

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

**Period: 1<sup>st</sup> to 15<sup>th</sup> January, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
January 1 <sup>st</sup> to 15 <sup>th</sup> , 2012	26.8	15.5	72.2	45.3	3.4	5.32	-
	<b>(27.5)</b>	<b>(12.3)</b>	<b>(73.0)</b>	<b>(46.1)</b>	<b>(3.8)</b>	<b>(4.71)</b>	<b>(-)</b>

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

**Fortnight from 1<sup>st</sup> to 15<sup>th</sup> January, 2012**

During the first fortnight of the month i.e., from January 1<sup>st</sup> to 15<sup>th</sup>, 2012, the average maximum and minimum temperatures were higher by 0.4°C and 1.9°C respectively, as compared to the previous fortnight. The average maximum temperature value was lower by 0.7°C and the average minimum temperature value was higher by 3.2°C, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 8.8% and 4.2% respectively, as compared to the previous fortnight.

**Crop weather situation**

- ❖ Delayed flowering was noticed in most of the commercial varieties of mango such as Alphonso, Totapuri, dashehari and Langra.
- ❖ For banana, split dose of fertilizers may be applied during this period @110g N, 35g P and 330 g K / plant / year. Similarly micro nutrient deficiencies may occur due to low temperatures of this season. For banana, Zn SO<sub>4</sub> @ 0.5% , Fe SO<sub>4</sub> @ 0.2 % , Cu SO<sub>4</sub> @ 0.2 % and H<sub>3</sub>BO<sub>3</sub> @0.1 % may be applied. Similarly for transplanted rabi vegetables and flower crops Zn and Fe may be applied through foliar spray.

**Incidence of pests and diseases**

## Plant protection measures – prevailing weather conditions

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

### Hoppers on Mango

- ❖ Incidence of hoppers may increase on mango. Spray imidacloprid @ 0.3 ml/l for their management.

### Aphids on brinjal & bhendi

- ❖ Incidence of aphids is increasing on brinjal and bhendi. If the crop is at preflowering stage, spray acephate 1 g/l or imidacloprid 0.5 ml/l. Proper waiting periods are to be followed for harvesting after the spray.

### Mites on Rose

- ❖ During the period, incidence of mites is observed heavily on roses grown under polyhouse conditions. Spray abamectin @ 0.5 ml/l for their management.

### Aphids on rose and beans

- ❖ Aphid infestation may increase on rose and other bean vegetables. Spray Dimethoate @ 2 ml/l for its management.

## Diseases

- ❖ In mango, anthracnose spots on new foliage might result in serious infection. For the management of same, application of chlorothalonil @ 0.2% or thiophanate methyl @ 0.2% along with sticker is advisable. Emerging inflorescence should be protected with attack of hoppers. For this application of imidachloprid @ 0.5% and application of copper oxychloride @ 0.3% will provide protection against sooty mould.
- ❖ In banana, intensity of sigatoka leaf spot (*Mycosphaerella* sp.) crown rot (*Fusarium moniliforme* & *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits may further increase compared to last fortnight. Sigatoka could be managed by spraying Carbendazim (0.1%) or Thiophanate methyl (0.1%) or Tridemorph (0.1%)/ whereas crown rot and anthracnose could be controlled by the pre-harvest sprays involving Carbendazim (0.1%) or Thiophanate methyl (0.1%), besides post harvest dip in Chlorine water (300 ppm) for 10 minutes.
- ❖ In grapes, downy mildew and anthracnose infection may increase. For downy mildew, application of Metalaxyl + Mancozeb (0.2%)/ AI Fosetyl (0.2%)/ and for anthracnose spraying with Propineb (0.2%)/ Chlorothalonil (0.2%)/ Carbendazim (0.1%)/ Thiophanate methyl (0.1%) are effective. Rust is expected to be infecting grape vine orchards (var

Bangalore Blue) and could be managed by the treatment with Chlorothalonil (0.2%) or Bitertanol (0.2%) or Dinocap (0.3%) + Mancozeb (2%) along with sticker @ 0.5 ml/ L

- ❖ Intensity of leaf and fruit spot disease caused by *Pseudocercospora punicea* and anthracnose of fruit and leaf and Tip necrosis (*C. gloeosporioides*) may remain moderate in pomegranate. Application of Chlorothalonil (0.2%) /Antracol (0.2%)/ Carbendazim (0.1%)/ Thiophanate methyl (0.1%)/ Hexaconazole (0.1%) along with the sticker @ 0.5ml/l is effective for the disease control.

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

**Period: 16<sup>th</sup> to 31<sup>st</sup> January, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
January 16 <sup>th</sup> to 31 <sup>st</sup> , 2012	27.8	13.2	82.7	36.3	4.4	4.19	-
	<b>(30.4)</b>	<b>(13.8)</b>	<b>(72.7)</b>	<b>(51.7)</b>	<b>(4.8)</b>	<b>(4.85)</b>	<b>(-)</b>

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

**Fortnight from 16<sup>th</sup> to 31<sup>st</sup> January, 2012**

During the second fortnight of the month i.e., from January 16<sup>th</sup> to 31<sup>st</sup>, 2012, the average maximum temperature was higher by 1.0°C and the average minimum temperature was lower by 2.3°C, as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 2.6°C and 0.6°C respectively, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning hours was higher by 10.5% and the percent relative humidity during afternoon hours was lower by 9.0% as compared to the previous fortnight.

**Crop weather situation**

- ❖ Application of organic matter along with frequent irrigation is found desirable to increase availability of nutrient during critical growth stages of crop like mango, etc., foliar application of mango special is recommended during this period
- ❖ Flowering has been noticed in late season varieties of mango in the germplasm

**Incidence of pests and diseases**

**Hoppers on Mango**

- ❖ Incidence of hoppers may increase on mango. Spray imidacloprid @ 0.3 ml/l for their management.

