




ICAR-Indian Institute of Horticultural Research, Bengaluru - 560089
Division of Crop Protection
Pest Calendar of Fruit Crops

Colour indicator:


	Low intensity
	Moderate intensity
	Severe


PEST CALENDAR OF MANGO

Pest	Months											
Mango hoppers <i>Idioscopus</i> spp.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Management: <ul style="list-style-type: none"> • Pruning and orchard sanitation • Spray imidacloprid @ 0.3 ml/L or Lambda cyhalothrin @ 0.5ml/L or Thiamethoxam @ 0.5 g/L at flower bud initiation stage • At low density (> 4 hopper/panicle) azadirachtin 1% @ 3 ml/L is effective • Application of liquid formulation of <i>Metarhizium anisopliae</i> or <i>B. bassiana</i> (5g/L) is suggested for organic orchards 											



Mango stem borer <i>Batocera rufomaculata</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Management <ul style="list-style-type: none"> • Prune dried/partially dried branches • Identifying active holes and taking out larvae with a hook and kill • Plug the holes with cotton dipped in chlorpyrifos (5ml/L) and seal with mud • In endemic areas, apply IIHR formulation – Arka Borer control on trunk up to a height of about 2.5 ft during April-May 											

PEST CALENDAR OF GRAPES

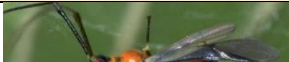
Pest	Months											
Thrips* <i>Scirtothrips dorsalis</i> <i>Rhipiphorothrips cruentatus</i> <i>*Severity may change depending on date of pruning</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Management: <ul style="list-style-type: none"> Remove pruned material from main field and burn Rake the soil periodically Erect yellow or blue sticky traps Foliar spray of imidacloprid 200 SL @ 0.3 ml/l or thiamethoxam 25 WG @ 0.25 g/l or emamectin benzoate 5 SG @ 0.3 g/L at 60-75 days after pruning. Alternate the chemicals Strictly adhere to prescribed pre harvest intervals. 											

	90 days after pruning) <ul style="list-style-type: none"> Foliar spray of <i>Verticillium lecanii</i> / <i>Beauveria bassiana</i> @ 5 g/ ml/l. 										
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Flea beetle <i>Scelodonta strigicollis</i>	Jan	F e b	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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	Management <ul style="list-style-type: none"> Remove all loose bark Rake the soil in basin to expose grubs and pupae to sunlight and mechanical injury At early bud sprout – imidacloprid @ 0.3ml/L or Lambda-cyhalothrin @ 0.5ml/L 							
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PEST CALENDAR OF GUAVA

Pest	Months											
Tea Mosquito Bug <i>Helopeltis antonii</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Management: <ul style="list-style-type: none"> Spray Lambda cyhalothrin @ 1 ml/L or Clothianidin 50 WDG @0.25g/l and azadirachtin 1% @ 3 ml/L twice in rotation at 10 days interval starting from fruit setting stage For organic orchards: Weekly spraying of biopesticide, <i>Beauveria bassiana</i> @ 5 g /L for four times. 											



Fruit Fly
Bactrocera dorsalis
B. zonata



Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Management:

- Raking up of the soil around the base of the tree
- Collection and burying of fallen fruits at 2 feet depth pit at regular interval
- Erect methyl eugenol traps @ 8/acre
- Do not allow fruits to over ripe on trees



Mealy Bugs
Ferresia virigata

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Management

- Prune and burn the affected shoots
- Foliar application of Buprofezin 25 SC @ 1.25ml/l or Thiamethoxam 25 WG @ 0.5g/l followed by Azadirachtin 1 % @ 3ml/l Release of predator, *Cryptolaemus montrouzieri*@ 10/tree (no insecticide should be sprayed when predators are released)

Spiralling whitefly *Aleurodicus disperses*





Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Management

- Generally does not cause economic loss
- Prune severely affected shoots
- In case of severe incidence spray neem oil @ 10 ml/L or IHR neem soap @ 10g/L or Azadirachtin 1% @ 3 ml/L

