

**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> December, 2008

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			
16 <sup>th</sup> – 31 <sup>st</sup> December, 2008	26.4	13.25	64.20	49.20	4.25	4.08	Nil
	(26.94)	(13.76)	(71.83)	(55.53)	(3.61)	(4.29)	(5.4)

\* 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> December 2008

The average maximum and minimum temperatures during the second fortnight from December 16<sup>th</sup> to 31<sup>st</sup> 2008, was less by 0.1°C and 3.08 °C respectively compared to previous fortnight. The average maximum and minimum temperature values during the corresponding period for the previous five years were lower by 0.54°C and 0.51°C respectively. The percent relative humidity during morning and afternoon hours is lower by 9.0 and 0.8%, as compared to previous fortnight. There was no rainfall as compared to 3.1 mm in the previous fortnight.

#### Crop weather situation

- ❖ Flowering in mango is continued during the fortnight also.
- ❖ Moisture stress in banana and vegetables is likely to be observed.
- ❖ The weather is ideal for normal growth of carnation, tuberose, gerbera, gladiolus and jasmine. In crossandra slow growth is observed.
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Elm mushroom (*Hypsizygus ulmarius*) and Shiitake mushroom (*Lentinula edodes*). Additional heating was required for the cultivation of Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*).

#### Incidence of pests and diseases

Because of the prevailing weather conditions, the following pests infestation is either observed or forecast.

#### Diseases

- ❖ Powdery mildew in mango is forecasted.
- ❖ In pomegranate, incidence of bacterial blight disease is likely to decrease mainly due to absence of rains. However, control measures have to be taken to minimize it.
- ❖ Incidence of big bud phytoplasma upto 2.5% was noticed in tomato. This may be due to favourable weather conditions for multiplication of leafhopper vectors.

- ❖ Incidence of cucumber mosaic virus and chilli veinal mottle viruses was noticed upto 15.5% in chilli. This may be due to favourable weather conditions for aphids which spread the viruses.
- ❖ Insect pests
- ❖ With marginal decrease in maximum and minimum temperatures, coupled with moderate humidities and no rainfall the incidence of hoppers in mango, aphids, thrips, mites, leafhoppers, caterpillar pests would increase on vegetables like capsicum, brinjal, onion cabbage and cucurbits. Infestation of these pests may also occur on pomegranate, grapes, rose, china aster and marigold under open field conditions.
- ❖ In rose, incidence of thrips, aphids in open field condition and, mites in poly house were noticed and will increase with temperature.
- ❖ Infestation of thrips, in gerbera under poly house conditions, leaf eating caterpillars and thrips in jasmine, stem borer in red ginger under open field and mealy bug in crossandra was noticed and will increase with temperature.

#### **Remedial measures**

Prophylactic sprays with recommended pesticides/ botanicals for control of above pests and diseases.

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**Period: 1<sup>st</sup> to 15<sup>th</sup> December, 2008**

**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			
1 <sup>st</sup> – 15 <sup>th</sup> December, 2008	26.5 <b>(27.03)</b>	16.33 <b>(13.60)</b>	73.2 <b>(71.24)</b>	50.0 <b>(57.61)</b>	4.1 <b>(3.42)</b>	4.37 <b>(4.90)</b>	3.1 <b>(1.32)</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, 2008**

The average maximum temperature during the first fortnight from December 1<sup>st</sup> to 15<sup>th</sup>, 2008, was higher by 0.7°C and average minimum temperature was lower by 1.37°C as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 0.53°C and higher by 2.73°C as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon were lower by 6.2 and 15.0 % respectively as compared to previous fortnight. The rainfall was 3.1 mm as compared to 46.6 mm during the previous fortnight.

**Crop weather situation**

- ❖ Flowering started in the second week of December in mid season mango varieties. Panicle emergence was noticed in early season mango varieties during the first week of December.
- ❖ Mango cv. Alphonso trees under high density orcharding are in full bloom.
- ❖ Wherever possible the drip circles can be mulched with crop wastes / weeds. Routine cultural operations may be carried.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- ❖ Due to mist and foggy weather condition, cucumber crop is severely affected by downy mildew.
- ❖ In tomato, late blight caused by *Phytophthora infestans* continues to be a problem due to fog in the early morning hours.
- ❖ In rose, because of the outbreak of downy mildew severe defoliation occurs and the flower buds dry up. Powdery mildew is very common during the period.
- ❖ Severe incidence of Bacterial blight disease caused by *Xanthomonas axonopodis* pv. *punicae* (20.0 – 100.0%) was observed on pomegranate orchards in Sira, Tumkur during the first fortnight of December, 2008. The incidence was noticed mainly on leaves and stems. The high disease incidence was due to un usual rains during November, 2008.
- ❖ Black rot disease caused by *Xanthomonas campestris* pv. *campestris* was noticed on cauliflower affecting the leaves. The incidence was very high (30%) due to rains during the preceding months.

- ❖ The weather conditions favored the incidence of pests like thrips, *Scirtothrips dorsalis* on chilli; mites, *Tetranychus urticae* on rose under protected condition. Infestation of diamond back moth, *Plutella xylostella* on cabbage and fruit flies on cucurbits also increased.
- ❖ Under protected cultivation, sucking pests like thrips, whiteflies, mites may increase. Caterpillars like *Spodoptera litura* and *Heliothis armigera* will increase on rose, gerbera, tomato and capsicum under open condition.

#### **Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

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**Period: 16<sup>th</sup> to 30<sup>th</sup> November, 2008**

**Latitude : 13°58<sup>1</sup> 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			
16 <sup>th</sup> - 30 <sup>th</sup> November, 2008	25.8	17.7	79.4	65.0	3.6	6.47	46.6
	<b>(26.8)</b>	<b>(15.8)</b>	<b>(72.8)</b>	<b>(60.1)</b>	<b>(3.4)</b>	<b>(4.26)</b>	<b>(9.9)</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 2008**

The average maximum temperature during the second fortnight from November 16<sup>th</sup> to 30<sup>th</sup> 2008, was lower by 1.5°C and average minimum temperature is higher by 4.8°C compared to previous fortnight. The average maximum and minimum temperature values were lower by 1.0°C and higher by 1.9°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 19.7 and 21.9% respectively, as compared to previous fortnight. The rainfall was 46.6 mm as compared to no rainfall in the previous fortnight.

**Crop weather situation**

- ❖ Due to excess rains, canes of grape vines showed excess vigour resulting in rank vegetative growth. This also has resulted in likelihood of Downey mildew attacks.
- ❖ In tomato, crop transplanted on 14/10/2008, plant growth was good and flower setting was almost in 100% plants. Fruit set initiated during the period.
- ❖ There has been intermittent rains during this fortnight and temperature is also coming down. Hence, top dressing in vegetable crops may be undertaken. Irrigation may be withhold for a week. Routine agronomic practices both in vegetables and fruit crops should be continued.
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Elm mushroom (*Hypsizygus ulmarius*) and Shiitake mushroom (*Lentinula edodes*). Additional heating was required for the cultivation of Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*)

**Incidence of pests and diseases**

- ❖ Because of the prevailing weather conditions, the following pests infestation is either observed or forecasted.
- ❖ Intensity of downy mildew was higher, whereas anthracnose was low on grape vines var. Anab-e-Shahi.
- ❖ In banana, higher intensity of Sigatoka leaf spot (*Mycosphaerella sp.*) (> 40%) and moderate (>25%) levels of crown rot (*Fusarium moniliforme* & *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits were recorded.
- ❖ In pomegranate, moderate intensity of leaf and fruit spot disease caused by *Pseudocercospora*

*punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) was recorded.

