CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 1st to 15th January, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
January (1 - 15) 2024	27.65	17.30	86.00	50.73	3.56	5.27	0.20
	(28.1)	(13.0)	(82.9)	(46.3)	(3.8)	(3.5)	(0.20)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th January, 2024**

During the first fortnight of the month i.e., 1st to 15th January, 2024, the mean maximum temperature decreased by 0.45ºC and mean minimum temperature increased by 1.9ºC as compared to the previous fortnight. The mean maximum temperature increased by 0.3°C and mean minimum temperature decreased by 1.1°C as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning increased by 4.44% and in the afternoon decreased by 4.21% as compared to the previous fortnight. There was 0.20 mm of rainfall reported during this fortnight.

❖ **Crop weather situation**

For banana crop, Banana special at the rate of 5g/lit can be given from 5th month of planting upto 10th month at monthly intervals. In vegetable crops, first dose of vegetable special may be given after 25-30 days after transplanting.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bangalore conditions on different horticultural crops. Various management options for their management are mentioned below.

Hoppers on mango:

- Incidence of hoppers is observed on mango. Spray Azadirachtin 3000 ppm @ 2 ml/l, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with *imidacloprid 17.8 SL @ 0.5 ml/l or *oxydemeton – methyl 25% EC @ 2 ml/l or *dimethoate 30% EC @ 2ml/litre at early panicle emergence.

- Addition of sticker is essential. Avoid spraying on full bloom to protect pollinators.

- For organic orchards, application of entomopathogen Metarhizium anisopliae formulation @ 5ml/L is recommended.

Flower webbers/inflorescence caterpillars on mango

- Besides hoppers, inflorescence caterpillars which web the flowers and feed inside are potential pests on mango during January. Application of lambda cyhalothrin 5EC @ 0.5ml/L or cypermethrin 25 EC @1ml/L is useful to control the pest.

Banana skipper

- Skipper butterfly is becoming is serious pest on banana. Larva rolls the leaves and feed by remaining inside. Affected leaves to be mechanically removed and destroyed. In case of severe infestation, spraying of quinolphos 25EC @ 2ml/L or chlorpyrifos 20EC @ 2.5ml/L is advised.

Onion thrips

- Both on bulb and seed crops, thrips are expected to increase with ensuing rise in temperatures. Spraying with imidacloprid 17.8SL (0.3ml/L) or fipronil 5SC (1.5 ml/L) would be effective.

Tomato fruit borer:

- With the prevailing weather, incidence of fruit borer may increase on tomato. For its management, spray *Ha*NPV @ 250 LE/ha during evening hours or spray *flubendiamide 20 WG @0.2g/l, *indoxacarb14.5SC @ 0.5ml/l, if the incidence is very high. Proper waiting periods are to be followed before harvest of tomatoes.

Tomato moth:

- Install tuta pheromone traps for monitoring the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5SC @ 0.75 ml/litre or spinosad 45SC @ 0.3ml/l

Midge on chillies:

- Severe incidence of midges is observed on chilli which causes maximum damage at flowering stage. Spray thiamethoxam25WG @ 0.3 g/l for their management.

Black thrips on chilli (tentative management only)

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, fipronil 40%+ imidacloprid 40%@40g/acre, Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre
  or
- Spray twice @ minimum 15 days interval in a crop cycle isocycloseram 9.2% (w/w DC) +Iisocycloseram10% (w/v DC) * @ 1.2ml/liter
- Every 15days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.
- Note: none of these chemicals are approved by CIBRC except isocyloseram

***CIBRC label claim available**

Aphids on cucurbits

- Aphid infestation may increase on different cucurbits. Spray imidacloprid 200SL @ 0.5 ml/l for their management.

*CIBRC label claim is available

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of January, 2024.

Fruit crops:

Mango

- Powdery mildew requires attention. Application of hexaconazole @1ml/L along with sticker @ 0.5 ml/ l is recommended for the disease management.

Vegetable crops:

Tomato

- Leaf curl virus severity increases in tomato crop**.** To manage vectors of this disease follow insecticide application of neem oil (azadirachtin 10000ppm) @2ml/L or spinosad @0.25ml/L spray. Additional separate foliar spray of sagarika (Organic bio-stimulant /Sea weed extract-IFFCO) @ 2ml per litre is required.

Chilli

- In Powdery mildews severity increases in Chilli. Spraying of azoxystrobin 18.2% w/w + difenoconazole 11.4% w/w SC @1ml/L, azoxystrobin or tebuconazole 50% + trifloxystrobin 25% WG (0.5g/l) along with sticker 0.5ml/l will help in reducing powdery mildew spread.

Flower Crops:

Chrysanthemum

- To manage white rust spray chlorothalonil 75% WP at 2g/litre as preventive measure and propiconazole 25EC at 1ml/L as curative spray will reduce the damage

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 31st January, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
January (16 - 31) 2024	29.64	14.64	91.25	40.50	4.13	3.27	0.00
	(28.8)	(12.8)	(84.0)	(44.8)	(4.1)	(3.7)	(0.20)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 31st January, 2024**

During the second fortnight of the month i.e., 16th to 31st January, 2024, the mean maximum temperature increased by 1.99ºC and mean minimum temperature decreased by 2.66ºC as compared to the previous fortnight. The mean maximum temperature increased by 0.7°C and mean minimum temperature decreased by 0.2°C as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning increased by 5.25% and in the afternoon decreased by 10.23% as compared to the previous fortnight. There was no rainfall reported during this fortnight.

❖ **Crop weather situation**

Banana special at the rate of 5 g/litre can be given from 5th month of planting up to 10th month at monthly intervals. For transplanted rabi vegetables, vegetable special may be applied through foliar spray. After harvest of short duration rabi vegetables, green manure like Mucuna crop can be taken up for improving soil health and organic matter content.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bangalore conditions on different horticultural crops. Various management options for their management are mentioned below.

Hoppers on mango:

- Incidence of hoppers is observed on mango. Spray Azadirachtin 3000 ppm @ 2 ml/l, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with *imidacloprid 17.8 SL @ 0.5 ml/l or *oxydemeton – methyl 25% EC @ 2 ml/l or *dimethoate 30% EC @ 2ml/litre at early panicle emergence.

- Addition of sticker is essential. Avoid spraying on full bloom to protect pollinators.

- For organic orchards, application of entomopathogen *Metarhizium anisopliae* formulation @ 5ml/L is recommended.

Flower webbers/inflorescence caterpillars on mango

- Besides hoppers, inflorescence caterpillars which web the flowers and feed inside are potential pests on mango during January. Application of lambda cyhalothrin 5EC @ 0.5ml/L or cypermethrin 25 EC @1ml/L is useful to control the pest.

Banana skipper

- Skipper butterfly is becoming is serious pest on banana. Larva rolls the leaves and feed by remaining inside. Affected leaves to be mechanically removed and destroyed. In case of severe infestation, spraying of quinolphos 25EC @ 2ml/L or chlorpyrifos 20EC @ 2.5ml/L is advised.

Mites on tomato

- Incidence of mites is observed and may increase on tomato. For their management spray spiromesfin 22.9 SC @ 1 ml/l or fenazaquin 10 EC@ 3 g/L.

Tomato fruit borer:

- With the prevailing weather, incidence of fruit borer may increase on tomato. For its management, spray *Ha*NPV @ 250 LE/ha during evening hours or spray *flubendiamide 20 WG @0.2g/l, *indoxacarb14.5SC @ 0.5ml/l, if the incidence is very high. Proper waiting periods are to be followed before harvest of tomatoes.

Tomato moth:

- Install Tuta pheromone traps for monitoring the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5SC @ 0.75 ml/litre or spinosad 45SC @ 0.3ml/l

Midge on chillies:

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation

- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, fipronil 40%+ imidacloprid 40%@40g/acre, Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre
  Or
- Spray twice @ minimum 15 days interval in a crop cycle isocycloseram 9.2% (w/w DC) +Iisocycloseram10% (w/v DC) * @ 1.2ml/liter
- Every 15days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

- Note: none of these chemicals are approved by CIBRC except isocyloseram

  ***CIBRC label claim available**

Aphids on cucurbits

- Aphid infestation may increase on different cucurbits. Spray imidacloprid 200SL @ 0.5 ml/l for their management.

Aphids on Beans and rose

- Aphids incidence is observed on beans and rose. Thoroughly spray neem soap or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 % for their management.

Thrips on rose

- Aphids For the management of thrips on rose, spray fipronil 5 SC @ 1.5 ml/litre or imidacloprid 200 SL @ 0.5 ml/l.

Mites on Rose

- During the period, incidence of mites is observed heavily on roses grown under polyhouse conditions. Spray spiromesfin 22.9 SC @ 1 ml/l for their management.

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of January, 2024.

Fruit crops:

Mango

- Powdery mildew requires attention. Application of Hexaconazole 5% EC @1ml per litre is recommended for the disease management.

Papaya

- Infection of black spot and powdery mildew infection may be noticed. Application of Thiophanate methyl 70% WP at 1g/L along with the sticker @ 0.5ml/l with good coverage of the lower surface of the foliage and fruit is recommended. Follow waiting period of 5 days if fruits are to be harvested.

Vegetable crops:

Tomato

- Leaf Tomato leaf curl virus severity increases under prevailing dry conditions. To manage this disease give foliar spray of Arka Vegetable Special @ 5g/L followed by foliar spray of Sagarika (Organic bio-stimulant /Sea weed extract-IFFCO) @ 2ml per litre. To manage vectors spray with azadirachtin 10000 ppm @3ml/litre to manage sucking pests.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
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HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 1st to 15th February, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
February (1 - 15) 2024	31.77	14.25	90.20	31.07	5.88	4.66	0.00
	(30.4)	(13.4)	(76.2)	(36.6)	(5.2)	(4.1)	(2.3)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th February, 2024**

During the first fortnight of the month i.e., 1st to 15th February, 2024, the mean maximum temperature increased by 2.13ºC and mean minimum temperature decreased by 0.39ºC as compared to the previous fortnight. The mean maximum and mean minimum temperature increased by 1.6°C and 0.6°C respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon decreased by 1.05% and 9.43% respectively as compared to the previous fortnight. There was no rainfall reported during this fortnight.

❖ **Crop weather situation**

In the fortnight, maximum temperature is higher by 1.37 °C than the average of previous five years and absolutely no rainfall. Adequate irrigation with mulching to ensure better moisture availability is advised. Due to low moisture in soil, availability of nutrients might have been reduced. Foliar spray of Arka vegetable special to vegetable crops under active growth stage in the evening hours is suggested.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bangalore conditions on different horticultural crops. Various management options for their management are mentioned below.

Hoppers on mango:

- Incidence of hoppers is observed on mango. Spray Azadirachtin 3000 ppm @ 2 ml/l, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with *imidacloprid 17.8 SL @ 0.5 ml/l or *oxydemeton – methyl 25% EC @ 2 ml/l or *dimethoate 30% EC @ 2ml/litre at early panicle emergence.
- Addition of sticker is essential. Avoid spraying on full bloom to protect pollinators.
- For organic orchards, application of entomopathogen *Metarhizium anisopliae* formulation @ 5ml/L is recommended.

Flower webbers/inflorescence caterpillars on mango

- Besides hoppers, inflorescence caterpillars which web the flowers and feed inside are potential pests on mango during January. Application of lambda cyhalothrin 5EC @ 0.5ml/L or cypermethrin 25 EC @1ml/L is useful to control the pest.

Mango Fruit Borer

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml or Azadirachtin 1% @2ml/l.

Banana skipper

- Skipper butterfly is becoming is serious pest on banana. Larva rolls the leaves and feed by remaining inside. Affected leaves to be mechanically removed and destroyed. In case of severe infestation, spraying of quinolphos 25EC @ 2ml/L or chlorpyrifos 20EC @ 2.5ml/L is advised.

Mites on tomato

- Incidence of mites is observed and may increase on tomato. For their management spray spiromesfin 22.9 SC @ 1 ml/l or fenazaquin 10 EC@ 3 g/L.

Tomato fruit borer:

- With the prevailing weather, incidence of fruit borer may increase on tomato. For its management, spray *Ha*NPV @ 250 LE/ha during evening hours or spray *flubendiamide 20 WG @0.2g/l, *indoxacarb14.5SC @ 0.5ml/l, if the incidence is very high. Proper waiting periods are to be followed before harvest of tomatoes.

Tomato moth:

- Install Tuta pheromone traps for monitoring the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5SC @ 0.75 ml/litre or spinosad 45SC @ 0.3ml/l

Mites on tomato:

- Incidence of mites is observed and may increase on tomato. For their management spray spiromesfin 22.9 SC @ 1 ml/l or fenazaquin 10 EC@ 3 g/L.

Midge on chillies:

- Severe incidence of midges is observed on chilli which causes maximum damage at flowering stage. Spray thiamethoxam 25 WG @ 0.3 g/l for their management.

Black thrips on chilli (tentative management only):

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, fipronil 40%+ imidacloprid 40%@40g/acre, Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre
  Or
- Spray twice @ minimum 15 days interval in a crop cycle, isocycloseram 9.2% (w/w DC) +Iisocycloseram10% (w/v DC) * @ 1.2ml/liter
- At 15 days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

- Note: none of these chemicals are approved by CIBRC except isocyloseram

***CIBRC label claim available**

Mites on Chilli

- For their management spray spiromesfin 22.9 SC @ 1 ml/l or fenazaquin 10 EC@ 3 g/L.

Aphids on cucurbits

- Aphid infestation may increase on different cucurbits. Spray imidacloprid 200 SL @ 0.5 ml/l or thiamethoxam 25 WG @ 0.3 g/l for their management.

Aphids on Beans and rose

- Aphids incidence is observed on beans and rose. Thoroughly spray neem soap or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 % for their management.

Thrips on rose

- Aphids For the management of thrips on rose, spray fipronil 5 SC @ 1.5 ml/litre or imidacloprid 200 SL @ 0.5 ml/l.

Mites on Rose

- During the period, incidence of mites is observed heavily on roses grown under polyhouse conditions. Spray spiromesfin 22.9 SC @ 1 ml/l for their management.

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of February, 2024.

Fruit crops:

Mango

- On trees where mango is at peanut stage to manage anthracnose spray with Thiophanate methyl 70%WP @1g/L or Chlorothalonil 75%WP @2g/L

Vegetable crops:

Tomato

- Tomato leaf curl virus severity increases. To manage vectors of give a foliar spray of Neem oil (Azadirachtin 10000ppm) @2ml . Give foliar spray of Arka Vegetable Special@ 5g/L and separate foliar spray of Sagarika (Organic bio-stimulant /Sea weed extract-IFFCO) @ 2ml per litre.

