

PEST SITUATION OF GENERAL CROPS, VEGETABLES & ORCHARDS FOR 2ND FORTNIGHT OF OCTOBER, 2018

<u>OUTLINE</u>	
1.	Pest situation of general crops
2.	Pest situation of vegetables
3.	Pest situation of orchards
4.	Pest Forecast for next fortnight
5.	Recommendations
6.	Economic Threshold Levels (ETLs)

1- PEST SITUATION OF GENERAL CROPS

BAJRA

Hopper: The infestation below ETL has been observed in District Bahawalnagar.

BARSEEM

Armyworm: The infestation has been observed in District Multan and Lodhran.

Whitefly: The infestation below ETL has been observed in District Lodhran, R.Y.Khan and Rajanpur.

BEEN

Whitefly: The infestation below ETL has been observed in District R.Y.Khan

JANTAR

Armyworm: The infestation has been observed in District R.Y.Khan

MAIZE

Shoot fly: The infestation below ETL has been observed in District Khanewal, Bahawalpur, Muzaffargarh, Kasur and Faisalabad.

Armyworm: The infestation has been observed in District Sahiwal.

Aphid: Its infestation has been observed below ETL in District Khushab.

Maize Borer: The infestation below ETL has been observed in District Multan, Khanewal, Vehari, Lodhran, Sahiwal, Bahawalnagar, R.Y.Khan, Muzaffargarh, Rajanpur, Jhang, Bhakkar, Jhelum, Chakwal and Attock.

Hopper: The infestation below ETL has been observed in District Bahawalnagar

Stem Borer: The infestation below ETL has been observed in District Bahawalpur.

Jassid: The infestation below ETL has been observed in District Lodhran, Bahawalnagar and Nankana.

Mites: The infestation below ETL has been observed in District Lodhran

Toka: Its infestation has been observed above ETL in District Sialkot, Faisalabad and Bhakkar.

LUCERN

Whitefly: The infestation below ETL has been observed in District Bahawalpur

RAYA

Whitefly: The infestation below ETL has been observed in District R.Y.Khan

RICE

Stem Borer: The infestation below ETL has been observed in District Bahawalpur Multan and R.Y.Khan.

Leaf folder: The infestation below ETL has been observed in District Multan.

Rice Blight: The incidence has been observed in District R.Y.Khan.

Bacterial Leaf Spot: The incidence has been observed in District Lodhran and R.Y.Khan

Brown Plant Hopper: The infestation below ETL has been observed in District Lodhran.

White Backed Plant Hopper: The infestation below ETL has been observed in District Bahawalpur.

SORGHUM

Borer: The infestation below ETL has been observed in District Multan, Khanewal, Lodhran, Sahiwal, Okara, Bahawalpur, R.Y.Khan, Sheikhupura and Sargodha.

Jassid: The infestation below has been observed in District D.G.Khan

Shoot fly: The infestation below ETL has been observed in District Khanewal, Muzaffar garh and Jhang

Aphid: Its infestation has been observed below ETL in District M.B.Din and Faisalabad.

Toka: Its infestation has been observed below ETL in District Chakwal.

SEASAME

Phyllody: Its incidence has been observed in District Hafizabad.

Mealy bug: Its infestation has been observed above ETL in District Hafizabad.

MILLET

Grain Mold: Its incidence has been observed in District Bhakkar.

Aphid: Its infestation has been observed above ETL in District Khushab.

Toka: Its infestation has been observed above ETL in District Chakwal.

OLIVE

Anthracoese: Its incidence has been observed in District Rawalpindi.

Psylid: Its infestation has been observed above ETL in District Chakwal.

GROUND NUT

Termite: Its infestation has been observed below ETL in District Chakwal and Khushab.

Grasshopper: Its infestation has been observed below ETL in District Khushab.

SUGARCANE

Toka: Its infestation has been observed below ETL in District Sialkot.

Borer: Its infestation has been observed below ETL in District Jhelum.

Red rot: Its incidence has been observed in District Chakwal and Attock.

White fly: Its infestation has been observed below ETL in District Gujrat & above ETL in District Sheikhpura and Hafizabad.

Smut: Its incidence has been observed in District Lahore.

2- PEST SITUATION OF VEGETABLES

BITTER GOURD

Whitefly: The infestation above ETL has been observed in District Sheikhpura, Ferozwala and Faisalabad & infestation below ETL has been observed in District Pakpattan.