- ❖ In guava, moderate levels of styler end rot (*Phomopsis psidii*) and anthracnose (*C. gloeosporioides*) and canker (*Pestalotiopsis psidii*) in mature fruits (>30 %) were recorded.
- ❖ In sapota, low Intensity of leaf spot (*P. indica*) was noticed.
- ❖ In tomato, incidence of spotted wilt disease due to groundnut bud necrosis virus was noticed. This may be due to favourable weather conditions for thrips population buildup and dispersal.
- ❖ In chilli, incidence of cucumber mosaic virus and chilli veinal mottle viruses was noticed. This may be due to low temperature which is favourable for aphid multiplication and spread.
- ❖ Incidence of scales and black spot in open field cultivation of roses, corm rot in gladiolus, and bacterial wilt in anthurium.
- ❖ The incidence of caterpillar pests like *Heliothis*, *Spodoptera* and other fruit borers will increase on bendhi, brinjal, cabbage, rose, gladiolus, crossandra. Incidence of beetles, weevils and aphids will also increase under field conditions.
- ❖ In protected cultivation, the weather condition during preceding fortnight will favour the incidence of sucking pests like thrips, aphids, whiteflies and mites on rose, gerbera, carnation, tomato, capsicum.

### **Remedial measures**

Prophylactic sprays with recommended pesticides/ botanicals for control of above pests and diseases.

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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			
1 <sup>st</sup> – 15 <sup>th</sup> November, 2008	27.3 <b>(26.6)</b>	12.9 <b>(17.4)</b>	59.7 <b>(75.6)</b>	43.1 <b>(62.3)</b>	3.1 <b>(2.8)</b>	3.86 <b>(4.5)</b>	Nil <b>(26.3)</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, 2008**

The average maximum temperature during the first fortnight from November 1<sup>st</sup> to 15<sup>th</sup>, 2008, was higher by 0.6°C and average minimum temperature was lower by 5.1°C as compared to the previous fortnight. The average maximum and minimum temperature values were higher by 0.7°C and lower by 4.5°C as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning and afternoon were lower by 14.5 and 22.1 % respectively as compared to previous fortnight. The rainfall was nil compared to 90.4 mm during the previous fortnight.

**Crop weather situation**

- ❖ Sporadic flowering is observed in mango cv. Alphonso under high density orcharding.
- ❖ Lack of rain and lower night temperature is good for Mango flowering but not so far banana. Rainfed vegetables and fruits need nutrient supplement by foliar spray.
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Elm mushroom (*Hypsizygos ulmarius*) and Shiitake mushroom (*Lentinula edodes*). Additional heating was required for the cultivation of Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*).

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- ❖ Moderate infection of downy mildew and anthracnose in traces were recorded in grape vines var. Anab - e- Shahi.
- ❖ In banana, higher intensity of Sigatoka leaf spot (*Mycosphaerella sp.*) (> 40%) and moderate (>25%) levels of crown rot (*Fusarium moniliforme* & *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits were continue to be recorded.
- ❖ In pomegranate, intensity of leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) was moderate.
- ❖ In guava, moderate levels of styler end rot (*Phomopsis psidii*) and anthracnose (*C. gloeosporioides*) and canker (*Pestatiopsis psidii*) in mature fruits (>30 %) were recorded.

- ❖ In sapota, intensity of leaf spot (*P. indica*) was low as new foliage started emerging.
- ❖ In tomato, incidence of leaf curl and tospovirus was noticed mainly due to increase in whitefly and thrips population which are the vectors of virus diseases.
- ❖ In chilli, incidence of chilli vein mottle virus was noticed. This may be due to increase in the aphid population due to mild temperature.
- ❖ The incidence of pests like thrips, mites, caterpillars (defoliators and fruit borers) weevils and beetles will increase on tomato, brinjal and brinjal under field conditions. Infestation of diamond back moth, *Plutella xylostella* on cabbage and fruit flies on cucurbits would also increase. Under protected cultivation, sucking pests like thrips, whiteflies, mites and caterpillars like *Spodoptera litura* and *Heliothis armigera* will increase on rose, gerbera, tomato and capsicum.
- ❖ Pests like mites in carnation, thrips in gladiolus, leaf eating caterpillars in jasmine and mealy bug in crossandra were observed.

### **Remedial measures**

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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			
16 <sup>th</sup> – 31 <sup>st</sup> October, 2008	26.7	18.0	74.2	65.2	1.8	4.01	90.4
	(27.1)	(18.8)	(81.5)	(68.0)	(3.0)	(4.3)	(36.4)

\* 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> October 2008**

The average maximum and minimum temperatures during the second fortnight from October 16<sup>th</sup> to 31<sup>st</sup> 2008, was less by 0.9°C and 1.8°C respectively compared to previous fortnight. The average maximum and minimum temperature values during the corresponding period for the previous five years were higher by 0.4°C and 0.8°C respectively. The percent relative humidity during morning hours is lower by 5.8 and during afternoon hours is higher by 5.6%, as compared to previous fortnight. The rainfall was 90.4 mm as compared to 166.7 mm in the previous fortnight.

**Crop weather situation**

- ❖ About 30 to 40 % flowering has set in the tomato plants of October planting during the period.
- ❖ Due to the leaching loss of nitrogen, 20 % increased level of N in top dressing of vegetable crops is recommended. The mango needs depletion of profile moisture for flowering. Hence, the irrigation needs to be stopped for mango.
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Elm mushroom (*Hypsizygus ulmarius*) and Shiitake mushroom (*Lentinula edodes*). Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*) required additional heating especially during nights.
- ❖ Good establishment of Ashwagandha seedlings and yellowing of leaves in *muccuna sp* was observed due to good rains.

**Incidence of pests and diseases**

Because of the prevailing weather conditions, the following pests infestation is either observed or forecasted.

- ❖ Infection of Downy mildew was noticed on the pruned grape vines var. Anab-e- Shahi.
- ❖ In banana, higher intensity of Sigatoka leaf spot (*Mycosphaerella sp*) (>40%) and moderate (>25%) levels of crown rot (*Fusarium moniliforme* & *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits were noticed.
- ❖ In pomegranate, leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) was moderate.
- ❖ Styler end rot (*Phomopsis psidi*) and anthracnose (*C. gloeosporioides*) in mature guava fruits were noticed.

- ❖ In sapota, infection of leaf spot (*P. indica*) remained moderate. Bacterial wilt in anthurium, Corm rot in gladiolus was observed.
- ❖ Incidence of pests like fruit flies on cucurbits, caterpillars (defoliators and fruit borers) and beetles will increase on tomato, bhendi, brinjal, rose, aswagandha and mucuna under field conditions.
- ❖ Under protected cultivation, pests like thrips, whiteflies and leaf miners will increase on rose, gerbera, tomato and capsicum.

#### **Remedial measures**

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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			
1 <sup>st</sup> to 15 <sup>th</sup> October 2008	27.6	19.8	80.0	59.6	3.0	3.68	166.7
	<b>(28.6)</b>	<b>(19.2)</b>	<b>(80.7)</b>	<b>(62.5)</b>	<b>(3.6)</b>	<b>(3.9)</b>	<b>(73.7)</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 2008**

The average maximum temperature during the second fortnight from 1<sup>st</sup> to 15<sup>th</sup> October 2008 was lower by 0.8°C and average minimum temperature was more by 1.9°C compared to previous fortnight. There was not much change in average values during the corresponding period for the previous five years in case of maximum and minimum temperature. The percent relative humidity during morning was higher by 6.6% and during afternoon was higher by 5.1%, as compared to previous fortnight. The rainfall was 166.7 mm higher as compared to 10.1 mm in the previous fortnight.

**Crop weather situation**

- ❖ Rains during post pruning days has facilitated even bud break in seedless grapes.
- ❖ Application of fertilizer and manures to be taken up in orchards of mango, sapota and grape as there was good rain during this fortnight. Green manure raised in the month of August/September has to be incorporated in to the soil in between the rows of tree crops. The reduction in soil salinity due to heavy rain results in higher yields.
- ❖ In mushrooms the weather was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*) and Shiitake mushroom (*Lentinula edodes*). Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*) required additional heating especially during nights.

