PEST SITUATION OF GENERAL CROPS, VEGETABLES & ORCHARDS FOR 1ST FORTNIGHT OF SEPTEMBER, 2023

1.	Pest Forecast for next fortnight
2.	Recommendations
3.	Economic Threshold Levels (ETLs)

PEST FORECAST FOR NEXT FORTNIGHT

Forecast of insect pests and diseases is given as under;

VEGETABLES FORECAST

WHITEFLY

It is foretold that its population may sustain on vegetables and crops during the next fortnight.

JASSID

Its population may sustain during the coming fortnight due to current weather conditions.

THRIPS

Its population may sustain in the coming fortnight due to current weather conditions.

FRUIT BORER

Its population may sustain in the coming fortnight due to current weather conditions.

FRUIT FLY

It is foretold that its population may sustain on vegetables and crops during the next fortnight.

LEAF CURL VIRUS

Its incidence may decrease owing to prevailing weather conditions which may continue during the coming fortnight.

DOWNY MILDEW

Its incidence may sustain owing to prevailing weather conditions which may continue during the coming fortnight

BLIGHT

Its incidence may decrease owing to prevailing weather conditions which may continue during the coming fortnight

WILT

Its incidence may decrease owing to prevailing weather conditions which may continue during the coming fortnight.

MOSAIC

Its incidence may sustain owing to prevailing weather conditions which may continue during the coming fortnight

ARMYWORM

Its population may sustain owing to prevailing weather conditions during the coming fortnight.

PURPLE BALOCH

Its incidence may decrease owing to prevailing weather conditions which may continue during the coming fortnight

GENERAL CROPS FORECAST

ARMYWORM

Its population may sustain owing to prevailing weather conditions during the coming fortnight.

Whitefly

Its population may sustain owing to prevailing weather conditions during the coming fortnight.

MANGO ORCHARD FORECAST

GALLS & SCALES

Their population may sustain due to prevailing climatic conditions in the coming fortnight.

DECLINE

Its incidence may sustain due to prevailing climatic conditions in the coming fortnight

HOPPER

Its population may sustain due to prevailing climatic conditions in the coming fortnight.

ANTHRACNOSE

Its incidence may increase due to prevailing climatic conditions in the coming fortnight.

POWDERY MILDEW

It may not be problem in the coming fortnight.

CITRUS ORCHARD FORECAST

CITRUS PSYLLA

Its infestation may sustain due to prevailing climatic conditions in the coming fortnight.

LEAFMINER

Its infestation may decrease due to prevailing climatic conditions in the coming fortnight.

WITHERTIP

Its incidence may increase due to prevailing climatic conditions in the coming fortnight.

CITRUS CANKER

Its incidence may decrease due to current climatic conditions during the next fortnight.

SLOW DECLINE

Its incidence may decrease due to current climatic conditions during the next fortnight.

GUAVA

ANTHRACNOSE

Its incidence may increase due to prevailing climatic conditions in the coming fortnight

WITHERTIP

Its incidence may sustain due to prevailing climatic conditions in the coming fortnight.

RECOMMENDATIONS
GENERAL RECOMMENDATIONS

Motivate the farmers to follow the following recommendations.

- Keep fields free from weeds.
- Remove all plant debris and remains of vegetables immediately after harvest.
- Use suitable fungicides for the control of diseases on crops and vegetables.
- The control of armyworm on different vegetables / fodders is very necessary to check its multiplication by hand picking and graze the infected leaves. For its control suitable insecticides like IGR's should be used in consultation with field staff of Pest Warning and Extension Wing.
- Fallow fields should be ploughed up to destroy pupae of bollworms especially helicoverpa and armyworm.
- For jassid control, apply imidacloprid25 WP@ 75gm/acre orimidacloprid 200 SL@ 60ml/acre or thiamethoxam 25 WDG@ 24gm/100 LOW.
- Mango orchards with heavy infection of anthracnose should be treated twice with suitable fungicides.
- Orchards should be treated with suitable pesticides thrice a year for the control of insect pests and diseases i.e. before flowering, after fruit setting and harvesting.
- For the control of fruit flies, keep the field neat and clean by eradicating the weeds, picking up of infested fruits and burying them properly and install pheromone (methyl eugenol) traps @ 3-5 traps /acre.