Fruit fly: The infestation above ETL has been observed in District Lahore, Kasur, Mianwali, Chakwal and Attock & infestation below ETL has been observed in District Lodhran, Pakpattan.

Borer: The infestation below ETL has been observed in District R.Y.Khan.

Aphid: Its infestation has been observed above ETL in District Ferozwala.

Downy Mildew: Its incidence has been observed in District Gujrat.

BRINJAL

Fruit Borer: The infestation below ETL has been observed in District Multan, Vehari, Lodhran, Bahawalpur, Bahawalnagar, R.Y.Khan, Muzaffargarh, Sheikhpura, Gujrat, Chiniot, Sargodha, Chakwal and Attock.

Jassid: The infestation above ETL has been observed in District Bahawalpur and Jhang & below ETL has been observed in District Multan, Lodhran, Bahawalpur, Bahawalnagar, R.Y.Khan, Muzaffargarh and Jhang

Whitefly: The infestation above ETL has been observed in District Bahawalpur, & below ETL has been observed in District Multan, Lodhran and Bahawalpur, Bahawalnagar, R.Y.Khan, D.G Khan, Muzaffargarh, Rajanpur, Ferozwala and Nankana.

Armyworm: Its infestation has been observed above ETL in District Mianwali.

CABBAGE

Whitefly: The infestation below ETL has been observed in District Bahawalpur.

Armyworm: The infestation has been observed in District Bahawalpur.

Fruit Borer: The infestation below ETL has been observed in District Bahawalnagar.

CARROT

Whitefly: The infestation below ETL has been observed in District Multan, Bahawalnagar, R.Y.Khan and Muzaffargarh

Jassid: The infestation below ETL has been observed in District Bahawalnagar.

CHILLIES

Whitefly: The infestation below ETL has been observed in District Multan, Lodhran, Bahawalpur, R.Y.Khan and Rajanpur.

Mealy bug: The infestation below ETL has been observed in District Bahawalnagar.

Jassid: The infestation below ETL has been observed in District R.Y.Khan

Wilt: The incidence has been observed in District Pakpattan.

Collar Rot: The incidence has been observed in District Multan and Pakpattan.

Virus: The incidence has been observed in District Lodhran, Bahawalpur, R.Y.Khan and Jhang

Root rot: Its incidence has been observed in District Attock.

CAULIFLOWER

Whitefly: The infestation below ETL has been observed in District Lodhran, Bahawalpur, R.Y.Khan, D.G Khan and Rajanpur

Armyworm: The infestation has been observed in District Multan, Lodhran, Bahawalpur, Bahawalnagar, R.Y.Khan, Jhang, Faisalabad, Chiniot and Rawalpindi.

Jassid: The infestation below ETL has been observed in District Bahawalpur, R.Y.Khan and D.G.Khan.

Aphid: Its infestation below ETL has been observed in District Jhelum and Chakwal.

Black spots: Its incidence has been observed in District Khushab.

Borer: Its infestation below ETL has been observed in District Mianwali.

Cabbage looper: Its infestation above ETL has been observed in District Sheikhpura and Chakwal.

Caterpillar: Its infestation below ETL has been observed in District Sargodha.

Helliothis: Its infestation above ETL has been observed in District Faisalabad and Gujrat.

CORRIANDER

Whitefly: The infestation below ETL has been observed in District Rajanpur

Root rot: Its incidence has been observed in District Chakwal.

CUCUMBER

Whitefly: The infestation below ETL has been observed in District Lodhran and Sheikhpura.

Jassid: The infestation below ETL has been observed in District Pakpattan.

Soft rot: Its incidence has been observed in District Rawalpindi.

LEMON

Leaf miner: Its infestation below ETL has been observed in District Chakwal.

MUSTARD

Whitefly: The infestation below ETL has been observed in District Bahawalpur and Bahawalnagar.

OKRA

Whitefly: The infestation below ETL has been observed in District Pakpattan, R.Y.Khan, Sheikhupura and Chakwal.

Jassid: The infestation a below ETL has been observed in District Pakpattan, Bahawalnagar, Rajanpur, Kasur, T.T.Singh and Jhang.

Borer: Its infestation has been observed below ETL in District T.T. Singh.

Caterpillar: Its infestation has been observed below ETL in District Sargodha.

Helicoverpa: Its infestation has been observed below ETL in District Jhelum.

Powdery Mildew: Its incidence has been observed in District Jhang.

