

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

Period: 16th to 31st December, 2010

Latitude : 13°58¹ 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 th – 31 st December, 2010	26.6	15.6	77.9	45.6	3.13	4.28	-
	(26.6)	(14.5)	(59.3)	(58.7)	(3.5)	(4.92)	(5.4)

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

Fortnight from 16th to 31st December, 2010

During the second fortnight i.e., from December 16th to 31st, 2010, the average maximum was higher by 0.6°C and minimum temperature was lower by 1.6°C as compared to the previous fortnight. The average maximum temperature value was same and minimum temperature value was higher by 1.1°C, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 4.4% and 14.4% respectively, as compared to the previous fortnight. There was no rainfall recorded during the fortnight.

Crop weather situation

- ❖ In rose, incidence of caterpillar black spot was observed under open field conditions and thrips, powdery mildew were observed under polyhouse conditions.
- ❖ Incidence of corm rot, thrips and caterpillars were observed on gladiolus with normal growth.
- ❖ Incidence of wilt, caterpillars, thrips were observed in crossandra with normal growth & less flowering.
- ❖ In jasmine, incidence of leaf eating caterpillar was observed.
- ❖ Incidence of mites was observed in carnation.

Incidence of pests and diseases

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

Diseases

- ❖ Citrus Bacterial Canker Disease caused by *Xanthomonas axonopodis* pv. *citri* was noticed in citrus crop affecting both leaves and fruits during the first fortnight of November, 2010. The disease incidence was 10.0 to 30.0% and can be managed by application of 2-3 sprays of Streptocycline (0.3g/l) + Copper oxychloride (3.0g/l) alternated with 2 sprays of Bordeaux mixture (1.0%) at 15 days interval.
- ❖ Severe incidence of bacterial blight caused by *Xanthomonas axonopodis* pv. *punicae* (30.0 – 80.0%) was observed on pomegranate in Sira, Hiriyur and Jagalur Taluks of Karnataka. The severity of the disease was due to frequent rains and cloudy weather prevailed during the first fortnight of November, 2010. The incidence was noticed on leaves, stems and fruits. This disease can be managed by i) removing the affected portions and destroying them by burning, ii) by application of 2 - 3 sprays of Streptocycline (0.5g/l) along with copper oxychloride (3.0g/l) at fortnightly interval alternated with sprays of freshly prepared Bordeaux mixture (1%).

Pests

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

Aphids on beans and bhendi

- Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.

Aphids on rose

- Aphid infestation may increase on rose in open field. Spray Dimethoate @ 2 ml/l for its management.

Hoppers on mango

- Mango hoppers incidence may increase in the cultivars where the flowering is already initiated. When the incidence is low spray azadirachtin 3000 ppm @ 2 mL/L. If the number of hoppers exceeds 4 per panicle, spray with imidacloprid 200 SL @ 0.25 mL/L or lambda cyhalothrin 5 % EC @ 0.5 mL/L at early panicle emergence and repeat the spray if necessary when the fruits reach pea size.

Miscellaneous

- Various caterpillar pests may increase on vegetable and ornamental crops. For *Spodoptera* spray *SNPV* @ 250 LE/ha. For *Helicoverpa armigera* spray *HaNPV*. If the incidence of hairy caterpillar is noticed spray carbaryl @ 2 g/l.

Remedial measures

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			
16 th – 30 th November, 2010	26.0	17.9	78.9	64.2	2.84	4.73	62.8
	(26.3)	(15.6)	(74.2)	(61.2)	(3.24)	(5.06)	(1.94)

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

Fortnight from 16th to 30th November, 2010

During the second fortnight i.e., from November 16th to 30th, 2010, the average maximum and minimum temperatures were lower by 0.6°C and 0.9°C respectively, as compared to the previous fortnight. The average maximum temperature value was lower by 0.3°C and minimum temperature value was higher by 2.3°C, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 2.5% and 3.5% respectively, as compared to the previous fortnight. Rainfall of 62.8 mm was recorded during the fortnight.

Crop weather situation

- ❖ Because of the average rainfall during the last fortnight of November was high and therefore the evaporation during this period was relatively low and crops could be irrigated less frequently and split application of some nutrients was possible for extended period.
- ❖ In rose, incidence of caterpillar black spot was observed under open field conditions and thrips, powdery mildew were observed under polyhouse conditions.
- ❖ Incidence of corm rot, thrips and caterpillars were observed on gladiolus with normal growth.
- ❖ Incidence of wilt, caterpillars, thrips were observed in crossandra with normal growth & less flowering.
- ❖ In jasmine, incidence of leaf eating caterpillar was observed.
- ❖ Incidence of mites was observed in carnation.

Incidence of pests and diseases

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

Diseases

- ❖ Intensity of Downy mildew and anthracnose may increase in grapes. For the management of downy mildew application of Metalaxyl + Mancozeb (0.2%)/ Al Fosetyl (0.2%)/ Dimethomorph (0.8%) + Mancozeb (0.2%) and for anthracnose spraying with Propineb (0.2%)/ Chlorothalonil (0.2%)/ Carbendazim (0.1%)/ Thiophanate methyl (0.1%) are effective. Rust might continue to be noticed in grape vine orchards (var Bangalore Blue) and could be managed by the treatment

- sticker @ 0.5 ml/ l.
- ❖ In mango, sooty mould should be taken care. Application of Copper oxychloride (0.3%) along with sticker (@ 0.5 ml / L) is recommended. Further hopper and other insect management is important with suitable insecticides (Imidacloprid @ 0.5%). Anthracnose spots may increase on foliage. Application of Chlorothalonil (0.2%) or Thiophanate methyl (0.2%) or Carbendazim (0.1%) along with sticker (@ 0.5 ml / L) is recommended for the disease management.
 - ❖ In banana, intensity of sigatoka leaf spot (*Mycosphaerella* sp.), crown rot (*Fusarium moniliforme* & *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits may be increased 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. *Macrophoma* spots may appear on the fruits of Robusta varieties of banana. Application of Carbendazim (0.1%) or Thiophanate methyl (0.1%) is recommended for managing the same.
 - ❖ Intensity of leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*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.

Pests

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

Aphids on bhendi

- Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.

Sapota seed borer

- Incidence of sapota seed borer may be present, if marble sized fruits are available in the fields. For its management, spray deltamethrin @ 1 mL/L alternated with Bt formulations @ 1 mL/L at fortnightly interval.

Aphids on rose

- Aphid infestation may increase on rose in open field. Spray Dimethoate @ 2 ml/l for its management.

Miscellaneous

- Various caterpillar pests may increase on vegetable and ornamental crops. For *Spodoptera* spray SNPV @ 250 LE/ha. If the incidence of hairy caterpillar is noticed spray carbaryl @ 2 g/l.

Remedial measures

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			
November 1 st to 15 th , 2010	26.6	18.8	81.4	67.7	3.2	3.92	135.2
	(27.7)	(16.5)	(74.2)	(59.6)	(3.0)	(4.58)	(22.98)

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

Fortnight from 1st to 15th November, 2010

During the first fortnight of the month i.e., from November 1st to 15th, 2010, the average maximum and minimum temperatures were lower by 1.2°C and 0.5°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 1.1°C and 2.3°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 2.2% and 5.9% respectively, as compared to the previous fortnight. Rainfall of 135.2 mm was recorded during the fortnight which is significantly high as compared to the values of corresponding period for the previous five years.

Crop weather situation

- ❖ In rose, incidence of black spot caterpillar was observed under open field and thrips & powdery mildew under polyhouse conditions were observed.
- ❖ In gerbera, incidence of leaf spot was observed under open field conditions.
- ❖ Incidence of wilt and caterpillars with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth and flowering with incidence of corm rot, thrips and caterpillar were observed in gladiolus.
- ❖ In Jasmine, leaf eating caterpillar was observed.
- ❖ Incidence of rust and leaf eating insects were observed in *Mucuna* sp.
- ❖ In Ashwagandha, Epilachna beetle leaf eating beetle was observed.

