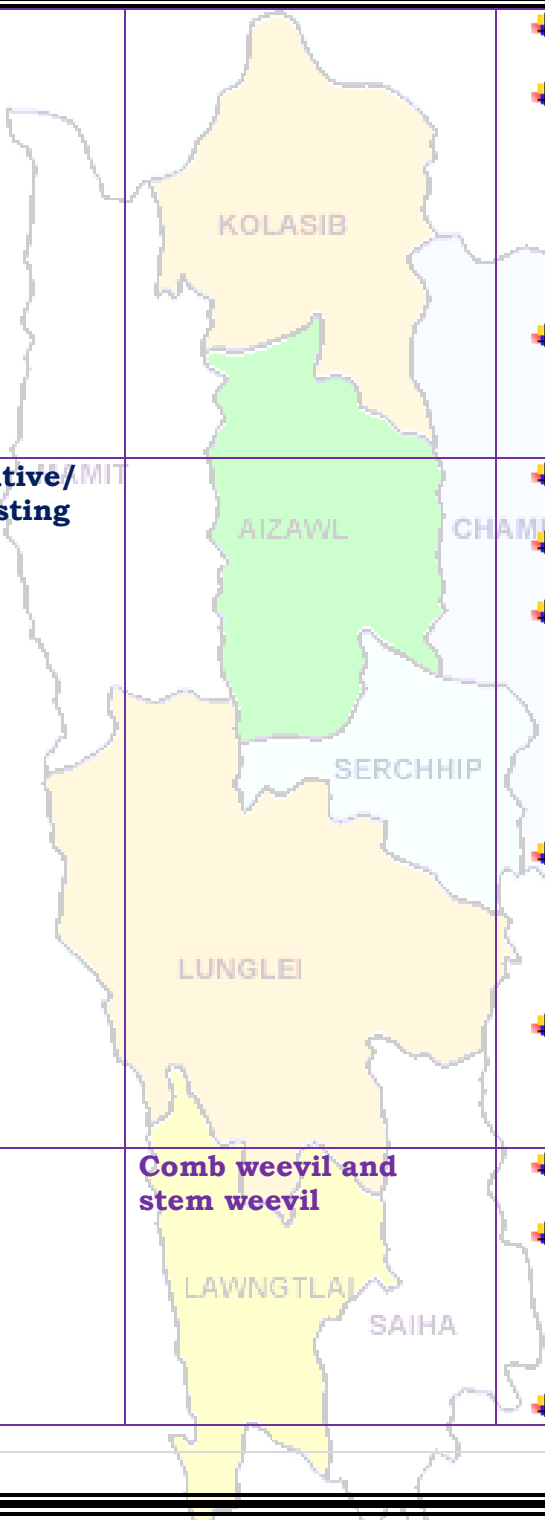	▪ Application of split dose of fertilizer 600: 200:100 (g/pt). ▪ Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. ▪ Fruits are harvested when they attain full size, develop attractive colour with optimum sugar and acid blend.
Banana	**Vegetative/ harvesting**		▪ Cleaning near base of the plant and cut unwanted branches. ▪ Application of split dose of fertilizer 600: 200:100 (g/pt). ▪ Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. ▪ Pruning on a regular basis removes unwanted or a sucker, keep production mats in optimum condition, saves fertilizer, reduces pest and disease. ▪ Fruits are harvested when they attain full size, develop attractive yellow colour.
		Comb weevil and stem weevil	▪ Applications of neem powder effectively controlled weevils. ▪ Application of 60 to 100 g of neem seed powder or neem cake at planting and then at 4 months intervals significantly diminished pest damage and increased yields. ▪ Application of over 100 g or neem

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			oil was phytotoxic (harmful to plants) and uneconomical.
Passion Fruit	**Nursery stage**		▪ When two to three leaves develop, seedling should be transplanted in polythene bags. ▪ The seedlings are planted in field when they become 3-4 months old. ▪ Mature 30-35 cm long stem with 3 nodes of pencil thickness should be planted in nursery beds/polythene bags having suitable potting media. ▪ Apply well decompose FYM @ 15kg/pit/year along with 100.50.100 g NPK per pit.
Pineapple	**Flowering stage**		▪ Apply flowering inducing chemical (Ethrel 10 PPM+2% urea+0.04% Sodium Carbonate) should be applied in the heart of the plant. In evening and only when plants have at least 32 leaves. ▪ The flowering emergence will come out after 55-60 days after chemical spraying. ▪ Apply split doses of fertilizer @ 60: 50:60 g per plant. ▪ Remove all unwanted leaves, branches and weed near to the plant.
Colocasia	**Vegetative stage**		▪ Remove unwanted plant near base of the plant and cut dead branches. ▪ Earthing up soil at base of the plant along with split doses of fertilizer. ▪ Proper drainage is required to avoid water logging. ▪ Mulching with black polythene is found beneficial for both reducing the weed and increasing the yield.
		Corm borer	▪ Carbofuran 3G @1.5 kg a.i./ha

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			applied in root zone when egg laying ooze is observed at plant base.
Okra	**Flowering stage**	**1. Clean cultivation or remove all unwanted plant from plot.** **2. Provide split doses of fertilizer.**	✦ Mulching (if dry spell is there) ✦ Give irrigation at regular interval ✦ Provide banana shading to transplanted seedling. ✦ Provide split doses of fertilizer @ 30kg/ha. ✦ Shallow rooted inter-row cultivation and hand weeding may be used to minimize weeds in the inter row zone. ✦ Black plastic mulch may be used to suppress weed growth. The black plastic mulch also keeps the soil warm and encourages plant growth.
		1. Aphid (*Aphis gossypii*)	• Spray surf water solution to the plat • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
		3. Flea beetle (*Phylliodes balyi*)	• Shake plants to dislodge grubs, pupae and adults and destroy. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt or Dimethoate 30 % EC 7ml/10lt of water.
		4. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Collect damaged leaves with grubs and egg masses and destroy them. • Spray with methyl parathion 0.5% or dimethoate 0.3% is effective.
		5. Leafhopper (*Empoasca devastans)*	• Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate

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			30 % EC 7ml/10lt of water.
		✓ **Bacterial Wilt (*Pseudomonas solanacearum)***	• Fields should be kept clean and effected plants are to be uprooted and burnt. • Spray Copper fungicides to control the disease (2% Bordeaux mixture.) • The disease is more prevalent in the presence of root knot Nematodes, so control of these nematodes will suppress the disease spread. • Soil drenching (Streptocycline sulphate 0.3 gm/lt of water) and Blitox 50 @ 5gm/ 15lt water.
French bean	**Flowering stage**		• Remove all unwanted leaves, branches and weed near to the plant. • Earthing up the soil for better aeration. • Plant should be supported by bamboo or woods 20-25 days after sowing.
		Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
Brinjal	**Vegetative stage**		✚ Remove unwanted plant near base of the plant and cut dead branches. ✚ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ✚ Mulching with black polythene film reduces weed growth, increases the crop growth. ✚ Split dose of fertilizer application @ 50kg/ha urea.
Tomato	**Vegetative stage**		✚ Remove unwanted plant near base of the plant and cut dead branches. ✚ Pre emergence application of

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			Basalin @0.5 ml/lit of water for reduce grass type weed. Mulching with black polythene film reduces weed growth, increases the crop growth. Split dose of fertilizer application @ 50kg/ha urea.
		1. Aphid(*Aphis gossypii*)	• Spray surf water solution to the plat. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Spray with methyl parathion 0.5% or dimethoate 0.3% is effective against flea beetle.
Rice	**Transplanting stage**	**Kharif Rice**	Land preparation is done by ploughing, harrowing, and levelling the field to make it suitable for crop establishment. Ploughing should be done 3-4 weeks prior to sowing. After ploughing, harrowing the field should be done twice, with one week gap between the two. First harrowing should be done after 1 week of ploughing. The second harrowing should be done across the first harrowing. Under good management and adequate nitrogen levels, the optimum spacing for rice varieties should be around 20x15 cms both for kharif and rabi crops. Transplanting two to three seedlings per hill under normal conditions is enough. The use of more seedlings per hill, besides not being any additional advantage, involves an extra expense on

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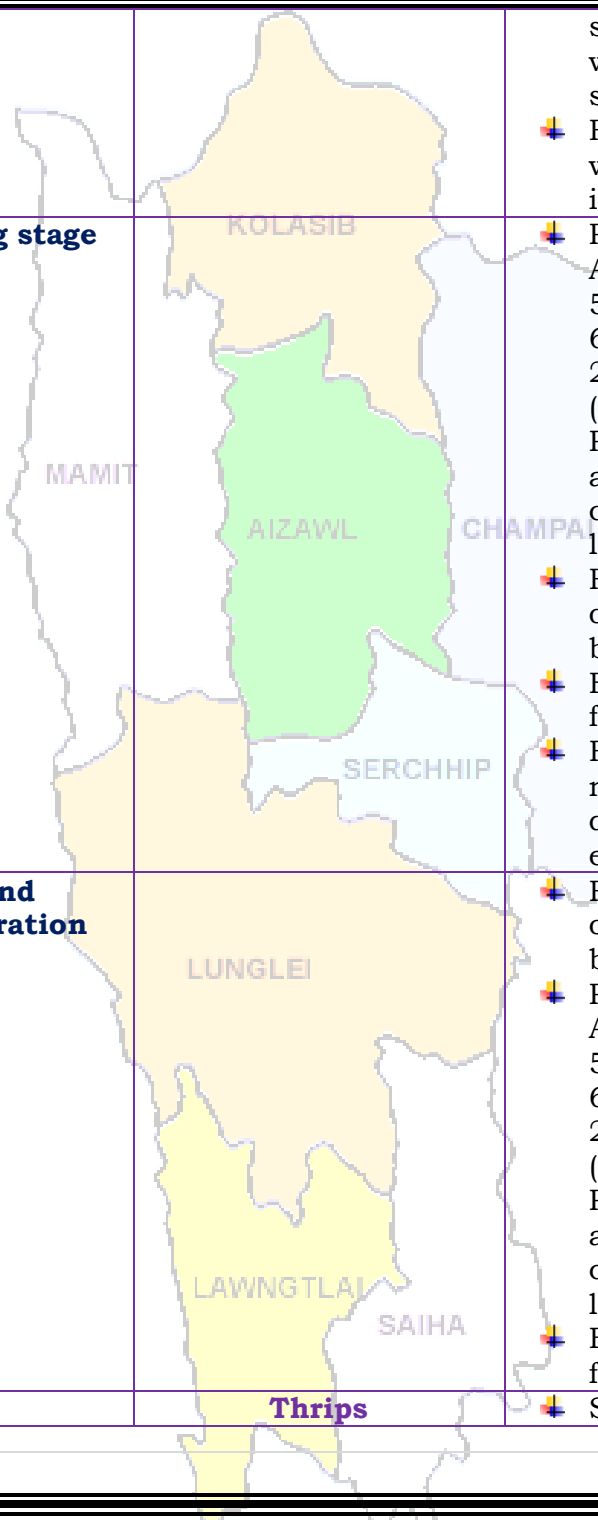
			seedlings. In case of transplanting with old seedlings, the number of seedlings per hill can be increased. - Remove the tip of rice seedling which reduces stem borer infestation.
Maize	**Sowing stage**		- Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. - Remove unwanted plant near base of the plant and cut dead branches. - Earting up of soil along with fertilizer mixture. - Foliar spray of 0.1 % Endosulfan {2 ml (35 EC) in litre water} at 30 days after germination is very effective against stem borer.
Ginger and turmeric	**Land preparation**		- Remove unwanted plant near base of the plant and cut dead branches. - Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. - Earting up of soil along with fertilizer mixture.
		Thrips	- Spray Roger or Monocrotophos (2.5

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			ml/lt) for controlling thrips.
		Scales	✚ Spray Quinalphos or Monocrotophos (2.5 ml/lt) for controlling scales.
Pig	**All stages**	**Porcine Reproductive Respiratory Syndrome (PRRS).**	1. Culling of positive pigs or piglets.
	Adult stage	**Swine fever.**	2. Vaccination of pigs with SF vaccines at 2 months and yearly interval/6 month interval
Cattle	**All age group**	**Foot and Mouth Disease (FMD)**	• FMD vaccine at 16 week and repeat every 6 month.
	Young stage	**Black Quarter (BQ)**	• Black Quarter Vaccine (BQV). ❖ Primary vaccination 6 month or above ❖ Revaccination annually
Poultry	**Adult stage**	**Ranikhet Disease.**	• F1 vaccine at (1-6) days of birth and R_2B vaccine for adult birds.
	Early stage	**Coccidiosis**	1. Amprolium or coccidiostat

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GRAMIN KRISHI MAUSAM SEWA

ICAR RESEARCH COMPLEX FOR NEH REGION

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(Prepared based on District wise Weather Forecast received from IMD, Guwahati)

District: Mamit **Period: 20 - 24 June, 2015**

Bulletin No: -528/2015/ Bulletin/English **Date of issue: 19th June, 2015**

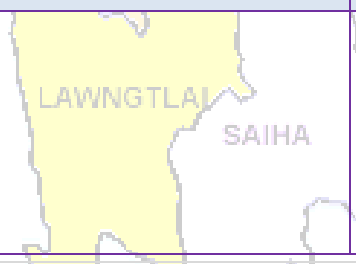
Parameters	20.06.2015	21.06.2015	22.06.2015	23.06.2015	24.06.2015
Rainfall (mm)	4	11	6	13	6
Max Temp (oC)	34	33	33	32	32
Min Temp (oC)	23	23	23	23	23
Cloud Coverage	Partially clear	Partially clear	Partially clear	Partially clear	Mainly cloudy
Max RH (%)	94	97	96	97	94
Min RH (%)	59	71	72	65	66
Wind Speed (KmpH)	2	2	4	5	4
*Wind Direction	E	E	S-E	S-E	S-E

Northerly- N, North-Easterly- N-E, Easterly- E, South-Easterly- S-E, Southerly- S, South-Westerly- S-W, Westerly-W, North-westerly- N-W.

