

CENTRE FOR PLANT PROTECTION STUDIES
PEST FORECAST FOR THE MONTH OF NOVEMBER 2025

1. Paddy

Leaf folder and stem borer damage were recorded in Erode, Pudukottai, Thanjavur, Mayiladuthurai, Nagapattinam districts. Leaf folder and thrips damages were recorded in Madurai district. Stemborer and whorl maggot infestation was observed in Thiruvallur district.

- For the management of stem borer, spraying flubendiamide 20% WG at 50g/ac or cartap hydrochloride 50% SP at 400 g/ac is recommended.
- For the management of leaf folder, spraying any one of the following insecticides per acre is recommended once, and if the infestation persists, second spray can be given 15 days after the first spray. The same insecticide should not be used for the second spray.

Flubendiamide 20% WG 50 g/ac

Flubendiamide 20% W/S SC 20ml/ac

Cartaphydrochloride 50 % SP 400 g/ac

Chlorantraniliprole 18.5% SC 50 ml/ac

Chlorantraniliprole 0.4% G 4 kg/ac

- For the management of Whorl maggot, spraying any one of the following insecticides per acre is recommended: Cartap hydrochloride 4% G 7.5-10 kg or Chlorpyrifos 20% EC 500 ml or g, or Fipronil 0.3% GR 6.6- 10 kg.
- For the management of thrips, spray Thiamethoxam 25% WG 40 g/ac.

Bacterial leaf blight (BLB) is observed in all rice growing districts of Tamil Nadu. To manage the BLB disease, foliar application of copper hydroxide 77% WP @ 1.25 kg/ha or streptomycin sulphate 90% + tetracycline combination 10% SP @ 300 g + copper oxychloride 50% WP @ 1.25 kg/ha is recommended. If necessary, repeat the application 15 days later.

A field survey was conducted in rice field at Gopalasamuthiram village of Mathukur block, Thanjavur District. The survey revealed that 10 % of the plants were infested with root

knot nematode, *Meloidogyne graminicola* with population level of 48 nematodes/200 cc soil. Recommendation: Soil application of carbofuran 3G @ 33 kg/ha.

2. Millets

Maize

Fall army worm incidence were noticed in Kallakurichi and Virudhunagar District. For effective management, application of neem cake @ 250 kg/ha @ last ploughing to increase plant and soil health. Seed treatment with Cyantraniliprole 19.8% + thiamethoxam 19.8% FS @ 4 ml/kg seed. Border cropping with cowpea, gingelly/ red gram or sunflower in garden land conditions and fodder sorghum in dryland conditions @ 3 rows of selected crop. Monitoring of FAW adults using pheromone traps @ 12/ha and damage score at weekly intervals following TNAU 1-5 scale. Application of insecticides as follows:

Early whorl stage (15 – 20 DAE):

Chlorantraniliprole 18.5 SC @ 0.4 ml/ lit (or) Flubendiamide 480 SC @ 0.5 ml/lit followed by azadirachtin 1500 ppm @ 5 ml/lit on need basis.

Late whorl stages (35-40 DAE):

Metarhizium anisopliae (TNAU-MA-GDU isolate) @ 2.5 kg/ha (1.6×10^{11} spores / ml) or emamectin benzoate 5 SG @ 0.4 g/lit or novaluron 10 EC @ 1.5 ml/lit or spinetoram 11.70 SC @ 0.5 ml/lit

Tasseling and cob formation stage (60 – 65 DAE):

Spinetoram 11.70 SC @ 0.5 ml/lit (or) emamectin benzoate 5 SG @ 0.4 g/lit on need basis (Do not repeat insecticide sprayed at late whorl stage).

The incidence of leaf blight (18 PDI) is noticed in maize growing tracts of Tiruppur district. The disease can be managed by foliar spraying with mancozeb 75% WP @ 1 kg/ha or propiconazole 25 EC @ 500 ml/ha. The incidence of post flowering stalk rot is also observed to an extent of 21%. The disease can be managed by spot drenching with carbendazim 50% WP @ 1g/lit of water with proper irrigation schedule to the crop.

Sorghum

The incidence of anthracnose and leaf blight is noticed from 11 to 15.5% and the downy mildew is recorded as 12%. Anthracnose and leaf blight diseases can be managed using carbendazim 50 WP @ 1g/lit of water as foliar spray and downy mildew can be managed using metalaxyl 8% + mancozeb 64% WP @ 1g/lit or mancozeb 75% WP @ 2.5g/lit as foliar spray twice at weekly intervals. Farmers who are ready to take up sowing

during rabi season 2025 onwards, treat the seeds with captan or thiram @ 2g/kg to eradicate the infection being caused by ergot, grain mould and other seed borne diseases.

Cumbu

At the onset of rabi season, sowing of cumbu will be initiated. Treat the seeds with metalaxyl 35% WS @ 6g/kg of seed before sowing will prevent the downy mildew incidence.

3. Pulses

Cowpea

Aphid damage was recorded in Virudhunagar district. As Coccinellid beetles and grubs were observed advised to not spray any insecticides.

Green gram

Spotted pod borer, *Spodoptera litura*, blue butterfly damage was recorded in the Pudukottai district. Manual collection of bugs in a vessel with water and oil to reduce the population and if needed foliar spraying of Imidacloprid 17.8 SL @ 40 ml/ac or Thiamethoxam 25% WG @ 40 g/ac is recommended for the management of red banded stink bug.

- To manage pod borers, setup one light trap/ha to attract and kill the adult moths.
- Bird perches @ 50/ac to enable the birds to feed on the larvae/adult.
- Spray *Bacillus thuringiensis* var. *kurstaki* @ 200 – 250 ml/ac. Or thiodicarb 17% WP@250 gram/ac is recommended.

For the management of *Spodoptera litura* the following management practices were recorded

- Setting up of light trap @ 1/ac to attract and kill the adult moths. Grow castor as trap crop
- Setting up of pheromone trap @ 5/ac to attract and kill the adult male moths.
- Bird perches @ 30/ac to enable the birds to feed on the larvae.