Incidence of pests and diseases

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

Diseases

- ❖ Citrus Bacterial Canker Disease caused by *Xanthomonas axonopodis* pv. *citri* was noticed in citrus crop affecting both leaves and fruits during the first fortnight of November, 2010. The disease incidence was 10.0 to 30.0% and can be managed by application of 2-3 sprays of Streptocycline (0.3g/l) + Copper oxychloride (3.0g/l) alternated with 2 sprays of Bordeaux mixture (1.0%) at 15 days interval.
- ❖ Severe incidence of bacterial blight caused by *Xanthomonas axonopodis* pv. *punicae* (30.0 – 80.0%) was

observed on pomegranate in Sira, Hiriur and Jagalur Taluks of Karnataka. The severity of the disease was due to frequent rains and cloudy weather prevailed during the first fortnight of November, 2010. The incidence was noticed on leaves, stems and fruits. This disease can be managed by i) removing the affected portions and destroying them by burning, ii) by application of 2 - 3 sprays of Streptocycline (0.5g/l) along with copper oxychloride (3.0g/l) at fortnightly interval alternated with sprays of freshly prepared Bordeaux mixture (1%).

Pests

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

- ❖ **Brinjal shoot and fruit borer:** Spray rynaxpyr @ 0.3 mL/L for its management. Follow safe waiting periods for all the chemicals before harvest.
- ❖ **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.
- ❖ **Aphids on bhendi:** Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.
- ❖ **Aphids on rose:** Aphid infestation may increase on rose in open field. Spray Dimethoate @ 2 ml/l for its management.
- ❖ **Miscellaneous:** Various caterpillar pests may increase on vegetable and ornamental crops. For *Spodoptera* spray SNPV @ 250 LE/ha. If the incidence of hairy caterpillar is noticed spray carbaryl @ 2 g/l.

Remedial Measures

Prophylactic sprays of 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			
16 th – 31 st October, 2010	27.8	19.3	79.2	61.8	3.4	5.00	3.8
	(27.3)	(18.6)	(74.3)	(63.2)	(2.9)	(4.00)	(7.72)

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

Fortnight from 16th to 31st October, 2010

During the second fortnight i.e., from October 16th to 31st, 2010, the average maximum and minimum temperatures were lower by 1.0°C and 2.1°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were higher by 0.5°C and 0.7°C respectively, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning hours was lower by 4.1% and the percent relative humidity during afternoon hours was higher by 2.2%, as compared to the previous fortnight. Rainfall of 3.8 mm was recorded during the fortnight which is significantly low as compared to the previous fortnight.

Crop weather situation

- ❖ In rose, incidence of caterpillar black spot was observed under open field conditions and thrips, powdery mildew were observed under polyhouse conditions.
- ❖ Incidence of corm rot, thrips and caterpillars were observed on gladiolus with normal growth.
- ❖ Incidence of wilt, caterpillars, thrips were observed in crossandra with normal growth & less flowering.
- ❖ In jasmine, incidence of leaf eating caterpillar was observed.

Incidence of pests and diseases

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

Diseases

- ❖ In grapes, after forward pruning buds on the grapevines should be protected against the infection of downy mildew by the application of 0.8 g Dimethomorph + 2.00 g macozeb /L or Metalyxl + Mancozeb (0.2%)/ Al Fosetyl (0.2%). Rust needs to be taken care in grape vine orchards (var Bangalore Blue). It 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 spot (*P. mangiferae*/C. gloeosporioides) may increase in mango. Application of Zineb (0.2%) / Chlorothalonil (0.2%) or Mancozeb (0.2%) along with the sticker @ 0.5ml/l is effective for the disease control. Infection of Sooty mould should also be taken care. Application of Copper oxychloride (0.3%) along with sticker (@ 0.5 ml / L) is recommended. Further hopper and other insect management is important with suitable insecticides (imidocloprid @0.5%).

- ❖ In pomegranate, leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) may record higher intensity. 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.
- ❖ In banana, sigatoka leaf spot (*Mycosphaerella* sp) may record higher intensity. For controlling Sigatoka application of Tridemorph (0.1%)/ or Chlorothalonil (0.2%) is recommended whereas crown rot and anthracnose could be effectively managed by the pre-harvest sprays with Carbendazim (0.1%) or Thiophanate methyl (0.1%) followed by post harvest dip in Chlorine water (300 ppm) for 10 minutes.
- ❖ Canker (*Pestalotiopsis psidi*) in greenish immature guava fruits and styler end rot (*Phomopsis psidi*) and anthracnose (*C. gloeosporioides*) in mature fruits were noticed. 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) is recommended for disease control.

Pests

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

Aphids on bhendi

- Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.
- If the crop is at pre-flowering period, spray systemic insecticides like Dimethoate 30 EC @ 2 ml/L.

Brinjal shoot and fruit borer

- Spray rynaxpyr @ 0.3 mL/L for its management. Follow safe waiting periods for all the chemicals before harvest.

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.

Aphids on rose

- Aphid infestation may increase on rose in open field. Spray Dimethoate @ 2 ml/l for its management.

Remedial measures

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

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Latitude : 13°58¹ N

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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 st to 15 th , 2010	28.8	21.4	83.3	59.6	3.9	3.89	102.6
	(28.1)	(19.2)	(76.3)	(59.3)	(3.5)	(3.95)	(58.8)

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

Fortnight from 1st to 15th October, 2010

During the first fortnight of the month i.e., from October 1st to 15th, 2010, 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 and minimum temperature values were higher by 0.7°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 hours was higher by 4.0% and the percent relative humidity during afternoon hours was lower by 0.6%, as compared to the previous fortnight. Rainfall of 102.6 mm was recorded during the fortnight.

Crop weather situation

- ❖ During this period new vegetative flush emergence has been noticed in some of the accessions in mango field gene bank.
- ❖ New vegetative flush emerged in Alphonso and Totapuri varieties of mango
- ❖ In rose, incidence of black spot caterpillar was observed under open field and thrips & powdery mildew under polyhouse conditions were observed.
- ❖ In gerbera, incidence of whitefly was observed under polyhouse conditions.
- ❖ Incidence of wilt and caterpillars with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth and flowering with incidence of corm rot and thrips were observed in gladiolus.
- ❖ In Jasmine, leaf eating caterpillar was observed.

Incidence of pests and diseases

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

Diseases

- ❖ Leaf spot (*P. mangiferae*/*C. gloeosporioides*) may be noticed in mango. Application of Zineb (0.2%) / Chlorothalonil (0.2%) or Mancozeb (0.2%) along with the sticker @ 0.5ml/l is effective for the disease control.
- ❖ In grapes, rust infection needs constant attention on var. Bangalore blue. It could be managed with the application of Chlorothalonil (0.2%) or Bitertanol (0.2%). Powdery mildew may infect grapevines for which sprays of Triadimefon (0.1%)/ Hexaconazole (0.1%) are recommended.
- ❖ In pomegranate, leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) may record higher intensity. 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.
- ❖ Intensity of sigatoka leaf spot (*Mycosphaerella sp*) may be moderate in banana. For controlling Sigatoka application of Tridemorph (0.1%)/ or Chlorothalonil (0.2%) is recommended whereas crown rot and anthracnose could be effectively managed by the pre-harvest sprays with Carbendazim (0.1%) or Thiophanate methyl (0.1%) followed by post harvest dip in Chlorine water (300 ppm) for 10 minutes.
- ❖ 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. 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) is recommended for disease control.
- ❖ Late blight (*Phytophthora infestans*) occurs due to incessant rains on all the cultivars of tomato. The severity of the infection can be reduced by spraying Equation pro (0.1%), Sektin (0.3%), Acrobat (0.2%) after removing the infected leaves.
- ❖ Black spot infection occurs very severely during the rains in rose. Foliar application of Tilt (0.1%) gives effective control.