STATUS OF PREMONSOON- May 1-31, 2015 (*Percent of deviation from normal in parenthesis*)

Aizawl- 383.68mm (341.8mm)	Champhai- 239.49mm (250.30mm)	Saiha- 109.52 mm (87.2mm)	Kolasib- 352.38mm (380.9mm)
Lawngtlai-321.51mm (285.5mm)	Lunglei-344.00mm (186.21mm)	Mamit-449.48mm (442.80mm)	Serchhip-411.72mm (25.9mm)

Weather summary of the past three days	Weather forecast valid from 20th June, 2015 To 24th June, 2015.
	There are chances of moderate to light rainfall during the next 5 day. The maximum and minimum temperatures for the next 5 days may range for 32-34oC and 23oC. Maximum relative humidity is expected in the range of 94-97% and minimum may from 59-72%. Wind direction would be southeasterly with the wind speed of 2-5 km per hour. Partially cloudy sky will prevail during the next five days. ***Weekly cumulative rainfall:*** **40.0 mm**

Main Crop/ Animal /Fisheries	Stage	Cultural practices/ Pest/ Diseases	Agricultural / Horticultural/ animal husbandry advisories
Khasi Mandarin and acid lime	**Transplant stage**		✦ Well rotten FYM @ 500g/pit is applied at 15-20 days before planting along with 12 g each of N and K_2O/plant and 4 g of P_2O_5/plant. ✦ 12 g Nitrogen and Potash/plant is recommended for first and second

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		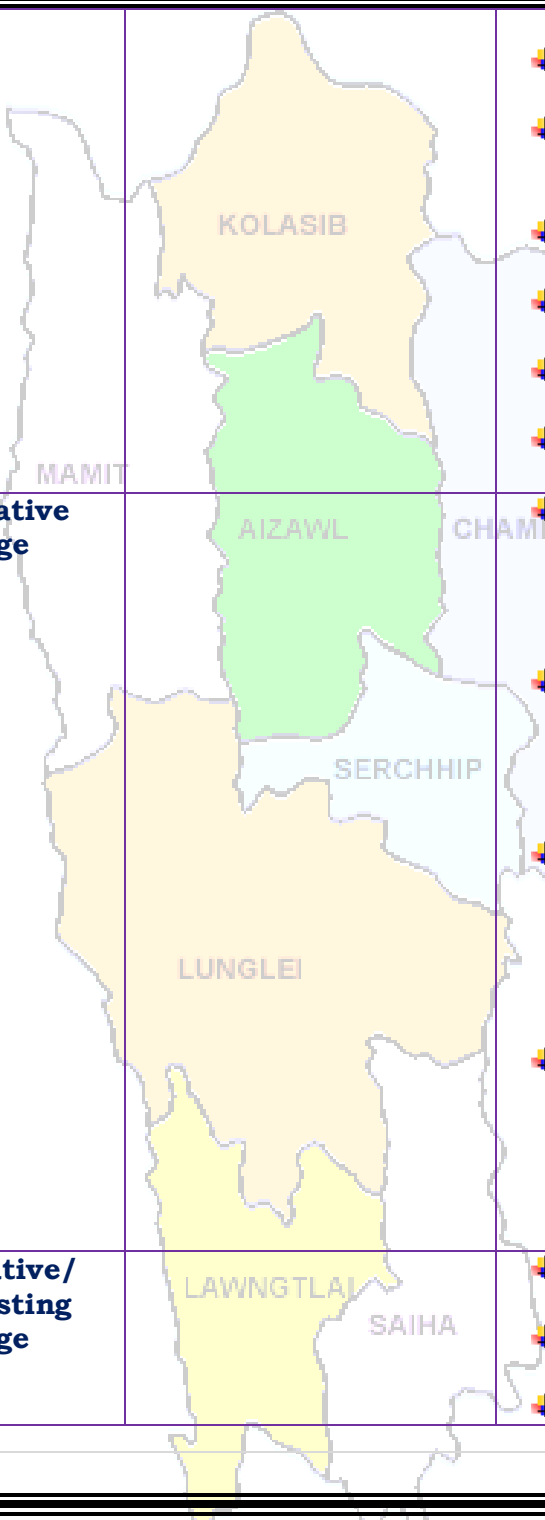	top dressing. • Sucker and slips are usually preferred for planting. • Potting mixture of soil, sand and FYM or compost should be in proper ratio. • For nursery only certified seed should be used. • Stagnation of water in beds should be avoided. • Seedling of uniform height should be selected for planting. • Plant protection measures should be apliked.
Khasi Mandarin and acid lime	**Vegetative stage**		• Spray (10 ppm) of Gibberellic acid should be done at colour break stage to delay colour development, maintain firmness, extend harvesting period. • Fruit drops, which occur at least twice in each crop, should be controlled with the recommended doses of GA3, urea, benomyl and carbendazim at right time. • Insect pests like Blackfly (Kolshi), Citrus Psylla, Leaf miner, Bark eating caterpillar, Fruit sucking Moth, Mites, Twing Blight, Gummosis, Root rot and Collar rot should be controlled. • Recommended fungicide (Carbendazium) and proper doses (0.1% or 1000 ppm) should be sprayed at proper time (One month and 15 days before harvest i.e. two sprays).
Oil plam	**Vegetative/ Harvesting stage**		• Remove all dead plants and replace with healthy seedling. • Cleaning near base of the plant and cut unwanted branches. • Application of split dose of fertilizer

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		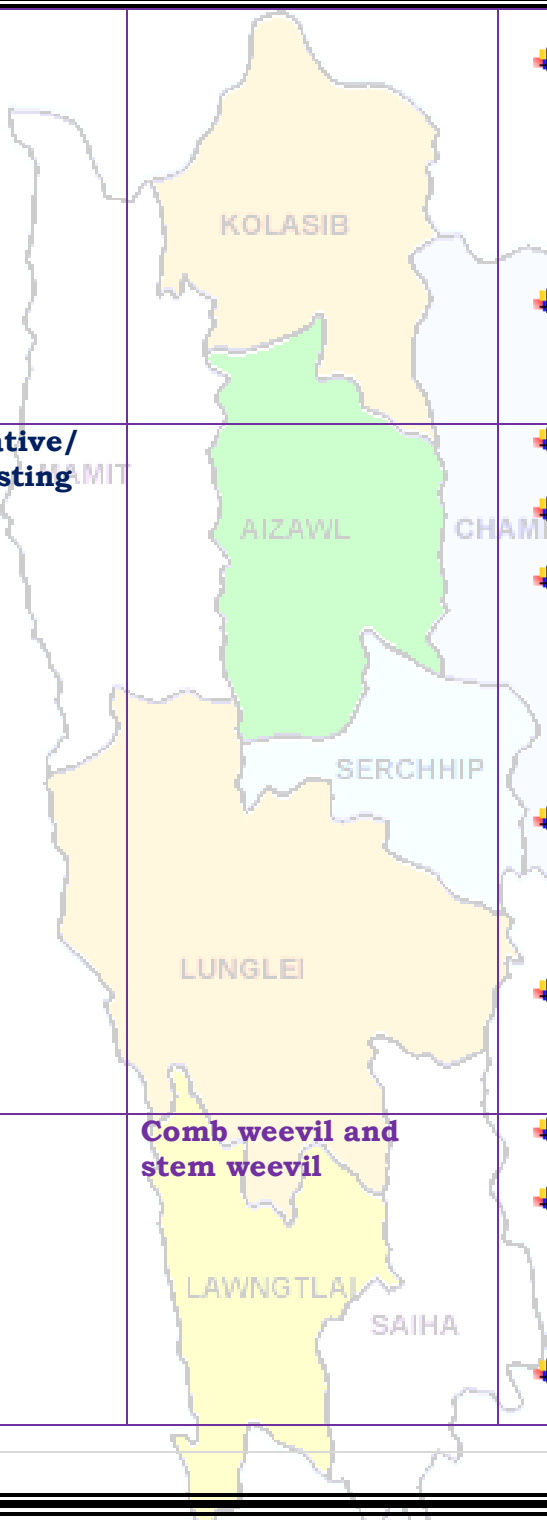	600: 200:100 (g/pt). • Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. • Fruits are harvested when they attain full size, develop attractive colour with optimum sugar and acid blend.
Banana	**Vegetative/ harvesting**		• Cleaning near base of the plant and cut unwanted branches. • Application of split dose of fertilizer 600: 200:100 (g/pt). • Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. • Pruning on a regular basis removes unwanted or a sucker, keep production mats in optimum condition, saves fertilizer, reduces pest and disease. • Fruits are harvested when they attain full size, develop attractive yellow colour.
		Comb weevil and stem weevil	• Applications of neem powder effectively controlled weevils. • Application of 60 to 100 g of neem seed powder or neem cake at planting and then at 4 months intervals significantly diminished pest damage and increased yields. • Application of over 100 g or neem oil was phytotoxic (harmful to

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			plants) and uneconomical.
Passion Fruit	**Nursery stage**		▪ When two to three leaves develop, seedling should be transplanted in polythene bags. ▪ The seedlings are planted in field when they become 3-4 months old. ▪ Mature 30-35 cm long stem with 3 nodes of pencil thickness should be planted in nursery beds/polythene bags having suitable potting media. ▪ Apply well decompose FYM @ 15kg/pit/year along with 100.50.100 g NPK per pit.
Pineapple	**Flowering stage**		▪ Apply flowering inducing chemical (Ethrel 10 PPM+2% urea+0.04% Sodium Carbonate) should be applied in the heart of the plant. In evening and only when plants have at least 32 leaves. ▪ The flowering emergence will come out after 55-60 days after chemical spraying. ▪ Apply split doses of fertilizer @ 60: 50:60 g per plant. ▪ Remove all unwanted leaves, branches and weed near to the plant.
Colocasia	**Vegetative stage**		▪ Remove unwanted plant near base of the plant and cut dead branches. ▪ Earthing up soil at base of the plant along with split doses of fertilizer. ▪ Proper drainage is required to avoid water logging. ▪ Mulching with black polythene is found beneficial for both reducing the weed and increasing the yield.
		Corm borer	▪ Carbofuran 3G @1.5 kg a.i./ha applied in root zone when egg

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			laying ooze is observed at plant base.
Okra	**Flowering stage**	**1. Clean cultivation or remove all unwanted plant from plot.** **2. Provide split doses of fertilizer.**	✚ Mulching (if dry spell is there) ✚ Give irrigation at regular interval ✚ Provide banana shading to transplanted seedling. ✚ Provide split doses of fertilizer @ 30kg/ha. ✚ Shallow rooted inter-row cultivation and hand weeding may be used to minimize weeds in the inter row zone. ✚ Black plastic mulch may be used to suppress weed growth. The black plastic mulch also keeps the soil warm and encourages plant growth.
		1. Aphid (*Aphis gossypii*)	• Spray surf water solution to the plat • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
		3. Flea beetle (*Phylliodes balyi*)	• Shake plants to dislodge grubs, pupae and adults and destroy. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt or Dimethoate 30 % EC 7ml/10lt of water.
		4. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Collect damaged leaves with grubs and egg masses and destroy them. • Spray with methyl parathion 0.5% or dimethoate 0.3% is effective.
		5. Leafhopper (*Empoasca devastans*)	• Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.

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		✓ **Bacterial Wilt (*Pseudomonas solanacearum)***	• Fields should be kept clean and effected plants are to be uprooted and burnt. • Spray Copper fungicides to control the disease (2% Bordeaux mixture.) • The disease is more prevalent in the presence of root knot Nematodes, so control of these nematodes will suppress the disease spread. • Soil drenching (Streptocycline sulphate 0.3 gm/lt of water) and Blitox 50 @ 5gm/ 15lt water.
French bean	**Flowering stage**		• Remove all unwanted leaves, branches and weed near to the plant. • Earthing up the soil for better aeration. • Plant should be supported by bamboo or woods 20-25 days after sowing.
		Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
Brinjal	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ✓ Mulching with black polythene film reduces weed growth, increases the crop growth. ✓ Split dose of fertilizer application @ 50kg/ha urea.
Tomato	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for

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			reduce grass type weed. - Mulching with black polythene film reduces weed growth, increases the crop growth. - Split dose of fertilizer application @ 50kg/ha urea.
		1. Aphid(*Aphis gossypii*)	• Spray surf water solution to the plat. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Epilachna beetle. (*Epilachna viginctioctopanctata*)	• Spray with methyl parathion 0.5% or dimethoate 0.3% is effective against flea beetle.
Rice	**Transplanting stage**	**Kharif Rice**	- Land preparation is done by ploughing, harrowing, and levelling the field to make it suitable for crop establishment. - Ploughing should be done 3-4 weeks prior to sowing. - After ploughing, harrowing the field should be done twice, with one week gap between the two. First harrowing should be done after 1 week of ploughing. The second harrowing should be done across the first harrowing. - Under good management and adequate nitrogen levels, the optimum spacing for rice varieties should be around 20x15 cms both for kharif and rabi crops. - Transplanting two to three seedlings per hill under normal conditions is enough. The use of more seedlings per hill, besides not being any additional advantage, involves an extra expense on seedlings. In case of transplanting

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			with old seedlings, the number of seedlings per hill can be increased. Remove the tip of rice seedling which reduces stem borer infestation.
Maize	**Sowing stage**		Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. Remove unwanted plant near base of the plant and cut dead branches. Earting up of soil along with fertilizer mixture. Foliar spray of 0.1 % Endosulfan {2 ml (35 EC) in litre water} at 30 days after germination is very effective against stem borer.
Ginger and turmeric	**Land preparation**		Remove unwanted plant near base of the plant and cut dead branches. Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. Earting up of soil along with fertilizer mixture.
		Thrips	Spray Roger or Monocrotophos (2.5 ml/lt) for controlling thrips.