Need based application of any one of the following insecticides is recommended

- Azadirachtin 0.03% WSP (300 PPM) @ 1000 ml/ac
- *Bacillus thuringiensis* var. *kurstaki* @ 200 – 250 ml/ac.
- Chlorantraniliprole 18.5 SC @ 40 ml/ac

For the management of blue butterfly spraying any one of the following insecticides is recommended

- NSKE 5% (10 kg/Ac) or Eamectinbenzoate 5%SG @ 88 g/ac or Indoxacarb 15.8%SC @ 133 ml/ac

The incidence of yellow mosaic disease (up to 23%) is noticed on blackgram and greengram in Pudukottai district. The farmers are advised to spray acetamiprid 20 SP @ 250g/ha or imidacloprid 17.8 SL @ 125 ml/ha or thiamethoxam 25% WG @ 150 g/ha to manage the whitefly vector of the virus after roguing out the diseased plants. *Cercospora* leaf spot incidence (upto 36%) is also observed on blackgram and greengram. Farmers are advised to spray trifloxystrobin 50% + tebuconazole 25% WDG @ 250 g/ha or carbendazim 50% WP @ 500g/ha or mancozeb 75% WP @ 1 kg/ha.

General integrated management strategy for yellow mosaic disease

For new crop, the following integrated management strategy may be recommended.

- Seed soaking with borax @ 2g/kg + 10% nochi leaf extract @ 300 ml/kg for 30 minutes followed by seed treatment with imidacloprid 600 FS @ 5 ml / kg of seed.
- Soil application of *Bacillus subtilis* @ 2.5 kg/ ha with 100 kg of farm yard manure.
- Border row planting of maize (2 rows).
- Placing yellow sticky traps @ 12 Nos. /ha.
- Rogue out the yellow mosaic infected plants upto 25 days after planting.
- Foliar spray of borax @ 0.1% and nochi leaf extract 10% at 30 DAS
- Need based spraying of acetamiprid 20 WP @ 250g /ha

4. Oil Seeds

Groundnut

Leaf minor damage was recorded in Virudhachalam District. To manage leaf miner setup light trap one per acre. Spray Methyl demeton 25 EC 400 ml /ac or quinalphos 25 EC 560 ml/ac.

Groundnut crop raised during the Kharif season were harvested. The incidence of late leaf spot was noticed (24 to 32 PDI) in groundnut crop raised in Chinnakandiyankuppam village of Vriddhachalam block, Cuddalore district. The disease can be managed by spraying with carbendazim 50% WP @ 500 g/ha or mancozeb 75% WP @ 1 kg/ha or chlorothalonil 75% WP @ 1kg/ha.

Sesame

Shoot and capsule borer incidence was recorded in Cuddalore and Thiruvannamalai districts. To manage shoot and capsule borer, collect and destroy affected shoots along with the larvae. Spraying of Neem Seed Kernels Extract 5% (10kg/ac) or Neem oil 2% (20ml/lit) or spray Quinalphos 25 EC 320 ml/ac is recommended.

The incidence of phyllody (3-48%) and *Alternaria* leaf blight (5-22 PDI) is recorded in different sesame growing areas of Cuddalore district. Phyllody disease can be managed by controlling the leaf hopper vectors by spraying imidacloprid 17.8 SL at 100 ml/ha as foliar spray. Farmers who are ready to take up sowing during Rabi 2026 onwards, treat the seeds with imidacloprid 600 FS @ 7.5ml/kg to reduce the phyllody incidence and its vector population. For the management of *Alternaria* leaf blight, farmers are advised to spray mancozeb 75% WP @ 1kg/ha.

5. Cotton

Leaf hopper incidence was recorded in Virudhunagar district. For the management of leaf hopper, spray NSKE 5% (10 kg/ac/) Imidacloprid 17.8% SL @ 40 ml/ac or buprofezin 25%SC 400 ml/ha is recommended.

Alternaria leaf blight, root rot, bacterial blight and the streak (Tobacco streak virus - TSV) diseases are recorded in cotton growing villages of Coimbatore, Dindigul and Virudhunagar districts. Farmers are advised to take up foliar spraying of mancozeb 75% WP @ 2g/ lit of water or trifloxystrobin 25% + tebuconazole 50% WDG @ 0.6 g/litre to manage *Alternaria* leaf blight. Spot drenching with carbendazim 50% WP @ 1 g/lit of water or trifloxystrobin 25% + tebuconazole 50% WDG @ 0.75 g/lit of water to manage the incidence of root rot disease. Spraying copper oxychloride 50% WP @ 2.5 g/litre is recommended for managing the bacterial blight. Parthenium weeds in an around cotton fields should be eradicated to prevent the spread of TSV. Spraying dinotefuran 20% SG @ 0.3 g/ litre of water is recommended for effective thrips management which transmits TSV.

6. Sugarcane

Crown mealybug, pokkahboeng disease and inter node borer were recorded in Cuddalore, Villupuram and Kallakurichi districts.

For the management of internode borer, release egg parasitoid, *Trichogramma chilonis*, at the rate of 2.5 cc/release/ha. Six releases at fifteen days interval starting from fourth month onwards will be necessary. During rainy weather and when ants are present, release the parasite through mosquito net-covered plastic disposable cups. Detrash the crop on the 150th and 210th day after planting. Egg parasitoids are available at the Department of Agricultural Entomology, TNAU, Coimbatore.

For the management of Crown mealybug and pokkahboeng

- Sett treatment with propiconazole 25 EC @ 1 ml/ lit (30 min. dip) + imidacloprid 17.8 SL @ 0.3 ml/lit (5 min. dip).
- Monitor the movement of ants regularly in the field.
- Immediately after noticing the ant movement, spray imidacloprid 17.8 SL @ 3 ml/10 lit (or) chlorantraniliprole 18.5 SC @ 4ml/10 lit (or) clothianidin 50 WDG @ 5g/10 lit (or) spirotetramet 150 OD @ 12.5 ml/10 lit (or) flonicamid 50 WG @ 3 g/10 lit in 3 border rows alone.
- Spraying of TNAU sugarcane booster @ 1kg, 1.5kg and 2kg at 45, 60 and 75 days after planting, respectively (recommended agronomic practice).
- For the management of crown mealybug, spray the following chemicals towards the central whorl of sugarcane: propiconazole 25EC @ 1ml + imidacloprid 17.8SL @ 0.3 ml + sticking agent 1ml + water 1 lit. starting from three months after planting, for 3 times @ 20 days intervals.
- Ensure de-trashing before spraying. Spray should be directed towards the central whorl for better control.
- Ratoon cropping should be discouraged after two ratoons in the endemic areas.
- Application of the recommended dose of fertilizers and micro-nutrients after every ratoon at the time of earthing up.

Yellow leaf disease

The yellow leaf disease of sugarcane is noticed in Cuddalore district. For the management of this disease, the following integrated management strategy is recommended.

- Avoid the ratoon crop in severely affected areas and use disease free setts for planting.
- Avoid susceptible varieties viz., CoV 09356 and other unknown varieties.
- Application of recommended dose of fertilizers should be followed.
- Follow detrashing and maintain the crop in weed free condition.