Pests

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

- ❖ **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.
- ❖ **Mango leaf flea weevil**
 - Incidence of weevils making mines and small holes on the new leaves may increase. Spray carbaryl @ 4 g /L for its management.
- ❖ **Aphids on bhendi**
 - Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.
 - If the crop is at pre-flowering period, spray systemic insecticides like Dimethoate 30 EC @ 2 ml/L.
- ❖ **Aphids on rose**
 - ❖ Aphid infestation may increase on rose in open field. Spray Dimethoate @ 2 ml/l for its management.

Remedial measures

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

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	Average Max.	Average Min.	Average At 7.30AM	Average at 1.30 PM			
16 th – 30 th September, 2010	28.4	19.5	79.3	60.2	4.0	4.39	175.2
	(27.9)	(19.3)	(78.7)	(62.6)	(3.8)	(6.11)	(65.3)

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

Fortnight from 16th to 30th September, 2010

During the second fortnight i.e., from September 16th to 30th, 2010, the average maximum was higher by 2.0°C and minimum temperature was same as compared to the previous fortnight. The average maximum and minimum temperature values were higher by 0.5°C and 0.2°C respectively, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 2.3% and 6.6% respectively, as compared to the previous fortnight. Rainfall of 175.2 mm was recorded during the fortnight which is significantly high as compared to the previous fortnight.

Crop weather situation

- ❖ In rose, incidence of caterpillar black spot was observed under open field conditions and thrips, powdery mildew were observed under polyhouse conditions.
- ❖ In gerbera, incidence of thrips under open field conditions and whitefly under polyhouse conditions were observed.
- ❖ Incidence of corm rot and thrips were observed on gladiolus with normal growth.
- ❖ Incidence of wilt was observed in crossandra with normal growth & less flowering.
- ❖ Heavy vegetative growth and good growth flowering pod setting was observed in pure lines of *Mucuna sp* due to continuous rains.
- ❖ Mortality of seedlings was observed in Ashwagandha because of heavy rains.

Incidence of pests and diseases

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

Diseases

- ❖ Incidence of potyvirus which causes mosaic was noticed upto 40.5% in different tomato hybrids. This may be due to favourable weather conditions for aphids which spreads this disease. This can be managed by spraying Acephate @ 1.5 g / liter + 2ml neem oil at days interval.
- ❖ Incidence of yellow mottle disease caused by a whitefly transmitted begomovirus was noticed upto 60% in ridge gourd. This may be due to favourable weather conditions for whitefly multiplication and spread of virus. This can be managed by spraying of Hostothian 1.0 ml / liter in ration with Acephate 1.5 g / liter at 10 days interval.

Pests

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

Brinjal shoot and fruit borer

- ❖ Incidence of fruit borer is increasing on brinjal. Spray rynaxpyr @ 0.3 ml/L for its management.

Aphids on bhendi

- ❖ Clip and destroy the infested shoots.
- ❖ Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.
- ❖ If the crop is at pre-flowering period spray systemic insecticides like Dimethoate 30 EC @ 2 ml/L.

Aphids and *Rhipiphorothrips* on rose

- ❖ Aphid infestation has started on rose in open field.
- ❖ Incidence of *Rhipiphorothrips* is also increasing on rose under open field conditions.
- ❖ Spray of Dimethoate @ 2 ml/l will take care of both aphids and thrips on rose.

Remedial measures

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: 1st to 15th September, 2010

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			
September 1 st to 15 th , 2010	26.4	19.5	81.6	66.8	3.5	6.87	32.2
	(28.3)	(20.3)	(80.0)	(66.9)	(3.4)	(6.21)	(110.56)

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

Fortnight from 1st to 15th September, 2010

During the first fortnight of the month i.e., from September 1st to 15th, 2010, the average maximum and minimum temperatures were lower by 0.4°C and 0.1°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 1.9°C and 0.8°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 lower by 1.7%, as compared to the previous fortnight. Rainfall of 32.2 mm was recorded during the fortnight.

Crop weather situation

- ❖ During this period even though total rainfall is less the number of rainy days are more and were evenly distributed. Since soil remains wet, it is suggested that till normal condition returns soil should not be disturbed. Farmers who have grown green manure crops may incorporate the same during this period for proper decomposition.
- ❖ Stray flowering has been noticed in some of the mango varieties maintained in the field gene bank
- ❖ In rose, incidence of black spot was observed under open field and thrips and mites under polyhouse conditions were observed.
- ❖ In gerbera, incidence of whitefly and thrips were observed.
- ❖ Incidence of wilt with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth with incidence of corm rot and thrips were observed in gladiolus.

Incidence of pests and diseases

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

Diseases

- ❖ Due to incessant rains, sporadic outbreaks of late blight caused by *Phytophthora infestans* was noticed on tomato. If the monsoon intensifies resulting in cool and moist conditions, this disease is likely to become severe and also will result in severe crop losses. Foliar application of anti-oomycete fungicides like Equacion pro (0.1%) or Sectin (0.3%) or Acrobat (0.2%) control the disease reasonably well.
- ❖ In polyhouse grown roses, downy mildew is expected to breakout if the temperature falls from the present level either due to frequent rains or due to onset of winter. Foliar spray with Aliette (0.2%) or Dimethanomorpha (0.2%) are recommended as preventive measures.
- ❖ The existing climatic conditions favour the occurrence of t"Sigatoka" leaf infection in banana. This can be managed by spraying Tilt (0.1%) or Calixin (0.1%) to the foliage.

Pests

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

- ❖ 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.
- ❖ Aphids on bhendi
 - Clip and destroy the infested shoots.
 - Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.
 - If the crop is at pre-flowering period, spray systemic insecticides like Dimethoate 30 EC @ 2 ml/L.
- ❖ Aphids on rose
 - Aphid infestation started on rose in open field. Spray Dimethoate @ 2 ml/l for its management.

Remedial measures

- ❖ Prophylactic sprays of 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: 16th to 31st August, 2010

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 th – 31 st August, 2010	26.8	19.6	83.3	68.5	3.0	6.5	75.5
	(28.4)	(19.9)	(80.0)	(64.2)	(3.5)	(6.4)	(117.6)

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

Fortnight from 16th to 31st August, 2010

During the second fortnight i.e., from August 16th to 31st, 2010, the average maximum and minimum temperatures were lowered by 1.2°C and 0.4°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 1.6°C and 0.3°C respectively, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 3.5% and 7.3% respectively, as compared to the previous fortnight. Rainfall of 75.5 mm was recorded during the fortnight.

Crop weather situation

- ❖ Although rainfall was below average, number of rainy days was more. It is expected there may be dry spore in coming few days. Farmers should use this opportunity for weeding and top dressing of vegetable crops.
- ❖ In rose, incidence of caterpillar & thrips were observed under open field conditions and thrips / mites, powdery mildew were observed under polyhouse conditions.
- ❖ In gerbera, incidence of thrips under open field conditions and whitefly under polyhouse conditions were observed.
- ❖ Incidence of corm rot and thrips were observed on gladiolus with normal growth.
- ❖ In jasmine, incidence of bud borer was observed.
- ❖ Incidence of wilt was observed in crossandra with normal growth & less flowering.
- ❖ In carnation, incidence of mites was observed with normal growth & flowering.
- ❖ Incidence of phytophthora leaf blight was observed in *Mucuna* sp.

Incidence of pests and diseases

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

Diseases

- ❖ Incidence of Tospovirus upto 15.7% was noticed in tomato. This may be due to increased thrips activity which was favoured by cloudy weather. For management of this disease spraying with Acephate @ 1.5 g / liter + 2% neem oil (or) Regent @ 1.0 ml / liter + 2% neem oil at 7 to 10 days interval will be effective.
- ❖ There is less incidence of PRSV (< 1.5%) in different cultivars of papaya. However, the disease spread can be prevented by growing border crop with castor or susbania and spraying of neemoil @ 2% / ltr at 15 days interval.