Chilli

- Powdery Mildew severity increases in chilli. Spray Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @1ml/L or Tebuconazole 50% + Trifloxystrobin 25% WG (0.5g/l) at 10 -12 day intervals

Flower Crops:

Chrysanthemum

- To manage rust spray chlorothalonil 75% WP at 2g/L as preventive measure and propiconazole 25EC at 1ml/L.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF INDIAN INSTITUTE OF HORTICULTURAL RESEARCH, HESSARAGHATTA, BANGALORE – 560 089

- **Period: 16th to 29th February, 2024**
- Latitude : 13º 7' N Longitude: 77º29' E Altitude: 890 M

Fortnight	Temperature,		Relative Humidity,		Evaporation,	Wind speed,	Total Rainfall,
	ºC		%		mm	km/h	mm
February 16-29, 2024	Mean Max.	Mean Min.	Mean At 7.30 am	Mean At 1.30 pm			
	32.14	16.11	70.93	31.57	6.47	4.96	0.00
	(32.1)	(13.3)	(68.1)	(34.3)	(6.1)	(4.1)	(3.0)

* Figures in the parenthesis indicate the average values during the corresponding period for the previous 5 years

- **Fortnight from 16th to 29th February, 2024**

During the first fortnight of the month i.e., 16th to 29th February, 2024, the mean maximum and minimum temperature increased by 0.37 ºC and 1.86 ºC respectively as compared to the previous fortnight. The mean maximum temperature increased by 1.7 ºC and mean minimum temperature decreased by 0.1 ºC as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning decreased by 19.27% and in the afternoon increased by 0.5% as compared to the previous fortnight. There was no rainfall reported during this fortnight.

- **Crop Weather Situation**

Mulching may be practiced to conserve soil moisture and in the absence of sufficient irrigation, soil application of fertilizers may be avoided. Frequent irrigation has to be provided to fruits and vegetable crops as the day temperature and evaporation rates are high. Boron application to be provided for mango to avoid fruit drop and Nitrogen & Potassium fertilizers to be applied for better fruit size.

Pest Scenario under – prevailing weather conditions (March I FN 2024)

Under the prevailing weather situation during I fortnight of March 2024, the following pests are expected under Bangalore conditions. Various pest management options are also mentioned below.

Hoppers on mango:

- Incidence of hoppers is expected on mango. Spray Azadirachtin 10000 ppm @ 3 ml/L, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with *imidacloprid 17.8 SL @ 0.5 ml/l or *oxydemeton – methyl 25% EC @ 2 ml/l or *dimethoate 30% EC @ 2ml/litre at early panicle emergence.
- Addition of sticker is essential. Avoid spraying on full bloom to protect pollinators.
- For organic orchards, application of entomopathogen *Metarhizium anisopliae* formulation @ 5ml/L is recommended.

Flower webbers/inflorescence caterpillars on mango

- Besides hoppers, inflorescence caterpillars which web the flowers and feed inside are potential pests on mango during January. Application of lambda cyhalothrin 5EC @ 0.5ml/L or cypermethrin 25 EC @1ml/L are useful to control the pest.

Mango stone weevil management: Wherever fruits reached lemon size (2-4 cm diameter), a spray of deltamethrin 2.5 SC @ 1ml/L will be effective.

Fruit fly Management: In orchards where fruit set has occurred early and have attained full size, erect methyl eugenol based fruit fly traps @ 6/acre. Collect and destroy fallen fruits.

Mango Fruit Borer

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml or Azadirachtin 1% @2ml/l.

Mealy bugs on grapes:

- Incidence of mealybugs may increase during this period.

- Encourage natural enemies such as lady bird beetle. If incidence is high than spray difenthiuron 50 WP 1g/litre and repeat the spray after 2 weeks.

Leaf miner on tomato

- Incidence of leaf miner is observed on tomato. For its management spray neem seed kernel extract 4% from nursery till flowering @ 7-10 days intervals.

Mites on tomato:

- For the management of mites on tomato, spray spiromesifen 22.9 SC@ 1ml/litre

Whiteflies on tomato:

- Incidence of whiteflies is noticed on tomato. For their management spray difenthiuron 50 WP 1g/litre.

Tomato moth

- Install tuta pheromone traps for monitoring of the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5 SC @ 0.75 ml/litre or spinosad 45 SC @ 0.3ml/l

Brinjal shoot and fruit borer

- For the management of brinjal shoot and fruit borer, spray rynaxypyr 18.5 SC @ 0.3 ml/l rotate with emamectin benzoate 5 SG 0.3g/liter followed by indoxacarb 14.5 SC @ 0.5 ml/litre.

Midge on chillies:

- Severe incidence of midges is observed on chilli which causes maximum damage at flowering stage. Spray thiamethoxam 25 WG @ 0.3 g/l for their management.

Black thrips on chilli (tentative management only)

- Black thrips incidence is increasing on chilli and capsicum; it is advised to raise seedlings under Nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, Fipronil 40%+ imidaclorpid40%@40g/acre,

Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre

or

- Spray twice @ minimum 15 days interval in a crop cycle Isocycloseram 9.2% (w/w DC) + Isocycloseram10% (w/v DC) * @ 1.2ml/liter
- Every 15 days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.
- Note: none of these chemicals approved by CIBRC except isocyloseram

***CIBRC label claim available**

Mites on Chilli

- For their management of chilli thrips spray spiromesfin 22.9 SC @ 1 ml/l or fenazaquin 10 EC@ 3 g/L.

Thrips on rose

- For the management of thrips on rose, spray imidacloprid 17.8 SL @ 0.5 ml/l or fipronil 5 SC @ 1.5ml/litre.

Disease Scenario

Chilli

- Prevailing weather conditions aggravate Chilli leaf curl virus problem in chilli. To manage vectors transmitting this disease follow insecticide application; Neem oil (Azadirachtin 10000ppm) @2ml/L, Imidachloprid 70%WG@2g/15L, neem soap or pongamia soap(5g/l), spinosad0.25ml/L. To enhance disease tolerance, give foliar spray of sea weed extract Sagarika @ 2.0ml/L

Mango

- To prevent anthracnose on fruits give pre harvest sprays with Carbendazim (1g/L)/ Thiophanate methyl (1g/L / Prochloraz (1g/L) or Chlorothalonil (2g/L) at 14 days interval. Give protective irrigation during water scarcity to reduce trees vulnerability to die back and gummosis infection

Cucurbits

- Gummy stem blight disease severity is expected to increase. To manage this disease give protective sprays with. Chlorothalonil 75%WP@ 2g/L, followed by foliar spray of tebuconazole.25.9 EC @ 1ml/L. Provide optimum irrigation to prevent splitting of stems.

Papaya

- To manage Papaya Ring spot virus applies FYM enriched (25 kg/ plant) + Arka Microbial Consortium (50 g/plant) + bioagents (*Pseudomonas* + *Pochonia* + *Trichoderma*) + 250g neem cake to soil. Give foliar spray of neem oil @2ml/l. Give additional spray of sagarika @ 2.0ml/L.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 1st to 15th March, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
March (1 - 15) 2024	34.01	18.73	68.53	30.07	7.62	3.46	0.00
	(32.7)	(14.4)	(64.0)	(31.1)	(7.1)	(4.5)	(0.8)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th March, 2024**

During the first fortnight of the month i.e., 1st to 15th March, 2024, the mean maximum and mean minimum temperature increased by 1.87ºC and 2.62ºC respectively as compared to the previous fortnight. The mean maximum and mean minimum temperature increased by 0.6°C and 1.1°C respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon decreased by 2.4% and 1.5% respectively as compared to the previous fortnight. There was no rainfall reported during this fortnight.

❖ **Crop weather situation**

In fruit crops, wherever possible the basins should be covered with mulch to minimize evaporation and adequate irrigation has to be provided to minimize fruit drop. 0.1% Boric acid spray can be given in mango and papaya to reduce fruit drop.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bangaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Hoppers on mango:

- Incidence of hoppers is observed on mango. Spray Azadirachtin 3000 ppm @ 2 ml/l, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with *imidacloprid 17.8 SL @ 0.5 ml/l or *oxydemeton – methyl 25% EC @ 2 ml/l or *dimethoate 30% EC @ 2ml/litre at early panicle emergence.

- Addition of sticker is essential. Avoid spraying on full bloom to protect pollinators.

- For organic orchards, application of entomopathogen *Metarhizium anisopliae* formulation @ 5ml/L is recommended.

Flower webbers/inflorescence caterpillars on mango

- Besides hoppers, inflorescence caterpillars which web the flowers and feed inside are potential pests on mango during January. Application of lambda cyhalothrin 5EC @ 0.5ml/L or cypermethrin 25 EC @1ml/L is useful to control the pest.

Mango stone weevil management: Wherever fruits have reached lemon size (2-4 cm diameter), a spray of deltamethrin 2.5 SC @ 1ml/L will be effective.

Fruit fly Management: In orchards where fruit set has occurred early and they attained full size, erect methyl eugenol based fruit fly traps @ 6/acre. Collect and destroy fallen fruits.

Mango Fruit Borer

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml /L or Azadirachtin 1% @2ml/l.

Banana skipper

- Skipper butterfly is becoming is serious pest on banana. The larva rolls the leaves and feed by remaining inside. Affected leaves to be mechanically removed and destroyed. In case of severe infestation, spraying of quinolphos 25EC @ 2ml/L or chlorpyrifos 20EC @ 2.5ml/L is advised.

Mealy bugs on grapes:

- Incidence of mealybugs may increase during this period.

- Encourage natural enemies such as lady bird beetle. If incidence is high than spray difenthiuron 50 WP 1g/litre and repeat the spray after 2 weeks.

Leaf miner on tomato

- Incidence of leaf miner is observed on tomato. For its management spray neem seed kernel extract 4% from nursery till flowering @ 7-10 days intervals.

Mites on tomato:

- Incidence of mites is observed and may increase on tomato. For their management spray spiromesfin 22.9 SC @ 1 ml/l or fenazaquin 10 EC@ 3 g/L.

Whiteflies on tomato:

- Incidence of whiteflies is noticed on tomato. For their management spray difenthiuron 50 WP 1g/litre.

Tomato moth

- Install tuta pheromone traps for monitoring of the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5 SC @ 0.75 ml/litre or spinosad 45 SC @ 0.3ml/l

Brinjal shoot and fruit borer

- For the management of brinjal shoot and fruit borer, spray rynaxypyr 18.5 SC @ 0.3 ml/l rotate with emamectin benzoate 5 SG 0.3g/liter followed by indoxacarb 14.5 SC @ 0.5 ml/litre.

Midge on chillies:

- Severe incidence of midges is observed on chilli which causes maximum damage at flowering stage. Spray thiamethoxam 25 WG @ 0.3 g/l for their management.

Black thrips on chilli (tentative management only):

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, fipronil 40%+ imidacloprid 40%@40g/acre, Cyantraniliprole10 OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre
  Or
- Spray twice @ minimum 15 days interval in a crop cycle, isocycloseram 9.2% (w/w DC) +Iisocycloseram10% (w/v DC) * @ 1.2ml/liter
- At 15 days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

- Note: none of these chemicals are approved by CIBRC except isocyloseram

***CIBRC label claim available**

Mites on Chilli

- For their management spray spiromesfin 22.9 SC @ 1 ml/l or fenazaquin 10 EC@ 3 g/L.

Thrips on rose

- Aphids For the management of thrips on rose, spray fipronil 5 SC @ 1.5 ml/litre or imidacloprid 200 SL @ 0.5 ml/l.

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of March, 2024.

Fruit crops:

Mango

- To manage anthracnose gives a foliar spray of carbendazim (1g/L) / thiophanate methyl (1g/L). Give Protective irrigation to reduce trees vulnerability to die back and gummosis infection.

Papaya

- Papaya ring spot severity increases under prevailing conditions. To manage this disease give foliar spray of neem oil @2.0 ml/l followed by application of sea weed extract (Sagarika) @ 2.0ml/L .

Vegetable crops:

Tomato

- Powdery mildew severity increases. To manage this diseases give foliar spray of wettable Sulphur (3g/l) or hexaconazole 25 EC (1ml/l) .

Chilli

- Powdery mildew severity increases under prevailing weather condition. To manage this diseases give foliar spray of azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @1ml/L or tebuconazole 50% + trifloxystrobin 25% WG (0.5g/l)

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 31st March, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
March (16 - 31) 2024	34.47	17.56	68.13	28.0	8.92	4.76	0.00
	(34.1)	(17.5)	(69.9)	(33.3)	(7.2)	(3.8)	(12.4)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 31st March, 2024**

During the second fortnight of the month i.e., 16th to 31st March, 2024, the mean maximum temperature increased by 0.46ºC and mean minimum temperature decreased by 1.17ºC as compared to the previous fortnight. The mean maximum and mean minimum temperature increased by 1.4°C and 3.1°C respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon decreased by 0.4% and 2.07% respectively as compared to the previous fortnight. There was no rainfall reported during this fortnight.

❖ **Crop weather situation**

Average day temperature and evaporation are higher than average values of previous 5 years. Protective irrigation should be given to fruit and summer vegetable crops. Mulching has to be applied to reduce the evaporation losses.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bangaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Hoppers on mango:

- Incidence of hoppers is observed on mango. Spray Azadirachtin 3000 ppm @ 2 ml/l, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with *imidacloprid 17.8 SL @ 0.5 ml/l or *oxydemeton – methyl 25% EC @ 2 ml/l or *dimethoate 30% EC @ 2ml/litre at early panicle emergence.
- Addition of sticker is essential. Avoid spraying on full bloom to protect pollinators.
- For organic orchards, application of entomopathogen *Metarhizium anisopliae* formulation @ 5ml/L is recommended.

Mango stone weevil management: Wherever fruits have reached lemon size (2-4 cm diameter), a spray of deltamethrin 2.5 SC @ 1ml/L will be effective.

Fruit fly Management: In orchards where fruit set has occurred early and they attained full size, erect methyl eugenol based fruit fly traps @ 6/acre. Collect and destroy fallen fruits.

Mango Fruit Borer:

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml /L or Azadirachtin 1% @2ml/l.

Mealy bugs on grapes:

- Incidence of mealybugs may increase during this period.
- Encourage natural enemies such as lady bird beetle. If incidence is high than spray difenthiuron 50 WP 1g/litre and repeat the spray after 2 weeks.

Leaf miner on tomato:

- Incidence of leaf miner is observed on tomato. For its management spray neem seed kernel extract 4% from nursery till flowering @ 7-10 days intervals.

Mites on tomato:

- Incidence of mites is observed and may increase on tomato. For their management spray spiromesfin 22.9 SC @ 1 ml/l.

Whiteflies on tomato:

- Incidence of whiteflies is noticed on tomato. For their management spray difenthiuron 50 WP 1g/litre.