7. Vegetable Crops

Brinjal

Shoot and fruit borer incidence was recorded in Theni districts. To manage shoot and fruit borer, remove and destroy the affected terminal shoots and fruits showing bore holes at the initial stage. Avoid using synthetic pyrethroids. Spraying of Neem Seed Kernel Extract 5% (10 kg of kernel/ac) (or) emamectinbenzoate 5 % SG 4g/10 lit. (or) flubendiamide 20 WDG 7.5 g/10 lit.

Bhendi

Fruit borer incidence was observed in Madurai and Theni Districts. For the management of fruit borer, Collection and destruction of infested fruits and grownup larvae, Installation of pheromone traps @ 5/ac. Spray Emamectinbenzoate 5 SG 3 gram/ 10 or Quinalphos 25 EC @ 8 ml/10 lit. is recommended.

Bhendi yellow vein mosaic disease is recorded in Coimbatore district. Foliar spraying of methidathion 25 EC @ 800 ml /ha or thiamethoxam 25 WG @ 250 g /ha is recommended to manage the insect vector, whitefly and repeat the spray 15 days later, if necessary.

Moringa

Leaf webber incidence was noticed in Theni district. For the management of leaf webber, Spray *Bacillus thuringiensis* @ 2 ml/lit of water is recommended.

Tomato

Fruit borer incidence was recorded in Theni districts. For the management of fruit borer, setup pheromone traps @ 5/ac, Spraying of Emamectinbenzoate 5 SG 4 gram/ 10 or Acetamiprid 20% SP 10 gram/ 10 lit. is recommended.

The incidences of spotted wilt, leaf curl and early blight diseases are observed in major tomato growing districts viz., Krishnagiri, Dindigul, Coimbatore and Dharmapuri. Spraying of dimethoate 30 EC @ 500 ml/ha or imidacloprid 17.8 SL @ 100 ml/ha is recommended to manage the insect vectors viz., thrips and whiteflies of spotted wilt and leaf curl, respectively and repeat the spray 15 days later, if necessary. To manage early blight, the farmers are advised to spray mancozeb 75%WP @ 500g/ha or azoxystrobin + difenoconazole @ 500ml/ha twice at 15 days interval.

Chillies

The incidences of leaf curl and mosaic diseases are observed in different chillies growing areas of Dindigul and Coimbatore districts. The farmers are advised to spray

dimethoate 30 EC @ 500 ml/ha or imidacloprid 17.8 SL @ 100 ml/ha to control insect vectors and destroy the infected plants immediately after noticing the initial symptoms. Repeat the spray 15 days later, if necessary.

Ridged gourd

Fruit fly infestation was observed in Coimbatore district. To manage fruit fly setup methyl euginal trap @ 5/Ac and spray cyantraniliprole 10.26 OD @1.8ml/lit. or Azadirachtin 3000 ppm @5ml/lit.

8. Fruit crops

Mango

Thrips infestation was observed in Krishnagiri district. Set up blue sticky traps, Soil application neem cake 1 kg / tree and Sprays of Tolfeprad 15 EC @ 2 ml/liter were recommended for the control the thrips

Banana

Pseudo stem borer damage was observed in Thuthukudi district. To manage this pest remove dried leaves periodically and keep the plantation clean.

- Remove the side suckers up to eighth month and destroy.
- Do not dump infested materials in the manure pit. Infested trees should be uprooted, chopped into pieces and burnt.
- Trap and kill adult weevils by chopping pseudo stem chopped into small pieces.

The Sigatoka leaf spot is noticed in all banana growing areas of Tamil Nadu. The disease can be managed by removing severely infected one or two lower leaves and buried or burnt. Foliar spray of carbendazim 50% WP @ 500 g/ha or mancozeb 75% WP @ 1 kg/ha at monthly interval is recommended. Alternative spray with propiconazole 25% EC @ 500 ml/ha along with petroleum based mineral oil @ 10 ml/ l is recommended. Add 5 ml of wetting agent like Sandovit or Triton AE or Teepol per 10 lit of spray fluid.

A field survey was conducted in Banana field at Vellamadaï village, Coimbatore District. *Radopholus similis* was recorded @ 211 per 200 cc of soil and 42 per 5 g root. *Helicotylenchus multicinctus* population was recorded @ 196 per 200 cc of soil and 36 per 5 g of roots. Recommendations: Soil application of carbofuran @ 40g / plant around the plant basin was recommended.

Guava

Fruit fly infestation was noticed in Theni and Dindigul Districts. To manage fruit fly, the following management practices were recommended. Interspace ploughing, collect and destroy fallen fruits. Installation of methyl eugenol traps @ 4/acre. Spraying of Neem oil @ 3 % (30ml/lit).

A survey was conducted in guava at Theethipalayam village, Coimbatore District. The survey revealed that 45% of the trees were infested with root knot nematode, *Meloidogyne enterolobii* with population level of 296 nematodes/200 cc soil and 11 females/ 5 g of root. The farmers were advised to *Purpureocillium lilacinum* and *Pochonia chlamydosporia* @ 2.5 kg each mixed in 100 kg farm yard manure.

In guava, root knot nematode *Meloidogyne enterolobii* was widely observed in Coimbatore, Dindigul, Madurai, Tenkasi, Virudhunagar, Tiruchirapalli, Pudukottai, Tiruvannamalai and Cuddalore districts. The nematode infested guava tree showed the symptoms of yellowing and bronzing of leaves and extensive galling in the root system. Nematode infested roots were more prone to rotting caused by fungus *Fusarium* sp. The farmers were advised to apply bioagent enriched FYM @ 500 g per tree at every alternate month. To prepare bio-agent enriched FYM, *Purpureocillium lilacinum* and *Pochonia chlamydosporia* @ 2.5 kg each mixed in 100 kg farm yard manure sprinkled with water and kept in shade for two to three weeks. Farmers were also advised to grow marigold around the basin of the tree. In severe infestation, soil drenching with fluopyram @ 500 ml per acre followed by application of carbendazim 2 g/litre + phytalon (blue copper) 2g/litre is recommended.

Acid lime

Rust mite infestation was observed in the Theni district. For the management of rust mite, Spraying of Diafenthiuron 50 WP @ 2 g/l. is recommended

Grapes

Downy mildew and powdery mildew disease incidence has been noticed on grapevine grown in different parts of Theni district. Downy mildew disease can be managed by foliar spraying of metalaxyl 8% + mancozeb 64% WP @ 2g/lit of water. Powdery mildew can be managed by foliar application of hexaconazole 5% EC @ 1 ml/litre or wettable sulphur @ 2 g / litre for three times at 10 days interval.