Pests

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

Sapota seed borer

- ❖ Incidence of sapota seed borer may start now onwards. Give one spray of deltamethrin 1ml/l or *Bt* @ 1ml/l.
- ❖ Fruit fly on cucurbits
- ❖ For the management of fruit fly on cucurbits, following integrated approach may be followed. Deployment of cuelure 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.

Mealy Bugs on papaya

- ❖ If the incidence is severe, spray profenophos @1 ml/l or imidacloprid @ 0.3ml/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.

Aphids on bhendi

- ❖ Clip and destroy the infested shoots.
- ❖ Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.
- ❖ If the crop is at pre-flowering period spray systemic insecticides like Dimethoate 30 EC @ 2 ml/L.

Shoot and fruit borer on brinjal

- ❖ Incidence of brinjal shoot and fruit borer may increase during this period. If the incidence is severe, spray rynaxpyr @ 0.3 ml/l

Beetles on rose

- ❖ Incidence of beetles may increase on rose. Spray carbaryl 50 WP @ 3 g/L.
- ❖ Aphids on rose
- ❖ Aphid infestation started on rose in open field. Spray Dimethoate @ 2 ml/l for its management.

Remedial measures

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: 1st to 15th August, 2010

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 1 st to 15 th , 2010	28.0	20.0	79.8	61.2	4.2	7.2	48.9
	(27.5)	(20.0)	(79.8)	(62.7)	(3.5)	(8.21)	(44.2)

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

Fortnight from 1st to 15th August, 2010

During the first fortnight of the month i.e., from August 1st to 15th, 2010, the average maximum and minimum temperatures were higher by 2.9°C and 0.4°C respectively, as compared to the previous fortnight. The average maximum temperature value is higher by 0.5°C and minimum temperature value is 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 1.4 % and 5.4 % respectively, as compared to the previous fortnight. Rainfall of 48.9 mm was recorded during the fortnight.

Crop weather situation

- ❖ Wherever vegetables are grown under rainfed conditions, care may be taken to raise the rows to avoid spoilage of fruits by coming in contact with soil borne diseases.
- ❖ Raising the rows will also provide good drainage and enhance crop performance of vegetable crops.
- ❖ In rose, incidence of caterpillar and thrips were observed under open field and polyhouse conditions.
- ❖ In gerbera, incidence of thrips was observed under open field and whitefly under polyhouse conditions was observed.
- ❖ Incidence of bud borer was observed in jasmine with normal growth.
- ❖ Incidence of wilt with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth with incidence of corm rot and thrips were observed in gladiolus.
- ❖ Incidence of Phytophthora disease was seen in Mucuna sp.

Incidence of pests and diseases

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

Diseases

- Intensity of rust infection increased on grapes var. Bangalore blue (> 75%) It could be managed with the application of Chlorothalonil (0.2%) or Bitertanol (0.2%). Powdery mildew was also recorded in traces for which sprays of Triadimefon (0.1%)/ Hexaconazole (0.1%) are recommended.
- In banana, higher intensity of Sigatoka leaf spot (*Mycosphaerella* sp) (> 40%) was recorded where as crown rot (*Fusarium solani* and *Botryodiplodia theobromae*) and anthracnose (*Colletotrichum musae*) of fruits were moderate For controlling Sigatoka application of Tridemorph (0.1%)/ or Chlorothalonil (0.2%) is recommended whereas crown rot and anthracnose could be effectively managed by the pre-harvest sprays with Carbendazim (0.1%) or Thiophanate methyl (0.1%) followed by post harvest dip in Chlorine water (300 ppm) for 10 minutes.
- Higher intensity of leaf and fruit spot disease caused by *Puedocercospora punicae* (>60%) and anthracnose of fruit and leaf (*C. gloeosporioides*) (> 40%) continued in pomegranate. These could be managed by spraying Chlorothalonil (0.2%)/Antracol (0.2%)/ Carbendazim (0.1%)/ Thiophanate methyl (0.1%)/ Hexaconazole (0.1%) along with the sticker @ 0.5ml/l.
- Moderate intensity of leaf spot (*P. indica*) was noticed in sapota. Application of Zineb (0.3%) or Ziride (0.4%) along with sticker (0.5 ml /l) is recommended for the control the disease.

Pests

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

- ❖ Pomegranate butter fly :
 - Remove and destroy all the affected fruits having exit holes.
 - Spray Decamethrin 2.8 EC @ 1 mL/L.
- ❖ Beetles on rose : 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
- ❖ Mealy Bugs on papaya : If the incidence is severe, spray profenophos @1 ml/l or imidacloprid @ 0.3ml/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.
- ❖ Aphids on bhendi
 - Clip and destroy the infested shoots.
 - Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.
 - If the crop is at pre-flowering period, spray systemic insecticides like Dimethoate 30 EC @ 2 ml/L.

Remedial measures

- ❖ Prophylactic sprays of 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: 16th to 31st July, 2010

Latitude : 13°58¹ 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 th – 31 st July, 2010	25.1	19.6	81.2	66.6	3.5	8.95	70.9
	(28.0)	(20.2)	(79.5)	(62.2)	(3.8)	(6.76)	(79.9)

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

Fortnight from 16th to 31st July, 2010

During the second fortnight i.e., from July 16th to 31st, 2010, the average maximum and minimum temperatures were lowered by 3.3°C and 0.4°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 2.9°C and 0.6°C respectively, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 0.9% and 7.8% respectively, as compared to the previous fortnight. Rainfall of 70.9 mm was recorded during the fortnight.

Crop weather situation

- ❖ This fortnight total rainfall is low and number of rainy days was more during the fortnight. When the soil is wet farmers should avoid disturbing the soil and use of heavy machineries. Intercultural operations may be undertaken and wherever crop is half-way through top dressing work may be undertaken.
- ❖ In rose, incidence of caterpillar & thrips were observed under open field conditions and thrips / caterpillar was observed under polyhouse conditions.
- ❖ In gerbera, thrips was observed under open field conditions with normal growth.
- ❖ Incidence of corm rot and thrips were observed on gladiolus with normal growth.
- ❖ In jasmine, incidence of mealy bug was observed.
- ❖ Incidence of wilt and thrips were observed in crossandra with normal growth & less flowering.

Incidence of pests and diseases

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

Diseases

- ❖ Latent infection due to Anthracnose (*C. gloeosporioides*) and stem end rot (*B. theobromae*) 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.

- ❖ In grapes, intensity of rust infection increased to > 50% on var Bangalore blue. It could be managed by the treatment with the treatment with Propiconazole (0.1%) or Chlorothalonil (0.2%) or Bitertanol (0.2%). Increase in the intensity of Powdery mildew was noticed for which sprays of Triadimefon (0.1%)/ Hexaconazole (0.1%) are recommended.
- ❖ 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. 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. Bacterial blight infection was recorded on the fruits. Application of COC (3%) + Streptocycline (250ppm) is recommended for the disease management.
- ❖ Low intensity of leaf spot (*P. indica*) was noticed in sapota. Application of Zineb (0.3%) or Ziride (0.4%) along with sticker (0.5 ml /l) is recommended for the control the disease

Pests

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

Pomegranate butterfly

- ❖ Remove and destroy all the affected fruits having exit holes.
- ❖ Spray Decamethrin 2.8 EC @ 1 mL/L.

Beetles on rose

- ❖ 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.

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.

Aphids on bhendi

- ❖ Clip and destroy the infested shoots.
- ❖ Thoroughly spray neem or Pongamia soap (1 %) or pulverised neem seed powder extract (NSPE) 4 %.
- ❖ If the crop is at pre-flowering period spray systemic insecticides like Dimethoate 30 EC @ 2 ml/L.