FOR ONION THRIPS

- After harvesting remove & destroy the plant debris in ground
- Use early & quick maturing varieties
- Eradicate the weeds
- Spray spirotetramat+biopower(Movento)240 SC@ 125+125ml/acre
- Spray gamma cyhalothrin (Proaxis) 60 CS@ 100 ml/acre.

FOR BORERS

- Sow resistant varieties
- Install light traps for adult moth collection
- Eradicate weeds
- Conserve and use biological control agents
- Collect infested fruits & bury them in soil
- Spray emmamectin benzoate 5WDG @ 75gm/ acre

FOR LEAFMINER

- Remove & bury the infested leaves
- Spray bifenthrin 10% EC @ 250-320ml/100 liters of water
- Spray lufenuron (Match) 50EC 100ml/ 100 liters of water

FOR JASSID

- Sow resistant varieties
- Spray nitenpyram 50WDG @ 40gm/ acre

FOR GALLS & SCALES

- Remove & bury the infested leaves & twigs if minor attack occurs.
- Spray bifenthrin 10% EC @ 250-320ml/100 liters of water
- Spray spirotetramate 240Sc (Movento) @125ml/200 liters of water.
- Spray prriproxyfen 50% Ec&Biopower @200ml /100 liters of water

FOR FRUIT FLY

- Use methyl eugenol, the sex pheromone
- Use protein hydrolysate for female collection
- Conserve bio control agent *Opiuslongicaudatus*
- Collect & bury the fallen fruits
- Spread plastic sheet under plant canopy to disrupt its pupation in soil
- Spray Static spinosad ME 53% RB @ 40 gm for 8 plants in an acre (5 gm/ plant).

FOR ANTHRACNOSE

- Pruning of diseased branches of the tree
- Apply recommended fungicides with consultation of local Agriculture Department.

FOR WITHERTIP

- Prune & bury the dry twigs & branches
- Use Bordeaux mixture
- Apply 1 Kg ammonium sulphate with 10Kg well rotten farm-yard manure per tree

FOR CITRUS CANKER

- Select the Root Stock from disease-free tree
- Prune & burn the infected shoots
- During active growth season, apply copper based fungicides to all root stocks, grafted plants & other trees
- Use streptomycin sulphate 72SP @ 100gm/Acre.

FOR QUICK DECLINE, DIE BACK AND GUMMOSIS DISEASE OF CITURS AND MANGO

- Make "DAUR" around each plant at a distance of one and half feet to obstruct direct water access to the stem.
- Avoid injuries to plants.
- Apply paste of metalaxyl + mancozeb and lime at 1:8 to the injuries and stem up to 4 feet.
- Apply recommended insecticides on mango and citrus orchards on the appearance of insect pests.
- Apply recommended fungicides on mango and citrus orchards on the appearance of disease symptoms.

- In case of high infection, repeat fungicides application after 15 days interval.
- Control insect pests by applying suitable insecticides in consultation with Field Staff of Pest Warning and Extension Wing.

FOR MEALY BUG MANAGEMENT

- Monitor its population on every host plant and adopt appropriate control measures in consultation with Pest Warning / Extension Wings of Agriculture Department.
- Add mineral oil (diver) with insecticides at recommended ratio for spray on ornamental plants, field crops and vegetables for its effective control.
- Bury infested plants and weeds carefully in soil.
- Store cotton sticks away from water channels.
- Keep field crops, vegetables, ornamental plants, orchards, field bunds and water channels free from weeds.
- Eradicate weeds at their early stage.
- Prune the shrubs and trees infested with mealy bug.
- Spray recommended insecticides at prescribed doses.