### **Mites on tomato**

- ❖ Incidence of mites is observed and may increase on tomato. For their management spray dicofol @ 2.5 ml/L or wettable sulphur @ 3 g/L.

### **Aphids on brinjal & bhendi**

- ❖ Incidence of aphids is increasing on brinjal and bhendi. If the crop is at preflowering stage, spray acephate 1 g/l or imidacloprid 0.5 ml/l. Proper waiting periods are to be followed for harvesting after the spray.

### **Mites on Rose**

- ❖ During the period, incidence of mites is observed heavily on roses grown under polyhouse conditions. Spray abamectin @ 0.5 ml/l for their management.

### **Aphids on rose and beans**

- ❖ Aphid infestation may increase on rose and other bean vegetables. Spray Dimethoate @ 2 ml/l for its management.

### **Diseases**

- ❖ Due to lowered temperature, downy mildew incidence is noticed in cucumber crop. Cymoxanil + Mancozeb 2.5 g / l to be applied at 10 -15 days interval to manage the disease. Removal of older infected leaves reduces the inoculum load and prevent further spread of disease.
- ❖ Downy mildew as well as *Alternaria* leaf spot disease was noticed in the bitter gourd crop. Foliar application of Dimethomorph + Mancozeb (1 + 2 g / l) or Carbriotop 3 g / l at 10 to 15 days interval helps in the management of these diseases.

- ❖ Incidence of early blight disease was noticed on the lower leaves of tomato crop. Removal of older infected leaves followed by the application of Mancozeb at 15 days interval results in further spread of disease.

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

**Period: 1<sup>st</sup> to 15<sup>th</sup> May, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
May 1 <sup>st</sup> to 15 <sup>th</sup> , 2012	33.5	16.7	64.0	34.5	7.2	5.4	85.0
	<b>(33.3)</b>	<b>(20.9)</b>	<b>(69.4)</b>	<b>(45.1)</b>	<b>(5.8)</b>	<b>(5.72)</b>	<b>(188.1)</b>

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

**Fortnight from 1<sup>st</sup> to 15<sup>th</sup> May, 2012**

During the first fortnight of the month i.e., from May 1<sup>st</sup> to 15<sup>th</sup>, 2012, the average maximum temperature was lower by 0.3°C and the average minimum temperatures was higher by 1.0°C, as compared to the previous fortnight. The average maximum temperature value was higher by 0.2°C and the average minimum temperature value was lower by 4.2°C, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 7.6% and 1.8% respectively, as compared to the previous fortnight. The rainfall of 85.0 mm was recorded during the fortnight.

**Crop weather situation**

- ❖ The average maximum temperature during the first fortnight of May was almost same as the average for the last five years. While the average minimum temperature was lower by nearly 4.2° C. The mean evaporation was marginally higher. The total rainfall received during this period was one and half times lower compared to the average of last five years. The routine application of soil amendments, FYM can be taken up only after adequate rainfall is received. The application of inorganic fertilizer may be delayed till soil moisture is adequately built up.
- ❖ Due to rainfall, fruit growth in most of the mango varieties in the germplasm is good and fruit drop has decreased.

## **Incidence of pests and diseases**

### **Plant protection measures – prevailing weather conditions**

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

#### **Fruit fly on mango**

- ❖ Incidence of fruit fly may increase mango. Install methyl eugenol traps @ 6 per acre.

#### **Thrips on pomegranate**

- ❖ Incidence of thrips is seen. Spray acetomorphid 0.3 ml/l for its management.

#### **Thrips on chilli**

- ❖ Incidence of thrips is more on chilli. Spray, acephate 75 SP @ 1g/L or imidacloprid @ 0.5 mL/L for its management.

#### **Whitefly on crossandra**

- ❖ Incidence of whitefly is more on crossandra. Spray dichlorvos @ 1 ml/l and trizophos @ 1.5 ml/l for its management.

#### **Mites on rose**

- ❖ Incidence of mites may increase on rose under protected/polyhouse conditions. For its management spray Abamectin 0.5 mL/L.

#### **Thrips on rose**

- ❖ For the management of thrips on rose, spray acephate 1g/L or imidacloprid @ 0.5 mL/L under Polyhouse conditions.

## **Diseases**

- ❖ The bacterial blight incidence in pomegranate orchards during the first fortnight of May, 2012 in Sira, Hiriur and Jagalur ranged from 10 – 20%. The disease incidence is coming down in these areas due to awareness created among the pomegranate growers on Orchard Health Management Schedule for effective management of pomegranate bacterial wilt through field demonstrations and visual media (Kannada Doordharshan Programme). The Orchard Health management Schedule include, orchard sanitation, Cultural practices and judicious application of bactericides, i.e. freshly prepared Bordeaux mixture 1.0% alternated with Streptocycline (0.05%) + Copper oxychloride (0.3%) or with Bactronol 100 (0.05% + Copper oxychloride (0.3%) at every fifteen days interval right from pruning.



Bacterial wilt caused by *Ralstonia solanacearum* was observed in Brinjal crop during the first fortnight of May, 2012. The disease incidence ranged from 30.0 – 40.0 per cent. The disease can be managed by treatment of brinjal seeds before sowing or seedlings with *Pseudomonas fluorescens* ( $10^8$  cfu/ml) at the time of transplanting and planting the seedlings in green manure (Sannhemp) amended soil.