Remedial measures

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: 1st to 15th July, 2010

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 st to 15 th , 2010	28.4	20.0	80.3	58.8	4.0	7.08	116.1
	(28.4)	(20.2)	(71.3)	(59.6)	(5.4)	(11.16)	(22.26)

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

Fortnight from 1st to 15th July, 2010

During the first fortnight of the month i.e., from July 1st to 15th, 2010, the average maximum and minimum temperatures were lower by 1.7°C and 0.6°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were almost same, 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 8.1 % and 4.0 % respectively, as compared to the previous fortnight. Rainfall of 116.1 mm was recorded during the fortnight which is significantly high as compared to the previous fortnight.

Crop weather situation

- ❖ The maximum temperature during the last fortnight was same as that of the average temperature for the same period during the last five years, however, the average relative humidity was much higher when compared to the previous average at morning hours. The evaporation was much lower because of higher humidity. The rainfall was much higher during last 15 years compared to the average during the last five years. The routine measure for control of pest and disease may be carried out.
- ❖ In rose, incidence of caterpillar and thrips were observed under open field and polyhouse conditions.
- ❖ In gerbera, incidence of thrips was observed under open field and whitefly under polyhouse conditions was observed.
- ❖ Incidence of bud borer was observed in jasmine with normal growth.
- ❖ Incidence of wilt with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth with incidence of corm rot and thrips were observed in gladiolus.

Incidence of pests and diseases

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

Diseases

- ❖ Latent infection due to Anthracnose (*C. gloeosporioides*) and stem end rot (*B. theobromae*) 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 downy mildew was noticed on grape var. Anab-e-Shahi Application of Metalaxyl + Mancozeb (0.2%)/ Phosetyl – Al (0.2%) / Dimethomorph + Mancozeb (0.2%) / Cymoxanil + Mancozeb (0.2%) is recommended for the control of the disease. Rust infection was recorded on var Bangalore blue. It could be managed by the treatment with Propiconazole (0.1%) or Chlorothalonil (0.2%) or Bitertanol (0.2%).
- ❖ In pomegranate, infection of Leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) remained moderate. These could be managed by spraying Chlorothalonil (0.2%)/ Propineb (0.2%)/Carbendazim (0.1%) / Thiophanate methyl (0.1%) / Hexaconazole (0.1%) along with the sticker@ 0.5ml/l. Fresh Bacterial blight infection was recorded on the fruits. Application of COC (3%) + Streptocycline (250ppm) is recommended for the disease management.
- ❖ In sapota, low intensity of leaf spot (*P. indica*) was noticed. Application of Zineb (0.3%) or Ziride (0.4%) along with sticker (0.5 ml /l) is recommended for the control the disease.

Pests

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

- ❖ **Fruit fly on mango** : In late maturing varieties of mango, Fruit fly incidence may be noticed during this month also. Follow the below mentioned management practices for keeping the pest under control.
- ❖ Install methyl eugenol plywood traps @ 6/acre.
- ❖ If fruit fly is very serious (> 5/Surveillance trap), give bait sprays on the tree trunks at weekly interval: (Bait spray is prepared by mixing 100g of jaggery in one litre of water to which 2 mL of deltamethrin (2.8 EC) is added).

Pomegranate butter fly :

- ❖ Remove and destroy all the affected fruits having exit holes.
- ❖ Spray Decamethrin 2.8 EC @ 1 mL/L at the time when more than 50 % of fruits have set.
- ❖ Remove flowering weeds especially of compositae family.
- ❖ **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.

Remedial measures

- ❖ Prophylactic sprays of 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: 16th to 30th June, 2010

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 th - 30 th June, 2010	30.1	20.6	72.2	54.8	4.8	8.66	--
	(29.4)	(20.2)	(74.4)	(58.4)	(4.5)	(9.15)	(60.66)

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

Fortnight from 16th to 30th June, 2010

During the second fortnight i.e., from June 16th to 30th, 2010, the average maximum temperature was lower by 2.0°C and minimum temperature was higher by 1.1°C, as compared to the previous fortnight. The average maximum and minimum temperature values were higher by 0.7°C and 0.4°C respectively, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 6.8% and 3.6% respectively, as compared to the previous fortnight. There was no rainfall during the fortnight.

Crop weather situation

- ❖ This fortnight was dry without a single rainy day. Condition is not ideal for fertilizer application. Those farmers who wish to undertake lining may apply and incorporate into the soil. Intercultural operations in orchards and vegetable crops may be undertaken
- ❖ In rose, incidence of caterpillar & thrips were observed under open field conditions and thrips / caterpillar was observed under polyhouse conditions.
- ❖ Incidence of mites was observed in carnation.
- ❖ In gerbera, thrips was observed under open field and white fly under polyhouse conditions with normal growth was observed.
- ❖ Incidence of corm rot and thrips were observed on gladiolus with normal growth.
- ❖ In jasmine, incidence of bud borer was observed.
- ❖ Incidence of wilt and thrips were observed in crossandra with normal growth & less flowering.

Incidence of pests and diseases

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

Diseases

- ❖ Anthracnose (*C. gloeosporioides*) and stem end rot (*B. theobromae*) 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.

- ❖ In grapes, infection of Downy mildew and anthracnose was moderate on cv. Anab-e-shahi. For downy mildew application of Metalaxyl + Mancozeb (0.2%)/ Al Fosetyl (0.2%)/ and for anthracnose spraying with Propineb (0.2%)/ Chlorothalonil (0.2%)/Carbendazim (0.1%)/ Thiophanate methyl (0.1%) are effective along with sticker @ 0.5 ml/ l.
- ❖ 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. Spraying 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.

Pests

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

Fruit fly on mango

In late maturing varieties of mango, Fruit fly incidence may be noticed during this month also. Follow the below mentioned management practices for keeping the pest under control.

- ❖ Install methyl eugenol plywood traps @ 6/acre.
- ❖ If fruit fly is very serious (> 5/Surveillance trap), give bait sprays on the tree trunks at weekly interval: (Bait spray is prepared by mixing 100g of jaggery in one litre of water to which 2 mL of deltamethrin (2.8 EC) is added).

Pomegranate butterfly

- ❖ Remove and destroy all the affected fruits having exit holes.
- ❖ Spray Decamethrin 2.8 EC @ 1 mL/L at the time when more than 50 % of fruits have set.
- ❖ Remove flowering weeds especially of compositae family.

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.

Remedial measures

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: 1st to 15th June, 2010

Latitude : 13°58¹ 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 st to 15 th , 2010	32.1	19.5	79.0	58.4	5.3	7.23	81.7
	(29.6)	(17.0)	(73.9)	(64.7)	(5.2)	(7.48)	(30.9)

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

Fortnight from 1st to 15th June, 2010

During the first fortnight of the month i.e., from June 1st to 15th, 2010, the average maximum and minimum temperatures were lower by 2.3°C and 1.7°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were higher by 2.5°C, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning hours was higher by 2.5 % and percent relative humidity during afternoon hours was lower by 3.7%, as compared to the previous fortnight. Rainfall of 81.7 mm was recorded during the fortnight.

Crop weather situation

- ❖ During this fortnight a good amount of rain was received and the soil remained wet. Evaporation was also normal. This is the time that farmers may go for application of fertilizers to fruit crops. While doing so the basins may be cleaned and the fertilizers be placed at least 5cm. deep for getting better use efficiency of applied nutrients. Soil disturbance should be kept at minimum if the soil is too wet. In acid soils this is the time for application of liming materials. Farmers should get their soils tested and lime application may be done as per the lime requirement.
- ❖ In rose, incidence of caterpillar was observed under open field conditions and thrips & caterpillar were observed under polyhouse conditions.
- ❖ In gerbera, thrips was observed under open field and polyhouse conditions with normal growth was observed.
- ❖ Incidence of bud borer was observed in jasmine with normal growth.
- ❖ Incidence of wilt and thrips with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth with incidence of corm rot and thrips were observed in gladiolus.