Tomato moth:

- Install Tuta pheromone traps for monitoring of the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5 SC @ 0.75 ml/litre or spinosad 45 SC @ 0.3ml/l

Brinjal shoot and fruit borer:

- For the management of brinjal shoot and fruit borer, spray rynaxypyr 18.5 SC @ 0.3 ml/l rotate with emamectin benzoate 5 SG 0.3g/liter followed by indoxacarb 14.5 SC @ 0.5 ml/litre.

Black thrips on chilli (tentative management only):

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, fipronil 40%+ imidacloprid 40%@40g/acre, Cyantraniliprole10 OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre
  Or
- Spray twice @ minimum 15 days interval in a crop cycle, isocycloseram 9.2% (w/w DC) +Iisocycloseram10% (w/v DC) * @ 1.2ml/liter
- At 15 days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

- Note: none of these chemicals are approved by CIBRC except isocyloseram

  ***CIBRC label claim available**

Thrips on rose:

- Thrips for the management of thrips on rose, spray fipronil 5 SC @ 1.5 ml/litre or imidacloprid 200 SL @ 0.5 ml/l.

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of March, 2024.

Fruit crops:

Papaya

- Papaya ring spot severity increases under prevailing conditions. To manage this disease give foliar spray of neem oil @2.0 ml/l followed by application of sea weed extract (Sagarika) @ 2.0ml/L. To manage powdery mildew and black spot spray Thiophanate Methyl 70% WP @ 1g/L.

Mango

- As a prophylactic spray against anthracnose, give pre harvest foliar spraying with chlorothalonil 75% WP @ 2g/L.

Vegetable crops:

Tomato

- Avoid excess application of nitrogenous fertilizer. Give foliar spray of Arka Vegetable Special @ 5g/L. Spray Azadirachtin 10000 ppm @3ml/L to manage sucking pests.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 1st to 15th April, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
April (1-15) 2024	35.70	18.85	68.07	27.93	9.46	5.10	0.00
	(34.7)	(18.7)	(70.2)	(33.6)	(7.1)	(3.9)	(13.4)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th April, 2024**

During the first fortnight of the month i.e., 1st to 15th April, 2024, the mean maximum and minimum temperature increased by 1.23ºC and 1.29ºC respectively as compared to the previous fortnight. The mean maximum and minimum temperature increased by 0.6°C and 1.2°C respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon decreased by 0.06% and 0.07% respectively as compared to the previous fortnight. There was no rainfall reported during this fortnight.

❖ **Crop weather situation**

Mean maximum temperature, evaporation and wind speed of the fortnight are higher than the average values of previous five years and no rainfall. Nutrient uptake is limited due to low soil moisture. Frequent protective irrigations are necessary for all crops and mulching should be done to reduce the evaporation losses of applied water.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bangaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango fruit fly, *Bactrocera dorsalis*

As the fruits had attained maturity stage, incidence of fruit fly is expected. For its management following management measures are suggested.

Management:

- Install methyl eugenol traps @ 6 /acre. Traps can be procured from IIHR or KVKs or firms licensed to manufacture IIHR traps.
- Collection and destruction of fallen fruits
- Bait splash on tree trunks with 10% jaggery solution mixed with deltamethrin 2.8EC (5ml/litre)
- Community approach at village level is recommended for the effective management of this pest

Mango Fruit Borer:

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml /L or Azadirachtin 1% @2ml/l.

Grapes Flea Beetle: Incidence of flea beetle is expected on newly pruned vines.

Management

- Remove all loose bark
- Rake the soil in basin to expose grubs and pupae to sunlight
- At early bud sprout –spray of imidacloprid 200 SL @ 0.3ml/L or Lambda-cyhalothrin 5 EC @ 0.5ml/L

Grape thrips: On newly pruned grapes, thrips infestation on leaves is expected. Spray *Metarhizium anisopliae* formulation @ 2ml/L two times at weekly interval or fipronil 5SC @ 1.5 ml/L twice at fortnightly interval.

Brinjal shoot and fruit borer, *Leucinodes orbonalis*

Management :

- Release of *Trichogramma chilonis* @ 75,000 per week (for four weeks), if the incidence is moderate.
- Install pheromones traps in the field

- If the incidence is very severe for effective management spray Rynaxypyr 20 SC @ 0.3 ml/l rotate with Emamectin benzoate 5 SG @ 0.3g/liter followed by indoxacarb 14.5 SC @ 0.75 ml/litre.

Mites on tomato and Ridge gourd

- Rising temperatures favour mite multiplication. For the management of mites, spray spiromesifen 22.9SC @ 0.5ml/L or fenazaquin 10 EC @ 1.5ml/L at fortnight interval.

Black thrips on chilli (tentative management only):

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, fipronil 40%+ imidacloprid 40%@40g/acre, Cyantraniliprole10 OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre
  Or
- Spray twice @ minimum 15 days interval in a crop cycle, isocycloseram 9.2% (w/w DC) +Iisocycloseram10% (w/v DC) * @ 1.2ml/liter
- Every 15 days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

- Note: none of these chemicals are approved by CIBRC except isocyloseram

***CIBRC label claim available**

Two spotted spider mite, *Tetranychus urticae* on rose

Management:

- During the period, severe incidence of mites is observed on roses grown under polyhouse conditions. Spray abamectin 1.9EC @ 0.5 ml/l or fenazaquin 10 EC @ 1.5ml/L at fortnight interval for their management.

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of March, 2024.

Fruit crops:

Mango

- Prevailing dry conditions predisposes trees to attack by gummosis/ stem bleeding disease. Give protective irrigation and apply Bordeaux paste on collar region.

Vegetable crops:

Solanaceous vegetables

- Bacterial wilt severity increases under prevailing high temperature conditions in Brinjal, tomato and sweet pepper. To manage this disease, soil drench with copper oxychloride 50% WP @3.0 g/L. Avoid root injury during intercultural operations.

Chilli

- Chilli leaf curl severity increases with prevailing dry weather. To manage sucking insect vectors of this disease give foliar spray of Neem oil (Azadirachtin 10000ppm) @2ml/L or spinosad @ 0.25ml/L. It should be followed by foliar spray with sea weed extract Sagarika @2 ml per litre

Flower Crops:

Chrysanthemum

- Fusarium wilt occurs in chrysanthemum under prevailing conditions. To manage this disease soil drench with carbendazim 50%WP @ 1g/L.

Crop Specific Advisory:

S. No	Crop	Crop- weather situation
1	Rose	Leaves are drying and Thrips infestation increased. Needs spray of systemic insecticide.
2	Marigold	Flowers become small due to heat and mites infestation increases. Miticide to be sprayed
3	Tuberose	Thrips infestation increases due to high temperature systemic insecticide spray needs to be taken.
4	Gladiolus	Thrips infestation increases due to high temperature systemic insecticide spray needs to be given.
5	Crossandra	Diagnosis for incidence of *Fusarium* wilt and taking up of prophylactic measures (spraying of systemic insecticide).
6	Gerbera	Temporary shade may be created for the open field grown gerbera.

		Ensure irrigation be assured at least twice a week.
7	Dahlia	Ensure irrigation be assured at least twice a week.
8	Jasmine	Blossom midge/ bud worms would pose a problem. Prophylactic sprays of systemic insecticide can be taken up. Ensure sufficient soil moisture through regular irrigation.
9	Medicinal crops	Mealy bug infestation in Gymnema. Preventive measures may be taken.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 30th April, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
April (16 - 30) 2024	36.53	19.77	63.20	27.27	9.33	4.34	0.00
	(34.4)	(19.9)	(74.6)	(42.0)	(6.4)	(3.6)	(41.9)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 30th April, 2024**

During the first fortnight of the month i.e., 16th to 30th April, 2024, the mean maximum and minimum temperature increased by 0.83ºC and 0.92ºC respectively as compared to the previous fortnight. The mean maximum temperature decreased by 0.3°C and mean minimum temperature increased by 1.2°C as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon decreased by 4.87% and 0.66% respectively as compared to the previous fortnight. There was no rainfall reported during this fortnight.

❖ **Crop weather situation**

Mean maximum temperature, evaporation losses and wind speed of the current fortnight are higher than the average values of previous five years with no rainfall. Due to lesser soil moisture content, nutrient uptake will be limited. Frequent protective irrigations are essential for all the crops and mulching should also be done to reduce the evaporation losses of applied irrigation water.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bangaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango fruit fly, *Bactrocera dorsalis*

As the fruits had attained maturity stage, incidence of fruit fly is expected. For its management following management measures are suggested.

Management:

- Install methyl eugenol traps @ 6 /acre. Traps can be procured from IIHR or KVKs or firms licensed to manufacture IIHR traps.
- Collection and destruction of fallen fruits
- Bait splash on tree trunks with 10% jaggery solution mixed with deltamethrin 2.8EC (5ml/litre)
- Community approach at village level is recommended for the effective management of this pest

Mango Fruit Borer:

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml /L or Azadirachtin 1% @2ml/l.

Grapes Flea Beetle: Incidence of flea beetle is expected on newly pruned vines.

Management

- Remove all loose bark
- Rake the soil in basin to expose grubs and pupae to sunlight
- At early bud sprout –spray of imidacloprid 200 SL @ 0.3ml/L or Lambda-cyhalothrin 5 EC @ 0.5ml/L

Grape thrips: On newly pruned grapes, thrips infestation on leaves is expected. Spray *Metarhizium anisopliae* formulation @ 2ml/L two times at weekly interval or fipronil 5SC @ 1.5 ml/L twice at fortnightly interval.

Brinjal shoot and fruit borer, *Leucinodes orbonalis*

Management :

- Release of *Trichogramma chilonis* @ 75,000 per week (for four weeks), if the incidence is moderate.

- Install pheromones traps in the field
- If the incidence is very severe for effective management spray Rynaxypyr 20 SC @ 0.3 ml/l rotate with Emamectin benzoate 5 SG @ 0.3g/liter followed by indoxacarb 14.5 SC @ 0.75 ml/litre.

Thrips, *Scirtothrips dorsalis* on chilli

- Incidence of thrips may increase on chilli and capsicum. For its management, spray fipronil 5SC @ 1.5 ml/l or spinetoram 11.7 SC@ 1ml/litre or spinosad 45 SC @ 0.5ml/litre alternating with imidacloprid 200 SL @ 0.5 ml/l at fortnightly interval if the crop is at early stage of infestation. Addition of 2 ml of neem oil or pongamia oil per every litre of insecticide spray solution enhances the efficacy of the chemicals against the pest.

Two spotted spider mite, *Tetranychus urticae* on rose

Management:

- Spray abamectin 1.8 EC @ 0.5 ml/l under polyhouse conditions

***CIBRC label claim available**

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of April, 2024.

Fruit crops:

Mango

- To prevent anthracnose on fruits give pre harvest sprays with Carbendazim (1g/L) / Thiophanate methyl (1g/L / Prochloraz (1g/L) or Chlorothalonil (2g/L). Give protective irrigation during water scarcity to reduce trees vulnerability to die back and gummosis infection

Pomegranate

- To manage wilt disease in pomegranate drench soil with propiconazole 25% EC @ 2 ml/L + chlorpyriphos 20% EC @ 2 ml/L)

Vegetable crops:

Tomato

- Prevailing weather conditions aggravate leaf curl virus problem in chilli. To manage vectors transmitting this disease follow insecticide application; Neem oil (Azadirachtin 10000ppm) @2ml/L or neem soap/ pongamia soap(5g/l), or spinosad@0.25ml/L . To enhance disease tolerance give foliar spray of sea weed extract Sagarika @ 2.0ml/L

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 1st to 15th May, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
May (1 - 15) 2024	35.60	23.21	76.60	43.33	8.37	4.06	104.90
	(33.3)	(21.2)	(81.0)	(52.7)	(5.6)	(3.7)	(71.4)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th May, 2024**

During the first fortnight of the month i.e., 1st to 15th May, 2024, the mean maximum temperature decreased by 0.93ºC and mean minimum temperature increased by 3.44ºC as compared to the previous fortnight. The mean maximum temperature decreased by 1.1°C and mean minimum temperature increased by 1.3°C as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon increased by 13.4% and 16.06% respectively as compared to the previous fortnight. There was 104.90 mm of rainfall reported during this fortnight.

❖ **Crop weather situation**

The fortnight has received sufficient rainfall. Wherever soil moisture is conducive field preparation, basal dose of FYM and fertilizer application may be taken up for kharif vegetable crops. Deep ploughing/digging can be taken up in the interrow vacant areas of fruit crops to facilitate percolation of pre monsoon rains which will increase the storage of moisture in soil.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango fruit fly, *Bactrocera dorsalis*

As the mango fruits are in mature stage, fruit fly incidence is expected to increase across the varieties. For its management following management measures are suggested.

Management:

- Install methyl eugenol traps @ 6 /acre. Traps can be procured from IIHR or KVKs or firms licensed to manufacture IIHR traps.
- Collection and destruction of fallen fruits
- Community approach at village level is recommended for the effective management of this pest

Mango Fruit Borer:

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml /L or Azadirachtin 1% @2ml/l.

Brinjal shoot and fruit borer, *Leucinodes orbonalis*

Management :

- Release of *Trichogramma chilonis* @ 75,000 per week (for four weeks), if the incidence is moderate.
- Install pheromones traps in the field
- Collect and destroy all the affected shoot and fruits
- Spray rynaxypyr 20SC @ 0.3 ml/l rotate with emamectin benzoate 5 SG @ 0.3g/liter followed by indoxacarb 14.5SC @ 0.75 ml/litre.

Two spotted spider mite, *Tetranychus urticae* on rose

Management:

- Spray abamectin 1.8 EC @ 0.5 ml/l under polyhouse conditions

Thrips, *Scirtothrips dorsalis* on chilli

- Incidence of thrips may increase on chilli and capsicum. For its management, spray fipronil 5SC @ 1.5 ml/l or spinetoram 11.7 SC@ 1ml/litre or spinosad 45 SC @ 0.5ml/litre alternating with imidacloprid 200 SL @ 0.5 ml/l at fortnightly interval if the crop is at early

stage of infestation. Addition of 2 ml of neem oil or pongamia oil per every litre of insecticide spray solution enhances the efficacy of the chemicals against the pest.

***CIBRC label claim available**

- **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of May, 2024.

Fruit crops:

Mango

- Stem end rot occur on mango fruits. Do careful harvesting and handling of the fruits to avoid bruise. Harvest fruits with 1- 2 pedicle attached to avoid Lasiodiplodia fruit rot.