**Incidence of pests and diseases**

- ❖ In grape, infection of downy mildew and anthracnose was moderate on cv. Anab-e-Shahi whereas severe infection of rust infection was recorded on variety Bangalore Blue.
- ❖ Moderate intensity of Sigatoka leaf spot (*Mycosphaerella sp*) and crown rot (*Fusarium solani* and *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits were recorded in banana.
- ❖ In pomegranate higher intensity of Leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) were recorded.
- ❖ In sapota moderate infection of leaf spot (*P. indica*) was recorded.
- ❖ In guava canker (*Pestalotiopsis psidi*) in greenish immature guava fruits and styler end rot (*Phomopsis psidi*) and anthracnose (*C. gloeosporioides*) in mature fruits were noticed.
- ❖ Leaf spot and powdery mildew diseases were prevalent in bell pepper crop.
- ❖ In chilli, incidence of cucumber mosaic virus and chilli vein mottle virus was noticed due to cloudy

weather which is favourable for aphid multiplication.

- ❖ In ridge gourd the incidence of whitefly transmitted viruses are increasing. This may be due to favourable weather condition for whitefly multiplication and spread.
- ❖ The incidence of pests like thrips, *Scirtothrips dorsalis*, diamond back moth, *Plutella xylostella* on vegetables will come down. While, pests like fruit flies on cucurbits, caterpillars (defoliators and fruit borers) and beetles will increase on tomato, bhendi, brinjal and rose under field conditions.
- ❖ Thrips and corm rot in gladiolus, thrips in gerbera poly house cultivation, bacterial wilt in Anthurium and in crossandra occurrence of mealy bug were observed
- ❖ With moderate temperatures (which are congenial for pests) and increased relative humidities and rainfall, the incidence of pests like thrips, *Scirtothrips dorsalis*, diamond back moth, *Plutella xylostella* on vegetables will come down. While, pests like fruit flies on cucurbits, caterpillars (defoliators and fruit borers) and beetles will increase on tomato, bhendi, brinjal and rose under field conditions. Under protected cultivation, sucking pests like thrips, whiteflies will increase on rose, gerbera, tomato and capsicum.

### **Remedial measures**

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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			
16 <sup>th</sup> - 30 <sup>th</sup> September, 2008	28.4 <b>(28.2)</b>	17.9 <b>(19.8)</b>	73.4 <b>(79.3)</b>	54.5 <b>(62.7)</b>	4.3 <b>(3.7)</b>	4.94 <b>(6.2)</b>	10.1 <b>(42.9)</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> September 2008**

The average maximum temperature during the second fortnight from September 16<sup>th</sup> to 30<sup>th</sup> 2008, was more by 0.5°C and average minimum temperature is lower by 1.9 °C compared to previous fortnight. There was not much change in average values during the corresponding period for the previous five years in case of maximum and minimum temperature. The percent relative humidity during morning and afternoon were lower by 6.0 and 8.7% respectively, as compared to previous fortnight. The rainfall was 10.1 mm as compared to 147.5 mm in the previous fortnight.

**Crop weather situation**

- ❖ Due to low moisture stress, stray flowering has been observed in some of the mango varieties.
- ❖ In the August transplanting crop of tomato, there was no further flower and fruit setting during the period.
- ❖ The rainfall during the fortnight was low and vegetable crops need fertilization with adequate moisture.
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*) and Shiitake mushroom (*Lentinula edodes*). Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*) required additional heating especially during nights.
- ❖ Growth in Ashwagandha and flowering in Aloe vera was observed.

**Incidence of pests and diseases**

Because of the prevailing weather conditions, the following pests infestation is either observed or forecasted.

- ❖ In grape, infection of downy mildew and anthracnose was moderate on cv. Anab-e-shahi whereas severe infection of rust was recorded on var. Bangalore blue.
- ❖ Moderate intensity of Sigatoka leaf spot (*Mycosphaerella sp.*) and crown rot (*Fusarium solani* and *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits were recorded in banana.
- ❖ In pomegranate, higher intensity of Leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) were recorded.

- ❖ Moderate infection of leaf spot (*P. indica*) was recorded in sapota.
- ❖ Canker (*Pestalotiopsis psidi*) in greenish immature guava fruits and styler end rot (*Phomopsis psidi*) and anthracnose (*C. gloeosporioides*) in mature fruits were noticed in guava.
- ❖ Leaf spot and powdery mildew diseases are prevalent in bell pepper crop.
- ❖ Leaf miner on tomato and diamond back moth on cabbage will increase.
- ❖ The fruit fly incidence on cucurbits is expected to decrease due to the prevailing weather situation.
- ❖ Incidence of sucking pests like thrips and mites on chilli and other ornamental crops like carnation, gerbera, jasmine.

#### **Remedial measures**

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**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			
1 <sup>st</sup> – 15 <sup>th</sup> September, 2008	27.9 <b>(28.3)</b>	19.8 <b>(19.8)</b>	79.4 <b>(97.0)</b>	63.2 <b>(64.0)</b>	2.5 <b>(3.6)</b>	5.86 <b>(6.0)</b>	147.5 <b>(98.5)</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> September, 2008**

The average maximum and minimum temperature during the first fortnight from September 1<sup>st</sup> to 15<sup>th</sup>, 2008, was higher by 0.1°C as compared to the previous fortnight. The average values during the corresponding period for the previous five years were also higher by 0.1°C. The percent relative humidity during morning and afternoon were lower by 1.6 and higher by 2.4 % respectively as compared to previous fortnight. The rainfall was 147.5 mm compared to 147.1 mm during the previous fortnight.

**Crop weather situation**

- ❖ Due to excess rainfall the terminal buds in grapes sprouted and the shoots have emerged.
- ❖ In tomato, the plant growth was affected during this period. Leaf area reduction due to senescence of leaves was observed due to excess rain.
- ❖ The higher rainfall leading to the leaching of N, B and Bases like Ca & Mg, will make acidic sandy soil more acidic. N deficiency will aggravate and top dressing is needed in vegetables. Neem cake application reduces leaching losses of N as NO<sub>3</sub>N.
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*) and Shiitake mushroom (*Lentinula edodes*). Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*) required additional heating especially during nights.
- ❖ New growth in rose, normal growth in carnation, gladiolus, tuberose, gerbera, anthurium, jasmine were observed. In crossandra, growth was slow and there was no flowering.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- ❖ Moderate infection of downy mildew and anthracnose was recorded on grapes cv. Anab-e-shahi whereas severe infection of rust infection was recorded on var Bangalore blue.
- ❖ In banana, moderate intensity of Sigatoka leaf spot (*Mycosphaerella sp.*) and crown rot (*Fusarium solani* and *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits were recorded.
- ❖ In pomegranate, higher intensity of leaf and fruit spot disease caused by *Puedocercospora punicae*

(>50%) and moderate levels of anthracnose of fruit and leaf (*C. gloeosporioides*) were recorded.

- ❖ Infection of leaf spot (*P. indica*) in sapota continued to be moderate.
- ❖ In *coleus forskohlii*, symptoms of wilt due to heavy rains was noticed.
- ❖ With the increase in the rainfall and not much change in temperature, the incidence of pests like two spotted spider mite, *Tetranychus urticae*, thrips, *Scirtothrips dorsalis*, serpentine leaf miner, *Liriomyza*, diamond back moth, *Plutella xylostella* on vegetables will be reduced.
- ❖ Fruit fly incidence will increase in cucurbits.
- ❖ In ornamentals, sucking pests will decrease and caterpillar pests like *Achaea janata*, and beetles will increase on rose under open cultivation.
- ❖ Thrips in rose, carnation, gladiolus, gerbera, jasmine and mealy bug in crossandra will be noticed.

### **Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**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, 2008**

**Latitude : 13°58<sup>1</sup> 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			
16 <sup>th</sup> - 31 <sup>st</sup> August, 2008	27.8	19.7	81.0	60.8	2.5	4.22	144.1
	<b>(28.2)</b>	<b>(19.7)</b>	<b>(96.4)</b>	<b>(64.5)</b>	<b>(4.1)</b>	<b>(6.6)</b>	<b>(90.0)</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 2008**

The average maximum temperature during the second fortnight from August 16<sup>th</sup> to 31<sup>st</sup> 2008, was more by 1.5°C compared to previous fortnight. Not much change in the average minimum temperature was noticed. The average values during the corresponding period for the previous five years were higher by 0.5°C in case of maximum and lower by 0.3°C for minimum temperature. The percent relative humidity during morning and afternoon were higher by 1.4 and lower by 3.2% respectively, as compared to previous fortnight. The rainfall was 144.1 mm as compared to 59.4 mm in the previous fortnight.