Incidence of pests and diseases

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

Diseases

- ❖ In tomato, incidence of tomato leaf curl disease has increased upto 60.5%. This may be due to increase in whitefly population which is favoured by high humidity and temperature. This disease can be managed by spraying Hostathion @ 1.0 ml / ltr (or) Acephate @ 1.5 g / ltr + Neem oil 2 ml / ltr at 10 day interval two to three sprays are required.
- ❖ In beans, incidence of Mung bean yellow mosaic has noticed upto 21%. This is due to increase in whitefly population which is favoured by high humidity and temperature. This virus disease can be managed by spraying Acephate @ 1.5 g / ltr + Neem oil 2 ml / ltr.

Pests

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

- ❖ Fruit fly incidence may increase on mango. For its management, follow the below mentioned management practices. Install methyl eugenol plywood traps @ 6/acre. If fruit fly is very serious (> 5/Surveillance trap), give bait sprays on the tree trunks at weekly interval: (Bait spray is prepared by mixing 100g of jaggery in one litre of water to which 2 mL of deltamethrin (2.8 EC) is added). If the fruit fly incidence is very severe, 21 days prior to harvest, spray deltamethrin 0.5 mL + azadirachtin [1500ppm] @ 3 mL/L or azadirachtin [3000 ppm] @ 2mL/L as a cover spray.
- ❖ 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.
- ❖ Incidence of chaffers beetles may increase on crops like rose. Spray decamethrin 2.8 EC @ 1 ml/l, if the incidence is severe.

Remedial measures

- ❖ Prophylactic sprays of 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: 16th to 31st May, 2010

Latitude : 13°58¹ 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 th - 31 st May, 2010	34.4	21.2	76.5	62.1	5.5	7.16	48.4
	(31.1)	(21.1)	(69.6)	(49.4)	(5.3)	(5.58)	(65.6)

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

Fortnight from 16th to 31st May, 2010

During the second fortnight i.e., from May 16th to 31st, 2010, the average maximum and minimum temperatures were higher by 0.9°C and 0.5°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were higher by 3.3°C and 0.1°C respectively, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 2.1% and 12.0% respectively, as compared to the previous fortnight. Rainfall of 48.4 mm was recorded during the fortnight.

Crop weather situation

- ❖ During the period from 16 to 31st May there was a moderate rainfall of the maximum temperature recorded was higher than the average temperature for the last five years with higher relative humidity. The high rainfall may result in fruit drop in mango and cause damage.
- ❖ In some of the varieties of mango new vegetative flush is being seen.
- ❖ In rose, incidence of thrips under polyhouse conditions was observed.
- ❖ Incidence of corm rot and thrips were observed on gladiolus with normal growth.
- ❖ In jasmine, incidence of bud borer was observed.
- ❖ Incidence of thrips was observed in gerbera under open field and polyhouse conditions.
- ❖ Incidence of wilt and thrips were observed in crossandra with normal growth & less flowering.

Incidence of pests and diseases

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

- ❖ Fruit fly incidence may increase on mango. For its management, follow the below mentioned management practices.
- ❖ Collect and destroy all fallen fruits at weekly intervals from 40 days prior to harvest.
- ❖ Install methyl eugenol plywood traps @ 6/acre.

- ❖ If fruit fly is very serious (> 5/Surveillance trap), give bait sprays on the tree trunks at weekly interval: (Bait spray is prepared by mixing 100g of jaggery in one litre of water to which 2 mL of deltamethrin (2.8 EC) is added).
- ❖ If the fruit fly incidence is very severe, 21 days prior to harvest, spray deltmethrin 0.5 mL + azadirachtin [1500ppm] @ 3 mL/L or azadirachtin [3000 ppm] @ 2mL/L as a cover spray.
- ❖ Incidence of thrips is more on capsicum and rose, particularly under protected conditions. Spray, acephate 75 SP @ 1g/L or imidacloprid @ 0.5 mL/L for its management.
- ❖ Incidence of chaffer beetles may increase on crops like rose. Spray decamethrin 2.8 EC @ 1 ml/l, if the incidence is severe.

Remedial measures

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: 1st to 15th May, 2010

Latitude : 13°58¹ 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 st to 15 th , 2010	33.5	20.7	74.4	50.1	5.8	4.26	25.5
	(34.3)	(21.2)	(70.7)	(42.8)	(6.1)	(5.78)	(44.6)

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

Fortnight from 1st to 15th May, 2010

During the first fortnight of the month i.e., from May 1st to 15th, 2010, the average maximum and minimum temperatures were lower by 1.0°C and 1.5°C respectively, as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 0.8°C and 0.5°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 1.8 % and percent relative humidity during afternoon hours was lower by 1.4%, as compared to the previous fortnight. Rainfall of 25.5 mm was recorded during the fortnight.

Crop weather situation

- ❖ Only rainfall is significantly higher in this fortnight. It is helpful in higher nutrient and water availability in tomato and other summer vegetables, which will increase the health of the crops. Not good for mango fruit quality.
- ❖ 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 (*Pleurotus sp.*), Elm mushroom (*Hypsizygus ulmarius*) was 20-25% lower but nevertheless these species could be cultivated. The fruiting induction was also delayed in these two species by a week period. Cultivation of Shiitake mushroom (*Lentinula edodes*) required additional cooling.
- ❖ In rose, incidence of thrips was observed under open field conditions and thrips and mites were observed under polyhouse conditions.
- ❖ In gerbera, thrips was observed under open field and polyhouse conditions with normal growth was observed.
- ❖ Incidence of thrips and mites were observed in jasmine with normal growth.
- ❖ Incidence of wilt and thrips with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth with incidence of corm rot and thrips were observed in gladiolus.

Incidence of pests and diseases

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

- ❖ For the management of stone weevil mango fruits spray decamethrin 2.8 EC @ 1 ml/l.
- ❖ Incidence of thrips is more on chilli. Spray, acephate 75 SP @ 1g/L or imidacloprid @ 0.5 mL/L for its management.
- ❖ Incidence of white mite may increase under protected conditions on capsicum. Spray dicofof @ 2 ml/l for its management.
- ❖ Incidence of mites may increase on rose under protected/polyhouse conditions. For its management spray Abamectin 0.5 mL/L.
- ❖ Incidence of defoliating beetles may increase on crops like grapes, rose *etc.* because of sudden rains in the previous week. Spray decamethrin 2.8 EC @ 1 ml/l, if the incidence is severe.
- ❖ Because of high day temperatures, incidence of mites may increase on crops like China aster. Spray dicofof @ 2.5 ml/l or wettable sulphur @ 3g/l for their management.

Remedial measures

- ❖ Prophylactic sprays of 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: 16th to 30th April, 2010

Latitude : 13°58¹ 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 th - 30 th April, 2010	34.5	22.2	72.6	51.5	4.3	6.03	43.3
	(33.2)	(20.4)	(69.1)	(42.4)	(5.94)	(4.65)	(46.28)

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

Fortnight from 16th to 30th April, 2010

During the second fortnight i.e., from April 16th to 30th 2010, the average maximum and minimum temperatures were higher by 1.9°C and 0.5°C respectively, as compared to the previous fortnight. The average maximum and minimum temperatures were higher by 1.3°C and 1.8°C respectively, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were higher by 5.1% and 11.9% respectively, as compared to the previous fortnight. Rainfall of 43.3 mm was recorded during the fortnight.

Crop weather situation

- ❖ The low evaporation and high rainfall during the last fortnight will be useful for successful raising of seedlings of many vegetable crops to be transplanted during kharif. Bio-fertilizers may be used at the time of raising of nursery itself for the better development of seedlings. Heavy rainfall may cause higher fruit drop in mango.
- ❖ In rose, incidence of thrips and mites under open field and polyhouse conditions were observed.
- ❖ Incidence of corm rot and thrips were observed on gladiolus with normal growth.
- ❖ In jasmine, incidence of thrips and mites were observed.
- ❖ Incidence of thrips was observed in gerbera under open field and polyhouse conditions.
- ❖ Incidence of wilt and thrips were observed in crossandra with normal growth & less flowering.