Banana

- Incidence of Sigatoka and other leaf spots needs attention. The disease can be managed by the application of with propiconazole 25% EC @ 1ml/L

Pomegranate

- Nodal Blight needs further attention due to the intermittent summer showers. Application of copper oxy chloride along with the sticker @ 0.5ml/l should be applied at the interval of 15 – 20 days.

Vegetable crops:

Tomato

- Under prevailing weather conditions of summer showers, bacterial leaf and fruit spot infection appears on fruits and leaves. To manage this disease give protective foliar spray with copper oxychloride 50% WP @ (3g/l), three sprays at 15 day intervals.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF INDIAN INSTITUTE OF HORTICULTURAL RESEARCH, HESSARAGHATTA, BANGALORE – 560 089

Period: 16th to 31st May 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
May (16-31) 2024	31.41	22.41	85.00	59.19	5.81	4.34	66.00
	(32.5)	(20.9)	(82.2)	(55.3)	(5.5)	(4.2)	(72.2)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

During the second fortnight of the month i.e., 16th to 31st May, 2024, the mean maximum and minimum temperature decreased by 4.19 ºC and 0.80 ºC respectively as compared to the previous fortnight. The mean maximum and minimum temperature decreased by 0.8ºC and 0.3 ºC respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and afternoon increased by 8.4% and 15.86 % respectively as compared to the previous fortnight. There was 66.00mm of rainfall reported during this fortnight.

❖ **Crop Weather Situation**

- ❖ Low temperature and low rainfall were recorded in the last fortnight. Wherever soil moisture is conducive for field preparation, basal dose of FYM and fertilizer application may be taken up for *kharif* vegetable crops.

Plant protection measures – prevailing weather conditions

Under the prevailing weather situation, following pests are expected under Bangalore conditions on various horticultural crops. Different management options for their management are mentioned below.

Mango stem borer

This period coincides with the emergence of adult beetles of trunk borer, *Batocera rufomaculata*. Plug active holes (can be diagnosed with the presence of fresh chewed wood material and excreta) with cotton dipped in imidacloprid 17.8SL or profenophos 50EC @ 10-15ml/L and close with mud. Affected tree trunks can be wrapped with nylon mesh to trap the emerging beetles.

Mango Fruit Borer

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml or Azadirachtin 1% @2ml/l.

Fruit fly on cucurbits

For the management of fruit fly (*Zeugodacus cucurbitae*) on cucurbits, following integrated approach may be followed. Installing cue lure traps @ 10 traps/acre + sanitation (complete destruction of infested fruits at each harvest) + bait spray (Deltamethrin 0.1 % + jaggery @ 10g/L) at 10 days interval from the date of flowering.

Thrips, *Scirtothrips dorsalis* on chilli

- Incidence of thrips may increase on chilli and capsicum. For its management, spray fipronil 5SC @ 1.5 ml/l or spinetoram 11.7 SC@ 1ml/litre or spinosad 45 SC @ 0.5ml/litre alternating with imidacloprid 200 SL @ 0.5 ml/l at fortnightly interval if the crop is at early stage of infestation. Addition of 2 ml of neem oil or pongamia oil per litre of insecticide spray solution enhances the efficacy of the chemicals against the pest.

Root-knot nematode in tomato

i. Raise healthy transplants on soil applied with FYM or vermicompost @5 tons/ha enriched with *Trichoderma harzianum* @ 2kg + *Paecilomyces lilacinus* @ 2kg + *Pseudomonas fluorescens* @2kg /ton of FYM.
ii. In the standing crop, apply neem cake enriched with above biopesticides @ 50g/ m^2. This can also be mixed with water and applied as soil drench @ 2l/m^2. The same can be thoroughly filtered and sent along with drip or sprayed.

Whitefly on Gerbera (polyhouses)

i. Spray diafenthiuran 50WP @ 1 g/l followed by dinetofuran 20SG @1g/litre
ii. Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

Rose Thrips,

i. Spray imidacloprid 17.8SL @ 0.5 ml/l with pongamia oil 0.5%.
ii. Apply Fipronil 5 SC @ 1.5 ml/l in case of severe infestations.
iii. Drench the soil with imidacloprid 17.8SL @ 0.5ml/l for killing pupae in the soil.

Midge on crossandra

- Incidence of midge is increasing on crossandra. For its management spray imidacloprid 17.8SL @ 0.5 ml/l.

***CIBRC label claim available**

Disease Scenario

Disease management advisories based on weather data during second fortnight of May 2024

Capsicum: Bacterial leaf and fruit spot occurs due to prevailing rains and high temperature. To manage this disease, spray copper oxychloride 50% WP @ 2.5g/l

Pomegranate: Bacterial blight of pomegranate aggravates under prevailing weather condition. To manage this disease, give foliar spray with copper oxychloride 50% WP @ 2.5g/L altered with 2-bromo, 2-nitro propane-1, 3-diol (Bronopol 95%) spray @ 0.5 g/L.

Tomato: Bacterial wilt aggravates under prevailing condition. To manage this disease carry out soil drenching of wilted and surrounding plants with copper oxychloride 50% WP @ (3g/l) to wilt and surrounding plants.

Rose: To manage black spot of rose spray with trifloxystrobin + tebuconazole at 1ml per litre

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 1st to 15th June, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
June (1 - 15) 2024	30.34	21.97	87.20	65.53	5.45	4.79	70.00
	(31.2)	(20.8)	(85.9)	(63.1)	(5.4)	(5.4)	(54.9)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th June, 2024**

During the first fortnight of the month i.e., 1st to 15th June, 2024, the mean maximum and mean minimum temperature decreased by 1.07ºC and 0.44ºC respectively as compared to the previous fortnight. The mean maximum and mean minimum temperature decreased by 1.3°C and 0.1°C respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon increased by 2.2% and 6.34% respectively as compared to the previous fortnight. There was 70.00 mm of rainfall reported during this fortnight.

❖ **Crop weather situation**

The fortnight has received sufficient rainfall. Wherever soil moisture is conducive field preparation, basal dose of FYM and fertilizer application may be taken up for kharif vegetable crops. Deep ploughing/digging can be taken up in the interrow vacant areas of fruit crops to facilitate percolation of pre monsoon rains which will increase the storage of moisture in soil.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango stem borer:

This period coincides with the emergence of adult beetles of trunk borer, *Batocera rufomaculata*. Plug active holes (can be diagnosed with the presence of fresh chewed wood material and excreta) with cotton dipped in chloropyrifos @ 5ml/L and close with mud. In case of severe infestation IIHR developed Sealer cum healer can be used. Affected tree trunks can be wrapped with nylon mesh to trap the emerging beetles.

Mango Fruit Borer:

- Collect the fallen fruits at regular intervals and destroy or bury them in a pit
- First spray has to be given when fruits are at lemon size with any one of the insecticides viz., Lambda cyhalothrin 5EC @1ml/l or indoxacarb 14.5SC@ 0.75ml/l or spinetoram 11.7SC @ 1.25ml/l. This has to be followed by second spray after 12-15 days with a botanical pesticide, azadirachtin 10000ppm @2ml/l or IIHR neem soap @10g/l.
- In case of orchards following organic /non chemical farming, first spray can be taken up with either Bt@1ml /L or Azadirachtin 1% @2ml/l.

Fruit fly on cucurbits:

For the management of fruit fly (*Bactrocera cucurbitae*) on cucurbits, following integrated approach may be followed. Installing cue lure traps @ 10 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray (Deltamethrin 0.1 % + jaggery @ 10g/L) at 10 days interval from the date of flowering.

Thrips*, Scirtothrips dorsalis* on chilli

- Incidence of thrips may increase on chilli and capsicum. For its management, need based spray of fipronil 5SC @ 1.5 ml/l or spinetoram 11.7 SC@ 1ml/litre or spinosad 45 SC @ 0.5ml/litre alternating with imidacloprid 200 SL @ 0.5 ml/l at fortnightly interval if the crop is at early stage of infestation. Addition of 2 ml of neem oil or pongamia oil per every litre of insecticide spray solution enhances the efficacy of the chemicals against the pest.

Root-knot nematode in tomato

iii. Raise healthy transplants on soil applied with FYM or vermicompost @5 tons/ha enriched with *Trichoderma harzianum* @ 2kg + *Paecilomyces lilacinus* @ 2kg + *Pseudomonas fluorescens* @2kg /ton of FYM.
iv. In standing crop, apply neem cake enriched with above biopesticides @ 50g/ m^2. This can also be mixed with water and applied as soil drench @ 2l/m^2. The same can be thoroughly filtered and sent along with drip or sprayed.

Whitefly on Gerbera (polyhouses)

iii. Spray diafenthiuran 50 WP @ 1 g/l followed by dinetofuran 20 SG@ 1g/litre
iv. Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

Rose Thrips,

iv. Spray imidacloprid 17.8 ml/l or dimethoate 30 EC @ 2ml/l with pongamia oil 0.5%.
v. Apply Fipronil 5 SC @ 1.5 ml/l in case of severe infestations.
vi. Drench the soil with Chlorpyrifos 20 EC @ 5ml/l for killing pupae in the soil.

Midge on crossandra

- Incidence of midge is increasing on crossandra. For its management spray imidacloprid 17.8 SL@ 0.5 ml/l.

***CIBRC label claim available**

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of June, 2024.

Fruit crops:
Mango

- Apply Bordeaux paste to tree trunk up to 1m from soil to prevent entry of pathogens. Prune and remove diseased portions in tree. Apply bordeaux paste or copper oxychloride 50% WP paste to pruned parts to prevent secondary infection by pathogens.

Vegetable crops:
Tomato

- Bacterial leaf and fruit spot occurs due to prevailing rains and high temperature. To manage this disease, spray copper oxychloride 50% WP @ 3g/l.

Onion

- Anthracnose / twister disease severity increases under prevailing rainy condition. To manage this disease, spray carbendazim 12% + mancozeb 63% WP @ 2g/l. Maintain proper water drainage in the field.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 30th June, 2024
Latitude : $13^{0}7^{1}$ N **Longitude : $72^{0}29^{1}$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
June (16-30) 2024	30.03	21.58	87.00	64.87	6.23	5.95	36.80
	(29.9)	(20.6)	(85.8)	(65.1)	(4.4)	(5.7)	(58.00)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 30th June, 2024**

During the second fortnight of the month i.e., 16th to 30th June, 2024, the mean maximum and mean minimum temperature decreased by 0.31ºC and 0.39ºC respectively as compared to the previous fortnight. The mean maximum and mean minimum temperature decreased by 1.3°C and 0.2°C respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon decreased by 0.2% and 0.66% respectively as compared to the previous fortnight. There was 36.80 mm of rainfall recorded during this fortnight.

❖ **Crop weather situation**

High temperature and low rainfall were recorded in the last fortnight compared to the average of previous 5 years. Wherever soil moisture is conducive field preparation, basal dose of FYM and fertilizer application may be taken up for kharif vegetable crops. Foliar application of Arka Vegetable Special may be given for standing vegetable crops. Basin cleaning & fertilizer application may be carried out in perennial fruit crops. Foliar spray of nitrogen, potassium, zinc and boron may be given to guava crop which will help in getting bigger sized fruits.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango stem borer:

This period coincides with the emergence of adult beetles of trunk borer, *Batocera rufomaculata*. Plug active holes (can be diagnosed by the presence of fresh chewed wood material and excreta) with cotton dipped in chlorpyrifos @ 5ml/L and close with mud. In case of severe infestation IIHR developed Sealer cum Healer can be used.

Fruit fly on cucurbits:

For the management of fruit fly (*Bactrocera cucurbitae*) on cucurbits, the following integrated approach may be followed. Installing cue lure traps @ 10 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray (Deltamethrin 0.1 % + jaggery @ 10g/L) at 10 days interval from the date of flowering.

Thrips on chilli

- Grow border crop like maize 20-25 days before transplantation of main crop
- Install blue sticky traps @ 12-15/acre
- Need based spray of fipronil 5SC* @ 1.5 ml/l or spinetoram 11.7 SC@ 1ml/litre or spinosad 45 SC @ 0.5ml/litre alternating with imidacloprid 200 SL @ 0.5 ml/l at fortnightly interval if the crop is at early stage of infestation.
- Addition of 2 ml of neem oil or pongamia oil per every litre of insecticide spray solution enhances the efficacy of the chemicals against the pest.

Cut worms

- Incidence of cutworms may be seen up to 15-20 days after transplantation of vegetable crops
- Young seedlings will be cut at ground level by cut worm larvae during night time.
- Drench the soil around the root zone of the crop with imidacloprid 200 SL @ 5ml/l for killing larvae in the soil.

Legumes pod borer

- Spray indoxacarb14.5 SC @ 0.75ml/litre at 10 days interval from flowering stage .

Root-knot nematode in tomato

- Raise healthy transplants on soil mixed with Neem cake @ 50kg + *Trichoderma harzianum* @ 1kg + *Paecilomyces lilacinus* @ 1kg /ton of soil.
- Apply 2 kg of Farm Yard Manure enriched with bio-pesticides – *T. harzianum* and *P. lilacinus* at the time of planting.

Whitefly on Gerbera (polyhouses)

- Spray diafenthiuran 50 WP @ 1 g/l followed by dinetofuran 20 SG@ 1g/litre
- Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

Rose Thrips

vii. Spray pongamia oil 0.5%.
viii. Apply fipronil 5 SC @ 1.5 ml/l in case of severe infestations.
ix. Drench the soil with imidacloprid 200 SL @ 5ml/l for killing pupae in the soil.

Midge on crossandra

- Incidence of midge is increasing on crossandra. For its management spray imidacloprid 17.8 SL@ 0.5 ml/l.

***CIBRC label claim available**

Crop- weather situation: Crop Specific Advisory

S. No	Crop	Crop- weather situation
1	Crossandra	Scales observed
2	Marigold	Severe leaf miner infestation
3	Chrysanthemum	Leaf eating caterpillar observed
4	Jasmine	Leaf eating caterpillar observed
5	Medicinal crops	Leaf eating caterpillar and leaf spot observed in Shankhpushpi

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of June, 2024.

Fruit crops:

Papaya

- Black spot infection on foliage and fruit appears under prevailing rainy condition. To manage this disease give a foliar spray of chlorothalonil 75%WP @2g/L or thiophanate methyl 70% WP (1g/L).

Banana

- Sigatoka leaf spot severity increases on leaves. Remove and destroy old infected and dried leaves to prevent secondary spread of disease. Follow weeding to avoid build up of humidity in plantation. Give a foliar spray of carbendazim 12%+mancozeb 63% WP fungicide @1g/L or propiconazole 25%EC @1ml/L along with spray adjuvant at 0.5 ml/L.