9. Spices and Plantation Crops

Curry leaf

Psyllid and leaf roller infestations were observed in the Coimbatore district.

Bio-intensive Integrated Pest Management Module for Psyllid and Leaf roller

- Yellow stick traps (30 cm x 15 cm) @ 50/ha for Psyllids
- Light trap @ 1 No./ ha for monitoring leaf roller moths.
- Release of *Trichogramma chilonis* @ 5cc / ha (two releases at 35 and 50 days after pruning – DAP), *Chrysoperla zastrowi sillemi* @10,000 eggs / ha (two releases at 40 and 55 DAP) to manage leaf roller.
- Use of NSKE 2.5% + mineral oil 0.25% to manage psyllids and leaf roller.
- For psyllid NSKE 5% (10kg/ac).
- Border cropping/ intercropping with sorghum or cowpea to conserve natural enemies.

Coconut

In all the districts of Tamil Nadu, whitefly, rhinoceros beetle, red palm weevil, and eriophyid mite infestation were noticed.

Management of whitefly Complex

- For mass trapping, set up yellow sticky traps (size 5x1.5 feet) @ 20 Nos./ac in between the trees or on the trunk portion smeared with castor oil.
- Spraying of water forcibly on the undersurface of the leaves.
- Release of *Encarsia* parasitoids by stapling leafbits containing the RSWF puparia (parasitized by *Encarsia*) under the coconut leaflets @ 1 leaf bit / 10 trees.
- To encourage the *Encarsia* parasitoids plant the bankers plants like banana, *Canna india* and custard apple @ 20-25/ ac as inter crop.
- Spray neem oil 5ml/ litre + one ml sticking agent on the under surface of the fronds.
- Spraying of insecticides would highly suppress the population buildup of all the natural enemies, hence pesticide sprays are to be strictly avoided.
- Moreover, spraying with boiled *maida* flour paste @ 25 g/ lit of water will remove flakes of sooty mould from the upper surface of the leaves in the affected palms.
- Release of *Apertochrysa astur* predator @ 400 Nos. /ac
- Apply the recommended dose of fertilizer for fast recovery.

Management of the Rhinoceros beetle

- Remove and burn all dead coconut trees in the garden to maintain good sanitation.
- Collect and destroy the various bio-stages of the beetle from the manure pits.
- Examine the crowns of the trees at every harvest and remove and kill the adults by hooking out method.
- Set up light trap @ 1/ac following the first rains in the summer rain and monsoon periods to attract and kill adult beetles.
- Placement of three naphthalene balls at the base of three innermost leaf axils (or) Crown application of neem seed powder @ 150 gram + sand 300 gram /palm at the base of 3 innermost leaf axils.
- Setting up of Rhinolure trap @ one per ha to attract and kill the adult beetles. Kill the trapped adult soon. Do not install the pheromone trap on the tree.
- Application of green muscardine fungus, *Metarrhizium anisopliae* @ 5×10^{11} spores / m³ - spray 250ml *Metarizhium* culture + 750 ml water in manure pits to check the perpetuation of the pest.
- Keep the mud pot @ 30/ac with 1kg castor cake mixed with one liter of water to attract the adults.

Red palm weevil

- Remove and burn the wilting or damaged palms in coconut gardens to prevent further perpetuation of the pest.
- Avoid injuries on the stem of palms, as the wounds may serve as oviposition sites for the weevil.
- Injuries made by the rhinoceros beetle in the coconut palm serve as an oviposition site for the red palm weevil. Hence, rhinoceros beetle infestation needs to be contained in the coconut gardens to prevent red palm weevil infestation.
- Avoid the cutting of green leaves. If needed, they should be cut about 120 cm away from the stem.
- Installation of pheromone trap @ 1 No. for one hectare.

Management of eriophyid mite

- A Proper integrated nutrient management approach is warranted to minimize the damage. Application of 1.3 kg urea, 2.0 kg of super phosphate, 3.5 kg of muriate of potash, micronutrients 1 kg, gypsum 1 kg, neem cake 5kg and FYM 50 kg is

recommended. This fertilizer dose is for one tree/year, this should be split into two and can be applied once in every 6 months.

- Spray azadirachtin 1% @ 5ml/lit. (or) neem oil 3% @ 30ml/lit. and one ml teepol/lit during January, March and May on the 45 days old buttons.
- Root feeding with TNAU coconut tonic @ 200ml/ tree.

Coconut root wilt

Coconut root wilt disease is noticed in Coimbatore, Tiruppur, Theni, Tenkasi, Tirunelveli and Kanyakumari districts. The integrated disease management strategy for the root wilt disease of coconut is recommended as follows.

- In the heavily disease affected gardens, remove the severely affected uneconomic palms (those yielding less than 10 nuts/palm/year) and all severely diseased palms in the pre-bearing age.
- Provision of proper drainage.
- Proper care and sanitation.
- Apply farm yard manure @ 50 kg + neem cake 5 kg/palm/year.
- Soil application of *Trichoderma asperellum* @ 100 g + *Bacillus subtilis* @ 100 g + *Phosphobacteria* @ 100 g + *Azospirillum* @ 100 g + AMF @ 50 g mixed with 5kg of farm yard manure per palm at 6 month intervals.
- Apply recommended dose of chemical fertilizers (urea - 1.3 kg; super phosphate - 2.0 kg; muriate of potash - 3.5 kg/palm/year) + 1.0 kg magnesium sulphate + 200 g copper sulphate/palm in two equal split doses.
- Grow green manure crops viz., cowpea, sunhemp, *Calopogonium*, *Pueraria* etc. in coconut basins and incorporate into soil at the time of flowering.
- Root feeding with TNAU coconut tonic @ 40 ml mixed with 160 ml water/palm at 6 months interval.
- Application of hexaconazole 5% EC (2 ml + 300 ml water) at the crown region to manage leaf rot disease.
- The insect vectors viz., plant hoppers and lace wing bugs can be managed by applying neem cake powder 200g with equal quantity of sand in the whorls of leaves.
- The TNAU Cococon mother culture has to be mass multiplied in 150 litres of water containing 10kg jaggery, 5lit curd and 500g common salt for 5-7 days. Soil application of mass multiplied 'Cococon' microbial consortium @ 2 liters/ palm mixed with 8 litre of water at three months interval can be applied in the basins of

palms having mild infection. Cococon is available at the Department of Plant Pathology, TNAU, Coimbatore.

Basal stem rot

Coconut basal stem rot is noticed in parts of Coimbatore, Tirupur, Erode, Cauvery Delta and coastal districts of Tamil Nadu. The integrated disease management strategy for the basal stem rot is recommended as follows.