Incidence of pests and diseases

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

- ❖ Because of high day temperatures, incidence of mites may increase on crops like China aster. Spray dicofol @ 2.5 ml/l or wettable sulphur @ 3g/l for their management.
- ❖ Incidence of stone weevil may increase on mango fruits. Spray decamethrin 2.8 EC @ 1 ml/l after 2-3 weeks.
- ❖ Incidence of thrips is more on chilli. Spray, acephate 75 SP @ 1g/L or imidacloprid @ 0.5 mL/L

for its management.

- ❖ Incidence of mites may increase on rose under protected/polyhouse conditions. For its management spray Abamectin 0.5 mL/L.
- ❖ For the management of thrips on rose, spray acephate 1g/L or imidacloprid @ 0.5 mL/L under Polyhouse conditions.
- ❖ Incidence of defoliating beetles may increase on crops like grapes, rose *etc.* because of sudden rains in the previous week. Spray decamethrin 2.8 EC @ 1 ml/l, if the incidence is severe.

Remedial measures

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: 1st to 15th April, 2010

Latitude : 13°58¹ 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			
April 1 st to 15 th , 2010	32.6	21.7	67.5	39.6	5.88	5.20	27.2
	(33.4)	(19.3)	(65.3)	(40.3)	(6.32)	(4.85)	(13.32)

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

Fortnight from 1st to 15th April, 2010

During the first fortnight of the month i.e., from April 1st to 15th, 2010, the average maximum temperature was lower by 1.4°C and minimum temperature was higher by 5.7°C, as compared to the previous fortnight. The average maximum temperature value was lower by 0.8°C and minimum temperature value was higher by 2.4°C, as compared to the values of corresponding period for the previous five years. The percent relative humidity during morning hours is same as previous fortnight and percent relative humidity during afternoon hours was lower by 0.4%, as compared to the previous fortnight. Rainfall of 27.2 mm was recorded during the fortnight.

Crop weather situation

- ❖ Lesser evaporation and more rainfall in the summer will help vegetables like brinjal, okra to access adequate nutrients from soil. This rain is like a protective irrigation and will increase nutrient uptake by rainfed mango and will result in higher yield and quality (size).
- ❖ The weather of the last fortnight was suitable for the cultivation of elm oyster and milky mushroom
- ❖ In rose, incidence of thrips and mites were observed under open field conditions and polyhouse conditions.
- ❖ In gerbera, thrips and mites were observed under open field and thrips under polyhouse conditions with normal growth was observed.
- ❖ Incidence of thrips and mites were observed in jasmine with normal growth.
- ❖ Incidence of wilt and thrips with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth with incidence of corm rot and thrips were observed in gladiolus.
- ❖ Incidence of yellow peach moth and mealy bug were observed in Red ginger with normal growth under open field conditions.
- ❖ Browning of leaves due to sunlight exposure was observed in *Aloe vera*.

Incidence of pests and diseases

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

- ❖ The disease intensity of bacterial blight in pomegranate has come down in demonstration plots in Sira, Hiriya and Jagalur due to proper control measures and sanitation followed in the orchards. However, disease intensity in other orchards ranged from 20 –30%, which can be managed by application of Bordeaux mixture 1.0% alternated with Streptomycin (0.05%) + Copper oxychloride (0.3%). Severe incidence of fungal wilt caused by *Ceratocystis fimbriata* is also been noticed in pomegranate orchards, which can be managed by drenching the soil at root zone with Carbendazim (0.2%) and Chlorpyrifos (0.2%). The leaf and fruit spots and rots can be managed by application of Carbendazim (0.1%) or Propiconazole (0.1%).

Incidence of pests and diseases

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

- ❖ Incidence of stone weevil may increase on mango fruits. Spray acephate 75 SP @ 1.5 g/l, if the fruits are of lime size, followed by Decamethrin 2.8 EC @ 1 ml/l after 2-3 weeks.
- ❖ Incidence of thrips is more on chilli. Spray, acephate 75 SP @ 1g/L or imidacloprid @ 0.5 mL/L for its management.
- ❖ Incidence of mites may increase on rose under protected/polyhouse conditions. For its management spray Abamectin 0.5 mL/L.
- ❖ For the management of thrips on rose, spray acephate 1g/L or imidacloprid @ 0.5 mL/L under Polyhouse conditions.
- ❖ Incidence of defoliating beetles may occur on crops like grapes, rose *etc.* because of sudden rains in the previous week. Spray decamethrin 2.8 EC @ 1 ml/l, if the incidence is severe.

Remedial measures

- ❖ Prophylactic sprays of 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: 1st to 15th February, 2010

Latitude : 13°58¹ 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			
February 1 st to 15 th , 2010	29.46	13.26	55.8	36.8	4.22	5.52	-
	(29.5)	(13.6)	(64.9)	(41.4)	(4.9)	(5.01)	(1.08)

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

Fortnight from 1st to 15th February, 2010

During the first fortnight of the month i.e., from February 1st to 15th, 2010, the average maximum temperature was higher by 2.16°C and minimum temperature is lower by 2.24°C, as compared to the previous fortnight. The average maximum and minimum temperature values were lower by 0.04°C and 0.34°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 lower by 9.1% and 4.6% respectively, as compared to the previous fortnight. There was no rainfall recorded during the fortnight.

Crop weather situation

- ❖ In tomato crop, faster fruit ripening was observed during the period.
- ❖ In onion, plant canopy and plant growth was normal and the bulb growth has increased during the period.
- ❖ Due to higher wind-speed and lack of rainfall the demand for water may be higher. Therefore care to be taken to meet the enhanced water need.
- ❖ In rose, caterpillar, black spot were observed under open field conditions and mites & thrips under polyhouse conditions.
- ❖ In gerbera, bud borer, thrips were observed under open field conditions with normal growth and thrips under polyhouse conditions.
- ❖ Incidence of wilt and thrips with normal growth and less flowering was observed in crossandra.
- ❖ Normal growth and flowering with incidence of corm rot and thrips were observed in gladiolus.
- ❖ Flowering / fruiting observed in a few trees of *Aloe vera*.
- ❖ Good growth was observed in majority of the lines of *Mucuna sp.* And *Coleus forskohlii*.

Incidence of pests and diseases

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

Diseases

In pomegranate, the incidence of bacterial blight disease caused by *Xanthomonas axonopodis* pv. *punicae* was drastically reduced in Sira, Tumkur, where the per cent incidence is less than 2% during the first fortnight of February, 2010. This is mainly due to the management practice taken up right from pruning onwards. The main treatments for bacterial blight disease imposed were application of Bordeaux paste (10%) immediately after pruning and there after application of 2 spraysf Bordeaux mixture (1%) spray alternated with Streptocycline (500 ppm) along with Copper oxychloride (3000ppm). Clean cultivation and filled sanitation was also strictly followed in the pomegranate orchard.

Insect pests

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

- ❖ On mango, incidence of hoppers may continue. Spray *Metarhizium anisopliae* @ 1×10^9 spores / ml. If the incidence is severe, spray imidacloprid @ 0.3 ml/l.
- ❖ For the management of thrips on capsicum, spray acephate 1g/l or imidacloprid @ 0.5 ml/l.
- ❖ Aphid infestation is more on crops like rose and beans. Spray acephate @ 1 g/l.
- ❖ On brinjal, high incidence of shoot and fruit borer is observed. Spray rynaxpir @ 0.3 ml/l

Remedial measures

- ❖ Prophylactic sprays of 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: 16th to 31st January, 2010

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 th - 31 st January, 2010	27.3	15.5	61.3	39.8	3.9	4.86	-
	(28.7)	(13.4)	(68.2)	(48.8)	(4.5)	(4.58)	(0.4)

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

Fortnight from 16th to 31st January, 2010

During the second fortnight i.e., from January 16th to 31st 2010, the average maximum temperature was lower by 1.0°C and minimum temperature was higher by 1.4°C, as compared to the previous fortnight. The average maximum temperature was lower by 1.4°C and minimum temperature value was higher by 2.1°C, as compared to the values of the corresponding period for the previous five years. The percent relative humidity during morning and afternoon hours were lower by 5.7% and 5.8% respectively, as compared to the previous fortnight. There was no rainfall recorded during the fortnight.