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

**Period: 16<sup>th</sup> to 31<sup>st</sup> May, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
May 16 <sup>th</sup> to 31 <sup>st</sup> , 2012	32.8	16.3	71.3	39.7	6.5	6.43	5.0
	<b>(34.7)</b>	<b>(22.9)</b>	<b>(76.4)</b>	<b>(56.9)</b>	<b>(5.3)</b>	<b>(6.53)</b>	<b>(371.1)</b>

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

**Fortnight from 16<sup>th</sup> to 31<sup>st</sup> May, 2012**

During the second fortnight of the month i.e., from May 16<sup>th</sup> to 31<sup>st</sup>, 2012, the average maximum and minimum temperatures were lower by 0.7°C and 0.4°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 1.9°C and 6.6°C respectively, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 7.3% and 5.2% as compared to the previous fortnight. The rainfall of 5 mm was recorded during the fortnight, which is significantly too low as compared to the average rainfall of corresponding period for the previous five years.

**Crop weather situation**

- ❖ Since soil moisture is lower, application of amendment may be delayed for some more time. The basal dose of fertilizer application especially for fruit crops may be taken up after adequate moisture is built up in soil.
- ❖ Many of the mango varieties have put forth new vegetative flushes. Fruits of most of the mango varieties are maturity with lenticels fading.

**Incidence of pests and diseases**

## Fruit fly on Mango

- ❖ Incidence of fruit flies may increase on mango. If the incidence is very severe, spray azadirachtin [3000 ppm] @ 2mL/L as a cover spray at least 21 days prior to harvest. Install methyl eugenol traps @ 6/Acre.

## Thrips on chilli

- ❖ Incidence of thrips is more on chilli. Spray, acephate 75 SP @ 1g/L or imidacloprid @ 0.5 mL/L for its management.

## Mites on rose

- ❖ Incidence of mites may increase on rose under protected/polyhouse conditions. For its management spray Abamectin 0.5 mL/L.

## Diseases

- ❖ Incidence of Anthracnose (*C. gloeosporioides*) and stem end rot (*L. theobromae*) were recorded in mango fruits during ripening. Pre-harvest sprays with Carbendazim (0.1%) or Thiophanate methyl (0.1%) or Azoxystrobin (0.1%) followed by post-harvest treatments with Hot water (52°C) for ten minutes is recommended.
- ❖ Low incidence of Sigatoka (*Mycosphaerella* sp) and other leaf spots was recorded in banana. The disease can be managed by the application of with Carbendazim (0.1%) or Thiophanate methyl (0.1%) or Tridemorph (0.1%).
- ❖ Low intensity of Leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) were continued to be recorded in pomegranate. Application of Chlorothalonil (0.2%) / Antracol (0.2%) / Carbendazim (0.1%) / Thiophanate methyl (0.1%) / Hexaconazole (0.1%) along with the sticker @ 0.5ml/l could control the diseases effectively.
- ❖ Canker (*Pestalotiopsis psidi*) in greenish immature guava fruits and styler end rot (*Phomopsis psidi*) and anthracnose (*C. gloeosporioides*) in mature fruits were noticed. For the disease management application of Zineb (0.3%) or Ziride (0.4%) followed with Carbendazim (0.1%) / Thiophanate methyl (0.1%) / along with sticker (0.5 ml /l) should be followed.

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

**Period: 1<sup>st</sup> to 15<sup>th</sup> June, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
June 1 <sup>st</sup> to 15 <sup>th</sup> , 2012	31.9	16.1	74.9	53.5	5.9	9.7	0.2
	<b>(30.0)</b>	<b>(18.8)</b>	<b>(74.4)</b>	<b>(57.3)</b>	<b>(5.1)</b>	<b>(6.91)</b>	<b>(210.6)</b>

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

**Fortnight from 1<sup>st</sup> to 15<sup>th</sup> June, 2012**

During the first fortnight of the month i.e., from June 1<sup>st</sup> to 15<sup>th</sup>, 2012, the average maximum and the average minimum temperatures were lower by 0.9°C and 0.2°C, respectively, as compared to the previous fortnight. The average maximum temperature value was higher by 1.9°C and the average minimum temperature value was lower by 2.7°C, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 3.6% and 13.8% respectively, as compared to the previous fortnight. The rainfall of 0.2 mm was recorded during the fortnight which is significantly very low as compared to the average values during the corresponding period for the previous 5 years.

**Crop weather situation**

- ❖ As wind speed was more and rainfall was very less during this period compared to the average values for the previous 5 years measures may be taken to provide sufficient irrigation and protection against harsh wind to crops especially to crops like banana. Mulching may be provided to reduce evaporation losses. Annual application of fertilizers may be done to fruit crops as per the package of practices.

**Incidence of pests and diseases**

**Plant protection measures – prevailing weather conditions**

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

### **Mango Fruit fly**

- ❖ Incidence of fruit flies may continue in late maturing varieties of mango. If the incidence is very severe, spray azadirachtin [3000 ppm] @ 2mL/L as a cover spray at least 21 days prior to harvest. Install methyl eugenol traps @ 6/Acre.

### **Fruit borer on tomato**

- ❖ Incidence of fruit borer is observed in the field. Spray *HaNPV* @ 250 LE/ha.

### **Thrips on chilli**

- ❖ Incidence of thrips is more on chilli. Spray, acephate 75 SP @ 1g/L or imidacloprid @ 0.5 mL/L for its management.

### **Shoot and fruit borer on Brinjal**

- ❖ Incidence of shoot and fruit borer may increase in the field. Spray rynaxypyr @ 0.3 ml/l for its management.

### **Mites on rose**

- ❖ Incidence of mites may increase on rose under protected/polyhouse conditions. For mite management spray Abamectin 0.5 mL/L.

### **Diseases**

Latent infection due to Anthracnose (*C. gloeosporioides*) and stem end rot (*P. mangiferae*) were recorded in mango fruits during ripening. Pre-harvest sprays with Carbendazim (0.1%) or Thiophanate methyl (0.1%) followed by post-harvest treatments with Hot water (52°C) for ten minutes is recommended for their management.