Spotted Bollworm: Its infestation has been observed below ETL in District Chakwal.

ONION

Thrips: The infestation below ETL has been observed in District Lodhran and Rajanpur

PEAS

Borer: The infestation below ETL has been observed in District Sahiwal

American bollworm: Its infestation below ETL has been observed in District Sialkot.

Cutworm: Its infestation below ETL has been observed in District Gujrat.

Aphid: Its infestation below ETL has been observed in District Khushab.

Root rot: Its incidence has been observed in District Chakwal.

POTATO

Whitefly: The infestation a below ETL has been observed in District Layyah

Jassid: The infestation a below ETL has been observed in District Layyah

PUMPKIN

Whitefly: The infestation above ETL has been observed in District Kasur & infestation below ETL has been observed in District Lodhran, Pakpattan, R.Y.Khan, D.G Khan and Rajanpur.

Borer: The infestation below ETL has been observed in District Pakpattan.

Jassid: The infestation below ETL has been observed in District Pakpattan and D.G.Khan

Red Pumpkin beetle: The infestation below ETL has been observed in District Bahawalnagar, Jhang, Attock and Chakwal.

Fruit Fly: Its infestation has been observed above ETL in District Sargodha.

Downy mildew: Its incidence has been observed in District Kasur, Chakwal and Gujranwala.

RADISH

Whitefly: The infestation below ETL has been observed in District R.Y.Khan, Muzaffar Garh

Leaf Curl Virus: The incidence has been observed in District Bahawalnagar.

ROUND GOURD

Downy mildew: Its incidence has been observed in District Gujrat.

SPINACH

Whitefly: The infestation below ETL has been observed in District Lodhran, Bahawalpur, Bahawalnagar, Muzaffar Garh.

Jassid: The infestation below ETL has been observed in District Vehari, Bahawalnagar

Armyworm: The infestation has been observed in District Multan, Lodhran, Bahawalpur, Bahawalnagar

Leaf spot: Its incidence has been observed in District Chakwal.

American bollworm: Its infestation has been observed above ETL in District Chakwal.

SWEET POTATO

Whitefly: The infestation below ETL has been observed in District Bahawalnagar.

SPONGUE GOURD

Whitefly: The infestation above & below ETL has been observed in District Lodhran.

Jassid: The infestation below ETL has been observed in District Bahawalpur.

Downy mildew: Its incidence has been observed in District Attock.

TOMATO

American Bollworm: Its infestation below ETL has been observed in District Attock.

Late blight: Its incidence has been observed in District Bhakkar, Khushab and Chakwal.

Aphid: Its infestation below ETL has been observed in District Khushab and Chakwal.

TINDA GOURD

Jassid: The infestation below ETL has been observed in District Bahawalpur.

TORI

Whitefly: The infestation below ETL has been observed in District D.G. Khan.

Jassid: The infestation below ETL has been observed in District D.G. Khan.

TURMERIC

Leaf blotch: Its incidence has been observed in District Kasur.

TURNIP

Root rot: Its incidence has been observed in District Chakwal.

Aphid: Its infestation below ETL has been observed in District Chakwal.

3- PEST SITUATION OF ORCHARDS

APPLE

Fruit stunting: Its incidence has been observed in District Rawalpindi.

APRICOT

Gummosis: Its incidence has been observed in District Attock.

CITRUS

Leaf miner: The infestation above ETL has been observed in District Attock & infestation below ETL has been observed in District Multan, Khanewal, Vehari,

Lodhran, Sahiwal, Pakpattan, Bahawalpur, Bahawalnagar, R.Y.Khan, Layyah, Sheikhupura, Faisalabad, Jhang, T.T.Singh, Sargodha, Mianwali, Chakwal, Khushab, Bhakkar

Citrus Psylla: The infestation below ETL has been observed in District Vehari, Lodhran, Sahiwal, Bahawalpur, R.Y.Khan and T.T.Singh.

Slow Decline: The incidence has been observed in District Multan, Lodhran, Bahawalpur, Bahawalnagar, R.Y.Khan.

Fruitfly: The infestation below ETL has been observed in District Bahawalpur, Bahawalnagar, Layyah, M.B.Din and Jhang.

Gummosis: The incidence has been observed in District Multan, R.Y. Khan, Jhang, Bhakkar and Sargodha.

