

## PEST FORECAST REPORT FOR THE MONTH OF FEBRUARY, 2019

### Rice

Stem borer incidence was recorded in samba/thaladi season crops at Thanjavur and Kanyakumari districts. The young crops at maximum tillering stage suffered with dead heart damage upto 5-6 per cent in these two districts. Gall midge incidence in the form silver shoots (5%) was noticed at Thanjavore district. Stem borer incidence can be monitored using light traps (1/ha) and pheromone traps (5/ac). Insecticides like cartap hydrochloride 50SP 400g/ac or chlorantraniliprole 18.5 SC @ 60ml/ac can be used for the management these two insects.

Present environmental condition in Tamiladu is favourable for grain discolouration disease. To control this disease carbendazim + mancozeb is recommended @3gram/lit.

### Redgram

Incidence of pod borer is expected in red gram where the pods are in maturity stage. Application of chlorantraniliprole 18.5 EC @ 60 ml/ac is recommended for management of pod borers. 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.

### Oil Seed Crops

Leaf damage by *Spodoptera litura* caterpillar was noticed on ground nut crop at Cuddalore district (2-6%). Applying any one of the insecticides like dichlorvos 76 WSC @ 350 ml/ac or diflubenzuron 25 WP 150g/ac can effectively manage the pest. Confirmation of *Spodoptera* species may be done to know the occurrence of *Spodoptera frugiperpa* with the help of scientists of TNAU colleges or research stations or KVKs.

Powdery mildew disease incidence was noticed in Sunflower crop at Coimbatore District. The farmers are advised to spray difenoconazole (0.05%) 100 ml/ac for the management.

### Cotton

The cotton crops are in harvesting stage or about to be harvested. 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

In cotton, *Alternaria* leaf blight, stem weevil and root rot complex was noticed in Coimbatore, Erode, Tirunelveli, Madurai, Dindigul and Perambalur 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. For *Alternaria* leaf blight, spraying of Mancozeb or Copper oxy chloride 2g / litre at 15 days interval is recommended.

### **Vegetable crops**

The incidence of thrips and leaf mite is noticed in brinjal, bhendi, chilli, tomato crops in Coimbatore, Dindigul, Thiruppur and Erode districts. To manage thrips and other sucking insects spraying of fipronil 5 SC @ 1.5 ml/lit and for leaf mite management spray dicofol 18.5 EC @ 2 ml/lit or spiromesifen 22 SC @ 0.5 ml/lit of water. Fruit fly incidence was recorded in watermelon crop at Krishnagiri, Dharmapuri and Kancheepuram districts. The incidence can be managed by application of neem cake @ 250kg/ acre in soil to kill the pupa. Light trap can be set up to attract the adult fruit flies.

In tomato early blight disease incidence is expected during this month. Hence, the farmers are advised to spray mancozeb @ 2 g/ lit of water, twice at weekly interval if the incidence is noticed. In bhendi, powdery mildew disease is noticed. To manage powdery mildew, dusting sulphur @ 10 kg /ac or wettable sulphur @ 2 g/lit immediately after noticing the incidence and repeating at 15 days interval are recommended. In onion, leaf blotch is noticed. The farmers are advised to spray mancozeb @2g /l or copper oxychloride @2.5 g/l for managing the leaf blotch incidence.

### **Root knot Nematode in Tuberose**

In tuberose, root knot nematodes is expected in Coimbatore, Erode, Krishnagiri, Dindigul and Madurai districts and cause yield loss 10-15 per cent. The nematode infested field shows day wilting symptoms and also galls in the root tips. The farmers are advised to bulb treatment with carbosulfan 25 ST @ 2ml/lit and apply neem cake @ 400kg/ha during planting and also intercrop with marigold. Application of *Purpureocillium lilacinum* @ 2.5kg/ha mixed with 100 kg FYM at 15 days after planting.

### **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 1.0 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 coconut gardens of the 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 build up.

### **New Pest Alert**

#### **Special forecast report on slug caterpillar in coconut**

Recently, slug caterpillar incidence was noticed in Uthukkuli block of Thirupur district. The slug caterpillar larva feeds on the leaves of coconut tress and scrapping symptoms are visible. The incidence of this pest has to be monitored in other area also and following management techniques can be followed:

- Severely infested leaf/fronds inn lower most leaf whorls can be cut and removed
- Setting up of light traps @ 2/ha during night hours to attrack and kill the moths
- Spray dichlorvos 76 EC @ 2ml + soap oil 1 ml/lit to control the larvae. Repeat the application after 15 days if necessary.

#### **Special forecast report Bondar's Nesting Whitefly**

A new Invasive 'Bondar's nesting whitefly' (*Paraleyrododes bondarii*, Hemiptera: Aleyrodidae) was recently recorded in coconut gardens of Kerala. Adult Bondar's nesting

whitefly is small in size (<1.0 mm), with the presence of two conspicuous X-shaped oblique black bands on the wings and sustain on a unique bird nest-like woolly wax niche on the lower leaf surface. More than 25 hosts have been reported which include banana, custard apple, citrus, avocado, cassava and ornamental figs from other countries. However, this is not a pest of economic significance in any of the crops reported so far.

Special monitoring and surveillance are required on this newer pest in the coconut growing areas of entire Tamil Nadu more particularly adjoining areas of Kerala State and foot hills of Western Ghats, lower Palnies and Pothigai hills. The occurrence of new pest can be reported to Centre for Plant Protection Studies, TNAU, Coimbatore.



**Bondar's Nesting whitefly on abaxial coconut leaf**



**Flat nymph with fibre glass like strands**



**Adult Bondar's Nesting Whitefly on the woolly wax like nest with oblique bands**



Apart from these pests, the incidence of rhinoceros beetle and eriopyid 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* @  $5 \times 10^{11}$  spores/m<sup>3</sup> 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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