Vegetable crops:

Tomato

- To manage early blight, remove and destroy lower most old and diseased leaves in the morning. Give foliar application of mancozeb (2g/l) or tebuconazole 50% + trifloxystrobin 25% WG (0.75g/l) at fortnightly interval

Onion

- Onion twister severity increases. Avoid flood irrigation and maintain proper soil drainage to prevent disease spread by irrigation water. To manage this disease a foliar spray of Dithane M-45@2.5g/litres, or Difenoconazole 25%EC @ 1ml/litre is recommended.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 1st to 15th July, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
July (1 - 15) 2024	29.17	21.62	89.73	68.73	4.79	6.38	35.00
	(29.0)	(20.6)	(85.9)	(65.7)	(4.1)	(6.5)	(62.3)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th July, 2024**

During the first fortnight of the month i.e., 1st to 15th July, 2024, the mean maximum temperature decreased by 0.86ºC and mean minimum temperature increased by 0.04ºC as compared to the previous fortnight. The mean maximum temperature decreased by 0.9°C and mean minimum temperature remains unchanged as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon increased by 2.73% and 3.86% respectively as compared to the previous fortnight. There was 35.00 mm of rainfall reported during this fortnight.

❖ **Crop weather situation**

Low rainfall, high temperature and high evaporation has been recorded in the last fortnight. Basal dose of FYM and fertilizer application may be taken up for *kharif* vegetable crops, wherever soil moisture is conducive. Foliar application of Arka Vegetable Special may be given for standing vegetable crops. Basin cleaning and fertilizer application may be carried out in perennial fruit crops.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango stem borer:

This period coincides with the emergence of adult beetles of trunk borer, *Batocera rufomaculata*. Plug active holes (can be diagnosed with the presence of fresh chewed wood material and excreta) with cotton dipped in chloropyrifos 20EC @ 5ml/L and close with mud. In case of severe infestation IIHR developed Sealer cum Healer can be used.

Fruit fly on cucurbits:

For the management of fruit fly (*Bactrocera cucurbitae*) on cucurbits, following integrated approach may be followed. Installing cue lure traps @ 10 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray (Deltamethrin 0.1 % + jaggery @ 10g/L) at 10 days interval from the date of flowering.

Thrips, *Scirtothrips dorsalis* on chilli

- Grow border crop like maize 20-25 days before transplantation of main crop
- Install blue sticky traps @ 12-15/acre
- Need based spray of fipronil 5SC* @ 1.5 ml/l or spinetoram 11.7 SC@ 1ml/litre or spinosad 45 SC @ 0.5ml/litre alternating with imidacloprid 200 SL @ 0.5 ml/l at fortnightly interval if the crop is at early stage of infestation.
- Addition of 2 ml of neem oil or pongamia oil per every litre of insecticide spray solution enhances the efficacy of the chemicals against the pest

Cut worms

- Incidence of cutworms may be seen up to 15-20 days after transplantation of vegetable crops
- Young seedlings will be cut at ground level by cut worm larvae during night time
- Drench the soil around the root zone of the crop with Chlorpyrifos 20 EC @ 5ml/l for killing larvae in the soil

Legumes pod borer

- **Need based Spray** spinosad 45 SC @ 0.5ml/litre or indoxacarb14.5 SC @ 0.75ml/litre at 10 days interval from flowering stage

Root-knot nematode in tomato

v. Raise healthy transplants on soil applied with FYM or vermicompost @5 tons/ha enriched with *Trichoderma harzianum* @ 2kg + *Paecilomyces lilacinus* @ 2kg + *Pseudomonas fluorescens* @2kg /ton of FYM.
vi. In standing crop, apply neem cake enriched with above biopesticides @ 50g/ m^2. This can also be mixed with water and applied as soil drench @ 2l/m^2. The same can be thoroughly filtered and sent along with drip or sprayed.

Root-knot nematode in Okra

- Seed treatment with *Trichoderma harzianum* or *Pseudomonas fluorescens* @ 15-20g/kg seed.
- Soil application of FYM or vermicompost @5 tons/ha enriched with *Trichoderma harzianum* @ 2kg + *Paecilomyces lilacinus* @ 2kg + *Pseudomonas fluorescens* @2kg /ton of FYM..
- In standing crop, apply neem cake enriched with above biopesticides @ 50g/ m^2. This can also be mixed with water and applied as soil drench @ 2l/$m^{2.}$. The same can be thoroughly filtered and sent along with drip or sprayed.

Whitefly on Gerbera (polyhouses)

v. Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.
vi. Spray Neem soap @ 10g/liter followed pongamia soap @ 10 g / liter
vii. **Need based spray** diafenthiuran 50WP @ 1 g/l followed by dinetofuran 20SG @1g/litre

Rose Thrips,

x. Grow border maize or sorghum to prevent pest migration
xi. Install blue sticky traps
xii. Spray imidacloprid 17.8 ml/l or dimethoate 30 EC @ 2ml/l with pongamia oil 0.5%.
xiii. Apply Fipronil 5 SC @ 1.5 ml/l in case of severe infestations.
xiv. Drench the soil with Chlorpyrifos 20 EC @ 5ml/l for killing pupae in the soil.

Midge on crossandra

- Incidence of midge is increasing on crossandra. For its management spray imidacloprid 17.8 SL@ 0.5 ml/l.

***CIBRC label claim available**

Disclaimer: Wherever label claim not available, recommendations are made based on experimental results.

❖ Disease scenario

Disease scenario in relation to the weather data during first fortnight of July, 2024.

Fruit crops:

Papaya

- Foot rot caused by *Pythium spp*. and *Phytophthora spp.* occurs due to continuous rains. Avoid water logging by providing proper drainage to remove excess water. Application of farmyard manure or neem cake enriched with *Trichoderma harzianum* helps in preventive management. If disease is noticed in few plants, drench with copper oxychloride 50%WP (2.5g/l).

Vegetable crops:

Tomato

- Late blight starts appearing in lower most soil touching lines. Remove lower most old and diseased leaves and give foliar spray of curative foliar spray of famoxadone 16.6%+ cymoxanil 22.1% SC (1g/l) or metiram 55% + pyraclostrobin 5% WG (3g/l).

Onion

- Anthracnose and purple blotch are likely to aggravate under current weather situation. To protect crop from these diseases give foliar spray with Zineb 75% WP @ 2g/L, if already disease is noticed in severe form give foliar spray with Difenoconazole 25% EC (1ml/Litre)

Flower Crops:

Chrysanthemum

- Leaf and flower blight caused by *Alternaria spp.* gets aggravated due to prevailing rains. To manage this disease spray difenoconazole 25% EC (0.5ml/l) or tebuconazole 20 EC (25.9% W/W) (0.5ml/l) .

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 31st July, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
July (16-31) 2024	27.54	21.69	88.50	73.06	4.16	9.56	23.20
	(28.6)	(20.3)	(86.3)	(67.1)	(3.9)	(5.7)	(88.4)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 31st July, 2024**

During the second fortnight of the month i.e., 16th to 31st July, 2024, the mean maximum temperature decreased by 1.63ºC and mean minimum temperature increased by 0.07ºC as compared to the previous fortnight. The mean maximum and minimum temperature decreased by 0.4°C and 0.3°C respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning decreased by 1.23% and in the afternoon increased by 4.33% as compared to the previous fortnight. There was 23.20 mm of rainfall recorded during this fortnight.

❖ **Crop weather situation**

Wherever soil condition is conducive, inter-cultural operations may be carried out. Under poor drainage conditions, nitrogen may be applied in legumes. Wherever tomato crop is at fruit setting stage, foliar application of Calcium (0.5%) may be given to avoid blossom end rot.

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❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Leaf Webber on mango

- Remove and destroy the webbed portions wherever they are accessible
- For the management of this pest prune the affected shoots and spray lambda cyhalothrin 5EC @ 1ml/l

Mango shoot borer:

- Clip and destroy affected shoots
- Spray lambda cyhalothrin 5EC @ 1ml/l or Quinalphos 25 EC @ 2ml/l at the time of emergence of new flush. This will also take care of leaf eating weevil, *Rhynchaenus mangiferae*

Fruit fly on cucurbits:

- For the management of fruit fly on cucurbits, following integrated approach may be followed. Deployment of cue lure traps @ 10 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray
- Bait Splash of 40/ acre (150g jaggery + yeast 20 g+ l liter water + 20-25ml deltamethrin 1.8EC)

Tomato moth:

- Install tuta pheromone traps for monitoring of the adults @ 4-6 traps/acre
- Spray indoxacarb14.5 SC @ 0.75 ml/litre or spinosad 45SC @ 0.3ml/l

Mites on tomato:

- For the management of mites spray wettable sulphur @ 3 g/l or propargite 57 EC @ 1.25 ml/l or fenzaquine 10EC @ 1.5ml/litre.

Thrips on chilli:

- Grow border crop like maize 20-25 days before transplantation of main crop
- Install blue sticky traps @ 12-15/acre
- Need based spray of fipronil 5SC* @ 1.5 ml/l or spinetoram 11.7 SC@ 1ml/litre or spinosad 45 SC @ 0.5ml/litre alternating with imidacloprid 200 SL @ 0.5 ml/l at fortnightly interval if the crop is at early stage of infestation.
- Addition of 2 ml of neem oil or pongamia oil per every litre of insecticide spray solution enhances the efficacy of the chemicals against the pest

Root-knot nematode in tomato:

- Raise healthy transplants on soil applied with FYM or vermicompost @5 tons/ha enriched with *Trichoderma harzianum* @ 2kg + *Paecilomyces lilacinus* @ 2kg + *Pseudomonas fluorescens* @2kg /ton of FYM.
- In standing crop, apply neem cake enriched with above biopesticides @ 50g/ m^2. This can also be mixed with water and applied as soil drench @ 2l/$m^{2.}$. The same can be thoroughly filtered and sent along with drip or sprayed.

Rose Thrips:

xv. Spray imidacloprid 17.8SL @0.3ml/l with pongamia oil 0.5%.
xvi. Apply Fipronil 5 SC @ 1.5 ml/l in case of severe infestations.
xvii. Drench the soil with Chlorpyrifos 20 EC @ 5ml/l for killing pupae in the soil.

Mites on rose:

- For the management of mites spray milbemectin1EC @ 1 ml/l.

Midge on crossandra:

- Under the prevailing conditions, incidence of midge increases on crossandra. For its management spray imidacloprid 17.8SL @ 0.3 ml/l.

Whitefly on Gerbera (polyhouse) :

viii. Spray diafenthiuran 50WP @ 1 g/l followed by dinetofuran 20SG 1g/litre
- Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

***CIBRC label claim available**

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of July, 2024.

Fruit crops:

Papaya

- Foliar, fruit as well as internal infection of anthracnose and black spot may advance. Application of Chlorothalonil (0.2%) / Hexaconazole (0.1%) along with the sticker @ 0.5ml/l with good coverage of the lower surface of the foliage is recommended.

Vegetable crops:

Tomato

- Foliar application of copper oxychloride (0.3%) or Chlorothalonil (0.2%) or Mancozeb (0.2%) or Propineb (0.2%) or Metiram (O.2%) or Pyraclostrobin + metiram (0.2%) at fortnightly interval will reduce the spread of early leaf blight of tomato caused by *Alternaria species*. To prevent the late blight spraying of Mancozeb (0.2%) or Copper oxychloride (0.3%) or copper hydroxide (0.2%) has to be followed

Onion

- Application of fungicides such as chlorothalonil (0.2 %) or propineb (0.2 %) or mancozeb (0.2%) at fortnightly intervals from onset of the disease may reduce the purple blotch.

Flower and Medicinal Crops:

Marigold

- To avoid the spread of *Alternaria* blight give a prophylactic spray with chlorothalonil or mancozeb at 0.2% .

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALURU – 560 089

Period: 1st to 15th August, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
August (1 - 15) 2024	28.89	21.53	91.00	71.07	4.70	4.05	165.40
	(28.5)	(20.3)	(85.7)	(66.5)	(4.2)	(7.0)	(39.6)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th August, 2024**

During the first fortnight of the month i.e., 1st to 15th August, 2024, the mean maximum temperature increased by 1.35ºC and mean minimum temperature decreased by 0.16ºC as compared to the previous fortnight. The mean maximum temperature decreased by 0.1°C and mean minimum temperature remains unchanged as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning increased by 2.5% and in the afternoon decreased by 1.99% as compared to the previous fortnight. There was 165.40 mm of rainfall reported during this fortnight.

❖ **Crop weather situation**

- The fortnight has received four times more rainfall than the average of previous 5 years. The crops which are sensitive to water logging may be protected by draining out excess moisture from the base of the plants. Intercultural operation to remove weeds and providing aeration to roots must be taken-up. In vegetable crops foliar spray of vegetable special (5 g/l) may be given to boost yield & quality.

- Papaya flowers and fruits showed more fungal infection due to continuous rains

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Leaf Webber on mango

- Remove and destroy the webbed portions wherever they are accessible
- For the management of this pest prune the affected shoots and spray lambda cyhalothrin 5EC @ 1ml/l

Mango shoot borer

- Clip and destroy affected shoots
- Spray lambda cyhalothrin 5EC @ 1ml/l or Quinalphos 25 EC @ 2ml/l at the time of emergence of new flush. This will also take care of leaf eating weevil, *Rhynchaenus mangiferae*

Fruit fly on cucurbits:

- For the management of fruit fly on cucurbits, following integrated approach may be followed. Deployment of cue lure traps @ 15 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray (cypermethrin 1 ml + jaggery @ 10g/L) at 10 days interval from the date of flowering.
- Bait Splash of 40/ acre (150g jaggery + 500mlwater + 5ml cypermethrin)

Tomato moth

- Install tuta pheromone traps for monitoring of the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5 SC @ 0.75 ml/litre or spinosad 45 SC @ 0.3ml/l

Mites on tomato

- For the management of mites spray wettable sulphur @ 3 g/l or propargite 57 EC @ 1.25 ml/l or fenzaquin 10EC @ 1.5ml/litre

Thrips, *Scirtothrips dorsalis* on chilli

- Spray fipronil 5 SC (1.5 ml/l) or Difenthuran 50WP @ 1g/litre or thiacloprid 240 SC @ 0.5 ml/l alternately at fortnightly interval.

Root-knot nematode in tomato

vii. Raise healthy transplants on soil applied with FYM or vermicompost @5 tons/ha enriched with *Trichoderma harzianum* @ 2kg + *Paecilomyces lilacinus* @ 2kg + *Pseudomonas fluorescens* @2kg /ton of FYM.

viii. In standing crop, apply neem cake enriched with above biopesticides @ 50g/ m^2. This can also be mixed with water and applied as soil drench @ 2l/$m^{2.}$. The same can be thoroughly filtered and sent along with drip or sprayed

Rose Thrips,

xviii. Spray imidacloprid 17.8 SL @ 0.5ml/l or dimethoate 30 EC @ 2ml/l with pongamia oil 0.5%.

xix. Apply Fipronil 5 SC @ 1.5 ml/l in case of severe infestations.

xx. Drench the soil with Chlorpyrifos 20 EC @ 5ml/l for killing pupae in the soil.