**Crop weather situation**

- ❖ Good fruit development in tomato, vegetative growth in chilli and onion, flowering in okra and pod development in french bean was observed.
- ❖ The high rainfall resulted in poor drainage there by affecting the production of legume vegetables.
- ❖ In rainfed areas the profile moisture storage to be encouraged especially in mango and sapota orchards.
- ❖ Normal growth in ornamental crops like rose, carnation, gladiolus, tuberose, gerbera, anthurium, jasmine and red ginger was observed. In medicinal crops *coleus forskohlii*, high vegetative growth was noticed.
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*), Shiitake mushroom cultivation needed cooling in cropping rooms.

**Incidence of pests and diseases**

Because of the prevailing weather conditions, the following pests infestation is either observed or forecasted.

- ❖ In grape, severe infection of rust was recorded on var. "Bangalore blue" (> 70%).
- ❖ Intensity of Sigatoka leaf spot (*Mycosphaerella*) and crown rot (*Fusarium solani* and *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) in banana fruits were moderate (>30%).
- ❖ Higher intensity of Leaf and fruit spot disease caused by *Puedocercospora punicae* was noticed in pomegranate (>50%) whereas anthracnose of fruit and leaf (*C. gloeosporioides*) was moderate (> 30%) in pomegranate
- ❖ In sapota, infection of leaf spot (*P. indica*) continued to be moderate.

- ❖ There is no increase in the incidence of papaya ring spot virus in papaya. This may be due to reduction of aphid vector population because of intermittent rainfall.
- ❖ In tomato, incidence of spotted wilt virus has increased from 11.5 to 21.5% as the weather conditions were favourable for the multiplication of thrips which vector the virus.
- ❖ Thrips in carnation, gladiolus and jasmine, phytophthora in crossandra and bacterial wilt in anthurium were noticed.
- ❖ The incidence of caterpillar pests such as borers on pomegranate and brinjal, semiloopers on rose, webber and shoot borer on mango, fruitflies on cucurbits and guava were may be favoured due to the weather conditions. Reduction in the incidence of sucking pests such as aphids, thrips and mites on several fruit, vegetable and ornamental crops was also observed.
- ❖ Under polyhouse cultivation this situation shall favor incidence of mites and whiteflies on rose and tomato, while incidence of thrips may reduce.

#### **Remedial measures**

Prophylactic sprays with recommended pesticides/ botanicals for control of above pests and diseases.

**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> August, 2008**

**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			
1 <sup>st</sup> – 15 <sup>th</sup> August, 2008	26.3 <b>(27.7)</b>	20.0 <b>(20.0)</b>	79.6 <b>(97.4)</b>	64.0 <b>(64.4)</b>	2.6 <b>(3.5)</b>	8.49 <b>(9.3)</b>	59.4 <b>(38.0)</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> August, 2008**

The average maximum temperature during the first fortnight from August 1<sup>st</sup> to 15<sup>th</sup>, 2008, was less by 1.7°C. No change in average minimum temperature was observed. The average values during the corresponding period for the previous five years were lower by 0.3°C. The percent relative humidity during morning and afternoon were lower by 0.9 and higher by 2.3 % respectively as compared to previous fortnight. The rainfall was 59.4 mm compared to 147.7 mm during the previous fortnight.

**Crop weather situation**

- ❖ The plant growth in tomato was affected during the period. No significant increase in the flower setting was observed.
- ❖ Condition was very conducive for inter-cultivation operations and application of fertilizers in mango and sapota. In poly house, portray vegetable seedlings can be successfully raised as the wind speed was higher in outside conditions. As the rainfall in this fortnight was more, frequency of irrigations to be reduced.
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*). The yield of shiitake mushroom (*Lentinula edodes*) was delayed due to high temperature.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- ❖ In grape var. Bangalore Blue increase in the intensity of rust infection recorded was > 70%.
- ❖ Higher intensity of Sigatoka leaf spot (*Mycosphaerella sp*) is > 40% was recorded in banana where as crown rot (*Fusarium solani* and *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits were moderate (>30%).
- ❖ Higher intensity of pomegranate leaf and fruit spot disease caused by *Puedocercospora punicae* (>50%) and anthracnose of fruit and leaf (*C. gloeosporioides*) (> 40%) continued.
- ❖ In sapota, infection of leaf spot (*P. indica*) was moderate.
- ❖ Incidence of spotted wilt disease in tomato increased due to thrips multiplier.

- ❖ Corm rot in gladiolus and bacterial wilt in anthurium were noticed.
- ❖ With the increase in the rainfall and not much change in temperature, incidence of pests like two spotted spider mite, *Tetranychus urticae*, thrips, *Scirtothrips dorsalis*, serpentine leaf miner and *Liriomyza* on vegetables were reduced.
- ❖ Increased fruit fly incidence in cucurbits was noticed due to more rainfall.
- ❖ In rose (open field), carnation, gladiolus, gerbera (open field) and jasmine thrips incidence was observed.

#### **Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

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

**Period: 16<sup>th</sup> to 31st July, 2008**

**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 - 31, 2008	28.0	20.1	80.5	61.7	2.9	7.1	147.7
	<b>(28.0)</b>	<b>(20.3)</b>	<b>(95.7)</b>	<b>(63.0)</b>	<b>(3.8)</b>	<b>(8.2)</b>	<b>(63.5)</b>

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

**Fortnight from 16- 31 July, 2008**

The average maximum and minimum temperatures during the second fortnight July 16-31, 2008 did not vary much compared to the previous fortnight. The average values during the corresponding period for the previous five years were lower by 0.8°C and higher by 0.2°C respectively. The relative humidity during morning and afternoon were higher by 9.7 and 10.6% as compared to previous fortnight. The rainfall was 147.7 mm compared to 22.2mm during the previous fortnight.

**Crop weather situation**

- ❖ Late transplanting can be taken up in onion and brinjal as rains have been received whenever irrigation facility is not available. In irrigated plots, split application of fertilizers have to be taken in standing vegetable crops
- ❖ The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*). Shiitake mushroom cultivation needed cooling in cropping rooms.
- ❖ In tomato plant growth is affected during the period. There was a decrease in flower and fruit setting. About 20-22% fruit rot was observed during the period.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- ❖ In grapes incidence of Powdery mildew and rust infection increased to >30 % and >50% respectively.
- ❖ Status of Sigatoka leaf spot (*Mycosphaerella sp*) and anthracnose of Banana fruits (*C. musae*) and crown rot caused by *Fusarium moniliformae* remained unchanged compared with last fortnight.
- ❖ In Pomegranate Intensity of Leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) increased further (>40%) compared with last fortnight.
- ❖ Slight increase in the Intensity of the leaf spot (*P. indicia*) in sapota was noticed compared with last fortnight (>25%).
- ❖ The existing weather conditions are congenial for early blight and buck-eye rot in tomato

- ❖ Increased incidence of pests like caterpillars, weevils and beetles in crops like tomato, bhendi, rose, chrysanthemum under open field conditions was observed.
- ❖ The pest incidence commonly observed under polyhouse cultivation of rose was thrips. Similarly mealybug in crossandra, mites and thrips in Jasmine and thrips in carnation were noticed.

### **Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**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, 2008**

**Latitude : 13°58<sup>1</sup> 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			
1 <sup>st</sup> – 15 <sup>th</sup> July, 2008	27.8	20.0	70.8	51.1	4.3	7.7	22.2
	<b>(28.8)</b>	<b>(20.1)</b>	<b>(90.8)</b>	<b>(61.9)</b>	<b>(4.5)</b>	<b>(10.3)</b>	<b>(48.3)</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, 2008**

The average maximum temperature during the first fortnight from July 1<sup>st</sup> to 15<sup>th</sup>, 2008, was less by 1.5°C. No change in average minimum temperature was observed. The average values during the corresponding period were lower by 0.8°C and 0.1°C respectively. The percent relative humidity during morning and afternoon were lower by 3.5 and 1.9 % as compared to previous fortnight . The rainfall was 22.2 mm compared to 4.8 mm during the previous fortnight.