Infection of Leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) remained moderate in pomegranate. These could be managed by spraying Chlorothalonil (0.2%) or Antracol (0.2%) or Carbendazim (0.1%) or Thiophanate methyl (0.1%) or Hexaconazole (0.1%) along with the sticker @ 0.5ml/l.

Low incidence of Sigatoka (*Mycosphaerella* sp) and other leaf spots was prevailing in banana. These can be managed by the application of with Carbendazim (0.1%) or Thiophanate methyl (0.1%) or Tridemorph (0.1%).

Canker (*Pestalotiopsis psidi*) in greenish immature guava fruits and styler end rot (*Phomopsis psidi*) and anthracnose (*C. gloeosporioides*) in mature fruits were noticed. For the disease management application of Zineb (0.3%) or Ziride (0.4%) followed with Carbendazim (0.1%) / Thiophanate methyl (0.1%) / along with sticker (0.5 ml/l) should be followed.

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

**Period: 16<sup>th</sup> to 30<sup>th</sup> June, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
June 16 <sup>th</sup> to 30 <sup>th</sup> , 2012	29.7	18.9	67.2	50.5	4.8	9.24	10.1
	<b>(29.3)</b>	<b>(20.2)</b>	<b>(72.6)</b>	<b>(56.7)</b>	<b>(4.6)</b>	<b>(8.72)</b>	<b>(42.6)</b>

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

**Fortnight from 16<sup>th</sup> to 30<sup>th</sup> June, 2012**

During the second fortnight of the month i.e., from June 16<sup>th</sup> to 30<sup>th</sup>, 2012, the average maximum temperature was lower by 2.2°C and minimum temperature was higher by 2.8°C as compared to the previous fortnight. The average maximum temperature value was higher by 0.4°C and the average minimum temperature value was lower by 1.3°C as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 7.7% and 3.0% as compared to the previous fortnight. The rainfall of 10.1 mm was recorded during the fortnight, which is significantly low as compared to the average rainfall of corresponding period for the previous five years.

**Crop weather situation**

- ❖ The total rainfall, RH & minimum temperature were lower compared to the cumulative results of last five years. The wind speed was higher during this period. Since soil moisture is lower, mulching may be provided to reduce the evaporation losses & application of amendment may be delayed till use get little rain. To avoid wind damage, some protective measure may be given to banana, papaya etc.

**Incidence of pests and diseases**

### **Fruit fly on Mango**

- ❖ In late maturing varieties of mango (like Neelam and Chansa), fruit fly incidence may be noticed during this month especially if it rains. For its management and to keep the pest under control install methyl eugenol plywood traps @ 6/acre, with weekly bait splashes of jiggery (10%)

### **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.

### **Thrips on Capsicum**

- ❖ Incidence of thrips is increasing on capsicum grown under shade net/polyhouses. Spray imidacloprid 200 SL @ 0.5 mL/L.

### **White fly on Gerbera**

- ❖ Incidence of whitefly is more on Gerbera under protected cultivation. Spray dichlorvos @ 1 ml/l followed by imidacloprid @ 0.5ml/l for its management, after a fortnight. The second spray is need-based.

### **Diseases**

- ❖ Incidence of powdery mildew in grapes and other fruit crops and in vegetables like chillies, tomato, cucurbits was observed. For its management spray Hexaconazole @ 1 ml/l or spray Triadimefon @ 1 gm/l.
- ❖ In mango seedlings incidence of anthracnose was observed and the disease can be managed by spraying Carbendazim + Mancozeb 2 gm/l or Thiophanate methyl 2 gm/l.
- ❖ Incidence of Verticillium wilt in tomato and brinjal was observed. Drenching with Carbendazim or Iprodione @ 2 g/l could control the diseases effectively.



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

**Period: 1<sup>st</sup> to 15<sup>th</sup> July, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
July 1 <sup>st</sup> to 15 <sup>th</sup> , 2012	29.9	20.3	78.7	57.0	4.6	8.3	18.2
	<b>(28.42)</b>	<b>(19.9)</b>	<b>(75.74)</b>	<b>(59.32)</b>	<b>(4.06)</b>	<b>(9.58)</b>	<b>(46.36)</b>

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

**Fortnight from 1<sup>st</sup> to 15<sup>th</sup> July, 2012**

During the first fortnight of the month i.e., from July 1<sup>st</sup> to 15<sup>th</sup>, 2012, the average maximum and the average minimum temperatures were higher by 0.2°C and 1.4°C, respectively, as compared to the previous fortnight. The average maximum and the average minimum temperature values were higher by 1.48°C and 0.4°C respectively, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 11.5% and 6.5% respectively, as compared to the previous fortnight. The rainfall of 18.2 mm was recorded during the fortnight which is significantly very low as compared to the average values during the corresponding period for the previous 5 years.

**Crop weather situation**

- ❖ Monsoon has become active. This is the time for farmers to take care of soil health in orchards. Judicious use of organics & microbial consortiums developed by IIHR may be made both in fruit orchards & vegetable fields. If soil is highly acidic lime may be applied in powdered form and incorporated in the fields.

**Incidence of pests and diseases**

**Plant protection measures – prevailing weather conditions**

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

#### **Fruit fly on mango**

- ❖ In late maturing varieties of mango (like Neelam and Chausa), fruit fly incidence may be noticed during this month especially if it rains. Follow the below mentioned management practices for keeping the pest under control.
- ❖ Install IIHR plywood traps @ 6/acre, with weekly bait splashes of jaggery (10%).
- ❖ Surveillance of mango trunk borer is needed. If found, IIHR's sealer cum healer should be applied.

#### **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.

#### **Leaf hopper on okra/Bhendi**

- ❖ Incidence of jassids is observed on okra. Spray imidacloprid @ 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.