Mites on rose

- For the management of mites spray milbemectin1 EC @ 1 ml/l

Midge on crossandra

- Under the prevailing conditions, incidence of midge increases on crossandra. For its management spray imidacloprid 17.8SL@ 0.5 ml/l.

Whitefly on Gerbera (polyhouses)

ix. Spray diafenthiuran 50WP @ 1 g/l followed by dinetofuran 20SG @1g/litre

x. Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

***CIBRC label claim available**

Disclaimer: Wherever label claim not available, recommendations are made based on experimental results.

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of August, 2024.

Fruit crops:

Papaya

- Anthracnose severity is expected to increase with prevailing weather. Spray application of thiophanate methyl M (0.1%) along with sticker @ 0.5 ml/L is recommended.

Vegetable crops:

Tomato

- Early blight disease severity increases on leaves fruits and stem. To manage this disease give foliar spray of mancozeb @ 2g/l followed by tebuconazole 50% + trifloxystrobin 25% WG @ 0.75g/l after 10 days

Chilli

- Due to rain splash anthracnose spread is expected in green chillies. To manage this disease give foliar spray of copper oxychloride 50% WP (2.5g/l) or mancozeb75%WP (2 g/l) or propineb70%WP (5g/l) or Zineb75%WP (2g/l) as preventive sprays followed by Difenoconazole25% EC (0.5ml/l) as curative sprays.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALURU – 560 089

Period: 16th to 31st August, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
August (16-31) 2024	29.01	21.63	90.00	70.75	4.48	4.89	60.50
	(29.3)	(20.0)	(85.1)	(63.9)	(4.2)	(3.8)	(81.9)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 31st August, 2024**

During the second fortnight of the month i.e., 16th to 31st August, 2024, the mean maximum and minimum temperature increased by 0.12ºC and 0.1ºC respectively as compared to the previous fortnight. The mean maximum temperature increased by 0.8°C and mean minimum temperature decreased by 0.3 °C as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and afternoon decreased by 1% and 0.32% respectively as compared to the previous fortnight. There was 60.50 mm of rainfall reported during this fortnight.

❖ **Crop weather situation**

For kharif vegetable crops, bunds may be raised to avoid fruit spoilage by soil borne diseases which would occur when fruits touch the soil. Wherever soil conditions are conducive, intercultural operations may be taken up in kharif planted vegetables and fruit crops.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various options for their management are mentioned below.

Hoppers and thrips on mango

- New flush of certain varieties like Alphonso and Banganapalli attracts hoppers and thrips. Spraying with acephate 75SP @ 1.5 g /L along with sticker will check the infestation which otherwise may serve as source for flowering season.

Fruit fly on cucurbits:

- For the management of fruit fly on cucurbits, following integrated approach may be followed. Deployment of cue lure traps @ 15 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray (deltamethrin 2.8 EC@ 1 ml + jaggery @ 10g/L) at 10 days interval from the date of flowering.
- Bait Splash of 40/ acre (150g jaggery + 500mlwater + 5ml deltamethrin 2.8 EC)

Mites on tomato

- For the management of mites spray fenzaquin 10 EC @ 1.5ml/litre
  Or spiromesifen 22.9EC* @ 0.5 ml/l

Black Thrips, *Scirtothrips dorsalis* on chilli

- As Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under Nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, Fipronil 40%+ imidaclorpid40%@40g/acre,Cyantraniliprole10OD@240ml/acre,acetamiprid20SP @40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre
  or
- Spray twice @ minimum 15 days interval in a crop cycle Isocycloseram 9.2% (w/w DC) + Isocycloseram10% (w/v DC) * @ 1.2ml/liter
- Every 15days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

Note: none of these chemicals approved by CIBRC except isocyloseram

***CIBRC label claim available**

Ash weevil on brinjal

- Collect and destroy adults.
- Apply oiled neem cake with 8-10% oil to ridges @ 250kg/ha at planting and repeat at 30 Days After planting
- In endemic areas, apply chloropyrifos 1.5D @25-30kg/ha on 15 days after planting

Rose Thrips

xxi. Spray dimethoate 30 EC @ 2ml/l with pongamia oil 0.5%.
xxii. Apply Fipronil 5 SC @ 1.5 ml/l in case of severe infestations.
xxiii. Drench the soil with Chlorpyrifos 20 EC @ 5ml/l for killing pupae in the soil.

Mites on Rose

- For the management of mites spray milbemectin1EC @ 1 ml/l

Midge on Crossandra

- Under the prevailing conditions, incidence of midge increases on crossandra. For its management spray imidacloprid 17.8 SL @ 0.5 ml/l.

Whitefly on Gerbera (polyhouses)

- Spray diafenthiuran 50 WP @ 1 g/l followed by dinetofuran 20 SG@ 1g/litre
- Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

Jasmine Bud borer

- Severe incidence of Jasmine bud borer is noticed during this period. Spray profenofos 50EC @1.5 ml/l for its management. If the incidence is severe spray indoxacarb 14.5 SC @ 0.75 ml/l

***CIBRC label claim available**

Disclaimer: Wherever label claim not available, recommendations are made based on experimental results.

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of August, 2024.

Fruit crops:

Papaya

- Foot rot caused by *Pythium spp*. and *Phytophthora spp.* occurs due to continuous rains. Avoid water logging by providing proper drainage to remove excess water. To prevent further spread of this disease drench soil with copper oxychloride 50%WP (2.5g/l) or 1% Bordeaux mixture.

Pomegranate

- To manage anthracnose disease on leaves and fruits give curative foliar spray of Thiophanate methyl M 70% WP@ 1g/L or Propiconazole 25% EC @1 ml/L

Vegetable crops:

Tomato

- Late blight is likely to aggravate under prevailing weather situation. To protect crop from late blight, remove lower infected blighted leaves and give foliar spray of Mancozeb75%WP / Propineb70%WP (3g/L) as protective sprays followed by spray with Famoxadone16.6%+ Cymoxanil22.1% SC (1g/l) as curative spray

Chilli

- Prevailing rainy condition favours development of anthracnose on green chillies. To manage this disease, give foliar spray application of copperoxychloride 50% WP (2.5g/l) or mancozeb75%WP (2 g/l) as preventive sprays followed by curative sprays with difenoconazole 25% EC (0.5ml/l) or tebuconazole 20 EC (25.9% W/W) (0.5ml/l)

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALURU – 560 089

Period: 1st to 15th September, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
September (1 - 15) 2024	29.27	20.81	88.60	62.87	5.11	6.20	0.20
	(28.9)	(20.2)	(85.4)	(66.9)	(4.1)	(5.2)	(121.0)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th September, 2024**

During the first fortnight of the month i.e., 1st to 15th September, 2024, the mean maximum temperature increased by 0.26ºC and mean minimum temperature decreased by 0.82ºC as compared to the previous fortnight. The mean maximum temperature decreased by 0.4°C and mean minimum temperature increased by 0.2ºC as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon decreased by 1.4% and 7.88% respectively as compared to the previous fortnight. There was 0.20 mm rainfall reported during this fortnight.

❖ **Crop weather situation**

- High temperature and low rainfall were recorded in the last fortnight compared to the average of previous 5 years**.** Wherever soil condition is congenial, field preparations for sowing rabi vegetables may be started. Farmers are advised to drench Arka Microbial Consortium to improve systemic resistance.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango shoot borer

- Clip and destroy affected shoots
- Spray acephate 50 WP@ 1.5 g/l or Quinalphos 25 EC @ 2ml/l at the time of emergence of new flush. This will also take care of leaf eating weevil, *Rhynchaenus mangiferae.*

Webber and ash weevil on Mango

- Incidence of webber and ash weevil become serious on new leaves. Remove webbed leaves wherever possible and burn them. Spray quinalphos 25 EC @ 2 ml/l or lamda cyhalothrin 5 EC @ 1ml /l for their management.

Pomegranate

Fruit sucking moth: wherever matured fruits are there fruit sucking moth damage is expected. Netting the orchards is recommended

Thrips: On new flush, thrips incidence is expected. Spray fipronil 5 SC @ 1.5ml/L

Thrips*, Scirtothrips dorsalis* on chilli

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under Nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, Fipronil 40%+ imidaclorpid40%@40g/acre, Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre

  Or
- Spray twice @ minimum 15 days interval in a crop cycle Isocycloseram 9.2% (w/w DC) + Isocycloseram10% (w/v DC) * @ 1.2ml/liter

- At every 15 days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

Note: none of these chemicals approved by CIBRC except isocyloseram

*CIBRC label claim available

Fruit fly on cucurbits

- For the management of fruit fly on cucurbits, following integrated approach may be followed. Deployment of cue lure traps @ 15 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray (lamda cyhalothrin 5 EC@ 1 ml + jaggery @ 10g/L) at 10 days interval from the date of flowering.
- Bait Splash of 40/ acre (150g jaggery + 500mlwater + 5ml lamda cyhalothrin 5 EC)

Tobacco caterpillar on Tomato

- For the management of this pest, spray indoxacarb @ 0.75 ml/L or ranxypyr 18.5 SC @ 0.3ml/L.

Leaf hopper on okra/Bhendi

- Incidence of jassids is observed on okra. Spray imidacloprid 17.8 SL @ 0.3 ml/l, if the crop is at pre-flowering stage. Otherwise, spray neem or pongamia soaps @ 1 %, thoroughly covering lower surface of leaves.

Rose Thrips

Incidence of rose thrips was observed more under polyhouse conditions. Spray acepthate 75 SP @ 1 g/l or imidacloprid 17.8 SL @ 0.5 ml/l for its management

Whitefly on Gerbera (polyhouses)

- For the management of whitefly on gerbera diafenthiuron 50 WP @ 1g/liter followed by dinetofuran 20SG @ 0.3 g/l. Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

*** CIBRC label claim available**

Disclaimer: Wherever label claim not available, recommendations are made based on experimental results

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of September, 2024.

Vegetable crops:

Tomato

- Phytophthora blight (*Phytophthora infestans*) is expected to aggravate in tomato. To manage this disease, remove low lying infected leaves and spray mancozeb75%WP or zineb75%WP(2g/l)/ as protective sprays followed by Famoxadone16.6%+ Cymoxanil 22.1%SC (1g/l) or Metiram 55% + Pyraclostrobin 5% WG (3g/l) as curative spray

Chilli

- Prevailing weather conditions favour development of powdery mildew (*Leveillula taurica*) disease in chilli. To manage this disease, give foliar spray of tebuconazole 50% + trifloxystrobin 25% WG (0.5g/l)

Flower and Medicinal Crops

Tube rose

- Leaf and flower blight severity increases in tube rose. To manage this disease, spray carbendazim + mancozeb (1g/L) or hexaconazole (0.5 ml/L).

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 30th September, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
September (16-30) 2024	29.96	20.22	88.07	63.20	5.15	4.05	17.70
	(29.0)	(19.9)	(84.6)	(63.7)	(3.9)	(3.9)	(50.5)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 30th September, 2024**

During the second fortnight of the month i.e., 16th to 30th September, 2024, the mean maximum temperature increased by 0.69 ºC and mean minimum temperature decreased by 0.59ºC as compared to the previous fortnight. The mean maximum temperature increased by 0.1 ºC and mean minimum temperature decreased by 0.3°C as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning decreased by 0.53% and in the afternoon increased by 0.33% as compared to the previous fortnight. There was 17.70 mm rainfall recorded during this fortnight.

❖ **Crop weather situation**

High temperature and low rainfall were recorded in the last fortnight**.** Vegetables planted late in the season needs topdressing with fertilizers. For banana planted in June- July, second split application of N, P_2O_5 and KO @ 50:30:60 g per plant may be applied. For banana in fruiting stage a foliar spray with Banana Special may be given.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango shoot borer:

- Clip and destroy affected shoots
- Spray acephate 50 WP@ 1.5 g/l or Quinalphos 25 EC @ 2ml/l at the time of emergence of new flush. This will also take care of leaf eating weevil, *Rhynchaenus mangiferae*

Webber and ash weevil on Mango

- Incidence of webber and ash weevil become serious on new leaves. Remove webbed leaves wherever possible and burn them. Spray quinalphos 25 EC @ 2 ml/l or lamda cyhalothrin 5EC @ 1ml /l for their management.

Pomegranate

Fruit sucking moth:

- Wherever matured fruits are there, fruit sucking moth damage is expected. Netting the orchards is recommended

Grapes

- Thrips, *Scirtothrips dorsalis* is expected to occur on leaves of newly pruned Bangalore Blue. Spray fipronil 5 SC @ 1.5ml/L

Fruit fly on cucurbits

- For the management of fruit fly on cucurbits, following integrated approach may be followed. Deployment of cue lure traps @ 10 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray (imidacloprid 0.1 % + jaggery @ 10g/L) at 10 days interval from the date of flowering.

Tomato moth

- Install tuta pheromone traps for monitoring of the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5SC @ 0.75 ml/litre or spinosad45 SC @ 0.3ml/l

Tobacco caterpillar on Tomato

- For the management of this pest, spray indoxacarb @ 0.75 ml/L

Leaf hopper on okra/Bhendi

- Incidence of jassids is observed on okra. Spray imidacloprid 17.8SL @ 0.3 ml/l, if the crop is at pre-flowering stage. Otherwise, spray neem or pongamia soaps @ 1 %, thoroughly covering lower surface of leaves.

Black thrips on chilli

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under nylon mesh thrips proof conditions, use thrips free seedlings

- Barrier crop: sow maize all along the border 30 days before chilli transplantation

- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting

- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, Fipronil 40%+ imidacloprid 40%@40g/acre, Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre

  Or

- Spray twice @ minimum 15 days interval in a crop cycle Isocycloseram 9.2% (w/w DC) + Isocycloseram10% (w/v DC) * @ 1.2ml/liter

- Every 15 days interval (depending upon the outbreak) chlorpyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

Note: none of these chemicals are approved by CIBRC except isocyloseram

***CIBRC label claim available**

Thrips on rose

- Incidence of rose thrips was observed more under polyhouse conditions. Spray acepthate 70WP@ 1 g/l or imidacloprid 17.8SL@ 0.5 ml/l for its management.

Whitefly on Gerbera

- For the management of whitefly on gerbera spray dinetofuran 20SG @ 1 g/l or diafenthiuron 500SC@ 1ml/litre followed by spirotetramat 240 SC @ 1ml/litre. Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

Medicinal crops

- White fly infestation in *Clitorea ternatea*. Preventive measures may be taken

***CIBRC label claim available**

Disclaimer: Wherever label claim is not available, recommendations are made based on experimental results

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of September, 2024.