**Crop weather situation**

The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*). The yield of shiitake mushroom (*Lentinula edodes*) was delayed due to high temperature.

Weather conditions are conducive for agricultural practices for sowing and transplanting. Cultivation operations have to be supplemented with minimal irrigation. Rainfed horticulture will be affected due to low soil moisture and nutrient uptake. Foliar spray to be adopted.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- In grapes, low intensity of Powdery mildew and slight increase in the intensity of rust infection was noticed on var Bangalore blue.
- Latent infection of Anthracnose (*C. gloeosporioides*) and stem end rot (*B. theobromae*) was recorded in mango fruits during ripening.
- Intensity of banana sigatoka leaf spot (*Mycosphaerella sp.*), anthracnose of fruits (*C. musae*) and crown rot caused by *Fusarium moniliformae* increased further.
- In pomegranate, there was no appreciable change in the intensity of leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) compared with last fortnight.
- Intensity of leaf spot (*P. indicia*) disease in sapota remained unaltered compared with last fortnight.
- The weather conditions prevailing right now are congenial for the outbreak of black spot disease in rose. Incessant rains help in spreading the disease as well as increasing its intensity.
- Excessive wet conditions caused due to frequent rains are congenial for the outbreak and spread of

basal rot caused by *Sclerotium rolfsi* in tube rose.

- Powdery mildew in poly house grown rose, corn rot in gladiolus, bacterial wilt in anthurium may be seen.
- Pests like, serpentine leaf miner, thrips, aphids, red spider mite, whitefly can be expected to be high on horticultural crops.
- Incidence of Diamondback moth will be marginally higher on cabbage and cauliflower.
- Incidence of Bean stem fly and bean aphids also may increase.
- Fruit flies will be significantly less because of less humidity. Insect transmitted viruses will increase especially those transmitted by thrips and whiteflies.
- In gladiolus, gerbera and jasmine thrips incidence can be expected due to the prevailing weather conditions.

### **Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

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

Period: 16<sup>th</sup> to 30<sup>th</sup> June, 2008

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> 2008	29.3 (29.6)	20.0 (20.2)	74.3 (88.0)	53.0 (56.5)	4.5 (4.8)	9.44 (10.4)	4.8 (32.3)

\* 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, 2008:**

The average maximum and minimum temperature during the second fortnight from 16<sup>th</sup> to 30<sup>th</sup> June 2008 was less by 0.3°C and more by 0.1°C respectively compared to previous fortnight. The average values during the corresponding period for the previous 5 years were lower by 0.7°C and 0.3°C respectively. The percent relative humidity during morning and afternoon were higher by 4.5 and lower by 2.4 percent compared to previous fortnight. The rainfall was 4.8 mm against 44.4 mm during the previous fortnight.

**Crop weather situation:**

There is severe shortfall in rainfall up to 27<sup>th</sup> June 2008. The moisture shortage leads to reduced nutrient uptake and poor physical condition like hard setting and poor root growth. Rainfed crops like guava and tomato will be affected.

The weather of the fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*). The yield of shiitake mushroom (*Lentinula edodes*) was delayed due to high temperature.

**Incidence of pests and diseases:**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- Infection of downy mildew on grape variety Anab-e-Shahi, rust on variety Bangalore Blue and powdery mildew in traces were noticed.
- Latent infections due to Anthracnose (*C. gloeosporioides*) and stem end rot (*B. theobromae*) were recorded in mango fruits during ripening.
- Moderate increase in the intensity of Sigatoka leaf spot (*Mycosphaerella sp*) was noticed in banana compared with the last fortnight. Anthracnose of fruits (*C. musae*) and crown rot caused by *Fusarium moniliformae* were also recorded
- Infection of Leaf and fruit spot disease in pomegranate caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) remained moderate.
- There was no appreciable change in the intensity of leaf spot (*P. indicia*) disease in sapota compared with last fortnight.
- Incidence of papaya ring spot is noticed upto 35.5%. This may be due to increase in aphid population.
- Incidence of groundnut bud necrosis virus in tomato is increasing from 11.5 to 22.1%. This may be

due to cloudy weather and low temperature which are favourable for thrips multiplication.

- The weather during last fortnight i.e., no variation in temperatures, marginal decrease in relative humidities and drastic drop in rainfall would favor increase of incidence of thrips and aphids on chilli, cucurbits, rose and chrysanthemum. Also, stemfly infestation on leguminous crops will increase considerably.

#### **Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**CROP WEATHER SITUATION  
METEOROLOGICAL DATA OF  
INDIAN INSTITUTE OF HORTICULTURAL  
RESEARCH, HESSARAGHATTA, BANGALORE – 560089**

**Period: 1<sup>st</sup> to 15<sup>th</sup> June, 2008**

**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> , 2008	29.6	19.9	69.8	55.4	5.6	9.1	44.4
	<b>(30.3)</b>	<b>(20.5)</b>	<b>(90.7)</b>	<b>(54.8)</b>	<b>(5.0)</b>	<b>(7.4)</b>	<b>(29.0)</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, 2008**

The average maximum and minimum temperature during the first fortnight from 1<sup>st</sup> to 15<sup>th</sup> June 2008 was less by 2.6°C and 1.7°C respectively compared to previous fortnight. The average values during the corresponding period for the previous 5 years were lower by 1.4°C and 0.6°C respectively. The percent relative humidity during morning and afternoon were higher by 7.8 and 8.6 percent compared to previous fortnight. The rainfall was 44.4 mm against 92.1 mm during the previous fortnight.

**Crop weather situation**

Due to the rainfall and availability of sufficient moisture in the soil fertilizer application can be taken up in different fruit crops. For raising new crops, land preparation can also be taken up as the conditions are optimum in the soil.

The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus sp.*), Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*). The yield of shiitake mushroom (*Lentinula edodes*) was delayed due to high temperature.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- Mild Infection of downy mildew was noticed on grape var. Anab- e – Shahi.
- In mango, latent infection due to Anthracnose (*C. gloeosporioides*) and stem end rot (*B. theobromae*) were recorded during ripening.
- Intensity of Sigatoka leaf spot (*Mycosphaerella sp*) in banana did not record any appreciable change compared with the last fortnight whereas anthracnose of fruits (*C. musae*) and crown rot caused by *Fusarium moniliformae* were noticed.
- In pomegranate, intensity of Leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) remained moderate.
- Moderate increase in the leaf spot (*P. indicia*) disease of sapota was recorded.
- Incidence of spotted wilt disease in tomato caused by ground nut bud necrosis virus ranged from 2.5% to 15.75%. mainly due to increase in thrips population which are in turn influenced by weather

condition.

- Incidence of tobacco streak virus was noticed in okra due to cloudy weather and humidity favourable for thrips multiplication.
- The prevailing conditions of temperature, humidity and rainfall may result in the incidence of thrips, mites diamond black moth and other sucking pests in vegetable and ornamental crops.
- Thrips and powdery mildew in polyhouse roses, mites and thrips in carnation and jasmine were noticed.
- Corm rot in gladiolus and bacterial wilt in anthurium were the major problems

#### **Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**CROP WEATHER SITUATION  
METEOROLOGICAL DATA OF  
INDIAN INSTITUTE OF HORTICULTURAL  
RESEARCH, HESSARAGHATTA, BANGALORE – 560089**

**Period: 16<sup>th</sup> to 31<sup>st</sup> May 2008**

**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> , 2008	32.2	21.6	62.0	46.8	6.4	7.1	92.1
	<b>(31.7)</b>	<b>(21.1)</b>	<b>(83.6)</b>	<b>(48.3)</b>	<b>(5.6)</b>	<b>(6.3)</b>	<b>(54.1)</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 2008**

During the second fortnight from 16<sup>th</sup> to 31<sup>st</sup> May 2008 the average maximum temperature was lower by 1.5°C compared to that of previous fortnight. Average minimum temperature was higher by 0.3°C. The percent relative humidity during morning and afternoon were lower by 21.6 and 1.5 percent respectively, as compared to the averages values of previous corresponding 5 years. The rainfall was 92.1 mm compared to nil during previous fortnight.