#### **Thrips on rose**

- ❖ Incidence of thrips is observed on rose grown under polyhouses. Spray acephate @ 1.5 g/l for their management.

#### **Whitefly on Gerbera**

- ❖ Incidence of whitefly is more on Gerbera under protected cultivation. Spray dichlorvos @ 1 ml/l followed by imidacloprid @ 0.5ml/l for its management, after a fortnight. The second spray is need-based.

#### **Diseases**

- ❖ Incidence of powdery mildew in grapes and other fruit crops and in vegetables like chillies, tomato, cucurbits was observed. For its management spray Hexaconazole @ 1 ml/l or spray Triadimefon @ 1 g/l.
- ❖ Incidence of Yellow mosaic virus on beans was observed, for the control of virus spray Thiamethoxam @ 0.3 g/l.

- ❖ Early blight disease incidence was observed on tomato, for its management spray Mancozeb @ 2 g/l or Chlorothalonil @ 2g/l or Copper hydroxide @ 2 g/l
- ❖ Incidence of Verticillium wilt in brinjal was observed. Carbendazim or Mancozeb @ 2 g/l drenching could control the diseases effectively.

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

**Period: 16<sup>th</sup> to 31<sup>st</sup> July, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
July 16 <sup>th</sup> to 31 <sup>st</sup> , 2012	29.1	19.1	84.3	63.1	4.2	9.38	69.0
	<b>(29.3)</b>	<b>(21.3)</b>	<b>(85.6)</b>	<b>(59.3)</b>	<b>(3.8)</b>	<b>(7.97)</b>	<b>(86.1)</b>

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

**Fortnight from 16<sup>th</sup> to 31<sup>st</sup> July, 2012**

During the second fortnight of the month i.e., from July 16<sup>th</sup> to 31<sup>st</sup>, 2012, the average maximum and the average minimum temperatures were lower by 0.8°C and 1.2°C respectively, as compared to the previous fortnight. The average maximum and average minimum temperature values were lower by 0.2°C and 2.2°C respectively, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 5.6% and 6.1% as compared to the previous fortnight. The rainfall of 69.0 mm was recorded during the fortnight, which is significantly low as compared to the average rainfall of corresponding period for the previous five years.

**Crop weather situation**

- ❖ Stray flowering has been noticed in some of the varieties in mango germplasm.
- ❖ Due to prolonged dry spell, heavy infestation of mealy bug was noticed in grape plot.
- ❖ More infestation of mealy bugs was noticed in custard apple.
- ❖ This is a deficit monsoon time. Water shortage is felt in both annual & perennial crops. To mitigate the adverse effects farmers are advised to use less nitrogen fertilizers, keep fields weed free & cover the soil surface with available mulch including weeds.

**Incidence of pests and diseases**

### **Leaf webber and mealybugs on mango**

- ❖ Incidence of leaf webber and mealybug is being observed in different mango orchards. Wherever, their incidence is noticed, prune the shoots and burn them to stop further spread.

### **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.

### **Thrips on chilli**

- ❖ Spray Acephate 75 SP @ 1.5 g/l or fipronil (1 ml/l) or lambda cyhalothrin 5 EC (0.75 ml/l) or imidacloprid 200 SL (0.3 ml/l) alternately at fortnightly interval.

### **Root-knot nematode on 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 dichlorvos @ 1 ml/l followed by methomyl 40 SP @ 2 g/l. Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

### **Thrips on roses**

- ❖ Spray acephate 75 SP @ 1.5 g/l or dimethoate 30 EC @ 2ml/l along with pongamia oil 0.5% 2 - 3 times at 15 days interval with onset of new flush. Apply Fipronil 5 SC @ 1.5 ml/l in case of severe infestations. Drench the soil with Chlorpyrifos 20 EC @ 5ml/l for killing pupae in the soil.

### **Diseases**

## **Pomegranate**

- ❖ The bacterial blight incidence in pomegranate orchards during the second fortnight of July, 2012 in Sira, Hiriyur and Jagalur ranged from 5.0 – 15%. The disease incidence is coming down in these areas due to awareness created among the pomegranate growers on Orchard Health Management Schedule for effective management of pomegranate bacterial blight through field demonstrations and training programmes. The Orchard Health management Schedule include, orchard sanitation, Cultural practices and judicious application of bactericides, i.e. freshly prepared Bordeaux mixture 1.0% alternated with Streptocycline (0.05%) + Copper oxychloride (0.3%) or with Bactronol 100 (0.05% + Copper oxychloride (0.3%) at every fifteen days interval right from pruning.

## ***Tomato***

- ❖ Bacterial wilt caused by *Ralstonia solanacearum* was observed in tomato crop during the second fortnight of July, 2012. The disease incidence ranged from 30.0 – 80.0 per cent. The disease can be managed by treatment of tomato seeds before sowing or seedlings root dip at the time of transplanting with *Pseudomonas fluorescens* @108 cfu/ml and planting the seedlings in green manure (Sannhemp) amended soil.

## **Brinjal**

- ❖ Bacterial wilt caused by *Ralstonia solanacearum* was observed in brinjal crop during the second fortnight of July, 2012. The disease incidence ranged from 5.0 – 40.0 per cent. The disease can be managed by treatment of brinjal seeds before sowing or seedlings root dip at the time of transplanting with *Pseudomonas fluorescens* @108 cfu/ml and planting the seedlings in green manure (Sannhemp) amended soil.