PEST CALENDAR OF POMEGRANATE

Pest	Months											
Thrips <i>Scirtothrips dorsalis</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Management <ul style="list-style-type: none"> Erect blue sticky traps @ 15-20/acre Spray thiamethoxam 25 WG @ 0.5 g/ L or acetamiprid 20 SP @ 0.3 g/ L at new leaf initiation and fruit formation stage When infestation is low to moderate spray NSKE 5% or Azadirachtin 3ml/L Entomopathogens <i>Verticillium lecani</i> @ 2g / L or <i>Metarhizium anisopliae</i> @ 5 g/L are also effective Avoid intercultivating alternate host crops like chilli, onion, brinjal etc. 											
Pomegranate butterfly (Fruit Borer) <i>Deudorix Isocrates</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Management <ul style="list-style-type: none"> Remove and destroy all the affected fruits Spray deltamethrin (1ml/L) % or indoxacarb (0.5ml/L) or chlorantraniliprole @ 0.3 ml/L at about 50% fruit set. Strictly follow pre harvest waiting periods (minimum 21-30 days) Remove flowering weeds especially of compositae family 											
Fruit sucking moth, <i>Eudocima spp.</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec





Management

- Manual collection of moths during night by locating using torch
- Fruit baiting with Guava or banana
- Bagging fruits
- Removal of larval host plants *Amruthaballi*
- Netting the orchard


PEST CALENDAR OF SAPOTA




Pest	Months
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Bud Borer <i>Anarsia achrasella</i>		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		Management: <ul style="list-style-type: none"> • Generally control measures not warranted. • In case of severe infestation, spray twice starting at bud stage with <i>Bt</i> (1mL/L) or indoxacarb 14.5SC (0.5 ml/L) or Lambda-cyhalorthin (0.5ml/L) at fortnightly interval. 											
Seed Borer, <i>Trymalitis margarias</i>		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		Management: <ul style="list-style-type: none"> • Sanitation : collection and destruction of fallen infested fruits • Erection of light traps. • At lime size stage of fruits, spray deltamethrin @ 1 mL/L followed by <i>Bt</i> @ 1 mL/L at fortnight interval. 											

PEST CALENDAR OF CUSTARD APPLE



Pest	Months
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Fruit fly <i>Bactrocera dorsalis</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Management <ul style="list-style-type: none"> • Collection and destruction of fallen fruits • Erection of methyl eugenol traps @ 6 per acre • Give bait splash on the tree trunks at weekly Interval: (Bait spray Is prepared by mixing 100 g of Jaggery in one litre of water to which 2 mL of deltamethrin (2.8 EC) is added • If fruit fly is very serious, a spray of azadirachtin (1%) @ 3 mL/L on matured fruits helps 											
Mealybug <i>Ferrisia virgata,</i> <i>Planococcus citrii,</i> <i>Maconellicoccus hirsutus</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

	Management: <ul style="list-style-type: none">• Releasing lady bird beetle <i>Cryptolaemus montrouzeri</i> adults @ 5000/ha or 30 grubs/plant• If severe infestation, sprays with buprofezin 25 SC @ 1.25 ml/L or Azadirachtin 1% @ 3 mL/L are recommended.											
<i>Tea mosquito bug</i> <i>Helopeltis antonii</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
 	Management <ul style="list-style-type: none">• At new flush emergence stage, spray Lambda-cyhalothrin at 0.6 mL/L											



PEST CALENDAR OF PAPAYA

Pest	Months											
Mealybug	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

<i>Planococcus marginatus</i>										
	Management <ul style="list-style-type: none">• Collection and destruction of severely affected fruits and shoots• Release of exotic parasitoids <i>Acerophagus papaya</i> @ 25-50 per infested plant									

PEST CALENDAR OF JAMUN

Pest	Months
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Jamun seed borer <i>Anselmella kerrichii</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
 	Management: <ul style="list-style-type: none"> At early fruit set stage sprays with λ-cyhalothrin@1.0 mL/L (or) cypermethrin @1.0 mL/L (or) deltamethrin @1.0 mL/L at 10 days interval are recommended. 											

Note:

- The information has been compiled based on field observations and available literature. The purpose of this calendar is mainly to enhance farmers' preparedness in timely taking pest management measures. However there may be slight variations in the pest occurrence due to unexpected climate extremities, varietal and regional variations.
- The chemicals are mentioned based on efficacy evaluation.