**Crop weather situation**

The weather data of the last fortnight was suitable for the cultivation of Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*). The yield of oyster mushroom was delayed and reduced due to high temperature and low humidity. Shiitake did not show any fructification

In dry land areas it is recommended to undertake land preparation work, basin making for fruit trees and application of fertilizer incorporating well into the soil on relatively dry days. Lime application can be done by mixing well with the soil. Transplanting of vegetables may be made 15 – 20 days after application of FYM.

Good crop growth, fruit set and development were noticed in summer tomato. Similarly, good crop growth, yield in muskmelon, polyhouse grown capsicum and amaranthus were noticed.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- Anthracnose (*C. gloeosporioides*) and stem end rot (*B. theobromae*) were recorded in mango fruits during ripening.
- Low incidence of Sigatoka leaf spot (*Mycosphaerella* sp) was recorded in banana.
- Moderate intensity of leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) were recorded in pomegranate.
- In sapota, leaf spot infection (*P. indica*) was recorded in traces
- Thrips and scales in rose, mites in carnation, thrips in gerbera and mealybug in crossandra were noticed.

- Increase in temperature and evaporation will help in the build up thrips, mites , diamond back moth, serpentine leaf miner generally leaf miners and such other pests in horticultural crops.

**Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**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, 2008**

**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			
1 <sup>st</sup> – 15 <sup>th</sup> May, 2008	33.7 (25.8)	21.3 (21.4)	58.0 (82.1)	32.7 (43.8)	7.0 (5.7)	7.2 (5.8)	Nil (55.5)

\* 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, 2008**

During the first fortnight from May 1<sup>st</sup> to 15<sup>th</sup>, 2008, a increase of 0.9°C in the average maximum temperature compared to previous fortnight was observed. Average minimum temperature was higher by 2.4°C compared to previous fortnight. The percent relative humidity during morning and afternoon were lower by 24.1 and 11.1 respectively, as compared to averages values of previous corresponding 5 years. There was no rainfall as compared to 3.2 mm for previous fortnight.

**Crop weather situation**

The weather data of the last fortnight was suitable for the cultivation of Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*). The yield of oyster mushroom was delayed and reduced due to high temperature and low humidity. Shiitake did not show any fructification

In just pruned grapes, irrespective of the variety, the bud break is not uniform due to low humidity in atmosphere. In mango, there was slight increase in drop of fruits due to low moisture and humidity.

The high average temperature (33.7°C) will affect the storage life of mango and low humidity will result in reduced nutrient uptake in summer vegetables. Foehir spray will result in less nutrient uptake.

Normal plant growth was observed in ornamental crops like gladiolus, tuberose, gerbera, jasmine, red ginger and crossandra.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- Anthracnose spots were noticed on mango leaves, whereas unripe mango fruits on incubation recorded incipient infection of both anthracnose (*C. gloeosporioides*) and stem end rot (*B. theobromae*).
- In banana, sigatoka leaf spot (*Mycosphaerella* sp) was recorded in traces.
- In pomegranate, low intensity of Leaf and fruit spot disease (*Pseudocercospora punicae*) and anthracnose (*Colletotrichum gloeosporioides*) was noticed.
- In sapota, leaf spot infection (*P. indica*) was recorded in traces.
- In tomato, increase in incidence of tospovirus was noticed. This may be due to increase in

temperature which is favourable for the multiplication of thrips population.

- In okra, incidence of tobacco streak virus was noticed upto 21.5%. This may be due to increase in the population built up of thrips vectors due to increase in temperature.
- Increase in temperature with low humidity with insignificant or no rainfall will lead to an increase in sucking pest such as thrips, aphids (especially *Aphis gossypii* on melons, red spider mites).
- In rose, thrips under open field and thrips, mites, powdery mildew under polyhouse were observed.

#### **Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**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> April, 2008**

**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			
16 <sup>th</sup> – 30 <sup>th</sup> April, 2008	32.8 <b>(33.2)</b>	18.9 <b>(21.0)</b>	66.2 <b>(79.1)</b>	37.6 <b>(38.0)</b>	5.86 <b>(6.0)</b>	4.8 <b>(4.3)</b>	3.2 <b>(39.0)</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 30<sup>th</sup> April, 2008**

During the second fortnight from April 16<sup>th</sup> to 30<sup>th</sup>, 2008, an increase of 1.9°C in the average maximum temperature compared to previous fortnight was observed. Average minimum temperature was higher by 0.9°C compared to previous fortnight. The percent relative humidity during morning and afternoon were lower by 12.9 and 0.4 respectively, as compared to averages values of previous 5 years. The rainfall was less, 3.2 mm compared to 7.9 mm for previous fortnight.

**Crop weather situation**

The weather data of the fortnight was suitable for the cultivation of Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*). The yield of Oyster mushroom was delayed and reduced due to high temperature and low humidity. Shiitake did not show any fructification.

The total rainfall received during the fortnight falls short of the mean value of previous 5 years. Therefore, life saving irrigation needs to be given to standing fruit crops. Deep digging/ploughing in the inter-row vacant areas of fruit crops and proposed areas for horticultural/vegetable crops to facilitate percolation of pre-monsoon rains and internal soil storage of moisture is recommended.

Good fruit set and fruit development in summer tomato, and flowering and pod development in French beans and okra and good vegetative growth in Amaranthus was observed.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- In tomato, the incidence of spotted wilt disease caused by groundnut bud necrosis virus is increasing from 5.7 to 21.5% in different tomato cultivars. This is due to increase in temperature favourable for thrips multiplication and dispersal.
- In okra, incidence of tobacco streak virus was noticed upto 11.5%
- Multiplication of mealy bug in fruit crops was observed.
- In open field / polyhouse cultivation of rose and carnation, incidence of thrips and mites were observed.
- In gladiolus corm rot and in anthurium bacterial wilt were major problems.

**Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**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> April, 2008**

**Latitude : 13°58<sup>1</sup> 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			
1 <sup>st</sup> – 15 <sup>th</sup> April, 2008	30.9 <b>(33.2)</b>	18.0 <b>(20.1)</b>	59.0 <b>(65.5)</b>	40.0 <b>(37.8)</b>	5.2 <b>(6.3)</b>	3.44 <b>(4.8)</b>	7.9 <b>(29.8)</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> April, 2008**

During the first fortnight from April 1<sup>st</sup> to 15<sup>th</sup>, 2008, a increase of 1.5°C in the average maximum temperature compared to previous fortnight was observed. However, a slight reduction (0.7°C) as compared to the averages of corresponding periods of previous five years was noticed. Average minimum temperature was lower by 1.5°C compared to previous fortnight. The percent relative humidity during morning and afternoon were higher by 6.2 and 8.9 respectively, as compared to averages values of previous 5 years for the corresponding 5 years. The rainfall was less 7.9 mm compared to 88.8 mm for previous fortnight.

**Crop weather situation**

The weather data was suitable for the cultivation of Oyster mushroom (*Pleurotus* spp), Reishi mushroom (*Ganoderma lucidum*) and Milky mushroom (*Calocybe indica*). Shiitake mushroom (*Lentinula edodes*) cultivation required cooling.

The planting operation of summer crop is not desirable due to dry and low humidity conditions unless otherwise irrigation is assured. Mulching needs to be done in crops where harvesting of produce is expected. Nutrient uptake is limited due to low soil moisture.

Normal plant growth was observed in ornamental crops like gladiolus, tuberose, gerbera, jasmine, red ginger and crossandra.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- Lower incidence of Anthracnose on leaves of mango was recorded.
- In banana, intensity of the Sigatoka leaf spot (*Mycosphaerella* sp) remained low (> 5%).
- Intensity of leaf and fruit spot disease (*Pseudocercospora punicae*) and anthracnose (*Colletotrichum gloeosporioides*) (> 5%) was low in pomegranate.
- With the marginal decrease in temperature and relative humidity with low rainfall, increase in the incidence of leaf hoppers, leaf miners, mites and thrips on vegetables under open field conditions was observed.
- In rose, mites & thrips under open field and thrips, mites, powdery mildew under polyhouse were observed.

- Corm rot and thrips was observed in gladiolus.
- Bacterial wilt disease was predominant in anthurium.

**Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**CROP WEATHER SITUATION  
METEOROLOGICAL DATA OF  
INDIAN INSTITUTE OF HORTICULTURAL RESEARCH,  
HESSARAGHATTA, BANGALORE – 560089**

**Period: 16<sup>th</sup> to 31<sup>st</sup> March, 2008**

**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			
<b>March 16-31, 2008</b>	29.4 <b>(33.9)</b>	19.5 <b>(18.1)</b>	70.2 <b>(59.3)</b>	50.2 <b>(28.9)</b>	3.5 <b>(6.5)</b>	5.71 <b>(4.7)</b>	88.8 <b>(4.7)</b>

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

**Fortnight from March 16-31, 2008**

During the second fortnight from March 16-31, 2008, a slight reduction in the average maximum temperature (0.4°C) compared to previous fortnight was observed. A reduction of 4.5°C as compared to the average of corresponding period for previous 5 years was noticed. Average minimum temperature was higher by 5.9°C compared to previous fortnight. The percent relative humidity during morning and afternoon were higher by 10.9 and 21.3 respectively as compared to the average values of previous 5 years for the corresponding period. The rainfall was more (88.8 mm) compared to previous fortnight and less by 3.4 mm compared to corresponding period for the previous 5 years

**Crop weather situation**

- Consequent upon excess rainfall, which coincided with fruit ripening in grapes, there was extensive damage to the crop which was to the tune of 40% in Sharad Seedless, 20-25% in Flame Seedless, 90% in Chenin Blanc, 80% in Sauvignon Blanc, 50% in Merlot and about 15-20% in Pinot Nair, Cabernet Sauvignon and Shiraz. Substantial increase in Relative Humidity (RH) also resulted in rotting of berries in the bunch.
- Eventhough the unusual heavy rains caused losses in few crops, fruit drop in mango was significantly reduced and it is also expected that the fruits carried to maturity will attain good size.
- Due to high rainfall, humidity, soil moisture content was more which is good for the standing mango, banana crops and summer vegetables like tomato curcubits. The availability of nutrients like N, P, K, B, Zn will enhance crop growth and yield .
- The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus* spp), Reishi mushroom (*Ganoderma lucidum*) and Milky mushroom (*Calocybe indica*). Shiitake mushroom (*Lentinula edodes*) cultivation required cooling.
- Due to temperature fluctuation, higher bolting in onion was noticed thereby affecting bulb quality
- Normal growth was observed in medicinal crops like *Aloe vera* and *Garcinia indica*

**Incidence of pests and diseases**

Because of the prevailing weather conditions, the following pests infestation is either observed or forecasted.

- Scattered incidence of anthracnose on leaves was recorded in mango

- In banana very low incidence of Sigatoka leaf spot (*Mycosphaerella* sp) was noticed..
- Intensity of leaf and fruit spot disease (*Pseudocercospora punicae*) and anthracnose (*Colletotrichum gloeosporioides*) were low in pomegranate.
- In sapota, moderate disease intensity (> 10 %)of leaf spot (*P. indica*) was recorded..
- Bacterial wilt caused by *Ralstonia solanacearum* was observed in tomato and ranged from 2 to 33% .
- Citrus bacterial canker disease caused by *Xanthomonas axonopodis* pv. *citri* was noticed in citrus affecting leaves and fruits. The disease incidence was more on leaves (2.0 – 52.0%) compared to fruits (5.0 – 18.0%).
- The marginal increase in maximum temperature, coupled with increased unseasonal rainfall may favour the infestation of leaf miner and thrips on vegetables; thrips and mites on protected ornamentals.

### **Remedial measures**

Prophylactic sprays with recommended pesticides/ botanicals for control of above pests and diseases.

**CROP WEATHER SITUATION  
METEOROLOGICAL DATA OF  
INDIAN INSTITUTE OF HORTICULTURAL RESEARCH,  
HESSARAGHATTA, BANGALORE – 560089**

**Period: March 1-15, 2008**

**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			
<b>March 1-15, 2008</b>	30.8	13.6	39.0	22.6	6.8	6.79	6.9
	<b>(32.5)</b>	<b>(16.6)</b>	<b>(58.8)</b>	<b>(29.2)</b>	<b>(6.7)</b>	<b>(5.56)</b>	<b>(8.1)</b>

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

**Fortnight from March 1-15, 2008**

During the first fortnight from March 1-15, 2008, there was slight increase in the average maximum temperature (0.3°C) compared to previous fortnight and higher by 1.9°C as compared to the averages previous five years. There were no change in the average minimum temperature and higher by 1.5°C, as compared to the averages for the corresponding period of the previous 5 years. The percent relative humidity, during morning and afternoon hours was 19.8 and 6.6 respectively, as compared to the averages of previous five years for the corresponding period. The rainfall was 6.9 compared to 8.1 in previous 5 years

**Crop weather situation**

Nights have become cool and days are hot inducing incidence of diseases in crops which are to be harvested during this period. Water needs of the crops are to be closely monitored.

The weather data of the last fortnight was suitable for the cultivation of tropical species like milky mushroom (*Pleurotus* spp) and Reishi mushroom. The yield of Oyster mushroom decreased. Shiitake mushroom showed highly delayed cropping.

**Incidence of pests and diseases**

Because of the prevailing weather conditions, the following pests infestation is either observed or forecasted.

- In Papaya, increase in the spread of papaya ring spot virus was noticed, which may be due to dispersal by aphid vectors
- The incidence of tospovirus was noticed upto 11.5% in chilli mainly due to increase in temperature which is favourable for thrips vector, and in turn for spread of the virus.
- Under polyhouse cultivation rose flowers may be attacked by thrips, mites and powdery mildew and carnation by mites
- Corm rot and thrips in gladiolus, bacterial wilt in anthurium and white mites in crossandra may be observed

**Remedial measures**

Prophylactic sprays with recommended pesticides/ botanicals for control of above pests and diseases.

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

**Period: 16<sup>th</sup> to 29<sup>th</sup> February, 2008**

**Latitude : 13°58<sup>1</sup> 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			
16 <sup>th</sup> - 29 <sup>th</sup> February, 2008	30.5	13.6	46.9	23.6	5.7	5.1	nil
	<b>(30.6)</b>	<b>(15.1)</b>	<b>(49.4)</b>	<b>(31.1)</b>	<b>(4.9)</b>	<b>(5.1)</b>	<b>(1.2)</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 29<sup>th</sup> February, 2008**

During the second fortnight from 16<sup>th</sup> to 29<sup>th</sup> February, 2008, there was increase of 1.5<sup>0</sup>C in average maximum temperature compared to previous fortnight and is close to the averages of previous five years. The average minimum temperature is lower by 1.5<sup>0</sup>C, as compared to the averages for the corresponding period of the previous 5 years. The percent relative humidity, during morning and afternoon hours was lower by 2.5 and 7.5 respectively, as compared to the averages of previous five years for the corresponding period. However, there was no rainfall during the fortnight compared to the average rainfall of 1.2 mm of previous five years for the corresponding period.

**Crop weather situation**

Good reproductive stage in tomato, good development of fruit in chilli, bulb in onion, pod maturity in dolichos, root in radish, head in cabbage and germination in okra was observed due to the existing crop weather situation and no change is expected during the next fortnight.

Planting of summer vegetables could be initiated. Harvesting of grape could be done after stopping the irrigation.

The weather data of the last fortnight was suitable for the cultivation of oyster mushroom (*Pleurotus* spp), Reishi mushroom (*Ganoderma lucidum*) and Milky mushroom (*Calocybe indica*). Shiitake mushroom (*Lentinula edodes*) cultivation required cooling.

**Incidence of pests and diseases**

Because of the prevailing weather conditions, the following pests infestation is either observed or forecasted.