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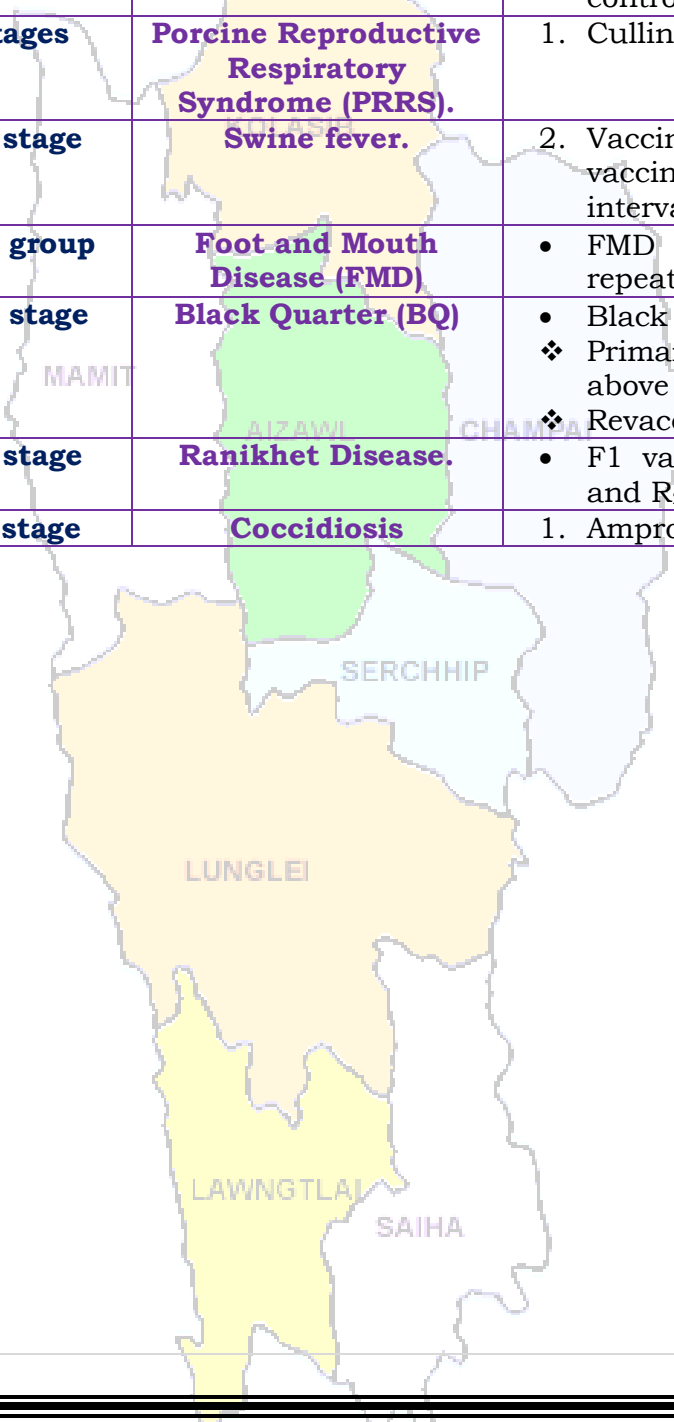
		Scales	➢ Spray Quinalphos or Monocrotophos (2.5 ml/lt) for controlling scales.
Pig	**All stages**	**Porcine Reproductive Respiratory Syndrome (PRRS).**	1. Culling of positive pigs or piglets.
	Adult stage	**Swine fever.**	2. Vaccination of pigs with SF vaccines at 2 months and yearly interval/6 month interval
Cattle	**All age group**	**Foot and Mouth Disease (FMD)**	• FMD vaccine at 16 week and repeat every 6 month.
	Young stage	**Black Quarter (BQ)**	• Black Quarter Vaccine (BQV). ❖ Primary vaccination 6 month or above ❖ Revaccination annually
Poultry	**Adult stage**	**Ranikhet Disease.**	• F1 vaccine at (1-6) days of birth and R_2B vaccine for adult birds.
	Early stage	**Coccidiosis**	1. Amprolium or coccidiostat



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GRAMIN KRISHI MAUSAM SEWA

ICAR RESEARCH COMPLEX FOR NEH REGION

Mizoram Centre, Kolasib- 796081, MIZORAM

(Prepared based on District wise Weather Forecast received from IMD, Guwahati)

District: Saiha **Period:** 20 - 24 June, 2015

Bulletin No: -528/2015/ Bulletin/English **Date of issue:** 19th June, 2015

Parameters	20.06.2015	21.06.2015	22.06.2015	23.06.2015	24.06.2015
Rainfall (mm)	9	6	7	6	9
Max Temp (oC)	30	31	30	30	29
Min Temp (oC)	20	20	21	21	21
Cloud Coverage	Partially clear	Partially clear	Partially clear	Partially clear	Partially clear
Max RH (%)	98	97	98	96	94
Min RH (%)	76	63	67	60	66
Wind Speed (KmpH)	2	2	2	4	4
*Wind Direction	E	E	E	E	E

Northerly- N, North-Easterly- N-E, Easterly- E, South-Easterly- S-E, Southerly- S, South-Westerly- S-W, Westerly-W, North-westerly- N-W.

STATUS OF PREMONSOON- May 1-31, 2015 (*Percent of deviation from normal in parenthesis*)

Aizawl- 383.68mm (341.8mm) Champhai- 239.49mm (250.30mm) Saiha- 109.52 mm (87.2mm) Kolasib- 352.38mm (380.9mm)

Lawngtlai-321.51mm (285.5mm) Lunglei-344.00mm (186.21mm) Mamit-449.48mm (442.80mm) Serchhip-411.72mm (25.9mm)

Weather summary of the past three days	Weather forecast valid from 20th June, 2015 To 24th June, 2015.
	There are chances of light rainfall during the next 5 day. The maximum and minimum temperatures for the next 5 days may range for 29-31^{0}C and 20-21^{0}C. Maximum relative humidity is expected in the range of 94-98% and minimum may from 60-76%. Wind direction would be easterly to north westerly with the wind speed of 2-4 km per hour. Partially cloudy sky will prevail during the next five days. ***Weekly cumulative rainfall:*** **37.0 mm**

Main Crop/ Animal /Fisheries	Stage	Cultural practices/ Pest/ Diseases	Agricultural / Horticultural/ animal husbandry advisories
Khasi Mandarin and acid lime	**Transplant stage**		✦ Well rotten FYM @ 500g/pit is applied at 15-20 days before planting along with 12 g each of N and K_2O/plant and 4 g of P_2O_5/plant. ✦ 12 g Nitrogen and Potash/plant is

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		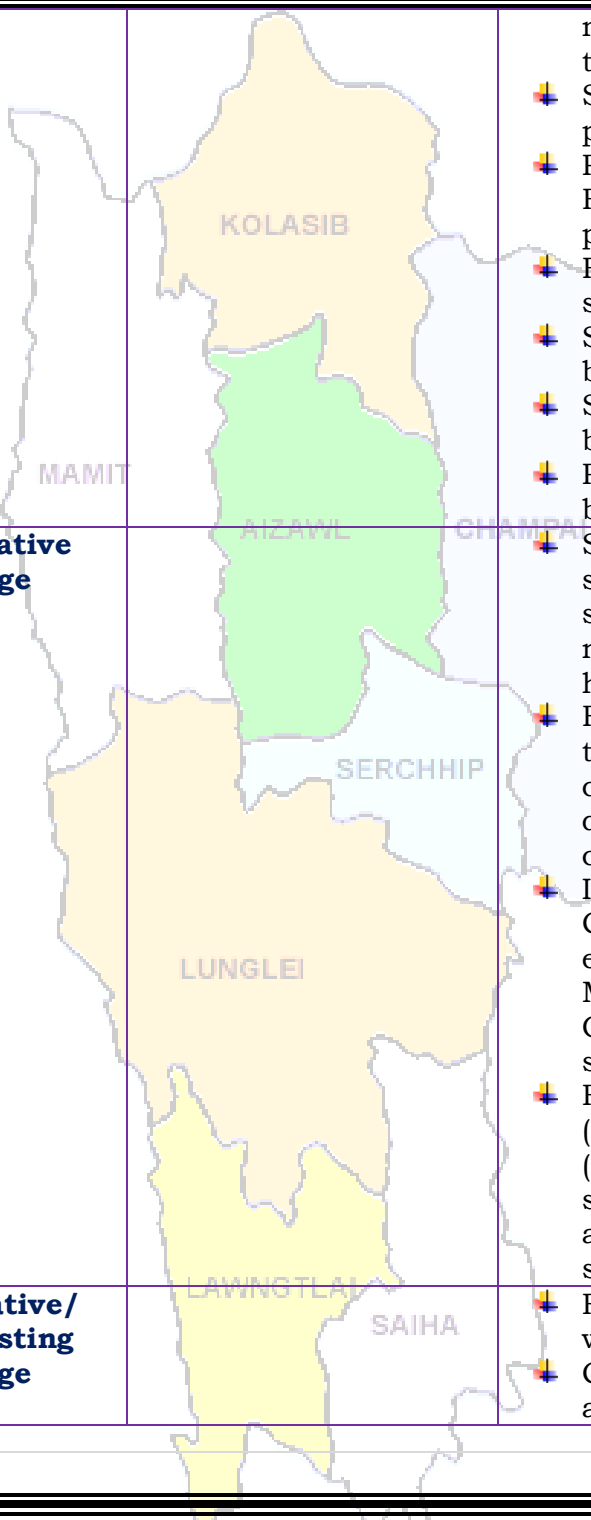	recommended for first and second top dressing. • Sucker and slips are usually preferred for planting. • Potting mixture of soil, sand and FYM or compost should be in proper ratio. • For nursery only certified seed should be used. • Stagnation of water in beds should be avoided. • Seedling of uniform height should be selected for planting. • Plant protection measures should be apliked.
Khasi Mandarin and acid lime	**Vegetative stage**		• Spray (10 ppm) of Gibberellic acid should be done at colour break stage to delay colour development, maintain firmness, extend harvesting period. • Fruit drops, which occur at least twice in each crop, should be controlled with the recommended doses of GA3, urea, benomyl and carbendazim at right time. • Insect pests like Blackfly (Kolshi), Citrus Psylla, Leaf miner, Bark eating caterpillar, Fruit sucking Moth, Mites, Twing Blight, Gummosis, Root rot and Collar rot should be controlled. • Recommended fungicide (Carbendazium) and proper doses (0.1% or 1000 ppm) should be sprayed at proper time (One month and 15 days before harvest i.e. two sprays).
Oil plam	**Vegetative/ Harvesting stage**		• Remove all dead plants and replace with healthy seedling. • Cleaning near base of the plant and cut unwanted branches.