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

**Period: 16<sup>th</sup> to 31<sup>st</sup> August, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
August 16 <sup>th</sup> to 31 <sup>st</sup> , 2012	30.0	20.3	83.1	53.7	4.3	6.8	78.7
	<b>(29.5)</b>	<b>(21.0)</b>	<b>(88.2)</b>	<b>(70.4)</b>	<b>(4.0)</b>	<b>(6.6)</b>	<b>(75.0)</b>

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

**Fortnight from 16<sup>th</sup> to 31<sup>st</sup> August, 2012**

During the second fortnight of the month i.e., from August 16<sup>th</sup> to 31<sup>st</sup>, 2012, the average maximum temperature was higher by 1.0°C and the average minimum temperature was lower by 0.1°C as compared to the previous fortnight. The average maximum temperature value was higher by 0.5°C and average minimum temperature value was lower by 0.7°C as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning hours was higher by 1.4% and the percent relative humidity during afternoon hours was lower by 3.1% as compared to the previous fortnight. The rainfall of 78.7 mm was recorded during the fortnight.

**Crop weather situation**

- ❖ This fortnight received normal rains and remained wet. Under the prevailing conditions farmers growing vegetables may undertake spray of vegetable special for correcting micronutrient deficiencies. Those farmers planting new vegetable crops are advised to treat the seedlings with Arka Microbial Consortium. The same may also be applied to soil by mixing with FYM. If already planted the farmers may apply through drenching method also.

**Incidence of pests and diseases**

### **Leaf Webber on mango**

- ❖ For the management of this pest prune the affected shoots and spray carbaryl 50 WP @ 3 g/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 (Deltamethrin 0.1 % + jaggery @ 10g/L) at 10 days interval from the date of flowering.

### **Mites on tomato**

- ❖ For the management of mites spray sulphur @ 3 g/l or dicofol @ 3 ml/l.

### **Rose thrips**

- ❖ Incidence of rose thrips is more under polyhouse conditions. Spray acephate @ 1 g/l or imidacloprid @ 0.5 ml/l for its management.

### **Mites on rose**

- ❖ For the management of mites spray abamectin @ 0.5 ml/l

### **Midge on crossandra**

- ❖ Under the prevailing conditions, incidence of midge increases on crossandra. For its management spray imidacloprid @ 0.5 ml/l or acephate @ 1.5 g/L.

### **Whitefly on Gerbera (polyhouse)**

- ❖ For the management of whitefly on gerbera spray dichlorvos @ 1 ml/l followed by methomyl 40 SP @ 2 g/l. Install yellow sticky traps coated with adhesive or sticky glue at crop canopy level for monitoring adult whitefly population.

### **Diseases**



### **Yellow rust in Grapes**

- ❖ Incidence of yellow rust is observed in grapes, for its management spray a) Bordeaux mixture @ 1 %, b) Propiconazole @ 1 ml/l and c) Chlorothalonil @ 2 g/l

### **Phytophthora blight in Tomato, Brinjal and Chillies**

- ❖ Phytophthora blight incidence was noticed in tomato, brinjal and chillies. For its management spray a) Bordeaux mixture @ 1 %, b) Dimethomorph (1 g) + Mancozeb (2 g), c) Cymoxanil + Mancozeb @ 3 g/l and d) Famoxadone + Cymoxanil @ 1 ml/l

### **Alternaria leaf spot in Gerbera**

- ❖ Incidence of alternaria leaf spot was observed in gerbera, for its management spray a) Mancozeb @ 2 g/l, b) Copper hydroxide @ 2 g/l, c) Chlorothalonil @ 2 g/l

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

**Period: 1<sup>st</sup> to 15<sup>th</sup> October, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
October 1 <sup>st</sup> to 15 <sup>th</sup> , 2012	29.4	19.3	82.2	53.7	4.9	4.6	76.4
	<b>(28.4)</b>	<b>(19.3)</b>	<b>(79.4)</b>	<b>(59.4)</b>	<b>(3.5)</b>	<b>(4.04)</b>	<b>(82.1)</b>

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

**Fortnight from 1<sup>st</sup> to 15<sup>th</sup> October, 2012**

During the first fortnight of the month i.e., from October 1<sup>st</sup> to 15<sup>th</sup>, 2012, the average maximum and minimum temperatures were lower by 0.6°C and 1.7°C respectively, as compared to the previous fortnight. The average maximum temperature value was higher by 1.0°C and the average minimum temperature value was remained same as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 2.0% and 0.4% respectively, as compared to the previous fortnight. The rainfall of 76.4 mm was recorded during the fortnight.

**Crop weather situation**

- ❖ Good rains are received during these days. Most of the vegetable fields are in peak harvesting stage. Wherever necessary farmers may spray vegetable special to get better and quality yield. Mango & Citrus farmers are advised to spray mango special & citrus special respectively.

**Incidence of pests and diseases**

**Plant protection measures – prevailing weather conditions**

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

### **Mango leaf eating caterpillars**

- ❖ For their management spray acephate 75 SP @ 1.5 g/L or decamethrin 2.8 EC @ 1 ml/L.

### **Webber on Mango**

- ❖ Incidence of webber is noticed in some of the mango trees. Remove webbed leaves wherever possible and burn them. Spray quinalphos 25 EC @ 2 ml/l.

### **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 @ 1ml/l. Collection and destruction of *Spodoptera litura* at early instar stage, when they feed gregariously, is desirable.

### **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 acephate 75 SP @ 1 g/L.

### **Spodoptera on cabbage**

- ❖ Collection and destruction of egg masses and gregarious feeding larvae is the most effective and cheapest method. Regular scouting has to be followed to locate egg masses and location of skeletonised leaves.
- ❖ Use poison baiting (10 Kg rice/wheat flour + 1 kg of jaggery + 500 g of methomyl formulation per acre. Sprinkle the mixture in furrows. The fermenting jaggery attracts the caterpillars. Baiting has to be done 2-3 days until complete control is achieved.
- ❖ Install sex pheromone traps for *S. litura* @ 4/Acre.