- Powdery mildew (*Oidium mangiferae*) on inflorescence and Anthracnose (*C. gloeosporioides*) infection on foliage of mango was observed.
- In banana fruits, moderate latent infection of Anthracnose (*Colletotrichum musae*) was observed.
- Moderate intensity of leaf spot in sapota, high intensity of leaf and fruit spot disease (*Pseudocercospora punicae*) and anthracnose of fruit and leaf (*C. gloeosporioides*) in pomegranate was observed.
- Cucumber crop was affected by downy mildew disease.
- Increased incidence of sucking pests such as thrips, aphids (especially *Aphis gossipii* on melons, red

spider mites), serpentine leafminer on tomato, legumes and cucurbits, thrips on chilli, rose, gerbera and diamondback moth on cabbage may be observed.

- In rose, under polyhouse grown conditions thrips, mites and powdery mildew may be observed.
- In carnation, under polyhouse grown conditions mites and bud borer are observed under open conditions.

### **Remedial measures**

Prophylactic sprays with recommended pesticides/ botanicals for control of above pests and diseases.

**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> February, 2008**

**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			
1 <sup>st</sup> – 15 <sup>th</sup> February, 2008	29.0 <b>(29.4)</b>	17.7 <b>(14.1)</b>	73.3 <b>(67.0)</b>	49.4 <b>(43.1)</b>	3.3 <b>(5.2)</b>	4.37 <b>(5.4)</b>	7.4 <b>(0.44)</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> February, 2008**

During the fortnight from 1<sup>st</sup> to 15<sup>th</sup> February 2008, there was decrease of 0.4<sup>o</sup>C in average maximum temperature compared to previous fortnight and decreased by 0.3<sup>o</sup>C as compared to the averages of previous five years. The average minimum temperature is higher by 3.6<sup>o</sup>C, as compared to the averages for the corresponding period of the previous 5 years. The relative humidity, during morning and afternoon hours was higher by 6.3%, as compared to the averages of previous five years for the corresponding period. However, there was 7.4 mm of rainfall during the fortnight as compared to the average rainfall of 0.44 mm of previous five years for the corresponding period.

**Crop weather situation**

- First Fortnight of February was warm needing irrigation for vegetables at an interval of 5 days. But Sudden rain, cloudy weather with frequent changes within a day made agricultural operations like fertilizer application, pesticide spraying and harvesting of grapes difficult.
- Summer planting of vegetables could be taken up during this season. Increase in mean temperature will result in faster growth rate in banana and result in deficiencies of potassium & nitrogen.
- The growth of chilli transplanted in the 3<sup>rd</sup> week of January was slow during the past 15 days.
- The weather data of the last fortnight was suitable for the cultivation oyster mushroom (*Pleurotus* spp), Reishi mushroom (*Ganoderma lucidum*) and Milky mushroom (*Calocybe indica*). Shiitake mushroom (*Lentinula edodes*) cultivation required cooling.

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- In general increase in sucking pests such as thrips, aphids (especially *Aphis gossipii* on melons) red spidermites may be observed .
- In mango Anthracnose (*colletotrichum gloeosporioides*) and powdery mildew (*Oidium mangiferae*) occur commonly during this time.
- Incidence of watermelon bud necrosis disease is increased from 12.5% to 41.7% due to increase in temperature which is favorable for the multiplication of thrips.
- The occurrence of Alternaria blight on leaves and fruits of tomato may be observed.
- In rose, caterpillar, thrips and mites under polyhouse cultivation and in carnation mites and thrips and

major pests.

**Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**CROP WEATHER SITUATION  
METEOROLOGICAL DATA OF  
INDIAN INSTITUTE OF HORTICULTURAL RESEARCH,  
HESSARAGHATTA, BANGALORE – 560089**

Period: 16<sup>th</sup> to 31<sup>st</sup> January, 2008

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			
<b>January 16-31, 2008</b>	29.4 <b>(29.1)</b>	12.5 <b>(14.2)</b>	70.0 <b>(70.6)</b>	55.2 <b>(46.3)</b>	4.0 <b>(4.5)</b>	2.86 <b>(5.0)</b>	----- <b>(2.5)</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, 2008**

During the fortnight from 16<sup>th</sup> to 31<sup>st</sup> January 2008, there was an increase of 1.9°C in average maximum temperature compared to previous fortnight and higher by 0.3°C compared to the averages of previous five years. The average minimum temperature is lower by 1.7°C, as compared to the averages for the corresponding period of the previous 5 years. The relative humidity, during morning and afternoon hours was almost same and higher by 8.9% respectively, as compared to the averages of previous five years for the corresponding period. However, there was no rainfall during the fortnight as compared to the average rainfall of 2.5 mm of previous five years for the corresponding period.

**Crop weather situation**

The weather data of the last fortnight was suitable for the cultivation oyster mushroom (*Pleurotus* spp) and Shitake mushroom (*Lentinula edodes*). However, additional heating is required for the cultivation of Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*).

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- In mango anthracnose (*C. gloeosporioides*) infection on foliage and powdery mildew (*Oidium mangiferae*) on inflorescence may be noticed.
- Moderate intensity of anthracnose (*Colletotrichum musae*) of fruits and *Macrophoma* fruit spot was observed in banana var. Grand Naine.
- In pomegranate, higher intensity of leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) and severe incidence of Bacterial Nodal Blight (BNB) caused by *Xanthomonas axonopodis* pv. *punicae* on stem with nodal region may be observed
- Moderate intensity of leaf spot (*P. indica*) in sapota and citrus bacterial canker disease (CBCD) caused by *Xanthomonas axonopodis* pv. *citri* affecting both leaves and fruits in citrus may be observed.
- The prevailing conditions may result in the increased incidence of hoppers on mango, serpentine leaf miner on tomato and cucurbits, red spider mites on tomato and roses grown under polyhouse conditions, thrips on chilli and diamond backmoth on cabbage, mites and thrips on carnation

**Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.

**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, 2008**

**Latitude : 13°58<sup>1</sup> 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			
1 <sup>st</sup> – 15 <sup>th</sup> January, 2008	27.5 <b>(27.5)</b>	11.3 <b>(14.0)</b>	76.3 <b>(71.8)</b>	50.9 <b>(47.9)</b>	3.8 <b>(4.0)</b>	4.52 <b>(5.0)</b>	- <b>(2.48)</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, 2008**

During the fortnight from 1<sup>st</sup> to 15<sup>th</sup> January 2008, there was no change in average maximum temperature compared to previous fortnight and is also same as the averages of previous five years. The average minimum temperature is lower by 2.7°C, as compared to the averages for the corresponding period of the previous 5 years. The relative humidity, during morning and afternoon hours was higher by 4.5% and 3.0% respectively, as compared to the averages of previous five years for the corresponding period. However, there was no rainfall during the fortnight as compared to the average rainfall of 2.48 mm of previous five years for the corresponding period.

**Crop weather situation**

Suitable for applying foliar nutrition for horticultural crops. Irrigation intervals can be increased with decreased drip timing till the temperature touches 29°C. The weather data of the last fortnight was suitable for the cultivation oyster mushroom (*Pleurotus* spp) and Shitake mushroom (*Lentinula edodes*). However, additional heating is required for the cultivation of Milky mushroom (*Calocybe indica*) and Reishi mushroom (*Ganoderma lucidum*).

**Incidence of pests and diseases**

Because of the prevailing weather conditions the following pest incidence is either observed or forecasted:

- In banana, var. Grand Naine moderate to severe intensity of *Macrophoma* fruit rot and moderate intensity of Crown rot (*Botryodiplodia theobromae* and *Fusarium moniliforme*) and anthracnose (*Colletotrichum musae*) may be observed.
- Severe incidence of bacterial nodal blight caused by *Xanthomonas axonopodis* pv. *punicae* (20.0 – 100.0%) may be observed on pomegranate. Moderate to severe incidence of leaf and fruit spot disease *punicae* and anthracnose by *Psuedocercospora* may also be observed.
- Bacterial wilt caused by *Ralstonia solanacearum* (RS) was noticed in brinjal and tomato crop.
- The prevailing conditions may result in decrease in the incidence of thrips, mites, diamondback moth and other sucking pests. There may also be decreased infestation of serpentine leaf miner, general leaf miners and such other pests.
- Under poly house grown conditions powdery mildew in roses and mites, leaf spot (open) in carnation may be observed.

**Remedial measures**

Prophylactic sprays with recommended pesticides/botanicals for control of above pests and diseases.