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		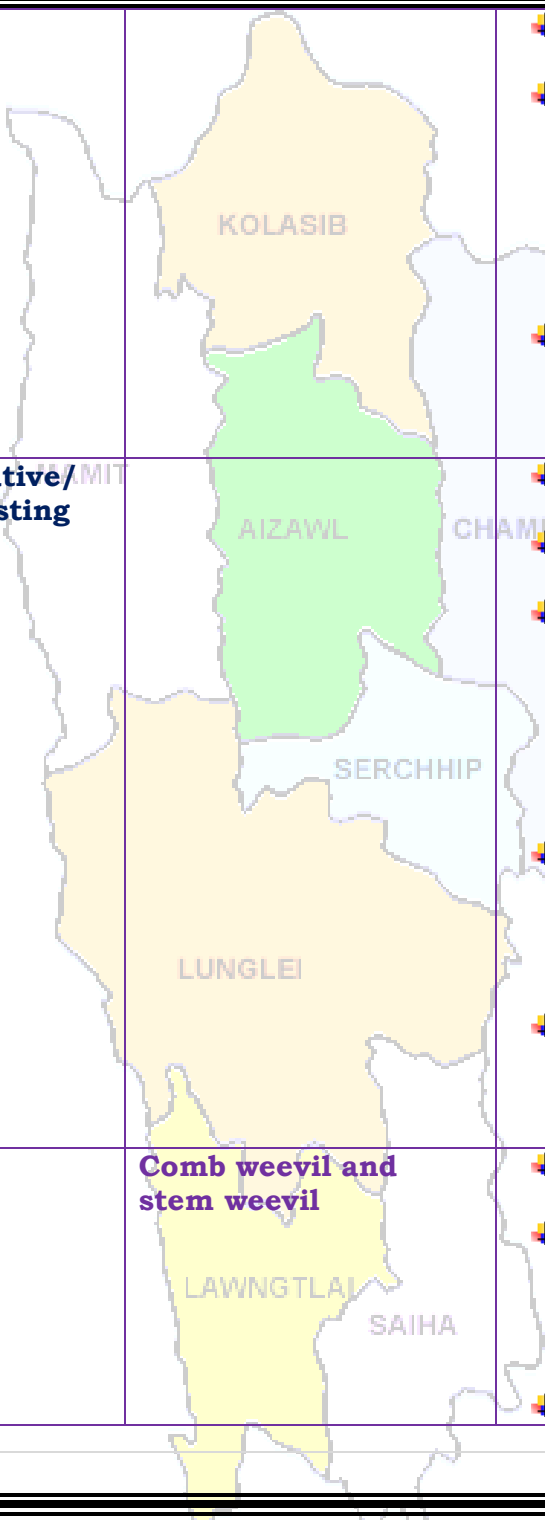	▪ Application of split dose of fertilizer 600: 200:100 (g/pt). ▪ Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. ▪ Fruits are harvested when they attain full size, develop attractive colour with optimum sugar and acid blend.
Banana	**Vegetative/ harvesting**		▪ Cleaning near base of the plant and cut unwanted branches. ▪ Application of split dose of fertilizer 600: 200:100 (g/pt). ▪ Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. ▪ Pruning on a regular basis removes unwanted or a sucker, keep production mats in optimum condition, saves fertilizer, reduces pest and disease. ▪ Fruits are harvested when they attain full size, develop attractive yellow colour.
		Comb weevil and stem weevil	▪ Applications of neem powder effectively controlled weevils. ▪ Application of 60 to 100 g of neem seed powder or neem cake at planting and then at 4 months intervals significantly diminished pest damage and increased yields. ▪ Application of over 100 g or neem

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			oil was phytotoxic (harmful to plants) and uneconomical.
Passion Fruit	**Nursery stage**		▪ When two to three leaves develop, seedling should be transplanted in polythene bags. ▪ The seedlings are planted in field when they become 3-4 months old. ▪ Mature 30-35 cm long stem with 3 nodes of pencil thickness should be planted in nursery beds/polythene bags having suitable potting media. ▪ Apply well decompose FYM @ 15kg/pit/year along with 100.50.100 g NPK per pit.
Pineapple	**Flowering stage**		▪ Apply flowering inducing chemical (Ethrel 10 PPM+2% urea+0.04% Sodium Carbonate) should be applied in the heart of the plant. In evening and only when plants have at least 32 leaves. ▪ The flowering emergence will come out after 55-60 days after chemical spraying. ▪ Apply split doses of fertilizer @ 60: 50:60 g per plant. ▪ Remove all unwanted leaves, branches and weed near to the plant.
Colocasia	**Vegetative stage**		▪ Remove unwanted plant near base of the plant and cut dead branches. ▪ Earthing up soil at base of the plant along with split doses of fertilizer. ▪ Proper drainage is required to avoid water logging. ▪ Mulching with black polythene is found beneficial for both reducing the weed and increasing the yield.
		Corm borer	▪ Carbofuran 3G @1.5 kg a.i./ha

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			applied in root zone when egg laying ooze is observed at plant base.
Okra	**Flowering stage**	**1. Clean cultivation or remove all unwanted plant from plot.** **2. Provide split doses of fertilizer.**	✦ Mulching (if dry spell is there) ✦ Give irrigation at regular interval ✦ Provide banana shading to transplanted seedling. ✦ Provide split doses of fertilizer @ 30kg/ha. ✦ Shallow rooted inter-row cultivation and hand weeding may be used to minimize weeds in the inter row zone. ✦ Black plastic mulch may be used to suppress weed growth. The black plastic mulch also keeps the soil warm and encourages plant growth.
		1. Aphid (*Aphis gossypii*)	• Spray surf water solution to the plat • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
		3. Flea beetle (*Phylliodes balyi*)	• Shake plants to dislodge grubs, pupae and adults and destroy. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt or Dimethoate 30 % EC 7ml/10lt of water.
		4. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Collect damaged leaves with grubs and egg masses and destroy them. • Spray with methyl parathion 0.5% or dimethoate 0.3% is effective.
		5. Leafhopper (*Empoasca devastans)*	• Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate

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			30 % EC 7ml/10lt of water.
		✓ **Bacterial Wilt (*Pseudomonas solanacearum)***	• Fields should be kept clean and effected plants are to be uprooted and burnt. • Spray Copper fungicides to control the disease (2% Bordeaux mixture.) • The disease is more prevalent in the presence of root knot Nematodes, so control of these nematodes will suppress the disease spread. • Soil drenching (Streptocycline sulphate 0.3 gm/lt of water) and Blitox 50 @ 5gm/ 15lt water.
French bean	**Flowering stage**		• Remove all unwanted leaves, branches and weed near to the plant. • Earthing up the soil for better aeration. • Plant should be supported by bamboo or woods 20-25 days after sowing.
		Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
Brinjal	**Vegetative stage**		✚ Remove unwanted plant near base of the plant and cut dead branches. ✚ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ✚ Mulching with black polythene film reduces weed growth, increases the crop growth. ✚ Split dose of fertilizer application @ 50kg/ha urea.
Tomato	**Vegetative stage**		✚ Remove unwanted plant near base of the plant and cut dead branches. ✚ Pre emergence application of

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			Basalin @0.5 ml/lit of water for reduce grass type weed. Mulching with black polythene film reduces weed growth, increases the crop growth. Split dose of fertilizer application @ 50kg/ha urea.
		1. Aphid(*Aphis gossypii*)	• Spray surf water solution to the plat. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Spray with methyl parathion 0.5% or dimethoate 0.3% is effective against flea beetle.
Rice	**Transplanting stage**	**Kharif Rice**	Land preparation is done by ploughing, harrowing, and levelling the field to make it suitable for crop establishment. Ploughing should be done 3-4 weeks prior to sowing. After ploughing, harrowing the field should be done twice, with one week gap between the two. First harrowing should be done after 1 week of ploughing. The second harrowing should be done across the first harrowing. Under good management and adequate nitrogen levels, the optimum spacing for rice varieties should be around 20x15 cms both for kharif and rabi crops. Transplanting two to three seedlings per hill under normal conditions is enough. The use of more seedlings per hill, besides not being any additional advantage, involves an extra expense on

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			seedlings. In case of transplanting with old seedlings, the number of seedlings per hill can be increased. - Remove the tip of rice seedling which reduces stem borer infestation.
Maize	**Sowing stage**		- Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. - Remove unwanted plant near base of the plant and cut dead branches. - Earting up of soil along with fertilizer mixture. - Foliar spray of 0.1 % Endosulfan {2 ml (35 EC) in litre water} at 30 days after germination is very effective against stem borer.
Ginger and turmeric	**Land preparation**		- Remove unwanted plant near base of the plant and cut dead branches. - Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. - Earting up of soil along with fertilizer mixture.
		Thrips	- Spray Roger or Monocrotophos (2.5

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			ml/lt) for controlling thrips.
		Scales	✚ Spray Quinalphos or Monocrotophos (2.5 ml/lt) for controlling scales.
Pig	**All stages**	**Porcine Reproductive Respiratory Syndrome (PRRS).**	1. Culling of positive pigs or piglets.
	Adult stage	**Swine fever.**	2. Vaccination of pigs with SF vaccines at 2 months and yearly interval/6 month interval
Cattle	**All age group**	**Foot and Mouth Disease (FMD)**	• FMD vaccine at 16 week and repeat every 6 month.
	Young stage	**Black Quarter (BQ)**	• Black Quarter Vaccine (BQV). ❖ Primary vaccination 6 month or above ❖ Revaccination annually
Poultry	**Adult stage**	**Ranikhet Disease.**	• F1 vaccine at (1-6) days of birth and R_2B vaccine for adult birds.
	Early stage	**Coccidiosis**	1. Amprolium or coccidiostat

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GRAMIN KRISHI MAUSAM SEWA

ICAR RESEARCH COMPLEX FOR NEH REGION

Mizoram Centre, Kolasib- 796081, MIZORAM

(Prepared based on District wise Weather Forecast received from IMD, Guwahati)

District: Serchhip **Period:** 20 - 24 June, 2015

Bulletin No: -528/2015/ Bulletin/English **Date of issue:** 19th June, 2015

Parameters	20.06.2015	21.06.2015	22.06.2015	23.06.2015	24.06.2015
Rainfall (mm)	10	13	12	11	5
Max Temp (oC)	33	31	29	30	29
Min Temp (oC)	19	20	21	20	20
Cloud Coverage	Partially clear	Partially clear	Partially clear	Partially clear	Partially clear
Max RH (%)	100	99	100	100	100
Min RH (%)	79	80	75	64	69
Wind Speed (KmpH)	2	2	2	2	2
*Wind Direction	N-E	E	E	E	S-E

Northerly- N, North-Easterly- N-E, Easterly- E, South-Easterly- S-E, Southerly- S, South-Westerly- S-W, Westerly-W, North-westerly- N-W.

STATUS OF PREMONSOON- May 1-31, 2015 (*Percent of deviation from normal in parenthesis*)

Aizawl- 383.68mm (341.8mm)	Champhai- 239.49mm (250.30mm)	Saiha- 109.52 mm (87.2mm)	Kolasib- 352.38mm (380.9mm)
Lawngtlai-321.51mm (285.5mm)	Lunglei-344.00mm (186.21mm)	Mamit-449.48mm (442.80mm)	Serchhip-411.72mm (25.9mm)

Weather summary of the past three days	Weather forecast valid from 20th June, 2015 To 24th June, 2015.
	There are chances of moderate to light rainfall during the next 5 day. The maximum and minimum temperatures for the next 5 days may range for 29-33^{0}C and 19-21^{0}C. Maximum relative humidity is expected in the range of 99-100% and minimum may from 64-80%. Wind direction would be northeasterly to southeasterly with the wind speed of 2 km per hour. Partially cloudy sky will prevail during the next five days. ***Weekly cumulative rainfall:*** **51.0 mm**

Main Crop/ Animal /Fisheries	Stage	Cultural practices/ Pest/ Diseases	Agricultural / Horticultural/ animal husbandry advisories
Khasi Mandarin and acid lime	**Transplant stage**		Well rotten FYM @ 500g/pit is applied at 15-20 days before planting along with 12 g each of N and K_2O/plant and 4 g of P_2O_5/plant.

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		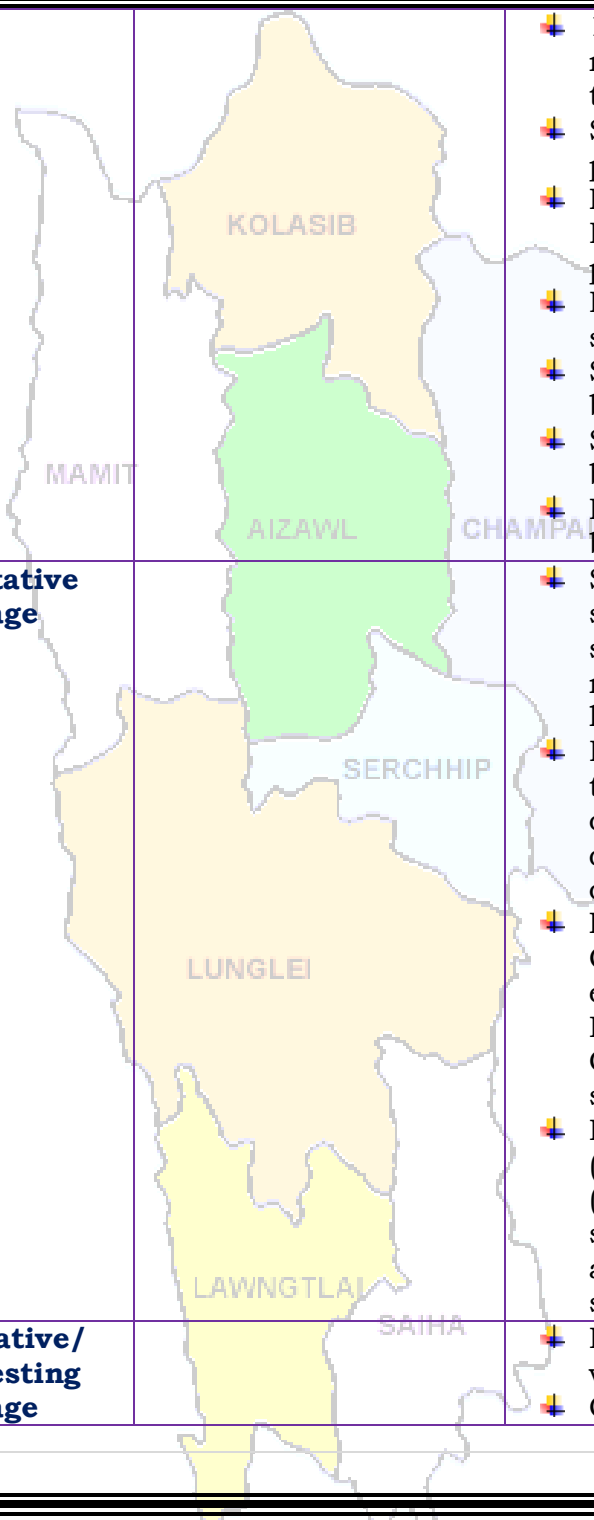	▪ 12 g Nitrogen and Potash/plant is recommended for first and second top dressing. ▪ Sucker and slips are usually preferred for planting. ▪ Potting mixture of soil, sand and FYM or compost should be in proper ratio. ▪ For nursery only certified seed should be used. ▪ Stagnation of water in beds should be avoided. ▪ Seedling of uniform height should be selected for planting. ▪ Plant protection measures should be apliked.
Khasi Mandarin and acid lime	**Vegetative stage**		▪ Spray (10 ppm) of Gibberellic acid should be done at colour break stage to delay colour development, maintain firmness, extend harvesting period. ▪ Fruit drops, which occur at least twice in each crop, should be controlled with the recommended doses of GA3, urea, benomyl and carbendazim at right time. ▪ Insect pests like Blackfly (Kolshi), Citrus Psylla, Leaf miner, Bark eating caterpillar, Fruit sucking Moth, Mites, Twing Blight, Gummosis, Root rot and Collar rot should be controlled. ▪ Recommended fungicide (Carbendazium) and proper doses (0.1% or 1000 ppm) should be sprayed at proper time (One month and 15 days before harvest i.e. two sprays).
Oil plam	**Vegetative/ Harvesting stage**		▪ Remove all dead plants and replace with healthy seedling. ▪ Cleaning near base of the plant