- Eradication of the dead palms.
- Proper care and sanitation.
- Apply farm yard manure @ 50 kg + neem cake @ 5 kg/palm/year.
- Soil application of *Trichoderma asperellum* @ 100 g + *Bacillus subtilis* @ 100 g + *Phosphobacteria* @ 100 g + *Azospirillum* @ 100 g + AMF @ 50 g mixed with farm yard manure @ 5 kg per palm at 6 month intervals.
- Apply recommended dose of chemical fertilizers (urea - 1.3 kg; super phosphate - 2.0 kg; muriate of potash - 3.5 kg/palm/year) in two equal split doses.
- Grow green manure crops viz., cowpea, sunhemp, *Calopogonium*, *Pueraria* etc. in coconut basins and incorporate into soil at the time of flowering.
- Soil drenching with 40 litres of 1% Bordeaux mixture/palm (if, biocontrol agents are not applied).
- Root feeding with hexaconazole 5% EC @ 2.0 ml + 100 ml water per tree at 3-4 month intervals based on the severity.

Coffee

Red stem borer, white stem borer and berry borer damages were observed in Yercaud of Salem district. To manage the stem borer

- Maintain/create optimum shade
- Borer infested plants should be thoroughly traced, uprooted during March and September, and burnt to avoid economic loss during the subsequent years.
- Install pheromone traps @ 25 /ha, if the incidence is high.
- Remove the loose scaly bark on the main stem and thick primaries using a coir glove or coconut husk.
- Pad with chlorpyrifos 25% EC @ 5 ml by making a window in the stem at 5 cm x 5 cm and fill it with absorbent cotton dipped in insecticide solution and close it.

For the management of the berry borer

- Carry out a timely and thorough harvest.

- Avoid gleanings as far as possible.
- Pick up and destroy the gleanings.
- Meticulously remove the leftover berries.
- Remove offseason berries to save the main crop.
- Avoid excessive shade.
- Prune plants properly to facilitate better ventilation and illumination.
- While processing at the estate level, dry the coffee berries to the prescribed moisture level: Arabica/robusta parchment 10 %, Arabica cherry 10.5 % and robusta cherry 11.0%.

Black pepper

The Leafgall thrips and scale insect incidences were noticed in Yercaud block of Salem district. To manage this pest, spray azadirachtin 1% @ 3ml/ lit or neem oil 3% (30ml/lit), or *Beauveria bassiana* @ 5 g/lit with teepal one ml/ lit.

Wilt complex is observed in different hilly regions of Kolli hills and Kodaikanal. The following integrated management strategy is to be followed for the effective management of the wilt complex.

- Foliar spraying and soil drenching with Bordeaux mixture 1% or metalaxyl - M 4% + mancozeb 64% 68WP @ 2 g/litre
- Soil application of biocontrol agents viz., *Bacillus subtilis* and *Trichoderma asperellum* each @ 2.5 kg/ha along with farm yard manure, if fungicides are not applied.

Wilt complex is observed in different hilly regions of Kolli hills and Kodaikanal. The following integrated management strategy is to be followed for the effective management of the wilt complex.

- Foliar spraying and soil drenching with Bordeaux mixture 1% or metalaxyl - M 4% + mancozeb 64% 72 WP @ 2 g/litre
- Soil application of biocontrol agents viz., *Bacillus subtilis* and *Trichoderma asperellum* each @ 2.5 kg/ha along with farm yard manure, if fungicides are not applied.

10. Flower crops

Jasmine

Bud worm infestation was noticed in Erode, Virudhunagar Theni and Dindigul districts. Blossom midge infestation was observed in Krishnagiri district. For the management of budworm, spray Thiacloprid 240 SC @ 1 ml /lit or Spinosad 45SC 0.5ml/lit

Marigold

Bud worm infestation was noticed in Theni and Dindigul districts. For the management of bud worm, spray Spinosad 45 SC @ 0.75ml/lit of water.

Further contact:

1. The Director

Centre for Plant Protection Studies
TNAU, Coimbatore – 641 003.
Phone No: 0422-6611237

2. The Professor and Head

Department of Agrl. Entomology
TNAU, Coimbatore – 641 003,
Phone No: 0422-6611214 / 6611414

3. The Professor and Head

Department of Plant Pathology
TNAU, Coimbatore – 641 003,
Phone No: 0422-6611226

4. The Professor and Head

Department of Nematology
TNAU, Coimbatore – 641 003.
Phone No: 0422-6611224

g{r;rp, neha; fl;Lg;ghL gw;wpa etk;gu; (2025) khjj;jpw;fhd Kd;dwptpg;g[

1. bey;

jz;Lj; Jisg;ghd; kw;Wk; ,iyr;RUI;Lg;g[G/ jhf;Fjy; <nuhL/ g[Jf;nfhI;il/ j";rht{u;/ kapyhLJiw/ kw;Wk;; ehfg;gl;ozk; khtl;l';fspy;; fhzg;gl;IJ. ,iyr;RUI;Lg;g[G kw;Wk; ,iyg;nghd; jhf;Fjy; kJiu khtl;l;jjpy; fhzg;gl;IJ. jz;Lj; Jisg;ghd; kw;Wk; FUj;Jg[G jhf;Fjy; jpUts;Su; khtl;l;jjpy; fhzg;gl;IJ.

- jz;Lj;Jisg;ghd; jhf;Fjiyf; fl;Lg;gLj;j g[Sbgd;oaikL 20%WG 50 fpuhk; /Vf;fu; my;yJ fhu;lhg; iQl;nuhFnshiuL 50%SP 400 fpuhk; /Vf;fu; bjsp;f ghpe;Jiuf;fg;gLfpwJ.
- FUj;Jg;g[G jhf;Fjiyf; fl;Lg;gLj;j ghjpg;g[bghUshjhur; nrjepiyiaj; jhz;Lk; nghJ gpd;tUk; g{r;rpf;bfhy;ypfspy; VjhtJxd;iwj; bjsp;ft[k;.
fhh;lhg;iQl;nuhf;Fnshiul; 4% \$p. 7.5-10 fpnyh/ Vf;fu;
Fnshh;ighp@gh!; 20% EC500 kp.yf/Vf;fu;
gpg;nuhdpy; 0.3% \$p. 6.6-10 fpnyh/ Vf;fu;
- bey; ,iyr;RUI;Lg;g[G jhf;Fjiyf; fl;Lg;gLj;j gpd;tUk; g{r;rpbfhy;yp kUe;jpy; VnjDk; xd;iw xUKiwa[k; kWgoa[k; jhf;Fjy; bjhlh;e;jhy; 15 ehs; ,ilbtspapy; kw;bwhU kUe;jpid kWKiwa[k; gad;gLj;j ghpe;Jiuf;fg;gLfpwJ.
g[Sbgd;oaikL 20% WG 50 fpuhk; / Vf;fu;
g[Sbgd;oaikL W/W SC 20 kpyp/ Vf;fu;
fhu;lhg; iQl;nuhFnshiuL 50% SP 400 fpuhk;/ Vf;fu;
Fnshuhd;l;udpypg[nuhy; 18.5% SC 60 kpyp/ Vf;fu;;
Fnshuhd;l;udpypg[nuhy; 0.4% G 4 fpnyh/ Vf;fu;
- FUj;J g[G jhf;Fjiyf; fl;Lg;gLj;j ghjpg;g[bghUshjhur; nrj epiyiaj; jhz;Lk; nghJ gpd;tUk; g{r;rpf;bfhy;ypfspy; VjhtJ xd;iwj; bjsp;ft[k;.
fhh;lhg;iQl;nuhf;Fnshiul; 4% \$p. 7.5-10 fpnyh/ Vf;fu;
- ,iyg;ngd; jhf;Fjiyf; fl;Lg;gLj;j jahkPj;jhf;!hk; 25% WG 40 fpuhk; /Vf;fu; bjsp;f gupe;Jiuf;fg;gLfpwJ.