Crop weather situation

- ❖ Delayed and very poor flowering in most of the mango varieties.
- ❖ Erratic flowering with some mango varieties putting forth panicles is being seen. Most of the old trees have not flowered at all.
- ❖ There is no major change in weather from last 5 years average. After Rabi vegetables like cauliflower, cabbage, the *Mucuna* a medicinal crop can be grown for improving soil health and organic matter using the residual moisture. Enrichment the compost with bio-fertilizers & VAM for better summer vegetables (Tomato, Capsicum) may be initiated
- ❖ In rose, incidence of caterpillar, black spot under open field and incidence of mites, thrips, powdery mildew under polyhouse conditions were observed.
- ❖ Incidence of corm rot and thrips were observed on gladiolus with normal growth and flowering.
- ❖ In jasmine, incidence of thrips and mites were observed.
- ❖ Incidence of bud borer and thrips were observed in Gerbera under open field conditions and white flies and thrips under polyhouse conditions.
- ❖ Good growth with pod maturity was observed in majority of the lines of *Mucuna sp.*
- ❖ In *Coleus forskohlii*, nematode incidence on tubers was observed.

Incidence of pests and diseases

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

- ❖ In grapes, powdery mildew (*Uncinula necator*) may cause infection. Application of Myclobutanil (0.1%) or Triadimefon (0.1%) is recommended for the management of disease.
- ❖ In mango, anthracnose (*C. gloeosporioides*) and leaf spot (*P. mangiferae*) infection on foliage and Powdery mildew (*Oidium mangiferae*) on inflorescence might increase further. Application of Mancozeb (0.2%), Chlorothalonil (0.2%)/ Antracol (0.2%)/ Carbendazim (0.1%)/ Thiophanate methyl (0.1%) for anthracnose, Dithane Z-78 (0.2%) or Cuman L (0.4%) for Leaf spot whereas Triadimefon (0.1%)/ Dinocap/ Tridemorph (0.1%) is recommended for the control of powdery mildew. For Black band disease pasting of Blitox / Fhytolon / Blue copper on infected tissue is recommended.
- ❖ To prevent quiescent infection of Anthracnose (*Colletotrichum musae*) of fruits and Macrophoma fruit spot on Banana var. Grand Naine, pre-harvest sprays using Carbendazim (0.1%) or Thiophanate methyl (0.1%), besides post harvest dip in Chlorine water is advised.
- ❖ Intensity of leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*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.
- ❖ Insect pests
- ❖ Under the prevailing conditions the following pests are expected under Bangalore conditions on various horticultural crops. Various management options are mentioned below.
- ❖ On mango incidence of hoppers is noticed. For the management of hoppers on mango, spray imidacloprid @ 0.3 ml/l.
- ❖ For the management of thrips on pomegranate, rose, gerbera and chilli, spray acephate 1g/l or imidacloprid @ 0.5 ml/l.
- ❖ On Bitter gourd, incidence of fruit fly is observed. For its management take up bait spray containing 10 g of jaggery and 1 ml of deltamethrin per litre.
- ❖ Aphid infestation is more on crops like rose. Spray acephate @ 1 g/l.
- ❖ On brinjal, high incidence of shoot and fruit borer is observed. Spray rynaxpir @ 0.3 ml/l

Remedial measures

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: 1st to 15th January, 2010

Latitude : 13°58¹ 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 st to 15 th , 2010	28.3	14.1	67.0	45.6	3.6	4.94	-
	(26.9)	(12.2)	(50.5)	(48.8)	(3.8)	(4.86)	(1.2)

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

Fortnight from 1st to 15th January, 2010

During the first fortnight of the month i.e., from January 1st to 15th, 2010, the average maximum temperature was higher by 1.4°C and minimum temperature is lower by 3.6°C, as compared to the previous fortnight. The average maximum and minimum temperature values were higher by 1.4°C and 1.9°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 lower by 6.7% and 7.9% respectively, as compared to the previous fortnight. There was no rainfall recorded during the fortnight.

Crop weather situation

- ❖ Delay in flowering of mango varieties and erratic flowering with few varieties putting forth flowers has been noticed in mango germplasm during the fortnight.
- ❖ The minimum temperature is lower by 2°C. Hence K and P uptake will be less in vegetables and banana. Hence it needs to be compensated by extra 20% dose Zn and iron deficiency also are aggravated by low temperature increasing transplanted vegetables and flower crops like gerbera, rose, gladiolus. Correctivity by foliar spray is recommended.
- ❖ Leaf eating caterpillars were observed on jasmine with normal growth.
- ❖ In gerbera, powdery mildew, bud borer, thrips were observed under open field conditions with normal growth and white flies under polyhouse conditions was observed.
- ❖ Normal growth and flowering with incidence of corm rot and thrips were observed in gladiolus.
- ❖ Good growth and pod maturity observed in majority of the lines of Mucuna sp.

Incidence of pests and diseases

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

Diseases

- ❖ In grapes, powdery mildew (*Uncinula necator*) may cause infection. Application of Myclobutanil (0.1%) or Triadimefon (0.1%) is recommended for the management of disease.
- ❖ Intensity of Macrophoma fruit spot disease may increase further on Banana var. Grand Naine Pre-harvest sprays with Carbendazim (0.1%) or Thiophanate methyl (0.1%) is recommended.
- ❖ In mango, anthracnose spots might further increase on foliage. Application of Chlorothalonil (0.2%) or Thiophanate methyl (0.2%) or Carbendazim (0.1%) along with sticker (@ 0.5 ml / L) is recommended for the disease management. Sooty mould should be still taken care. Application of Copper oxychloride (0.3%) along with sticker (@ 0.5 ml / L) is recommended. Further hopper and other insect management is important with suitable insecticides (imidacloprid @ 0.5%).
- ❖ Intensity of leaf and fruit spot disease caused by *Pseudocercospora punicae* and anthracnose of fruit and leaf (*C. gloeosporioides*) may remain moderate in pomegranate. Application of Chlorothalonil (0.2%) /Anracol (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.

Insect pests

Under the prevailing conditions the incidence of pests is similar to the previous fortnight. Following pests are expected under Bangalore conditions on various horticultural crops during the period. Various management options are mentioned below.

- ❖ If the incidence of plant hoppers is more on mango, spray imidacloprid @ 0.3 ml/l.
- ❖ For the management of thrips on pomegranate, rose, gerbera and chilli, spray acephate 1g/l or imidacloprid @ 0.5 ml/l.
- ❖ For managing semilooper and other caterpillar pests on various vegetable and ornamental crops, spray quinalphos @ 2ml/l or carbaryl @ 2.5 g/l or indoxicarb @ 1 ml/l.
- ❖ Thrips incidence is more on chilli and capsicum. Spray imidacloprid @ 0.5 ml/l.
- ❖ On Bitter gourd, incidence of fruit fly is more. For its management take up bait spray containing 10 g of jaggery and 1 ml of deltamethrin per litre.
- ❖ Aphid infestation is more on crops like rose and okra. If the okra crop is at pre-flowering stage, spray Dimethoate @ 2 ml/l. Otherwise, thoroughly spray the crop with neem or pongamia soap (1%) or pulverized neem seed powder extract (NSPE) 4 %.

Remedial measures

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