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		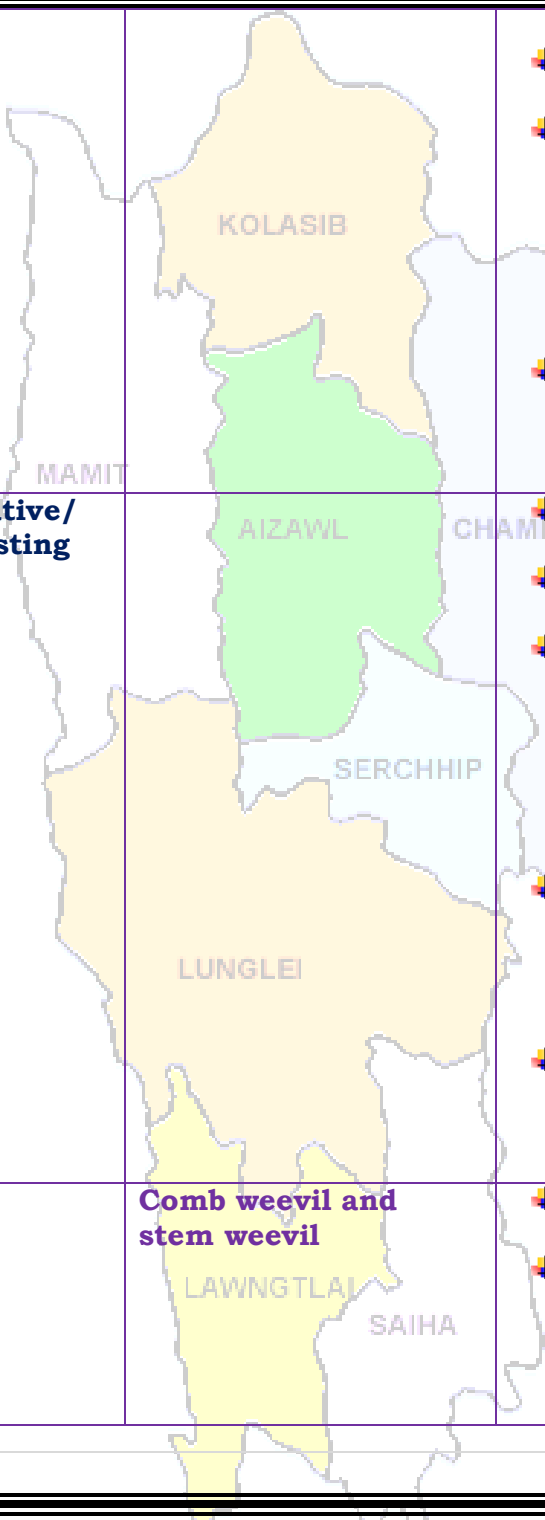	and cut unwanted branches. • Application of split dose of fertilizer 600: 200:100 (g/pt). • Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. • Fruits are harvested when they attain full size, develop attractive colour with optimum sugar and acid blend.
Banana	**Vegetative/ harvesting**		• Cleaning near base of the plant and cut unwanted branches. • Application of split dose of fertilizer 600: 200:100 (g/pt). • Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. • Pruning on a regular basis removes unwanted or a sucker, keep production mats in optimum condition, saves fertilizer, reduces pest and disease. • Fruits are harvested when they attain full size, develop attractive yellow colour.
		Comb weevil and stem weevil	• Applications of neem powder effectively controlled weevils. • Application of 60 to 100 g of neem seed powder or neem cake at planting and then at 4 months intervals significantly diminished pest damage and increased yields.

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		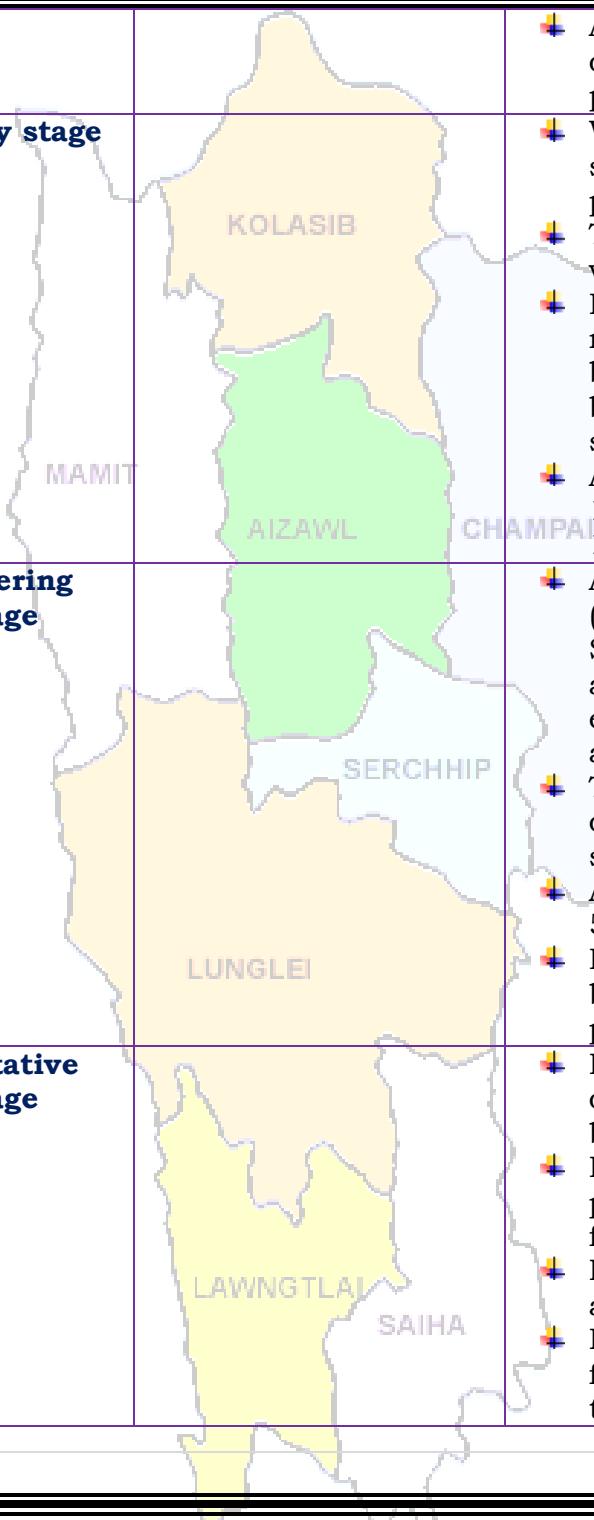	✦ Application of over 100 g or neem oil was phytotoxic (harmful to plants) and uneconomical.
Passion Fruit	**Nursery stage**		✦ When two to three leaves develop, seedling should be transplanted in polythene bags. ✦ The seedlings are planted in field when they become 3-4 months old. ✦ Mature 30-35 cm long stem with 3 nodes of pencil thickness should be planted in nursery beds/polythene bags having suitable potting media. ✦ Apply well decompose FYM @ 15kg/pit/year along with 100.50.100 g NPK per pit.
Pineapple	**Flowering stage**		✦ Apply flowering inducing chemical (Ethrel 10 PPM+2% urea+0.04% Sodium Carbonate) should be applied in the heart of the plant. In evening and only when plants have at least 32 leaves. ✦ The flowering emergence will come out after 55-60 days after chemical spraying. ✦ Apply split doses of fertilizer @ 60: 50:60 g per plant. ✦ Remove all unwanted leaves, branches and weed near to the plant.
Colocasia	**Vegetative stage**		✦ Remove unwanted plant near base of the plant and cut dead branches. ✦ Earthing up soil at base of the plant along with split doses of fertilizer. ✦ Proper drainage is required to avoid water logging. ✦ Mulching with black polythene is found beneficial for both reducing the weed and increasing the yield.

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		Corm borer	✦ Carbofuran 3G @1.5 kg a.i./ha applied in root zone when egg laying ooze is observed at plant base.
Okra	**Flowering stage**	**1. Clean cultivation or remove all unwanted plant from plot.** **2. Provide split doses of fertilizer.**	✦ Mulching (if dry spell is there) ✦ Give irrigation at regular interval ✦ Provide banana shading to transplanted seedling. ✦ Provide split doses of fertilizer @ 30kg/ha. ✦ Shallow rooted inter-row cultivation and hand weeding may be used to minimize weeds in the inter row zone. ✦ Black plastic mulch may be used to suppress weed growth. The black plastic mulch also keeps the soil warm and encourages plant growth.
		1. Aphid (*Aphis gossypii*)	• Spray surf water solution to the plat • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
		3. Flea beetle (*Phylliodes balyi*)	• Shake plants to dislodge grubs, pupae and adults and destroy. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt or Dimethoate 30 % EC 7ml/10lt of water.
		4. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Collect damaged leaves with grubs and egg masses and destroy them. • Spray with methyl parathion 0.5% or dimethoate 0.3% is effective.
		**5. Leafhopper (*Empoasca*	• Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of

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		devastans)	water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		✓ **Bacterial Wilt (*Pseudomonas solanacearum*)**	• Fields should be kept clean and effected plants are to be uprooted and burnt. • Spray Copper fungicides to control the disease (2% Bordeaux mixture.) • The disease is more prevalent in the presence of root knot Nematodes, so control of these nematodes will suppress the disease spread. • Soil drenching (Streptocycline sulphate 0.3 gm/lt of water) and Blitox 50 @ 5gm/ 15lt water.
French bean	**Flowering stage**		• Remove all unwanted leaves, branches and weed near to the plant. • Earthing up the soil for better aeration. • Plant should be supported by bamboo or woods 20-25 days after sowing.
		Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
Brinjal	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ✓ Mulching with black polythene film reduces weed growth, increases the crop growth. ✓ Split dose of fertilizer application @ 50kg/ha urea.
Tomato	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches.

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			↓ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ↓ Mulching with black polythene film reduces weed growth, increases the crop growth. ↓ Split dose of fertilizer application @ 50kg/ha urea.
		1. Aphid(*Aphis gossypii*)	• Spray surf water solution to the plat. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Spray with methyl parathion 0.5% or dimethoate 0.3% is effective against flea beetle.
Rice	**Transplanting stage**	**Kharif Rice**	↓ Land preparation is done by ploughing, harrowing, and levelling the field to make it suitable for crop establishment. ↓ Ploughing should be done 3-4 weeks prior to sowing. ↓ After ploughing, harrowing the field should be done twice, with one week gap between the two. First harrowing should be done after 1 week of ploughing. The second harrowing should be done across the first harrowing. ↓ Under good management and adequate nitrogen levels, the optimum spacing for rice varieties should be around 20x15 cms both for kharif and rabi crops. ↓ Transplanting two to three seedlings per hill under normal conditions is enough. The use of more seedlings per hill, besides not being any additional advantage,