### **Aphid on rose**

- ❖ Aphid infestation may increase on rose in open field. Spray thiamethoxam 25 WG 0.3g/L.

### **Diseases**

- ❖ Incidence of powdery mildew in grapes and other fruit crops and in vegetables like chillies and tomato was observed. For its management spray a) Fosetyl-AI @ 2g + Propineb @ 2g

per l, b) Fenimodone + mancozeb @ 3g /l, c) Dimethomorph @ 1g/l + mancozeb @ 2g /l and d) Famoxete + Cymoxanil @ 1 ml/l

- ❖ Late blight disease incidence was observed on tomato, for its management spray a) Fosetyl-Al @ 2g + Propineb @ 2g per l, b) Fenimodone + mancozeb @ 3g /l, c) Dimethomorph @ 1g/l + mancozeb @ 2g /l and d) Famoxadone + Cymoxanil @ 1 ml/l
- ❖ Phytophthora blight incidence was noticed on chillies. For its management spray a) Bordeaux mixture @ 1 %, b) Dimethomorph (1 g) + Mancozeb (2 g), c) Cymoxanil + Mancozeb @ 3 g/l and d) Famoxadone + Cymoxanil @ 1 ml/l

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

**Period: 1<sup>st</sup> to 15<sup>th</sup> November, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
November 1 <sup>st</sup> to 15 <sup>th</sup> , 2012	27.8	17.4	84.2	53.2	4.8	4.86	135.3
	<b>(27.2)</b>	<b>(16.8)</b>	<b>(74.8)</b>	<b>(56.4)</b>	<b>(3.3)</b>	<b>(4.29)</b>	<b>(33.4)</b>

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

**Fortnight from 1<sup>st</sup> to 15<sup>th</sup> November, 2012**

During the first fortnight of the month i.e., from November 1<sup>st</sup> to 15<sup>th</sup>, 2012, the average maximum and minimum temperatures were lower by 1.0°C and 0.7°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were higher by 0.6°C as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 0.5% and 10.2% respectively, as compared to the previous fortnight. The rainfall of 135.3 mm was recorded during the fortnight.

**Crop weather situation**

- ❖ Major weather parameters conform to the averages except that far less rainfall is received in the last fortnight. The irrigation therefore, has to be taken up intensively to avoid drought stress especially in vegetable crops.
- ❖ Flowering has been noticed in mango variety `Dori' in the germplasm

**Incidence of pests and diseases**

**Plant protection measures – prevailing weather conditions**

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

**Mango leaf eating caterpillars**

- ❖ For the management of leaf eating caterpillar, spray acephate 75 SP @ 1.5 g/L or decamethrin 2.8 EC @ 1 ml/L.

### **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 @ 1ml/l. Collect and destroy *Spodoptera litura* at early instar stage, when they feed gregariously, is desirable.

### **Mite pests on tomato**

- ❖ Incidence of spider mites is noticed in some tomato fields. For mites management spray dicofol 3 ml/l.

### **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 acephate 75 SP @ 1 g/L.

### **Aphid on rose**

- ❖ Aphid infestation may increase on rose in open field. Spray Dimethoate @ 2 ml/l for its management. If the incidence is severe, spray thiamethoxam 25 WG 0.3g/L.

### **Jassids on bhendi**

- ❖ For the management of jassids on bhendi spray imidacloprid @ 0.5 ml/L

### ***Spodoptera* on Mucuna**

- ❖ Heavy incidence of *Spodoptera* is observed on this medicinal plant. Collection and destruction of first instar larvae feeding on the leaves is to be done. Spray of NSKE 5 % deters the feeding of this pest on this plant.

### **Epilachna beetle on brinjal**

- ❖ Heavy incidence of epilachna beetle damage is seen on brinjal. For its management, spray carbaryl @ 3 g/l.

### **Diseases**

- ❖ The bacterial blight incidence in pomegranate orchards during the first fortnight of November, 2012 in Sira, Hiriya and Jagalur ranged from 15.5 to 35.0%. In adopted orchards the incidence was very low 2.0 to 5.8%, as the growers follow very strictly the Orchard Health management Schedule, which include, orchard sanitation, Cultural practices and judicious application of bactericides, i.e. freshly prepared Bordeaux mixture 1.0% alternated with Streptomycin (0.05%) + Copper oxychloride (0.3%) or with Bronopol (0.05%) + Copper oxychloride (0.3%) at every fifteen days interval right from pruning.
- ❖ Bacterial wilt caused by *Ralstonia solanacearum* was observed in tomato crop during the first fortnight of November, 2012. The disease incidence ranged from 15.0 – 60.0 per cent. The disease can be managed by treatment of tomato seeds before sowing or seedlings root dip at the time of transplanting with *Pseudomonas fluorescens* @ $10^8$  cfu/ml and planting the seedlings in green manure (Sannhemp) amended soil.
- ❖ Bacterial wilt caused by *Ralstonia solanacearum* was observed in brinjal crop during the first fortnight of November, 2012. The disease incidence ranged from 10.0 – 40.0 per cent. The disease can be managed by treatment of brinjal seeds before sowing or seedlings root dip at the time of transplanting with *Pseudomonas fluorescens* @ $10^8$  cfu/ml and planting the seedlings in green manure (Sannhemp) amended soil.