ghf;Ohpa ,iyf;fUfy;; bey; gaphpLk; jkpHfj;jpd] gy khtl;l';fspy; bjd;gLfpwJ. ghf;Ohpa ,iyf;fUfy; nehiaf] fl;Lg;gLj;j fhg;gh; iQl]uhfji!L 77 WP @ 1.25 fpnyh/vf;lh; (m) !;l;bug;nlhikrpd; ry;ngl] 90%+ blI;uhirf;spd; 10% SP@ 300fp + fhg;gh; Mf;!pFnshiuL 50% WP@ 1.25 fpnyh/vf;lh; vd;w mstpy] bjsp;fntz;Lk;. njitg;gl;lhy; 15 ehl;fs; fHpj;J kPz;Lk; xUKiw bjsp;fntz;Lk;.

j";rht[{h; khtl}lk; kJf]Th] tl;lhuk] nfhghyrKj]jpuk] fpuhkj;jpy; tayha;t[nkwb;bfhs;sg;gl;lj. Ma;t[fspd; Kotpy; 10 rjk; gaph;fs; bey; nth;Kor;R E}w;Gf;fspdhy; ghjpf;fg;gl;oUg;gJ fz;owpag;gl;lj. nkYk; 200 fpuhk; kz;zpy; 48 E}w;g[Gf;fs; gjpt[bra;ag;gl;lj. ghpe;Jiufs: elt[tapypy; xU bQf;lUf;F 33 fpnyh fhh;nghgpa{uhd; FUiz kUe;ij ,Ljy;.

2. rpWjhdpa';fs;

kf;fhr;nrhsk;

gilg;g[G jhf;Fjy; fs;sf;Fwpr;rp kw;Wk; tpUJefu; khtl;l';fspy;; fhzg;gl;lj. ,jidf;fl;Lg;gLj;j ntg;gk; g[z;zhf;F Vf;fUf;F 100 fpnyh vd;wstpy; filrp cHtpd; nghJ ,Ljy; ntz;Lk;. irahd;l;hpdypyg[nuhy; 19.8% rjk; + jahkPj;jhf;rk; 19.8% rjk;; xU fpnyh tpjif;F 4 kpyp vd;wstpy; tpjij neh;j;jp bra;a ntz;Lk;. ,witapy; jl;il gaph/; vs;/ Jtiu my;yJ R{hpafhe;jp kw;Wk; khdhthhpapy; jPtd nrhsj;ij tug;g[gapuhf \d;W thpir tpjif;f ntz;Lk;. gilg;g[G jha; me;jpg;g{r;rpfspd; elkhl;lj;ij fz;fhzpf;f Vf;fUf;F 5 ,df;fth;r;rp bghwfpis itf;f ntz;Lk;. gilg;g[Gtpd; ghjpg;ig thuk; xU Kiw jkpH;ehL ntshz;ikg; gy;fiyf;fHf nrj mstPL fzf;f bfhz;L fzf;fPL bra;a ntz;Lk;. gilg;g[Gtpd; ghjpg;ig fzf;fPL bra;a 'w' totj;jpy; ele;J brd;W 50 brofspy; ghjpg;ig gjpt[bra;a ntz;Lk;. gilg;g[Gtpd; ghjpg;ig fl;Lg;gLj;j kf;fhr;nrhsj;jpd; gUtj;jpw;nfw;g gpd;tUk; g{r;rp;f bfhy;ypfspy; VnjDk; xd;iw cgnahfg;gLj;j ntz;Lk;.

- **gUtk; 1 (gaph; Kisj;j 15 -20 ehs;)** – Fnshuhd;lhpdpypg[nuhy; 18.5% v!;. rp. 04 kpyp/yp (m) g[Sbgd;oaikL 480% v!;!p (m) 0.4 kpyp/yp (gUtk; 1 y; ghjpg;g[bjhlUkhdhy; mrhouhf;od; 1500 gpgpvk; 5 kpyp/yp bjsp;f ntz;Lk;.
- **gUtk; 2 Muk;g epiy gUtk; 2 ,il epiy - (gaph; Kisj;j 30-40 ehs;)** - vkhbkf;od; bgd;nrhnal; 5% v!;. \$p. 0.4 fpuhk;/yp (m) behtYuhd; 10% EC 15 kpyp/yp (m) !;igdponuhk; 11.70 % v!;.rp 0.5 kpyp/yp Kjph; FUj;J epiyapy; bjsp;f ntz;Lk;.
- **gUtk; 2 ,Wjp epiy –bkl;lhiurpak; midnrhgpyyna** (j.nt.g.f – bk.m - \$poa{) Vf;fUf;F xU fpnyh vd;wstpy; bjsp;f ntz;Lk;. !;igdponuhk; 11.70 % v!;.rp 0.5 kpyp/yp (m) vkhbkf;od; bgd;nrhnal; 5 % v!;. \$p 0.4 fpuhk;/yp (gUtk; 2 ,il epiyapy; cgnahfg;gLj;jhjd; xd;W) g{ kw;Wk; fjph; cUthFk; gUtj;jpy; bjsp;f gupe;Jiuf;fg;gLfpwJ.