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		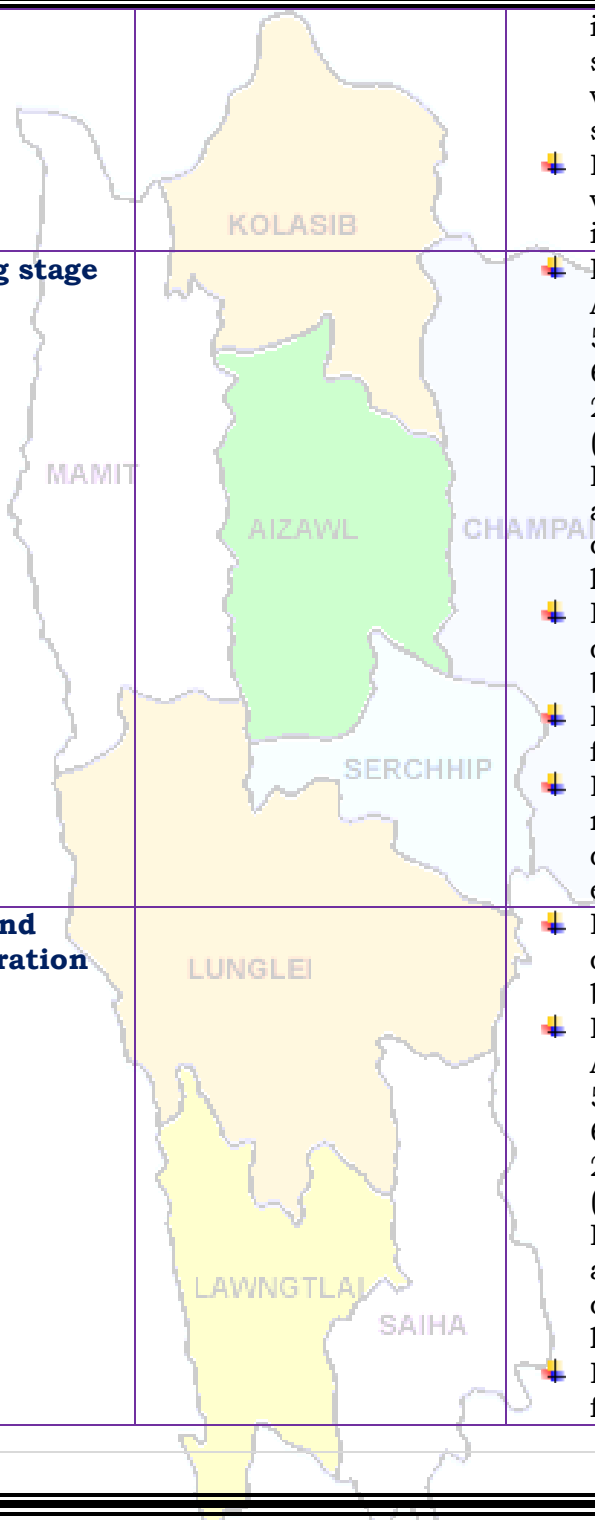	involves an extra expense on seedlings. In case of transplanting with old seedlings, the number of seedlings per hill can be increased. • Remove the tip of rice seedling which reduces stem borer infestation.
Maize	**Sowing stage**		• Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. • Remove unwanted plant near base of the plant and cut dead branches. • Earting up of soil along with fertilizer mixture. • Foliar spray of 0.1 % Endosulfan {2 ml (35 EC) in litre water} at 30 days after germination is very effective against stem borer.
Ginger and turmeric	**Land preparation**		• Remove unwanted plant near base of the plant and cut dead branches. • Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. • Earting up of soil along with fertilizer mixture.

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		Thrips	✦ Spray Roger or Monocrotophos (2.5 ml/lt) for controlling thrips.
		Scales	✦ Spray Quinalphos or Monocrotophos (2.5 ml/lt) for controlling scales.
Pig	**All stages**	**Porcine Reproductive Respiratory Syndrome (PRRS).**	1. Culling of positive pigs or piglets.
	Adult stage	**Swine fever.**	2. Vaccination of pigs with SF vaccines at 2 months and yearly interval/6 month interval
Cattle	**All age group**	**Foot and Mouth Disease (FMD)**	• FMD vaccine at 16 week and repeat every 6 month.
	Young stage	**Black Quarter (BQ)**	• Black Quarter Vaccine (BQV). ❖ Primary vaccination 6 month or above ❖ Revaccination annually
Poultry	**Adult stage**	**Ranikhet Disease.**	• F1 vaccine at (1-6) days of birth and R_2B vaccine for adult birds.
	Early stage	**Coccidiosis**	1. Amprolium or coccidiostat

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ICAR RESEARCH COMPLEX FOR NEH REGION

Mizoram Centre, Kolasib- 796081, MIZORAM

(Prepared based on District wise Weather Forecast received from IMD, Guwahati)

District: Aizawl **Period:** 20 - 24 June, 2015

Bulletin No: -528/2015/ Bulletin/English **Date of issue:** 19th June, 2015

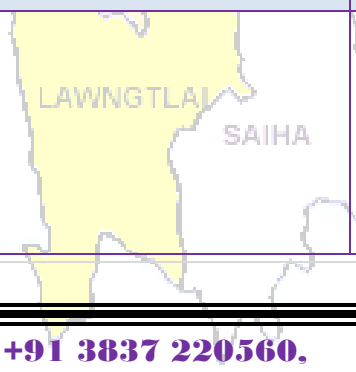
Parameters	20.06.2015	21.06.2015	22.06.2015	23.06.2015	24.06.2015
Rainfall (mm)	8	19	8	16	8
Max Temp (oC)	31	31	30	29	30
Min Temp (oC)	20	21	22	21	21
Cloud Coverage	Partially clear	Partially clear	Mainly cloudy	Partially clear	Mainly cloudy
Max RH (%)	97	98	98	98	97
Min RH (%)	66	79	73	74	64
Wind Speed (KmpH)	2	3	2	3	3
*Wind Direction	E	E	E	S-E	S-E

Northerly- N, North-Easterly- N-E, Easterly- E, South-Easterly- S-E, Southerly- S, South-Westerly- S-W, Westerly-W, North-westerly- N-W.

STATUS OF PREMONSOON- May 1-31, 2015 (*Percent of deviation from normal in parenthesis*)

Aizawl- 383.68mm (341.8mm)	Champhai- 239.49mm (250.30mm)	Saiha- 109.52 mm (87.2mm)	Kolasib- 352.38mm (380.9mm)
Lawngtlai-321.51mm (285.5mm)	Lunglei-344.00mm (186.21mm)	Mamit-449.48mm (442.80mm)	Serchhip-411.72mm (25.9mm)

Weather summary of the past three days	Weather forecast valid from 20th June, 2015 To 24th June, 2015.
	There are chances of moderate to light rainfall during the next 5 day. The maximum and minimum temperatures for the next 5 days may range for 29-31°C and 20-22°C. Maximum relative humidity is expected in the range of 97-98% and minimum may from 64-79%. Wind direction would be southeasterly with the wind speed of 2-3 km per hour. Dense cloudy sky will prevail during the next five days. ***Weekly cumulative rainfall:*** **59.0 mm**

Main Crop/ Animal /Fisheries	Stage	Cultural practices/ Pest/ Diseases	Agricultural / Horticultural/ animal husbandry advisories
Khasi Mandarin and acid lime	**Transplant stage**		✦ Well rotten FYM @ 500g/pit is applied at 15-20 days before planting along with 12 g each of N and K_2O/plant and 4 g of P_2O_5/plant. ✦ 12 g Nitrogen and Potash/plant is recommended for first and second

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		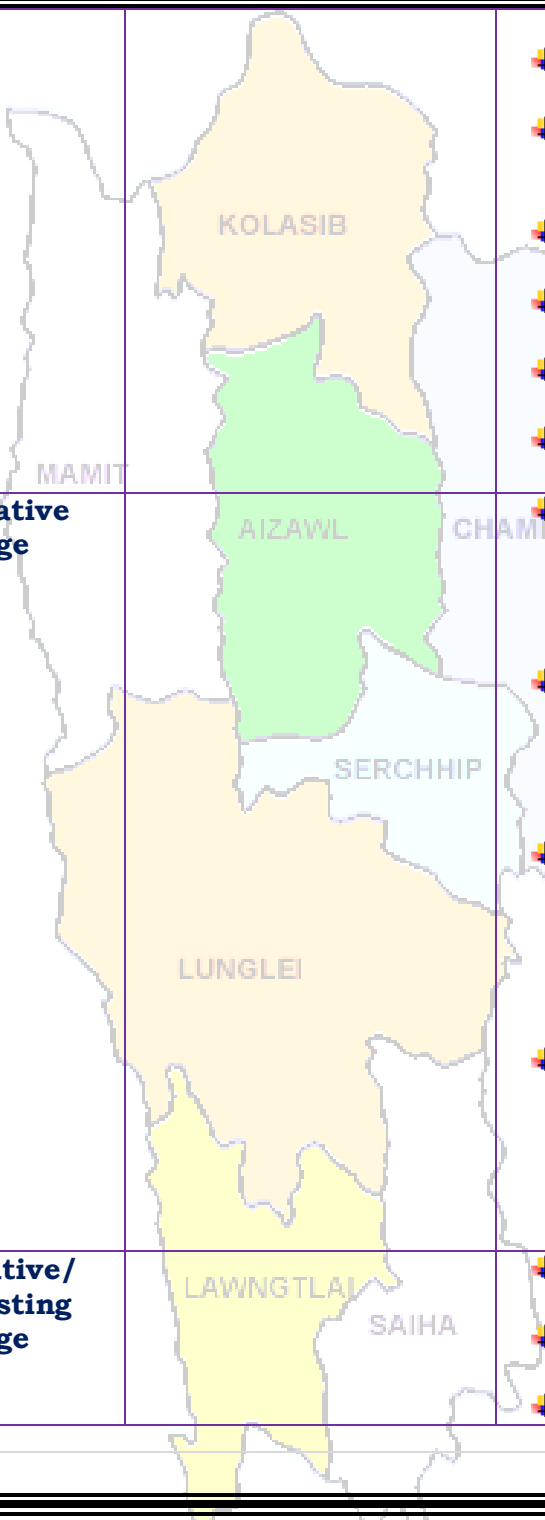	top dressing. • Sucker and slips are usually preferred for planting. • Potting mixture of soil, sand and FYM or compost should be in proper ratio. • For nursery only certified seed should be used. • Stagnation of water in beds should be avoided. • Seedling of uniform height should be selected for planting. • Plant protection measures should be apliked.
Khasi Mandarin and acid lime	**Vegetative stage**		• Spray (10 ppm) of Gibberellic acid should be done at colour break stage to delay colour development, maintain firmness, extend harvesting period. • Fruit drops, which occur at least twice in each crop, should be controlled with the recommended doses of GA3, urea, benomyl and carbendazim at right time. • Insect pests like Blackfly (Kolshi), Citrus Psylla, Leaf miner, Bark eating caterpillar, Fruit sucking Moth, Mites, Twing Blight, Gummosis, Root rot and Collar rot should be controlled. • Recommended fungicide (Carbendazium) and proper doses (0.1% or 1000 ppm) should be sprayed at proper time (One month and 15 days before harvest i.e. two sprays).
Oil plam	**Vegetative/ Harvesting stage**		• Remove all dead plants and replace with healthy seedling. • Cleaning near base of the plant and cut unwanted branches. • Application of split dose of fertilizer

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		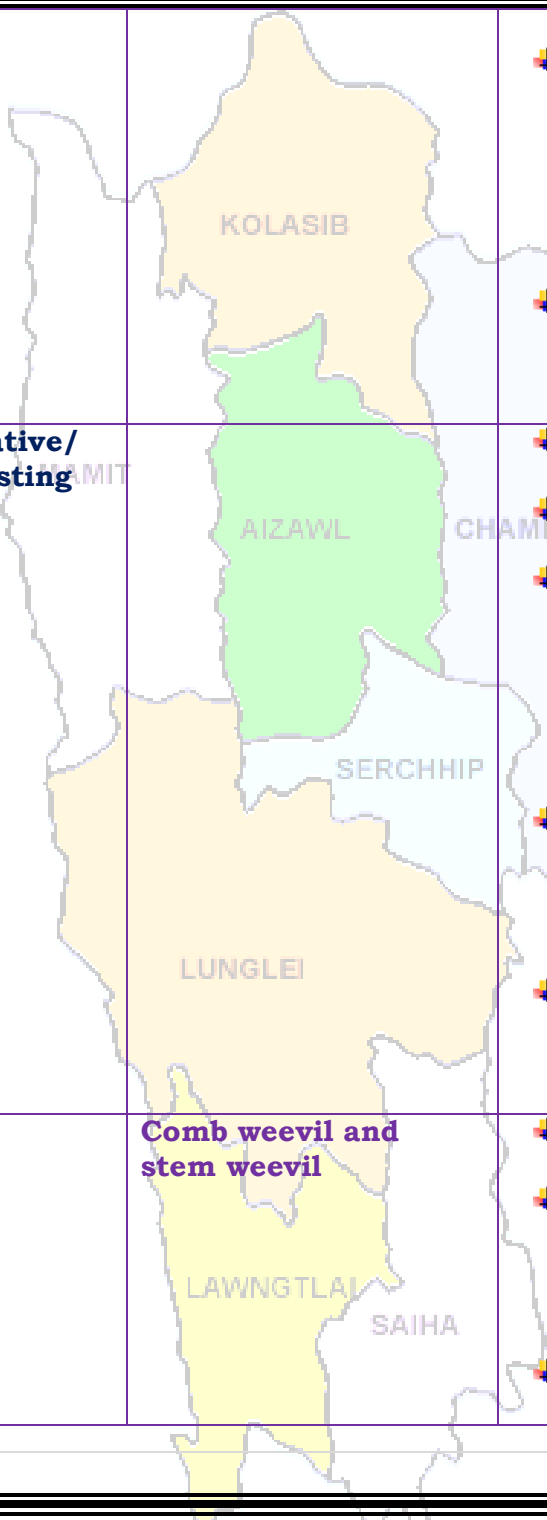	600: 200:100 (g/pt). - Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. - Fruits are harvested when they attain full size, develop attractive colour with optimum sugar and acid blend.
Banana	**Vegetative/ harvesting**		- Cleaning near base of the plant and cut unwanted branches. - Application of split dose of fertilizer 600: 200:100 (g/pt). - Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. - Pruning on a regular basis removes unwanted or a sucker, keep production mats in optimum condition, saves fertilizer, reduces pest and disease. - Fruits are harvested when they attain full size, develop attractive yellow colour.
		Comb weevil and stem weevil	- Applications of neem powder effectively controlled weevils. - Application of 60 to 100 g of neem seed powder or neem cake at planting and then at 4 months intervals significantly diminished pest damage and increased yields. - Application of over 100 g or neem oil was phytotoxic (harmful to