Vegetable crops:

Capsicum

- Due to intense rainfall and water logging **Phytopthora blight** (*Phytophthora capsici*) is likely to aggravate in capsicum. To manage this disease provides proper water drainage. Follow prophylactic foliar application of Chlorothalonil (2g/L) followed by curative application of Dimethomorph (1g/L).

Chilli

- Prevailing weather conditions favour development of powdery mildew (*Leveillula taurica*) disease in chilli. To manage this disease Spraying of Tebuconazole25% WG (1.5g/L), or Tebuconazole25.9%m/m EC @1.5ml/L or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @1ml/L, Azoxystrobin 8.3% + Mancozeb 66.7% WG (3g/L) or Tebuconazole 50% + Trifloxystrobin 25% WG (0.5g/l) at 10 -12 day intervals (2-3 sprays) is advised.

Flower and Medicinal Crops:

Rust

- Rust ***(****Puccinia horiana)* is expected to appear in Chrysanthemum. To manage this disease, foliar sprays of Chlorothalonil (2g/L) or Propiconazole at (1ml/L) 3 to 4 times at 15 days interval is recommended**.**

Crossandra

- Diagnosis for incidence of **Phytophthora root** rot.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALURU – 560 089

Period: 1st to 15th October, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
October (1 - 15) 2024	28.8	21.3	91.3	71.6	3.62	2.77	107.7
	(29.2)	(19.8)	(87.3)	(62.9)	(4.1)	(2.9)	(135.6)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th October, 2024**

During the first fortnight of the month i.e., 1st to 15th October, 2024, the mean maximum temperature decreased by 1.16ºC and mean minimum temperature increased by 1.08ºC as compared to the previous fortnight. The mean maximum temperature increased by 0.2°C and mean minimum temperature decreased by 0.1ºC as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon increased by 3.23% and 8.4% respectively as compared to the previous fortnight. There was 107.7 mm rainfall reported during this fortnight.

❖ **Crop weather situation**

- In Mango cv. Alphonso vegetative flush and off -season flowering is seen during the first fortnight of the October.
- The fortnight had lower rainfall than the average of previous five years. Mulching should be applied to prevent evaporation losses. In places where soil moisture is favorable, plantation of rabi vegetables can be done

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango shoot borer

- Clip and destroy affected shoots
- Spray *profenophos 50EC @ 2ml/l, indoxacarb 14.5 SC@ 0.75ml/l or Quinalphos 25 EC @ 2ml/l at the time of emergence of new flush. This will also take care of leaf eating weevil, *Rhynchaenus mangiferae*

Webber and ash weevil on Mango

- Incidence of webber and ash weevil become serious on new leaves. Remove webbed leaves wherever possible and burn them. Spray quinalphos 25EC@ 2 ml/l or lambda cyhalothrin 5EC @ 1ml /l for their management.

Pomegranate

Fruit sucking moth:

- Wherever matured fruits are there fruit sucking moth damage is expected. Netting the orchards is recommended

- Spray cyantraniliprole 10.26% OD@1.25g/l

Grapes

- Thrips, *Scirtothrips dorsalis* is expected to occur on leaves of newly pruned Bangalore Blue. Spray fipronil 5SC @ 1.5ml/L or *Metarhizium* formulations.

Fruit fly on cucurbits

- For the management of fruit fly on cucurbits, following integrated approach may be followed. Deployment of cue lure traps @ 10 traps/acre + Sanitation (complete destruction of infested fruits at each harvest) + Bait spray (Deltamethrin 0.1 % + jaggery @ 10g/L) at 10 days interval from the date of flowering

Tobacco caterpillar on Tomato

- For the management of this pest, spray indoxacarb 14.5SC @ 0.75 ml/L or thiodicarb 75WP @ 1 g/L

Leaf hopper on okra/Bhendi

- Incidence of jassids is observed on okra. Spray imidacloprid 17.8 SL @ 0.3 ml/l, if the crop is at pre-flowering stage. Otherwise, spray neem or pongamia soaps @ 1 %, thoroughly covering lower surface of leaves**.**

Thrips, *Scirtothrips dorsalis* on chilli

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under Nylon mesh thrips proof conditions, use thrips free seedlings

- Barrier crop: sow maize all along the border 30 days before chilli transplantation

- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting

- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, Fipronil 40%+ imidaclorpid40%@40g/acre, Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre

  or

- Spray twice @ minimum 15 days interval in a crop cycle Isocycloseram 9.2% (w/w DC) + Isocycloseram10% (w/v DC) * @ 1.2ml/liter

- Every 15days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

Note: none of these chemicals approved by CIBRC except isocyloseram
*CIBRC label claim available

Rose Thrips

- Incidence of rose thrips was observed more under polyhouse conditions. Spray acepthate 70SP @ 1 g/l or imidacloprid 17.8 SL @ 0.5 ml/l for its management.

*** CIBRC label claim available**

Disclaimer: Wherever label claim not available, recommendations are made based on experimental results

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of October, 2024.

Vegetable crops:
Tomato

- Phytophthora blight (*Phytophthora infestans*) is expected to aggravate in tomato. To manage this disease, remove low lying infected leaves and spray mancozeb75%WP or zineb75%WP(2g/l)/ as protective sprays followed by Famoxadone16.6%+ Cymoxanil 22.1%SC (1g/l) or Metiram 55% + Pyraclostrobin 5% WG (3g/l) as curative spray

Chilli

- Anthracnose severity increases under prevailing weather conditions. Foliar application of copper oxychloride 50% WP (2.5g/l) or mancozeb75%WP (2 g/l) or zineb75%WP (2g/l) as preventive sprays followed by difenoconazole25% EC (0.5ml/l) or metiram 55% + pyraclostrobin 5% WG (3g/l) as curative sprays at 15 days interval has to be followed to manage this disease.

Fruit Crops

Mango

- To protect trees from fungal infection, apply Bordeaux paste to tree trunk up to 1m from soil before start of North-East monsoon. Prune disease affected twigs or branches and apply copper oxy chloride (3g/L) or Bordeaux paste to pruned parts

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 31st October, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
October (16-31) 2024	27.88	20.31	94.38	72.38	3.14	1.22	280.50
	(28.7)	(18.3)	(82.7)	(60.3)	(3.6)	(2.7)	(88.9)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 31st October, 2024**

During the second fortnight of the month i.e., 16th to 31st October, 2024, the mean maximum and minimum temperature decreased by 0.92ºC and 0.99 ºC respectively as compared to the previous fortnight. The mean maximum and minimum temperature decreased by 0.5°C and 1.5 ºC respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and in the afternoon increased by 3.08% and 0.78% respectively as compared to the previous fortnight. There was 280.50 mm rainfall recorded during this fortnight.

❖ **Crop weather situation**

Nutrient application should be done through foliar method in rainfed vegetables and fruits. Farmers may take up spray of banana special in banana & vegetable special in all vegetables. Farm Yard Manure may be mixed with Arka Microbial Consortium.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Mango leaf eating caterpillars and weevils

- Spray quinalphos 25 EC@ 2 ml/l or lambda cyhalothrin 5EC @ 1ml /l for their management

Caterpillar pests on tomato

- During this period, incidence of both tobacco caterpillar and fruit borer is more. For the management of these caterpillar pests spray indoxacarb 14.5 SC @ 0.75ml/l. Collect and destroy *Spodoptera litura* at early instar stage, when they feed gregariously, is desirable.

Grape thrips

- Thrips, *Scirtothrips dorsalis* is expected to occur on leaves of newly pruned Bangalore Blue grapes. Spraying of imidacloprid 17.8 SL @0.3ml.L or thiamethoxam 25G @ 0.25g/L is recommended

Mite on tomato

- Incidence of spider mites is noticed in some tomato fields. For mites management spray *spiromesifen 22.9 SC 0.5ml/l.

Thrips on capsicum and chilli

Black thrips on chilli (tentative management only)

- Black thrips incidence is increasing on chilli and capsicum; it is advised to farmers to raise seedlings under Nylon mesh thrips proof conditions, use thrips free seedlings
- Barrier crop: sow maize all along the border 30 days before chilli transplantation
- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting
- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, Fipronil 40%+ imidacloprid 40%@40g/acre, Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre

  or
- Spray twice @ minimum 15 days interval in a crop cycle Isocycloseram 9.2% (w/w DC) + Isocycloseram10% (w/v DC) * @ 1.2ml/liter
- Every 15days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

Note: none of these chemicals are approved by CIBRC except isocyloseram

***CIBRC label claim available**

Aphid on rose

- Aphid infestation may increase on rose in open field. Spray imidacloprid 200 SL @ 0.5 ml/l for its management. If the incidence is severe, spray thiamethoxam 25 WG 0.3g/L.

Jassids on bhendi

- Incidence of jassids is observed on okra.
- Install yellow sticky traps@8-10/acre
- Spray imidacloprid 17.8 SL @ 0.3 ml/l, if the crop is at pre-flowering stage. Otherwise, spray neem or pongamia soaps @ 0.5 %, thoroughly covering lower surface of leaves.

Epilachna beetle on brinjal

- Heavy incidence of epilachna beetle damage is seen on brinjal. Spray Azadirachtin 0.03 % WSP (300 ppm) 5.0 g/l or Quinalphos 20 % AF 1.7 ml/l

***CIBRC label claim available**

Disclaimer: Wherever label claim is not available, recommendations are made based on experimental results

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of October, 2024.

Vegetable crops:

Tomato

- Early blight disease severity increases on leaves fruits and stem. To manage this disease give foliar spray application of mancozeb @ 2g/l followed by tebuconazole 50% + trifloxystrobin 25% WG @ 0.75g/l after 10 days.

Chilli

- Prevailing weather conditions favour development of powdery mildew (*Leveillula taurica*) disease in chilli. To manage this disease spraying of Tebuconazole25% WG (1.5g/L), or Tebuconazole25.9%m/m EC @1.5ml/L or Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC @1ml/L, Azoxystrobin 8.3% + Mancozeb 66.7% WG (3g/L) or Tebuconazole 50% + Trifloxystrobin 25% WG (0.5g/l) at 10 -12 day intervals (2-3 sprays) is advised.

Fruit Crops

Mango

- Initiation of powdery mildew incidence is expected on leaves and flower buds. To manage this disease spray Hexaconazole 5% EC @ 1ml/litre

Flower and Medicinal Crops:

Chrysanthemum

- White Rust severity increases from first week of november under prevailing weather conditions. The disease can be effectively managed by spraying chlorothalonil (2g/L) or propiconazole at (1ml/L) 3 to 4 times at 15 days interval.

Rose

- Powdery mildew severity increases under prevailing conditions. To manage the disease spray carbendazim 50 WP@ 1g/Litre along with sticker @ 0.5 ml/ l.

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALURU – 560 089

Period: 1st to 15th November, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
November (1 - 15) 2024	27.93	19.22	90.40	66.93	3.41	2.66	41.40
	(27.8)	(18.2)	(86.0)	(61.3)	(3.3)	(3.0)	(51.1)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th November, 2024**

During the first fortnight of the month i.e., 1st to 15th November, 2024, the mean maximum temperature increased by 0.05ºC and mean minimum temperature decreased by 1.09ºC as compared to the previous fortnight. The mean maximum and minimum temperature decreased by 0.9°C and 0.1ºC respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and afternoon decreased by 3.98% and 5.45% respectively as compared to the previous fortnight. There was 41.40 mm rainfall reported during this fortnight.

❖ **Crop weather situation**

Nutrients should be supplied through foliar application to rainfed fruits vegetables and fruits for better nutrient uptake. Farmers may take up spray of Banana special in Banana and vegetable special in all vegetables. Farm yard manure or compost may be mixed with Arka Microbial Consortium.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Thrips on Grapes

- Thrips, *Scirtothrips dorsalis* is expected to occur on leaves of newly pruned Bangalore Blue. Spray fipronil 5 SC @ 1.5ml/L or Metarhizium formulations.

Caterpillar pests on tomato

- With the prevailing weather, incidence of various caterpillar pests like tobacco caterpillar and tomato fruit borer may increase on tomato. For the management of both these caterpillar pests, spray indoxacarb 14.5 SC @ 0.75ml/l.

Tomato moth

- Install tuta pheromone traps for monitoring of the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5SC @ 0.75 ml/litre or spinosad 45SC @ 0.3ml/l

Aphids on brinjal & bhendi

- Incidence of aphids is increasing on brinjal and bhendi. If the crop is at preflowering stage, spray imidacloprid @ 0.3 ml/l. After the fruit set, spray neem or pongamia soaps @ 10g/l or pulverized neem seed powder extract (NSPE) 4%, by covering the lower surface of the leaves thoroughly

Mites on tomato

- During the period, incidence of mites is observed in different tomato fields. Spray *spiromesifen 22.9SC @ 0.5 ml/l for their management

Aphids on rose and beans

- Aphid infestation may increase on rose and other bean vegetables. Spray imidacloprid 200SL @ 0.5 ml/l for their management

***Helicoverpa* on china aster**

- Incidence of *Helicoverpa* may increase on china asters. Spray indoxacarb 14.5 EC @ 0.75 ml/l for its management.

*** CIBRC label claim available**

Disclaimer: Wherever label claim not available, recommendations are made based on experimental result

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of November, 2024.

Vegetable crops:

Solanaceous and cucurbits vegetables

- Powdery mildew requires attention. At this point of time application of wettable sulphur (0.2%) along with sticker @ 0.5 ml/L is recommended.
- Leafspots and Anthracnose spots may increase on foliage. Application of Chlorothalonil (0.2%) along with sticker (@ 0.5 ml / L) is recommended for the disease management

Fruit Crops

Mango

- Powdery mildew requires attention. At this point of time application of wettable sulphur (0.2%) along with sticker @ 0.5 ml/L is recommended.Anthracnose spots may increase on foliage. Application of Chlorothalonil (0.2%) or Thiophanate methyl (0.2%) or Carbendazim (0.1%) along with sticker (@ 0.5 ml / L) is recommended for the disease management

Grape

- Downy mildew and anthracnose need to be monitored. For the management of downy mildew application of Metalyxl + Mancozeb (0.2%)/ Al Fosetyl (0.2%)/ Dimethomorph (0.8%) + Mancozeb (0.2%) and for anthracnose spraying with Propineb (0.2%)/ Chlorothalonil (0.2%)/ Carbendazim (0.1%)/ Thiophanate methyl (0.1%) are effective.

Banana

- Sigatoka leaf spot (*Mycospheralla* sp.), crown rot (*Fusarium moniliforme* & *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits require proper attention. Sigatoka could be managed by spraying propiconazole at 1 ml per litre.