jpUg;g{h; khtl;lj;jpy] rhFgo bra;ag;gl;Ls;s kf;fhr;nrhsg] gaphpy; ,iyf;fUfy; nehapd; ghjpg;g[gutyhf (18% tiu) fhzg;gLfpwJ. ,e;nehiaf] fl;Lg;gLj;j vf;lUf;F xU fpnyh nkd;;nfhbrg] 75% WP my;yJ 500 kpyp g[nuhgpbfhdnrhy; 25 EC vd;w mstpy; bjsp;f ntz;Lk;;.

nrhsk;

nfhak;g[j;J}h; khtl;l;jpy; rhFgo bra;ag;gl;Ls;s nrhsj;jpy; Me;j;uhf;ndh!; kw;Wk; ,iyg;g[s;sp neha; 11-15.5 rjtPjKk]; kw;Wk; mor;rhk;gy; neha; 12 rjtPjKk];, fhzg;gLfpwJ. Me;j;uhf;ndh!; kw;Wk; ,iyg;g[s;sp nehiaf; fl;Lg;gLj;j fhh;gd;lhrpk; 50% WP xU ypl;lh; jz;zPUf;F 1 fpuhk:: vd;w mstpy; bjsp;f ntz;Lk;. mor;rhk;gy; nehiaf; fl;Lg;gLj;j bkl;lyhf;!py; 8% + nk';nfhbrg] 64% WP @ 1 fpuhk; xU ypl;lh; jz;zPUf;F my;yJ nk';nfhbrg; 75% @ 2.5 fpuhk:: vd;w mstpy; thuk; xU Kiw bjsp;f ntz;Lk;. ugp gUti;jpy; nrhsk; tpjig;g[bra;a Maj;jkhf cs;s tptrhapfs; tpjifspd; \yk; gut[k; neha;fisf; flLg;gLj;j nfg;lhd; my;yJ jpuk; xU fpnyh tpjif;F 2 fpuhk; vd;w mstpy; tpj neh;j;jp bra;jhy; njbdhGfy;/ fjp;g[rz neha; kw;Wk; ,ju tpj \yk; gut[k; neha;fspy; ,Ue;J gapiu fhj;J ey;y kfNy; bgwyhk;.

fk;g[

ugp gUtk; Muk;gpj;jpUg;gjhy: fk;g[gaph; tpjig;g[eilbgWk;. tpjig;gjw;F Kd: xU fpnyh fk;g[tpjif;F 6 fpuhk; tPjk; bkl;lyhf;!py; 35% WS fye;J tpj neh;j;jp bra;jhy; mor;rhk;gy; neha: ghjpf;fhky; jLf;fyhk;.

3. gaWtifg; gapu;fs;

jl;ilg;gaW

mRtpdp jhf;Fjy; tpUJefu; khtl;l;jpy; fhzg;gl;lj. bghwptz;Lfspd; vz;zpf;if mjpfkfh ,Ug;gjhy; gapu; ghJfhg;g[eltof;iffs; njitapy;iy

gr;irg;;gaW

g[Jf;nfhl;il khtl;l;jpy; g[s;spf;fha;g[G/ gnuhOdpah g[G/ ePstz;zj;jg;g{r;rp jhf;Fjy; fhzg;gl;lj. ,tw;iw fl:Lg;gLj;j

- g[s;spf;fha;g;g[G jhf;Fjiyf; fl;Lg;gLj;j Vf;fUf;F 50 gwit ,Uf;iffs; itj;J g[Gf;fis fl:Lg;gLj;jyhk;
- tsu;;e;j g[Gf;fis nrfup;J mHpf;fyhk;
- VnjDk; xU g[{r;rpbfh;yp kUe;;;ij bjsp;J fl;Lg;gLj;jyhk;
- *ngrpy!; Jupz;rpvd;rp!;* . 200- 250; kpyp /Vf;fh; my;yJ jnahofhu;g; 75% WP @ 250 fpuhk; /Vf;fh; bjsp;f gupe;Jiuf;fg;gLfpwJ.
- g[nuhl;Odpah g[G jhf;Fjiyf; fl;Lg;gLj;j Vf;fUf;F 5 ,df;fth;;r;rp bghwpfis itj;J Mz; me;jpg;g{r;rpfisf; fth;e;J mHpf;ft[k;.
- tay; kw;Wk; tug;g[Xu';fspy; Mkzf;Fr; brofisf; fth;r;rpg; gapuhf gaphplt[k;. Kl;ilf; Ftpay;fs; kw;Wk; g[Gf;fis ifahy; nrfhp;J mHpf;ft[k;
- Vf;fUf;F 30 gwit ,Uf;iffis mikf;ft[k;

- ghjpg;g[bghUshjhur; nrjepiyiaj; jhz;Lk; nghJ ngrpy!; Jupd;lpvd;rp!; 200- 250 kyp /Vf;fh; my;yJ Fnshuhd;l;uhdpypg;g[nuhy; 18.5 % SC @ 40 kyp /Vf;fh; bjspj;J fl;Lg;gLj;jyhk;.
- Cjhepw tz;zj;Jg;g[{r;rpia fl;Lg;gLj;j ntg;gtpijr;rhW 5 rjk; (10 fpanyh/Vf;fh;) my;yJ ,khbkf;od;bgd;nrhna; 5 % SG @ 88 fpuhk; /Vf;fh; my;yJ ,z;lhf;rfhu;g; 15.8 % SC @ 133 kyp /Vf;fh; bjspj;f gupe;Jiuf;fg;gLfpwJ.

g[Jf;nfh;l;il khtl;l;jpy; cSe;J / gr;irg;gaW gapu;fs: rhFgo bra;ag;gl;Ls;s rpy gFjpfspy; k"rs; njky] neha; ghjpg;g[(23 rjk; tiu)[bjd;gLfpwJ. ghjpf]fg]gl]broia mfw]wp mHpj;Jtpl]L/ ,e;neha gug;g[k; bts;is <f;fis fl;Lg;gLj;j vf;IUf;F mrpl]lhk]gpupl] 20 SP 250 fpuhk] my;yJ ,kplhFnshgpupl] 17.8 SL 125 kpy]yp my;yJ jahkPjh;#k; 25% WDG 150 fpuhk] vd]w mstpy] bjspj]f ntz]Lk]. ,k;khtl;l;jpy; bru;nfh!;nghuh ,iyg;g[s;sp nehaJ 36 rjk] tiu fhzg;gl;J. ,iyg;g[s;sp neha fl;Lg;gLj;j vf;IUf;F g[{rzf;bfhy;ypfshd blgpa[fndhnrhy] 50% + oiug[shf;rp!;l]nuhgpd; 25 % @ 250 fpuhk] my;yJ fhh;gd;lhrpk; 50% WP @ 500 fpuhk; my;yJ nk"nfhbrg; 75 %WP @ 1 fpanyh kUe;ij neha; bjd;gl;lt[lDk]/ 15 ehl;fs; fHpj;Jk; ,uz;L Kiwahf bjspj;J fl;Lg;gLj;jyhk;.

bghJthd k"rs; njky; xU';fpize;j neha; eph;thf tHpKiwfs]

g[jpjhf tpij;g[bra;a[k; tpthapfSf;F fPH]fz]l xu';fpize;j k"rs; njky; neha; eph;thf tHpKiwfs; ghpe;Jiuf;fg;gLfpwJ.

