

Advisory on strategies for the management of whitefly & pink bollworm on cotton during kharif-2020

Whitefly:-

- Regular surveillance of alternate hosts like brinjal, cumcumber, summer squash, long melon, potato, tomato, okra, chilli, mungbean, guar and weed host plants (Action state Department of Agriculture (SDA), PAU= February onwards).
- Mass campaign to eradicate weeds like *peeli buti*, *kanghi buti*, *puth kanda* etc. growing on bunds, waste land, road side, channel/canals (Action:SDA, District administration, village panchyat and other allied Departments-February onwards).
- Ensuring availability and quality of seed of recommended hybrids, pesticides and fertilizers (Action: SDA-April onwards).
- Ensuring availability of canal water for timely sowing and first irrigation (Action: SDA-April to June).
- Sale of only recommended hybrids to be allowed (Action: SDA-March to Mid May).
- Ensuring timely sowing of recommended Bt. cotton hybrids (Action: SDA-April mid May).

Pink bollworm:-

- Destroy all trash collected during the ginning process. Remove all seed from the ginneries by the end of March. Fumigate the seed left uncrushed in the mills before end of April with Celphos/phostoxin/Delicia @ one 3-g tablet per cubic metre space, giving an exposure of 48 hours or use two tablets with an exposure of 24 hours. No un-fumigated seed should be retained or sold by the ginneries. Only cotton-seed cake (khal) should be fed to the cattle and no seed should be kept this purpose.
- The seed meant for sowing must be acid-delinted in the ginneries before it is sold. The acid treatment kills the larvae of the pink bollworm. It also removes fuzz and thereby facilitates mechanical sowing.
- Even the apparently healthy seed-cotton (Kapas) may be harbouring larvae of pink bollworm. Hence, kapas retained by the farmers should be ginned by the end of March and seed fed to cattle. If this seed is to be retained for sowing, it should be acid-delinted/fumigated or thoroughly dried the sun in a thin layer for 3-4 consecutive days in April.
- After the last picking, allow sheep, goats and other farm animals into cotton fields to feed or plant debris and un-opened bolls.
- Do not stalk the cotton sticks under shade or in the field. Beet the sticks on ground to dislodge the pink bollworm larvae surviving the unopened bolls. Stalk the cotton stick vertically.
- Prevent the movement of the cotton stalk from the infested areas to the new areas.

- **Educating farmers to**

- Adopt recommended spacing of 67.5x75 cm (Action: SDA, PAU- Mid March to Mid May).
- Plant refugia to safeguard development of resistance against bollworms in Bt cotton (Action: SDA, PAU- Mid March to Mid May).
- Not to intercrop cucumber, summer squash and long melon in cotton (Action: SDA, PAU- Mid March to Mid May).
- Uproot brinjal plants after maturity (Action: SDA, PAU).
- Apply recommended dose of fertilizers (N,P) on soil test basis (Action: SDA, PAU- Mid March to Mid May).
- Apply muriate of potash (MoP) @ 20 Kg per acre which imparts bio stress tolerance.
- Apply four sprays of potassium nitrate (NPK 13:0:45)@ 2 Kg/acre at weekly interval starting from flower initiation improves the health of the crop (Action: SDA, PAU- July-August).
- Extensive monitoring for whitefly in the cotton fields grown near the orchards (Action: SDA, PAU- June to September).
- Regular surveillance of whitefly in cotton (Action: SDA, PAU- April onwards).
- Promoting use of yellow sticky traps @ 40 per acre during initial phase of the cotton crop to check early infestation of whitefly (Action: SDA, PAU- Mid May onwards).

Spray schedule

- Spray pesticides when whitefly population reaches ETL (6 adults per leaf in the upper canopy of plant before 10 a.m)
- First two spray should be done with Nimbecidine/Achook @1.0 litre /acre in 100-150 liters of water to manage whitefly and to conserve the natural enemies during June to mid July.
- In case of severe infestation of whitefly adults, spray Ulala 50 WG (flonicamid) @ 80 g/acre or polo/Ruby/Ludo/Shoku 50 WP (diafenthiuron)@ 200 g/acre or Fosmite/E-mite/Volthion/Gold mit 50 EC (ethion) @ 800 ml/acre or Osheen 20 SG (dinotefuran)60 g/acre .
- When adult population is low and nymph population on the under surface of leaves is high or when honeydew symptoms appear on the plants, spray Iano 10 EC (Pyriproxyfen) @ 500 ml/acre or Oberon/Voltage 22.9 SC (spiromesifen) @ 200 ml/acre.
- Community approach should be promoted at village level for the application of insecticides.

Cautions

Farmers be strictly advised:

- To use only recommended hybrids/varieties and pesticides
- To complete the sowing in April to Mid May

- Not to use the overdose of fertilizer
- To avoid tank mixing and ready made insecticide mixtures of pyrethroids and other non-recommended pesticides
- To avoid using insecticides like acephate, bifenthrin, fipronil as they cause resurgence of whitefly
- Not to repeat same insecticides successively
- To follow proper spray technology for pesticide application
- Cleaning the spray tank properly before and after the use
- Using fixed type solid cone nozzle for knapsack sprayer
- To uproot brinjal plants after maturity
- Not to intercrop cucumber, summer squash, long melon in cotton

Other activities

Demonstrations and field days

- Demonstrations on plant protection in the hot spots (Action: SDA, PAU June onwards).
- Demonstrations and popularization of spray pumps developed by PAU (Action: SDA, PAU June onwards).
- Field days to demonstrate the impact of recommended package of practices (Action: SDA, PAU August & September)

Trainings

- Agricultural Officers of the SDA on cotton production and protection technology (Action: PAU March to Mid April).
- Pesticide dealers on cotton IPM (Action: PAU-April).
- Village level farmer training camps to create awareness regarding cotton production and protection technology especially the IPM technology (Action: SDA MID March onwards PAU-April onwards).