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			plants) and uneconomical.
Passion Fruit	**Nursery stage**		➢ When two to three leaves develop, seedling should be transplanted in polythene bags. ➢ The seedlings are planted in field when they become 3-4 months old. ➢ Mature 30-35 cm long stem with 3 nodes of pencil thickness should be planted in nursery beds/polythene bags having suitable potting media. ➢ Apply well decompose FYM @ 15kg/pit/year along with 100.50.100 g NPK per pit.
Pineapple	**Flowering stage**		➢ Apply flowering inducing chemical (Ethrel 10 PPM+2% urea+0.04% Sodium Carbonate) should be applied in the heart of the plant. In evening and only when plants have at least 32 leaves. ➢ The flowering emergence will come out after 55-60 days after chemical spraying. ➢ Apply split doses of fertilizer @ 60: 50:60 g per plant. ➢ Remove all unwanted leaves, branches and weed near to the plant.
Colocasia	**Vegetative stage**		➢ Remove unwanted plant near base of the plant and cut dead branches. ➢ Earthing up soil at base of the plant along with split doses of fertilizer. ➢ Proper drainage is required to avoid water logging. ➢ Mulching with black polythene is found beneficial for both reducing the weed and increasing the yield.
		Corm borer	➢ Carbofuran 3G @1.5 kg a.i./ha applied in root zone when egg

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			laying ooze is observed at plant base.
Okra	**Flowering stage**	**1. Clean cultivation or remove all unwanted plant from plot.** **2. Provide split doses of fertilizer.**	✚ Mulching (if dry spell is there) ✚ Give irrigation at regular interval ✚ Provide banana shading to transplanted seedling. ✚ Provide split doses of fertilizer @ 30kg/ha. ✚ Shallow rooted inter-row cultivation and hand weeding may be used to minimize weeds in the inter row zone. ✚ Black plastic mulch may be used to suppress weed growth. The black plastic mulch also keeps the soil warm and encourages plant growth.
		1. Aphid (*Aphis gossypii*)	• Spray surf water solution to the plat • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
		3. Flea beetle (*Phylliodes balyi*)	• Shake plants to dislodge grubs, pupae and adults and destroy. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt or Dimethoate 30 % EC 7ml/10lt of water.
		4. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Collect damaged leaves with grubs and egg masses and destroy them. • Spray with methyl parathion 0.5% or dimethoate 0.3% is effective.
		5. Leafhopper (*Empoasca devastans*)	• Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.

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		✓ **Bacterial Wilt (*Pseudomonas solanacearum)***	• Fields should be kept clean and effected plants are to be uprooted and burnt. • Spray Copper fungicides to control the disease (2% Bordeaux mixture.) • The disease is more prevalent in the presence of root knot Nematodes, so control of these nematodes will suppress the disease spread. • Soil drenching (Streptocycline sulphate 0.3 gm/lt of water) and Blitox 50 @ 5gm/ 15lt water.
French bean	**Flowering stage**		• Remove all unwanted leaves, branches and weed near to the plant. • Earthing up the soil for better aeration. • Plant should be supported by bamboo or woods 20-25 days after sowing.
		Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
Brinjal	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ✓ Mulching with black polythene film reduces weed growth, increases the crop growth. ✓ Split dose of fertilizer application @ 50kg/ha urea.
Tomato	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for

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			reduce grass type weed. - Mulching with black polythene film reduces weed growth, increases the crop growth. - Split dose of fertilizer application @ 50kg/ha urea.
		1. Aphid(*Aphis gossypii*)	• Spray surf water solution to the plat. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Epilachna beetle. (*Epilachna viginctioctopanctata*)	• Spray with methyl parathion 0.5% or dimethoate 0.3% is effective against flea beetle.
Rice	**Transplanting stage**	**Kharif Rice**	- Land preparation is done by ploughing, harrowing, and levelling the field to make it suitable for crop establishment. - Ploughing should be done 3-4 weeks prior to sowing. - After ploughing, harrowing the field should be done twice, with one week gap between the two. First harrowing should be done after 1 week of ploughing. The second harrowing should be done across the first harrowing. - Under good management and adequate nitrogen levels, the optimum spacing for rice varieties should be around 20x15 cms both for kharif and rabi crops. - Transplanting two to three seedlings per hill under normal conditions is enough. The use of more seedlings per hill, besides not being any additional advantage, involves an extra expense on seedlings. In case of transplanting

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			with old seedlings, the number of seedlings per hill can be increased. Remove the tip of rice seedling which reduces stem borer infestation.
Maize	**Sowing stage**		Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. Remove unwanted plant near base of the plant and cut dead branches. Earting up of soil along with fertilizer mixture. Foliar spray of 0.1 % Endosulfan {2 ml (35 EC) in litre water} at 30 days after germination is very effective against stem borer.
Ginger and turmeric	**Land preparation**		Remove unwanted plant near base of the plant and cut dead branches. Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. Earting up of soil along with fertilizer mixture.
		Thrips	Spray Roger or Monocrotophos (2.5 ml/lt) for controlling thrips.

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		Scales	➢ Spray Quinalphos or Monocrotophos (2.5 ml/lt) for controlling scales.
Pig	**All stages**	**Porcine Reproductive Respiratory Syndrome (PRRS).**	1. Culling of positive pigs or piglets.
	Adult stage	**Swine fever.**	2. Vaccination of pigs with SF vaccines at 2 months and yearly interval/6 month interval
Cattle	**All age group**	**Foot and Mouth Disease (FMD)**	• FMD vaccine at 16 week and repeat every 6 month.
	Young stage	**Black Quarter (BQ)**	• Black Quarter Vaccine (BQV). ❖ Primary vaccination 6 month or above ❖ Revaccination annually
Poultry	**Adult stage**	**Ranikhet Disease.**	• F1 vaccine at (1-6) days of birth and R_2B vaccine for adult birds.
	Early stage	**Coccidiosis**	1. Amprolium or coccidiostat

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GRAMIN KRISHI MAUSAM SEWA

ICAR RESEARCH COMPLEX FOR NEH REGION

Mizoram Centre, Kolasib- 796081, MIZORAM

(Prepared based on District wise Weather Forecast received from IMD, Guwahati)

District: Champhai **Period:** 20 - 24 June, 2015

Bulletin No: -528/2015/ Bulletin/English **Date of issue:** 19th June, 2015

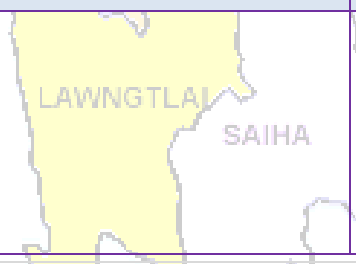
Parameters	20.06.2015	21.06.2015	22.06.2015	23.06.2015	24.06.2015
Rainfall (mm)	11	25	15	17	10
Max Temp (oC)	30	30	30	28	29
Min Temp (oC)	20	21	22	21	21
Cloud Coverage	Partially clear	Partially clear	Mainly cloudy	Partially clear	Mainly cloudy
Max RH (%)	96	96	97	97	97
Min RH (%)	73	80	73	74	66
Wind Speed (KmpH)	2	2	2	2	2
*Wind Direction	S-E	N-E	S-E	S	S

Northerly- N, North-Easterly- N-E, Easterly- E, South-Easterly- S-E, Southerly- S, South-Westerly- S-W, Westerly-W, North-westerly- N-W.

STATUS OF PREMONSOON- May 1-31, 2015 (*Percent of deviation from normal in parenthesis*)

Aizawl- 383.68mm (341.8mm)	Champhai- 239.49mm (250.30mm)	Saiha- 109.52 mm (87.2mm)	Kolasib- 352.38mm (380.9mm)
Lawngtlai-321.51mm (285.5mm)	Lunglei-344.00mm (186.21mm)	Mamit-449.48mm (442.80mm)	Serchhip-411.72mm (25.9mm)

Weather summary of the past three days	Weather forecast valid from 20th June, 2015 To 24th June, 2015.
	There are chances of moderate to light during the next 5 day. The maximum and minimum temperatures for the next 5 days may range for 28-30°C and 20-22°C. Maximum relative humidity is expected in the range of 96-97% and minimum may from 66-80%. Wind direction would be Northeasterly to southeasterly with the wind speed of 2 km per hour. Dense cloudy sky will prevail during the next five days. ***Weekly cumulative rainfall:*** **78.0 mm**

Main Crop/ Animal /Fisheries	Stage	Cultural practices/ Pest/ Diseases	Agricultural / Horticultural/ animal husbandry advisories
Khasi Mandarin and acid lime	**Transplant stage**		✦ Well rotten FYM @ 500g/pit is applied at 15-20 days before planting along with 12 g each of N and K_2O/plant and 4 g of P_2O_5/plant. ✦ 12 g Nitrogen and Potash/plant is recommended for first and second

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		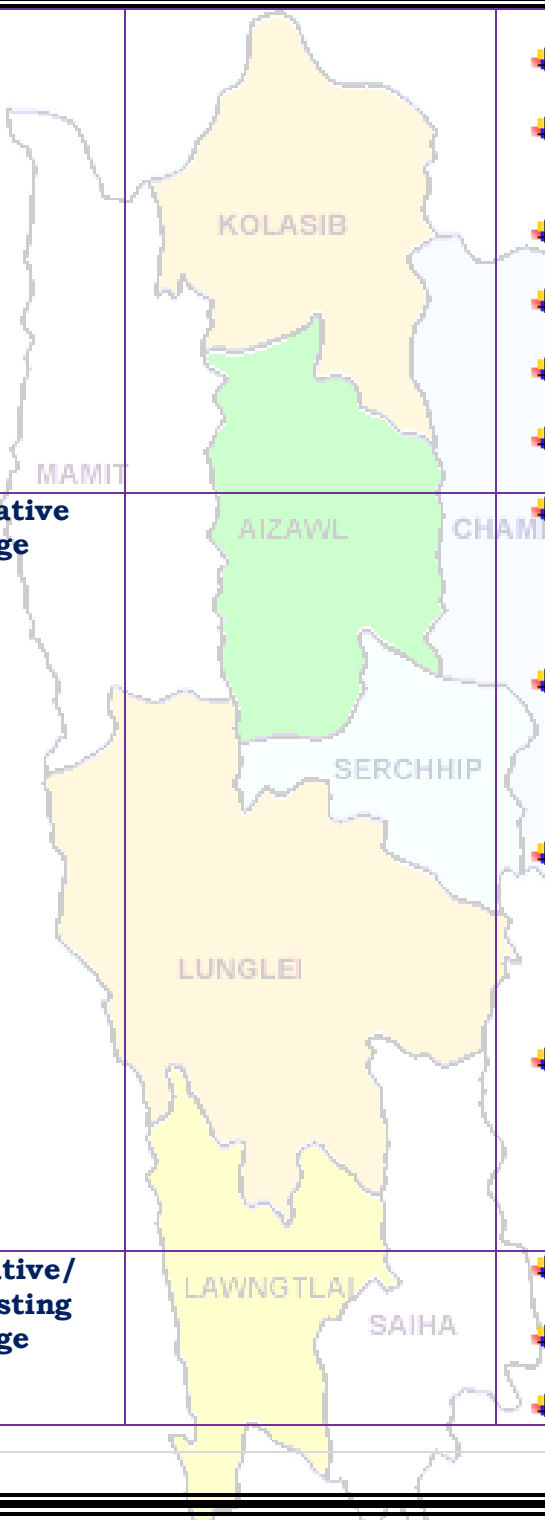	top dressing. • Sucker and slips are usually preferred for planting. • Potting mixture of soil, sand and FYM or compost should be in proper ratio. • For nursery only certified seed should be used. • Stagnation of water in beds should be avoided. • Seedling of uniform height should be selected for planting. • Plant protection measures should be apliked.
Khasi Mandarin and acid lime	**Vegetative stage**		• Spray (10 ppm) of Gibberellic acid should be done at colour break stage to delay colour development, maintain firmness, extend harvesting period. • Fruit drops, which occur at least twice in each crop, should be controlled with the recommended doses of GA3, urea, benomyl and carbendazim at right time. • Insect pests like Blackfly (Kolshi), Citrus Psylla, Leaf miner, Bark eating caterpillar, Fruit sucking Moth, Mites, Twing Blight, Gummosis, Root rot and Collar rot should be controlled. • Recommended fungicide (Carbendazium) and proper doses (0.1% or 1000 ppm) should be sprayed at proper time (One month and 15 days before harvest i.e. two sprays).
Oil plam	**Vegetative/ Harvesting stage**		• Remove all dead plants and replace with healthy seedling. • Cleaning near base of the plant and cut unwanted branches. • Application of split dose of fertilizer