Papaya

- Infection of Black spot (*Asperisporium caricae*) is increasing.Application of Chlorothalonil (0.2%) Carbendazim (0.1%)/ Thiophanate methyl (0.1%)/ Hexaconazole (0.1%) along with the sticker @ 0.5ml/l with good coverage of the lower surface of the foliage is recommended

Ornamental crops

Chrysnthemum

- This is the time for rust and spraying Chlorothalonil (2g/l) as contact fungicide will reduce the incidence. In severe cases propiconazole (1.5 ml/l) will help in preventing the further spread of the disease

Rose

- Now the powdery mildew incidence will increase. Spray of azoxystrobin at 0.05% or trifloxystrobin + tebuconazole at 0.1% will reduce the powdery mildew spread

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 30th November, 2024
Latitude : $13^{0}7^{1}$ N **Longitude : $72^{0}29^{1}$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
November (16-30) 2024	26.77	17.56	90.60	66.67	3.58	3.10	16.50
	(27.4)	(17.7)	(85.5)	(61.4)	(3.2)	(3.6)	(48.5)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 30th November, 2024**

During the second fortnight of the month i.e., 16th to 30th November, 2024, the mean maximum and minimum temperature decreased by 1.16ºC and 1.66 ºC respectively as compared to the previous fortnight. The mean maximum and minimum temperature decreased by 0.4°C and 0.5 ºC respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning increased by 0.20% and in the afternoon decreased by 0.26% as compared to the previous fortnight. There was 16.50 mm rainfall recorded during this fortnight.

❖ **Crop weather situation**

First foliar spray of Arka Mango special is advised to be given during this fortnight for mango orchards. Routine agronomic practices both in vegetables and fruit crops should be continued. Wherever green manure crops are grown or residue is available, these may be incorporated in to the soil for proper decomposition.

❖ Incidence of insect pests

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Hoppers on mango

- Wherever flowering has started, incidence of hoppers is expected to occur on mango. Spray Azadirachtin 3000 ppm @ 2 ml/l, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with imidacloprid 200 SL @ 0.25 ml/l. If blossom webber is noticed, spray lambda cyhalothrin* 5 EC @ 0.5 ml/l at early panicle emergence. Add stickers for enhancing the efficacy. Also direct the sprays to the trunks to check hibernating adults of stone weevils and hoppers.

Cabbage Diamond back moth

- Occurring in severe form. Spraying of neem soap (10g/L), neem seed powder extract @ 40g/litre or Arka Neem pellets @ 30G /litre at 10 days intervals will be effective starting from 20 days after planting till 60-70DAT.

Tomato fruit borer

- With the prevailing weather, incidence of tomato fruit borer may increase on tomato. For its management, spray *Ha*NPV @ 250 LE/ha during evening hours or spray indoxacarb 14.5 SC @ 0.75ml/l, if the incidence is very high. Proper waiting periods are to be followed before harvest of tomatoes

Midge on chillies

- Severe incidence of midges is observed on chilli which causes maximum damage at flowering stage. Spray thiamethoxam 70WG@ 0.3 g/l for their management

  Note: none of these chemicals are approved by CIBRC except isocyloseram

Aphids on cucurbits

- Aphid infestation may increase on different cucurbits. Spray imidacloprid 17.8 SL @ 0.5 ml/l for their management.

***CIBRC approved, others not in the CIBRC list are based on reports**

Disclaimer: Wherever label claim not available, recommendations are made based on experimental results

❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of November, 2024.

Vegetable crops:

Capsicum

- Under prevailing weather conditions, *Phytophthora* blight appears on capsicum. To manage this disease, provide better soil drainage to remove excess moisture. Give foliar spray application of chlorothalonil (2g/L) followed by dimethomorph (1g/L).

Tomato

- Phytophthora blight (*Phytophthora infestans*) is expected to aggravate in tomato. To manage this disease, remove low lying infected leaves and spray mancozeb75%WP or zineb75%WP(2g/l)/ as protective sprays followed by famoxadone16.6%+ cymoxanil 22.1%SC (1g/l) or metiram 55% + pyraclostrobin 5% WG (3g/l) as curative spray

Cucurbits

- Prevailing humid cool conditions and frequent rains favours downy mildew development in cucurbits. To manage this disease give foliar spray of zineb75%WP @2g/L followed by ametoctradin + dimethomorph 20.27% w/w SC @2g/L at 10 day's interval

Fruit Crops

Mango

- Powdery mildew severity is expected to increase. To manage this disease spray hexaconazole 5% EC @ 1ml/litre

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALURU – 560 089

Period: 1st to 15th December, 2024
Latitude : $13^0 7^1$ N **Longitude : $72^0 29^1$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
December (1 - 15) 2024	26.29	19.33	92.27	72.73	2.77	3.51	43.10
	(26.8)	(17.1)	(86.6)	(62.7)	(2.7)	(3.6)	(27.3)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 1st to 15th December, 2024**

During the first fortnight of the month i.e., 1st to 15th December, 2024, the mean maximum temperature decreased by 0.48ºC and mean minimum temperature increased by 1.77ºC as compared to the previous fortnight. The mean maximum and minimum temperature decreased by 0.6°C and 0.6ºC respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and afternoon increased by 1.67% and 6.06% respectively as compared to the previous fortnight. There was 43.10 mm rainfall reported during this fortnight.

❖ **Crop weather situation**

Necessary drainage should be provided in the field as high rainfall was observed during the fortnight. For the rabi vegetables which have already been transplanted top dressing of N @50 kg/ha may be given. Vegetable farmers may undertake spray of vegetable special. If pollination is completed mango farmers are advised to take up spray of mango special.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Hoppers on mango

- Wherever flowering started, incidence of hoppers is expected to occur on mango. Spray Azadirachtin 3000 ppm @ 2 ml/l, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with imidacloprid 200 SL @ 0.25 ml/l. If blossom webber is noticed, spray lambda cyhalothrin* 5 EC @ 0.5 ml/l at early panicle emergence. Add stickers for enhancing the efficacy. Also direct the sprays to the trunks to check hibernating adults of stone weevils and hoppers.

Tomato fruit borer

- With the prevailing weather, incidence of tomato fruit borer may increase on tomato. For its management, spray *Ha*NPV @ 250 LE/ha during evening hours or spray indoxacarb 14.5 SC @ 0.5ml/l, if the incidence is very high. Proper waiting periods are to be followed before harvest of tomatoes

Midge on chillies

- Severe incidence of midges is observed on chilli which causes maximum damage at flowering stage. Spray thiamethoxam 25 WG @ 0.3 g/l for their management.

Thrips on capsicum and chilli

- Incidence of thrips is increasing on capsicum grown under shade net/polyhouses and chilli grown under open conditions. Spray imidacloprid 200 SL @ 0.5 mL/l or fipronil 5 SC @ 1.5 ml/l.

Aphids on cucurbits

- Aphid infestation may increase on different cucurbits during cool weather. Spray neem soap @ 10g/liter or imidacloprid 200SL @ 0.5 ml/l for their management

CIBRC approved, others not in the CIBRC list are based on reports

Disclaimer: Wherever label claim not available, recommendations are made based on experimental results

❖ **Disease scenario**

Disease scenario in relation to the weather data during first fortnight of December, 2024.

Vegetable crops:

Tomato

- Early blight severity increases in tomato. To manage this disease remove and destroy lower most old and diseased leaves in the morning. It should be followed by foliar sprays with mancozeb @ 2g/l or tebuconazole 50% + trifloxystrobin 25% WG @0.75g/l at fortnightly interval

Onion

- Foliar sprays with mancozeb75%WP@ 2.0 g/l followed by need based sprays with tebuconazole 50% + trifloxystrobin 25% WG @0.6g/l. Avoid sprinkler irrigation

Chilli

- Powdery mildew severity increases under prevailing weather conditions. Spray tebuconazole25% WG (1.5g/L), or tebuconazole25.9%m/m EC @1ml/L or azoxystrobin 18.2% w/w + difenoconazole 11.4% w/w SC @1ml/L, or tebuconazole 50% + trifloxystrobin 25% WG@ 0.5g/l.

Muskmelon

- Due to prevailing dew conditions, downy mildew starts appearing in muskmelon. To manage this disease spray zineb75%WP @2g/L or ametoctradin + dimethomorph 20.27% w/w SC @2g/L

Fruit Crops

Mango

- Powdery mildew requires attention. At this point of time application of wettable suphur (0.2%) along with sticker @ 0.5 ml/L is recommended. Wettable Sulphur should not be applied if the temperature is higher. Hexaconazole 5% EC @ 1ml per litre

CROP WEATHER SITUATION
METEOROLOGICAL DATA OF
ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE P.O., BANGALORE – 560 089

Period: 16th to 31st December, 2024
Latitude : $13^{0}7^{1}$ N **Longitude : $72^{0}29^{1}$E** **Altitude : 890 M**

Fortnight	Temperature (^{0}C)		Relative Humidity (%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm) Mean Max.
	Mean Max.	Mean Min.	Mean At 7.30AM	Mean at 1.30 PM			
December (16-31) 2024	26.97	16.24	92.25	67.31	3.06	2.18	5.00
	(26.4)	(14.4)	(84.4)	(53.5)	(3.4)	(3.6)	(0.00)

* Figures in the parentheses indicate the mean values during the corresponding period for the previous 5 years

❖ **Fortnight from 16th to 31st December, 2024**

During the second fortnight of the month i.e., 16th to 31st December, 2024, the mean maximum temperature increased by 0.68ºC and mean minimum temperature decreased by 3.09ºC as compared to the previous fortnight. The mean maximum and minimum temperature decreased by 0.4°C and 2.7ºC respectively as compared to the mean values of the corresponding period for the previous five years. The percent relative humidity in the morning and afternoon decreased by 0.02% and 5.42% respectively as compared to the previous fortnight. There was 5.00 mm rainfall recorded during this fortnight.

❖ **Crop weather situation**

Top dressing of fertilizers may be given to rabi vegetables. Foliar spray of Arka mango special for mango, Arka banana special for banana and Arka vegetable special for vegetables may be given to improve growth.

❖ **Incidence of insect pests**

Under the prevailing weather situation, following pests are expected under Bengaluru conditions on different horticultural crops. Various management options for their management are mentioned below.

Hoppers on mango

- Incidence of hoppers is observed on mango. Spray Azadirachtin 3000 ppm @ 2 ml/l, if the hopper population is low to moderate. If the number exceeds 4 per panicle spray with *imidacloprid 17.8 SL @ 0.5 ml/l or *oxydemeton – methyl 25% EC @ 2 ml/l or *dimethoate 30% EC @ 2ml/litre at early panicle emergence.

Flower webbers/inflorescence caterpillars on mango

- Besides hoppers, inflorescence caterpillars which web the flowers and feed inside are potential pests on mango during January. Application of lambda cyhalothrin 5EC @ 0.5ml/L or cypermethrin 25 EC @1ml/L are useful to control the pest.

Banana skipper

- Skipper butterfly is becoming is serious pest on banana. Larva rolls the leaves and feed by remaining inside. Affected leaves to be mechanically removed and destroyed. In case of severe infestation, spraying of quinolphos 25EC @ 2ml/L or chlorpyrifos 20EC @ 2.5ml/L is advised

Tomato fruit borer

- With the prevailing weather, incidence of tomato fruit borer may increase on tomato. For its management, spray *Ha*NPV @ 250 LE/ha during evening hours or spray *flubendiamide 20 WG @0.2g/l, *indoxacarb14.5SC @ 0.5ml/l, if the incidence is very high. Proper waiting periods are to be followed before harvest of tomatoes

Tomato moth

- Install tuta pheromone traps for monitoring of the adults @ 4-6 traps/acre
- Spray indoxacarb 14.5SC @ 0.75 ml/litre or spinosad 45SC @ 0.3ml/l

Midge on chillies

- Severe incidence of midges is observed on chilli which causes maximum damage at flowering stage. Spray thiamethoxam25WG @ 0.3 g/l for their management

Thrips on capsicum and chilli

- Incidence of thrips is increasing on capsicum grown under shade net/polyhouses and chilli grown under open conditions. Spray imidacloprid 200 SL @ 0.5 mL/l or fipronil 5 SC @ 1.5 ml/l

***Thrips parvispisnus* on chilli**

- Black thrips incidence is increasing on chilli and capsicum; it is advised to raise seedlings under nylon mesh thrips proof conditions, use thrips free seedlings

- Barrier crop: sow maize all along the border 30 days before chilli transplantation

- Root dipping of the seedlings in imidacloprid 17.8 SL solution @ 0.5 ml per litre of water for one hour during transplanting

- After planting: regular alternate weekly spraying of imidacloprid 17.8 SL 0.5ml/litre+ neem oil 2.5ml/litre, fipronil80WG@40g/acre, Fipronil 40%+ imidaclorpid40%@40g/acre, Cyantraniliprole10OD@240ml/acre, acetamiprid20SP@40g/acre, spirotetramat150 OD@160ml/acre, pongamia oil 2.5ml/litre
  or
- Spray twice @ minimum 15 days interval in a crop cycle Isocycloseram 9.2% (w/w DC) + Isocycloseram10% (w/v DC) * @ 1.2ml/liter

- Every 15days interval (depending upon the outbreak) chlropyrifos 50EC (2.5ml/l) soil drenching is required to kill pupa that are in soil.

- **Note**: None of these chemicals are approved by CIBRC except isocyloseram

Aphids on cucurbits

- Aphid infestation may increase on different cucurbits. Spray imidacloprid 17.8SL@ 0.5 ml/l for their management

***CIBRC approved, others not in the CIBRC list are based on reports**
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❖ **Disease scenario**

Disease scenario in relation to the weather data during second fortnight of December, 2024.

Vegetable crops:

Chilli

- Powdery mildew and anthracnose severity increases in chilli under prevailing conditions. Foliar application of difenoconazole 25% EC (0.5ml/l) or azoxystrobin 18.2% w/w + difenoconazole 11.4% w/w SC (1ml/l) or tebuconazole 50 + trifloxystrobin 25%WG @0.6g/L is required to manage this disease

Onion

- In onion purple blotch severity increases with prevailing dew condition. To manage this disease spray dithane M-45@ 2.5g/litre or tebuconazole 50+trifloxystrobin 25%WG @ 0.6g/L.

Fruit Crops

Mango

- First spray on to control powdery mildew with Hexaconazole 5% EC (1ml/l). Avoid sprays if flowering is more than 50%.

Flower and Medicinal Crops

Rose & Gerbera

- Powdery mildew severity increases**.** Spray azoxystrobin or propiconazole @ 0.5 ml/L.