

PEST FORECAST REPORT FOR THE MONTH OF MARCH, 2019

Rice

Stem borer incidence was reported in late samba and thaladi season crops at Thanjavur and Kanyakumari districts. The crops at maturity stage recorded with white ear damage upto 13 per cent. However, the crops at young stage or panicle initiation stage can be protected from stem borer by applying insecticides like cartap hydrochloride 50SP 400g/ac or chlorantraniliprole 18.5 SC @ 60ml/ac. In young crop the incidence can be monitored using light traps (1/ha) and pheromone traps (5/ac). Leaf mite incidence can be expected during the period due to hot weather condition. The young crop at tillering and booting stage can be monitored for the leaf mite incidence. Insecticide with acaricidal action compound like dicofol 18.5 EC @ 500ml/ac can be sprayed to manage mite incidence. During this month rice tungro disease incidence may appear in the transplanted crop. Green leafhopper which transmit rice tungro disease has to be monitored. Insecticides like imidacloprid 17.8 SL @ 60ml/ac or triazophos 40EC @ 300ml/ac can be recommended for the management of leafhopper. Brown spot incidence may appear in the nursery and transplanted crops. For the control of brown leaf spot disease, mancozeb @ 2.0g/lit is recommended. Bacterial leaf blight was observed in Dindigal District at milky stage. Spraying of copper hydroxide at 500g/ac along with sticking agent @ 1 m/lit is recommended.

Pulses

Sowing of short duration pulse crops like black gram and green gram will be taken up during the ensuing summer months. Seed treatment with imidacloprid 600 FS @ 7.5ml/kg seeds can be done to manage early stage sucking insect pests.

In Redgram, wilt and sterility mosaic diseases are expected in all redgram growing regions of Tamil Nadu. The farmers are advised to do spot drenching with carbendazim @ 1g/ litre of water for the management of wet root rot. For management of sterility mosaic disease foliar spray of fenazaquin @ 1 ml/ litre of water are recommended.

Cotton

The cotton crops are in harvesting stage. After harvest, the remnants and strubbles should be cleared from the field or ploughed in situ to avoid the sustenance of various life stages of insects. For summer irrigated cotton, seed treatment with Imidacloprid 600 FS @ 10ml/kg can be done to manage sucking pests like aphids, leafhopper and whitefly.

The stem weevil and root rot complex was noticed in Perambalur, Virudhunagar and Coimbatore districts. Hence, farmers are advised to drench with combination of chlorpyrifos @ 2.5ml + carbendazim 1g/lit at 15 days interval for the management of stem weevil and root rot complex in cotton.

Vegetable crops

The incidence of leaf mite is expected in brinjal, bhendi, chilli, tomato crops in different districts due to the increased hot weather and increasing temperature. Spraying of dicofol 18.5 EC @ 2 ml/lit or spiromesifen 22 SC @ 0.5 ml/lit of water can be recommended.

Tomato

In tomato, early blight incidence is expected. Hence, the farmers are advised to spray mancozeb @ 2 g/ lit of water, twice at weekly interval.

Onion

In onion, leaf blotch is expected during the rainy season. The farmers are advised to spray mancozeb @ 2g /l or copper oxychloride @ 2.5 g/l for managing the leaf blotch incidence.

Banana

In banana, Fusarium wilt incidence was recorded in Coimbatore, Thirunelveli and cuddalore districts. For new planting, dip the suckers in 0.2 % carbendazim (2g/lit) for 30 min or treat with *Pseudomonas fluorescens* @ 10g/sucker at the time of planting. This is followed by Corm injection @ 3 ml of 2 % (20 gm/lit) carbendazim on 3, 5, and 7th month after planting. Drench the infected plants with 0.2 % (2 gram in one litre of water) carbendazim at 2, 4th and 6th month after planting should be followed.

The root lesion nematodes and root knot nematodes are expected in Coimbatore, Erode, Trichy, Tirunelveli, Dindigul and Theni districts and cause yield loss upto 15-20 per cent. The nematodes infested banana shows stunting and yellowing of leaves, blackish or reddish lesions on the roots. The root knot nematode infested field shows day wilting symptoms and also galls in the root. Farmers are advised to apply FYM @10kg with neem cake 250 gm/plant and intercrop with marigold and *in situ* ploughing of sunnhemp at the time of flowering. Apply liquid formulation of *Pseudomonas fluorescens* @2lit/ha during 2, 4 and 6 months after planting through drip irrigation.