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		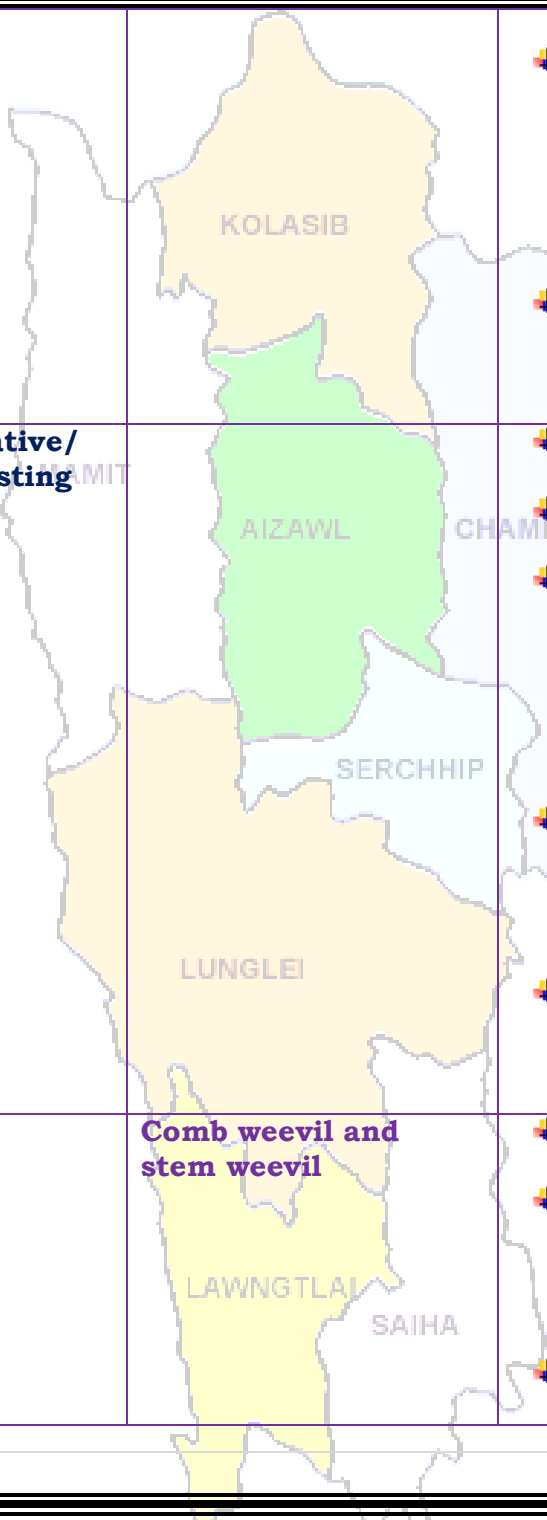	600: 200:100 (g/pt). - Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. - Fruits are harvested when they attain full size, develop attractive colour with optimum sugar and acid blend.
Banana	**Vegetative/ harvesting**		- Cleaning near base of the plant and cut unwanted branches. - Application of split dose of fertilizer 600: 200:100 (g/pt). - Apply micro-nutrients viz. zinc, copper, manganese, iron, boron and molybdenum are required in ample quantities for supplying nutrients and also reduce serious disorders which may lead to decline of the whole orchard. - Pruning on a regular basis removes unwanted or a sucker, keep production mats in optimum condition, saves fertilizer, reduces pest and disease. - Fruits are harvested when they attain full size, develop attractive yellow colour.
		Comb weevil and stem weevil	- Applications of neem powder effectively controlled weevils. - Application of 60 to 100 g of neem seed powder or neem cake at planting and then at 4 months intervals significantly diminished pest damage and increased yields. - Application of over 100 g or neem oil was phytotoxic (harmful to

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			plants) and uneconomical.
Passion Fruit	**Nursery stage**		▪ When two to three leaves develop, seedling should be transplanted in polythene bags. ▪ The seedlings are planted in field when they become 3-4 months old. ▪ Mature 30-35 cm long stem with 3 nodes of pencil thickness should be planted in nursery beds/polythene bags having suitable potting media. ▪ Apply well decompose FYM @ 15kg/pit/year along with 100.50.100 g NPK per pit.
Pineapple	**Flowering stage**		▪ Apply flowering inducing chemical (Ethrel 10 PPM+2% urea+0.04% Sodium Carbonate) should be applied in the heart of the plant. In evening and only when plants have at least 32 leaves. ▪ The flowering emergence will come out after 55-60 days after chemical spraying. ▪ Apply split doses of fertilizer @ 60: 50:60 g per plant. ▪ Remove all unwanted leaves, branches and weed near to the plant.
Colocasia	**Vegetative stage**		▪ Remove unwanted plant near base of the plant and cut dead branches. ▪ Earthing up soil at base of the plant along with split doses of fertilizer. ▪ Proper drainage is required to avoid water logging. ▪ Mulching with black polythene is found beneficial for both reducing the weed and increasing the yield.
		Corm borer	▪ Carbofuran 3G @1.5 kg a.i./ha applied in root zone when egg

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			laying ooze is observed at plant base.
Okra	**Flowering stage**	**1. Clean cultivation or remove all unwanted plant from plot.** **2. Provide split doses of fertilizer.**	✚ Mulching (if dry spell is there) ✚ Give irrigation at regular interval ✚ Provide banana shading to transplanted seedling. ✚ Provide split doses of fertilizer @ 30kg/ha. ✚ Shallow rooted inter-row cultivation and hand weeding may be used to minimize weeds in the inter row zone. ✚ Black plastic mulch may be used to suppress weed growth. The black plastic mulch also keeps the soil warm and encourages plant growth.
		1. Aphid (*Aphis gossypii*)	• Spray surf water solution to the plat • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
		3. Flea beetle (*Phylliodes balyi*)	• Shake plants to dislodge grubs, pupae and adults and destroy. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt or Dimethoate 30 % EC 7ml/10lt of water.
		4. Epilachna beetle. (*Epilachna viginctioctopancta ta*)	• Collect damaged leaves with grubs and egg masses and destroy them. • Spray with methyl parathion 0.5% or dimethoate 0.3% is effective.
		5. Leafhopper (*Empoasca devastans*)	• Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.

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		✓ **Bacterial Wilt (*Pseudomonas solanacearum)***	• Fields should be kept clean and effected plants are to be uprooted and burnt. • Spray Copper fungicides to control the disease (2% Bordeaux mixture.) • The disease is more prevalent in the presence of root knot Nematodes, so control of these nematodes will suppress the disease spread. • Soil drenching (Streptocycline sulphate 0.3 gm/lt of water) and Blitox 50 @ 5gm/ 15lt water.
French bean	**Flowering stage**		• Remove all unwanted leaves, branches and weed near to the plant. • Earthing up the soil for better aeration. • Plant should be supported by bamboo or woods 20-25 days after sowing.
		Blister beetle	• Manual collection of insect and destroy it immediately. • Apply cypermethrin 2 gm/lt of water.
Brinjal	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for reduce grass type weed. ✓ Mulching with black polythene film reduces weed growth, increases the crop growth. ✓ Split dose of fertilizer application @ 50kg/ha urea.
Tomato	**Vegetative stage**		✓ Remove unwanted plant near base of the plant and cut dead branches. ✓ Pre emergence application of Basalin @0.5 ml/lit of water for

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			reduce grass type weed. - Mulching with black polythene film reduces weed growth, increases the crop growth. - Split dose of fertilizer application @ 50kg/ha urea.
		1. Aphid(*Aphis gossypii*)	• Spray surf water solution to the plat. • Spray any one of the insecticides Imidacloprid 200 SL @ 0.25ml/lt of water (Sucking pest) or Dimethoate 30 % EC 7ml/10lt of water.
		2. Epilachna beetle. (*Epilachna viginctioctopanctata*)	• Spray with methyl parathion 0.5% or dimethoate 0.3% is effective against flea beetle.
Rice	**Transplanting stage**	**Kharif Rice**	- Land preparation is done by ploughing, harrowing, and levelling the field to make it suitable for crop establishment. - Ploughing should be done 3-4 weeks prior to sowing. - After ploughing, harrowing the field should be done twice, with one week gap between the two. First harrowing should be done after 1 week of ploughing. The second harrowing should be done across the first harrowing. - Under good management and adequate nitrogen levels, the optimum spacing for rice varieties should be around 20x15 cms both for kharif and rabi crops. - Transplanting two to three seedlings per hill under normal conditions is enough. The use of more seedlings per hill, besides not being any additional advantage, involves an extra expense on seedlings. In case of transplanting

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			with old seedlings, the number of seedlings per hill can be increased. Remove the tip of rice seedling which reduces stem borer infestation.
Maize	**Sowing stage**		Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. Remove unwanted plant near base of the plant and cut dead branches. Earting up of soil along with fertilizer mixture. Foliar spray of 0.1 % Endosulfan {2 ml (35 EC) in litre water} at 30 days after germination is very effective against stem borer.
Ginger and turmeric	**Land preparation**		Remove unwanted plant near base of the plant and cut dead branches. Pre-emergence application of Atrazine (Atratraf 50 wp, Gesaprim 500 fw) @ of 1.0-1.5 kg a.i ha-1in 600 litre water, Alachlor (Lasso) @ 2-2.5 kg a.i ha-1, Metolachlor (Dual) @ 1.5-2.0 kg a.i ha-1, Pendamethalin (Stomp) @ 1-1.5 kg a.i. ha-1arge effective way for control of many annual and broad leaved weeds. Earting up of soil along with fertilizer mixture.
		Thrips	Spray Roger or Monocrotophos (2.5 ml/lt) for controlling thrips.

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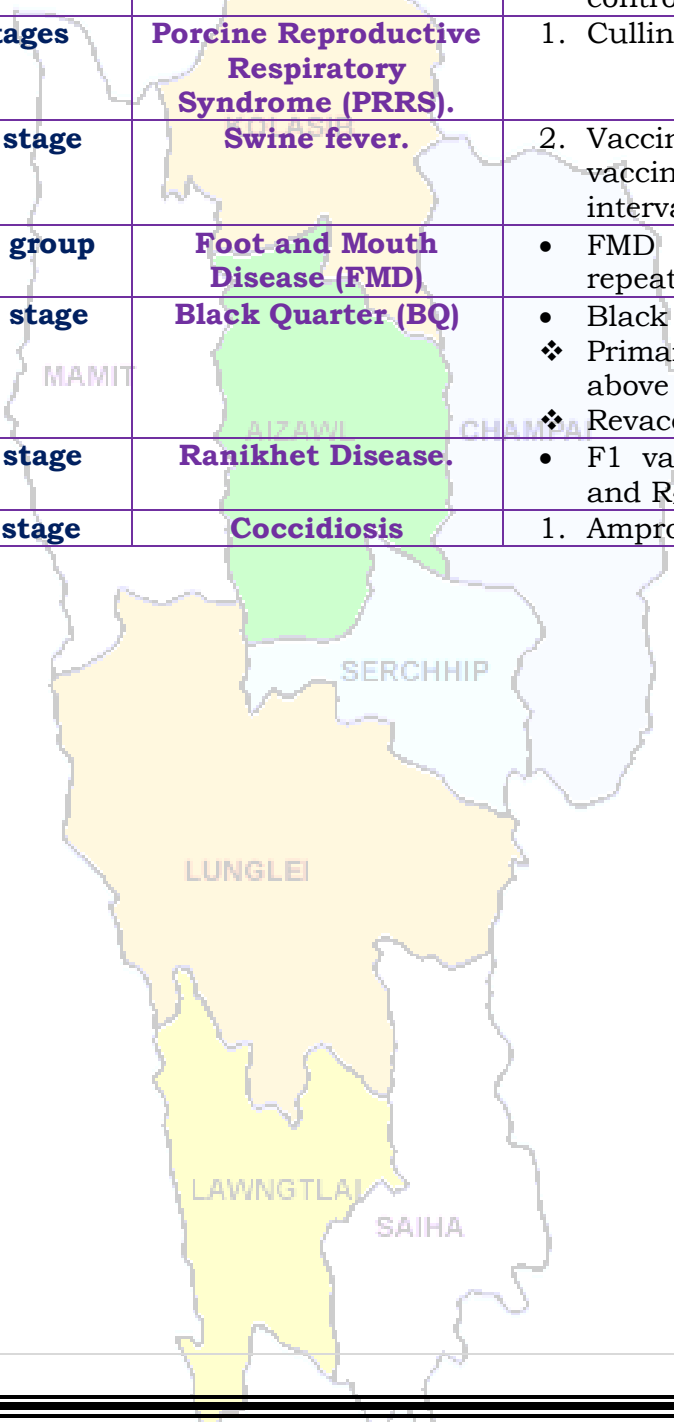
		Scales	➢ Spray Quinalphos or Monocrotophos (2.5 ml/lt) for controlling scales.
Pig	**All stages**	**Porcine Reproductive Respiratory Syndrome (PRRS).**	1. Culling of positive pigs or piglets.
	Adult stage	**Swine fever.**	2. Vaccination of pigs with SF vaccines at 2 months and yearly interval/6 month interval
Cattle	**All age group**	**Foot and Mouth Disease (FMD)**	• FMD vaccine at 16 week and repeat every 6 month.
	Young stage	**Black Quarter (BQ)**	• Black Quarter Vaccine (BQV). ❖ Primary vaccination 6 month or above ❖ Revaccination annually
Poultry	**Adult stage**	**Ranikhet Disease.**	• F1 vaccine at (1-6) days of birth and R_2B vaccine for adult birds.
	Early stage	**Coccidiosis**	1. Amprolium or coccidiostat



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