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

**Period: 16<sup>th</sup> to 30<sup>th</sup> November, 2012**

**Latitude : 13°58' N**

**Longitude : 78° E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
November 16 <sup>th</sup> to 30 <sup>th</sup> , 2012	27.8	15.6	78.8	50.8	5.2	2.92	45.0
	<b>(21.3)</b>	<b>(16.0)</b>	<b>(78.3)</b>	<b>(66.3)</b>	<b>(3.8)</b>	<b>(5.16)</b>	<b>(7.8)</b>

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

**Fortnight from 16<sup>th</sup> to 30<sup>th</sup> November, 2012**

During the second fortnight of the month i.e., from November 16<sup>th</sup> to 30<sup>th</sup>, 2012, the average maximum temperature was remained same and minimum temperature was lower by 1.8°C as compared to the previous fortnight. The average maximum temperature value was higher by 6.5°C and the average minimum temperature value was lower by 0.4°C as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 5.4% and 2.4% as compared to the previous fortnight. The rainfall of 45.0 mm was recorded during the fortnight, which is significantly high as compared to the average rainfall of corresponding period for the previous five years.

**Crop weather situation**

- ❖ Flower initiation has been noticed in some of the mango accessions viz., Dori, Mulgoa black, Apple Rumani, Kottur konum and Lord.
- ❖ The mean temperature was higher during the last fortnight when compared to the average of 5 years. Evaporation was also higher. There was good rainfall of 45mm and application of fertilizer may be taken up in selected crop based on available soil moisture. Liberal application of FYM is recommended

**Incidence of pests and diseases**



### **Caterpillar pests on tomato**

- ❖ With the prevailing weather, incidence of tomato fruit borer is more. For its management, spray indoxacarb 15 SC @ 1ml/l.

### **Thrips on capsicum**

- ❖ Incidence of thrips is more on capsicum particularly under polyhouse conditions. Spray imidacloprid 0.5 ml/l or acephate 1g/l for its management.

### **Aphids on brinjal & bhendi**

- ❖ Incidence of aphids is increasing on brinjal and bhendi. If the crop is at preflowering stage, spray acephate 1 ml/l or imidacloprid 0.5 ml/l.

### **Ash weevil on Brinjal**

- ❖ Incidence of ash weevil damage is observed on brinjal. For its management, spray carbaryl @ 3 g/l or triazophos 40 EC @ 1.5 ml/l.

### **Aphids on rose and beans**

- ❖ Aphid infestation may increase on rose and other bean vegetables. Spray Dimethoate @ 2 ml/l for their management.

### **Diseases**

- ❖ The incidence of Bacterial black rot caused by *Xanthomonas campestris pv. campestris* was observed in cauliflower crop during the second fortnight of November, 2012. The disease was noticed on leaves and the incidence ranged from 5.0 – 30.0 per cent. The disease can be managed by hot water treatment of seeds at 50°C for 20 min before sowing and 2 to 3 sprays of copper oxychloride (0.3%) along with Streptocycline (250 ppm) at fortnightly interval.
- ❖ The incidence of downey and powdery mildew is a serious problem in grapes. For its management spray a) Fosetyl-Al @ 2g + Propineb @ 2g per l after 7 days spray Dimethomorph @ 1g/l + mancozeb @ 2g /l and another spray may be given after 7 days with Fenimodone + mancozeb @ 3g /l. For the management of powdery mildew spray Tridemorph 1 g/l.

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

**Period: 1<sup>st</sup> to 15<sup>th</sup> December, 2012**

**Latitude : 13<sup>o</sup>58<sup>1</sup> N**

**Longitude : 78<sup>o</sup> E**

**Altitude : 890 M**

Fortnight	Temperature(°C)		Relative Humidity(%)		Evaporation (mm)	Wind speed (km/h)	Total Rainfall (mm)
	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
December 1 <sup>st</sup> to 15 <sup>th</sup> , 2012	27.4	15.7	84.6	56.5	5.6	2.65	8.2
	<b>(26.3)</b>	<b>(15.8)</b>	<b>(76.0)</b>	<b>(56.4)</b>	<b>(3.0)</b>	<b>(4.58)</b>	<b>(7.5)</b>

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

**Fortnight from 1<sup>st</sup> to 15<sup>th</sup> December, 2012**

During the first fortnight of the month i.e., from December 1<sup>st</sup> to 15<sup>th</sup>, 2012, the average maximum temperature was lower by 0.4°C and the average minimum temperature was higher by 0.1°C as compared to the previous fortnight. The average maximum temperature value was higher by 1.1°C and the average minimum temperature value was lower by 0.1°C as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 5.8% and 5.7% respectively, as compared to the previous fortnight. The rainfall of 8.2 mm was recorded during the fortnight.

**Crop weather situation**

- ❖ The weather remained dry during this period. Farmers who have planted vegetables in November may undertake spray of vegetable special. Mango farmers are advised to give one spray of mango special during flower initiation.

**Incidence of pests and diseases**

**Plant protection measures – prevailing weather conditions**

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

**Hoppers on mango**

- ❖ With the prevailing weather, incidence of hoppers may increase in mango orchards wherever flowering has started. Spray imidacloprid @ 0.5 ml/l for their management.

### **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 @ 1ml/l.

### **Aphids on brinjal & bhendi**

- ❖ Incidence of aphids is increasing on brinjal and bhendi. If the crop is at preflowering stage, spray acephate 1 g/l or imidacloprid 0.5 ml/l. After the fruit set, spray neem or pongamia soaps @ 0.5 % 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 dicofol @ 2.5 ml/l for their management

### **Aphids on rose and beans**

- ❖ Aphid infestation may increase on rose and other bean vegetables. Spray Dimethoate @ 2 ml/l for their management

### ***Helicoverpa* on china asters**

- ❖ Incidence of *Helicoverpa* may increase on china asters. Spray indoxacarb 14.5 EC @ 1 ml/l for its management.

### **Diseases**

- ❖ The incidence of powdery mildew is a serious problem in grapes and cucurbits and it is very serious in mango. For the management of powdery mildew spray
  - Difenconazole @ 0.6 ml/l or Triadimefon @ 1 gm/l or Hexaconazole @ 1 ml/l or Flusilazole @ 0.3 ml/l