Fruit Borer: The infestation below ETL has been observed in District Layyah

Wither tip: The incidence has been observed in District Multan, Khanewal, Vehari, Lodhran, Sahiwal, Pakpattan, Okara, Bahawalpur, Bahawalnagar, R.Y.Khan, Layyah, Lahore, Ferozwala, T.T.Singh, M.B.Din, Jhang, Faisalabad and Chakwal.

Citrus Canker The incidence has been observed in District Bahawalpur, Bahawalnagar, R.Y.Khan, Layyah, T.T.Singh, Jhang, Khushab and Rawalpindi.

MANGO

Anthraxnose: The incidence has been observed in District Multan, Khanewal, Vehari, Lodhran, Sahiwal, Pakpattan, Okara, Bahawalpur, Bahawalnagar, R.Y.Khan, D.G Khan, Muzaffar Garh, Rajanpur, Chiniot and Jhang.

Scales: The infestation below ETL has been observed in District Multan, Khanewal, Vehari, Bahawalpur, R.Y.Khan, Muzaffar Garh.

Galls: The infestation below ETL has been observed in District Multan, Vehari, Lodhran, Pakpattan, Bahawalpur, Bahawalnagar, R.Y.Khan, Muzaffar Garh

Fruit fly: The infestation below has been observed in District Pakpattan

Malformation: The incidence in dry form has been observed in District Bahawalpur.

Quick Decline: This is syndrome in which whole plant of mango dies off suddenly. Its incidence has been observed in District Multan, Lodhran, Bahawalpur, Bahawalnagar, R.Y.Khan.

Gummosis: The incidence has been observed in District Multan, R.Y.Khan, Muzaffar Garh.

GUAVA

Fruit fly: The infestation below ETL has been observed in District Pakpattan, Lahore, Sheikhpura, Nankana, Kasur, Faisalabad, Gujrat, Chakwal.

Borer: Its infestation below ETL has been observed in District Faisalabad.

Decline: Its incidence has been observed in District Lahore and Hafizabad.

Wilting: Its incidence has been observed in District Sheikhpura.

Wither tip: Its incidence has been observed in District Ferozwala.

GRAPES

Downy Mildew: The incidence has been observed in District R.Y.Khan.

Termite: Its incidence has been observed in District Jhelum.

Black spots: Its incidence has been observed in District Khushab.

Leaf spots: Its incidence has been observed in District Attock.

LOQUAT

Leaf spots: Its incidence has been observed in District Chakwal.

Fruit Fly: Its infestation below ETL has been observed in District Attock.

Leaf spots: Its incidence has been observed in District Attock.

FALSA

Anthraco nose: Its incidence has been observed in District Kasur.

POMEGRANATE

Cracking: Its incidence has been observed in District Rawalpindi.

PEACH

Leaf curl virus: Its incidence has been observed in District Rawalpindi.

Gummosis: Its incidence has been observed in District Attock, Chakwal.

4. 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 decrease on vegetables and crops during the next fortnight.

JASSID

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

THRIPS

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

MITES

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

FRUIT FLY

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

RED PUMPKIN BEETLE

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

BORER

Its population may sustain on Vegetable during next fortnight.

ARMYWORM

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

BLIGHT

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

DOWNY MILDEW

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

COLLAR ROT

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

VIRUS

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

WILT

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

GENERAL CROPS FORECAST

BORER

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

WHITEFLY

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

ARMYWORM

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

SHOOT FLY

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

STEM BORER

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

LEAF FOLDER

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

BLIGHT

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

MANGO ORCHARD FORECAST

GALLS & SCALES

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

THRIPS

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

HOPPER

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

FRUIT FLY

Their population may decrease due to harvesting and prevailing climatic conditions in the coming fortnight.

QUICK DECLINE

Its incidence may sustain due to current climatic conditions.

ANTHRACNOSE

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

GUMMOSIS

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

CITRUS ORCHARD FORECAST

CITRUS PSYLLA

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

LEAF FALL

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

SLOW DECLINE

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

GUMMOSIS

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

GUAVA

ANTHRACNOSE

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

FRUITFLY

Their population may increase on Guava due to prevailing climatic conditions in the coming fortnight.

5. 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 heliothis and armyworm.
- For jassid control, apply imidacloprid 25 WP@ 75gm/acre or imidacloprid 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 emamectin 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 prriproxifen 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 WITHER TIP

- 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 CITRUS 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	Mulbery		
	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
			Rattan jot
			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		Mealy bug	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		Anthracoze	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		Wither tip	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			