ALTERNATE HOST PLANTS OF MEALY BUG

Crops	**Vegetables**	**Ornamentals**	**Weeds**	**Orchards**
Sunflower	Okra	China rose	HazarDani	Citrus
Tobacco	Brinjal	Huddle	Amarantus	Mulberry
Jantar	Tomato	Cotton Rose	Bhakra	Ficus
	Chillies	Gul chain	Mako	Ber
	Pumpkin	Lantana	Sueda	
		Din Ka Raja	Itsit	
		Rat Ki Rani	Karund	
		Anthorium	Aksan	

		Gul-e-Daudi	Bathu	
		Gainda	Puth Kanda	
			Kanghi	

FOR WHITEFLY & CLCV

MANAGEMENT OF WHITEFLY

- Eradicate weeds acting as alternate host plants of whitefly and CLCV and dispose them off carefully.
- Motivate farmers to keep whitefly (vector of CLCV) at the lower ebb on alternate hosts.
- Avoid excessive use of nitrogen in vegetables and other crops.
- Avoid planting of CLCV susceptible ornamental plants.
- Install chrysoperla cards as biological control agent @ 8 cards/ acre. (cards are available at the labs. located in Vehari, Sahiwal&Okara districts)
- For whitefly control, apply any of the following pesticides on spring crops, vegetables and ornamental plants.
- Inoculums of CLCV prevail on various host plants throughout the year, therefore to combat the menace adopt following actions:
  - Create awareness among the farming community to control this menace on alternate hosts.
  - Eradicate weeds and other alternate host plants of CLCV.

Key Points

Keep strict vigilance and scout the field crops, fodders, vegetables and orchards regularly.

ALTERNATE HOST PLANTS OF WHITEFLY

CROPS	**VEGETABLES**	**ORCHARDS**	**WEEDS/ ORNAMENTAL**	**TREES**
Sunflower	Okra	Citrus	Gardenia	Shisham
Tobacco	Brinjal	Litchi	Mako	Shareen
	Cucurbits	Pomegranate	Maina	
	Tomato	Ber (Zizyphus)	Karund	
	Cabbage	Guava	Lehli	
	Cauliflower	Mulberry		
	Peas	Papaya		
	Potato			

	Onion			
	Spinach			

ALTERNATE HOST PLANTS OF CLCV

CROPS	VEGETABLES	ORNAMENTAL	WEEDS
Sunflower	Okra	Ornamentals	Leh
Tobacco	Brinjal	Gurhal	Lehli
	Chillies	Chambeli	Mako
	Tomato		Maina
	Potato		Karund / Bathu
	Cucumber		Gardenia
			Hazardani
			Rattanjot
			Sun Kukra

6- ETLs OF DIFFERENT INSECT PESTS & DISEASES

Name of Crop	Insect Pest/ Disease	ETL		Name of Crop	Insect Pest/ Disease	ETL
Maize	Shoot fly	5%		Mango	Hopper	5/ Leaf (In Summer) 1/ Leaf (In Winter) 10/ Inflorescence or Twig
	Stem borer	5%			Scales	50 Scales / Leaf
	Helicoverpa	5 % Cobs			Fruit fly	10% damage
	Armyworm	On Appearance			Mealybug	On Appearance
Potato	Jassid	3/Leaf			Mango Midges	10 spots/ twig or inflorescence
	Blight	On Appearance			Gall Farming Insect	10 galls / Leaf
Tobacco	Cutworm	3% Attacked Plants			Malformation	Low-Med-High
Sunflower	Helicoverpa	1/5 Flowers			Anthracnose	On Appearance
Vegetables	Red Pumpkin Beetle	1/ 10 Plants (at seedling stage) 1/ Plants (at crop stage)		Citrus	Citrus Psylla	6/ Leaf
	Hudda Beetle	4/ Plant			Leaf-miner	10% affected leaves
	Fruit Borer	10%on Brinjal 5% on Tomato			Fruit fly	10% affected fruits
	Diamond Back Moth	3/ Leaf			Withertip	Low-Med-High
	Helicoverpa	5% fruit infestation			Canker	Low-Med-High
	Fruit fly	3 % fruit infestation		Guava	Fruit fly	10% affected fruits (4-5 Pheromone traps/acre)
	Leaf-miner	10 % leaves infested				
	Jassid	1/Leaf on Cucurbits 2/ Leaf on Brinjal 3/ Leaf on Melons				
	Whitefly	5/Leaf on Cucurbits 2/Leaf on Chillies, Cowpeas				
	Aphid	5/Leaf				

	Powdery Mildew	Low-Med-High				
	Downy Mildew	Low-Med-High				
	Wilt	Only seed treatment				
	Root Rot	Only seed treatment				
	Collar Rot	Water must not touch the stem				
	Leaf Spot/ Blight	Spray on appearance				