Special forecast on fall army worm in Maize and other crops

Fall army worm, *Spodoptera frugiperda* attack was reported in few districts on maize. In other districts almost maize crops has been harvested.

However the incidence of fall army worm has to be carefully monitored in other crops to know its alternate host plants in all the districts.

Integrated pest management packages for fall army worm

- a) Deep Ploughing in order to expose the pupae of fall army worm to sun light and avian predators thereby curtailing the chance of emergence of next brood and occurrence of the pest for the next season.
- b) Application of neem cake @ 100 kg per ac in soil at the time of ploughing to reduce the emergence of adults from pupae.
- c) Seed treatment with *Beauveria bassiana* 10 gram per kg of seed (or) imidacloprid 70 WS (or) thiomethoxam 70 WS @ 10 gram per kg of seed.
- d) Adopt a spacing of 60 x 25 cm for irrigated maize and 45 x 20 cm for rainfed maize. Closer planting always facilitates for quick movement or spread of the larvae in between plants
- e) Leave rogue spacing of 75 cm for every 10 rows of maize to facilitate easy spraying during cob formation stage and to minimize the damage during cob formation and maturity stages
- f) Use solar light trap / battery chargeable light trap / ordinary electric light fitted over a wide pot or bowl containing kerosene mixed water @ one per hectare at random places in the length and breadth of the field.
- g) Cultivation of short duration varieties of cowpea, sunflower, gingelly, sorghum and Marry gold as border crop to attract, conserve and enhance the activity of natural enemies like parasitoids and predators.

- h) Cultivation of *Desmodium* as intercrop between maize to repel away incoming adult moths.
 - i) Manual collection and destruction of egg mass as well as various stages of larvae at early stages of crop to reduce the population build up of the pest.
 - j) Conservation of existing natural enemies like dragon flies, damsel flies, green lace wing flies and lady bird beetles by avoiding non-recommended insecticides, incorrect method of application, excess dosage and mixing of pesticides.
 - k) Apply *Metarhizium anisopliae* formulation @ 1.0 lit/ac or 1 kg/ac
 - l) Need based spraying of the following safer Insecticides: Azadirachtin 1 EC @ 2 ml/l or thiodicarb 75 WP @ 2 g/l or emamectin benzoate 5 SG @ 0.4 g/l or spinetoram 12 SP @ 0.5 ml/l
- (Note: Hand sprayer / Battery operated hand sprayer should only be used)
- m) Cultivation of maize after maize should be avoided. Crop rotation can be adopted

Insect pests in Coconut

Special forecast report on Rugose spiraling whitefly

The coconut rugose spiraling whitefly was noticed in serious proportion in various district coconut gardens of Tamil Nadu. The insects suck the sap and cause damage in the leaf fronts with copious honey dew secretions on the leaves. It induce development of sooty mould fungus there by leaves become completely block and reduce the photosynthesis rate. The following techniques can be adopted to manage the spiraling whitefly,

- Spraying of synthetic insecticides should be withheld
- Measures to conserve the natural enemies like *Encarsia* parasitoids, chrysopids and coccinellids in coconut ecosystem by avoiding use of insecticides may be followed. The parasitoid *Encarsia* is available at Coconut Research Station, Aliyar Nagar. Chrysopids can be obtained from the Department of Agricultural Entomology, TNAU, Coimbatore
- Placing yellow sticky traps @ 10/ac smeared with castor oil or horticultural mineral oil can be used for monitoring the population

- If needed spraying with neem oil @ 3% (30 ml/lit.of water) or neem seed kernel extract @ 5% (50g/lit.of water) could be helpful in minimising the population builds up.

Apart from these pests, the incidence of rhinoceros beetle and eriophyid mite incidence was reported during the period. Following management techniques may be followed to mitigate these pests.

- Collect and destroy the various bio-stages of the rhinoceros beetle from the manure pits (breeding ground of the pest). Apply 2 per cent carbaryl solution or *Metarhizium anisopliae* @ 5×10^{11} spores/m³ in the manure pits to kill young grubs.
- Soak castor cake at 1 kg in 5 lit of water in small mud pots and keep them in the coconut gardens to attract and kill the adults.
- Apply naphthalene balls 10g /palm with 100g sand at the base in leaf axile of the crown once in 45 days
- Eriophyid mite can be managed with spraying of dicofol 18.5 EC @ 2.5 ml/lit on the young nuts nuts and buttons.

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