- tpijfis nghuhf;!; @ 2 fpuhk; / fpanyh kw;Wk; 300 kyp behr;rp ,iy;rhW (10 rjk;) fiurypy; miu kzp neuk] Cwitj;J gpd; ,kplhFnshgphpl; 600 FS g{r;rp;bfhy;yp kUe;Jld; 5 kyp / fpanyh vd;w mstpy; tpij neh;j;jp bra]antz]Lk].
- ngrpy;y!; rg;oyp!; vf;IUf;F 2.5 fpanyh vd;w mstpy; 100 fpanyh kf;fpa bjhG cuj]Jld] fye;J kz;zpy; ,Intz]Lk].
- kf;fhr;nrhs gaphpid ,uz;L thpirapy; taypd; Xu';fspy; gaphpl ntz]Lk].
- k"rs; xl;Lg;bghwp xU vf;IUf;F 12 vDk; vz;zpf;ifapy; itf;fntz]Lk].
- neha; ghjpf;fg;gl;l brofis tpij;j 25 ehl;fs; tiu fise;J mHpj;ft[k;.
- tpij;j 30-k; ehs; 0.1 rj nghuhf;!; kw;Wk; 10 rj behr;rp ,iy;rhW bjspj;ft[k;.
- njitbadpy; neha; gug;g[k; bts;is <f;fisf; fl;Lg;gLj;j mbrokpgphpl; 20 WP vf;IUf;F 250 fpuhk; bjspj;ft[k;.

4. vz;bza; tpj;Jf;fs;

epyf;fliy

,iyr;RUI;Lg;g[G jhf;Fjy; tpUJefu; khtl;lj;jpy; fhzg;gl;IJ. ,iyr;RUI;Lg;g[G jhf;Fjiyf; fl;Lg;gLj;j Vf;fUf;F xU tpsf;Fg; bghwp itf;f ntz;Lk;/ Fapdhy;gh!; 25% EC 560 kpyp/Vf;fu; my;yJ kPj;ijy; blbkl;lhd; 25 %EC 400 kpyp/Vf;fu; bjspf;f ghpe;Jiuf;fg;gLfpwJ.

fhupg; gUtj;jpy; gapuplg;gl;l epyf;fliy bgUk;ghyhd ,l';fspy; mWtil bra;ag;gl;Ltpl;ld. flY}u; khtl;lj;jpy; cs;s rpd]dfz;oa';Fg;gk; fpuhkj;jpy;; gapuplg;gl;Ls;s epyf;fliyapy; gpd;gUt ,iyg;g[s;sp nehapd; jhf;Fjy; 24 Kjy; 32 rj (PDI) mstpy; fz;lwpag;gl;Ls;sJ. ,e;nehia nkyhz;ik bra;a ghjpf;fg;gl;l tay;fspy; vf;lUf;F fhu;gd;lrvk; 50% WP @ 500 fpuhk; my;yJ nkd;;nfhbrg] 75% WP @ 1 fpnyh my;yJ Fnshnuhjnyhdpj;; 75% WP @ 1 fpnyh vd;w mstpy; bjspf;ft[k;.

vs;

fha;j;Jisg;ghd; jhf;Fjy; flYhh; khtl;lj;jpy; fhzg;gl;IJ. ,jidf; fl;Lg;gLj;j nrjkile;j fha;fis nrfupj;J mHpf;ft[k;/ ntg;gtpijr;rhW 5 rjk; (10fpnyh /Vf;fu;) my;yJ ntg;gvz;bza; 2 rjk; (20 kpyp/Vf;fu;) my;yJ Fapdhy;gh!; 25 %,rp 320 kpyp/Vf;fu; bjspf;f gupe;Jiuf;fg;gLfpwJ.

flY}u; khtl;lj;jpy; rhFgo bra;ag;gl;Ls;s vs; gaphpy; g{tpjH; (gpy;nyho) (3 - 48%) kw;Wk] My;l;ndhpah ,iyg;g[s;sp (5-22%) neha;fspd] jhf;fk; fz;lwpag;gl;IJ. g{tpjH; nehapid gug;g[k; g{r;rpia fl;Lg;gLj;j vf;lUf;F ,kplhFnshgphpl; 17.8 SL @ 100 kpyp vd;w mstpy; bjspf;FkhW mwpt[Wj;jg;gLfpwJ. khrrp khjj;jpy; vs; tpijg;g[bra;a Maj;jkhf cs;s tptrhapfs; vs; g{tpjH; neha; kw;Wk; mjid gug;g[k; jj;Jg; g{r;rpia fl;Lg;gLj;j ,kplhFnshgphpl; 600 FS kUe;jpid 1 fpnyh tpij;F 7.5 kpyp vd;w mstpy; tpijneh;j;jp bra;J vs; gapiu ghJfhf;fyhk]. My;l;ndhpah ,iyg;g[s;sp nehiaf; fl;Lg;gLj;j vf;lUf;F nkd;nfhbrg; 75% WP @ 1 fpnyh vd;w mstpy; bjspf;ft[k;.

5. gUj;jp

jj;Jg;g{r;rp jhf;Fjy; tpUJefu; khtl;lj;jpy; fhzg;gl;IJ. ,jidf; fl;Lg;gLj;j ntg;gtpijr;rhW 5 rjk; (10fpnyh /Vf;fu;) my;yJ ,kplhf;Fnshg;gpupl; 18.5 SC 40 kpyp/Vf;fu; my;yJ gp;g;nuhngrrpd; 25 %EC 400 kpyp/Vf;fu; bjspf;f gupe;Jiuf;fg;gLfpwJ.

nfhit, jpz;Lf]fy; kw;Wk; tpUJefh] khtl;l';fspy; rhFgo bra;ag;gl;Ls;s gUj;jp gaphpy; My;l;ndhpah ,iyg;g[s;sp, nth; mGfy;, ghf;Ohpay; fUfy; kw;Wk; g[ifapiy fPw;W (g[ifapiy !;l;hPf;!; itu!;) neha;fspd; jhf;fk; mjpj mstpy; fhzg;gl;IJ. My;l;ndhpah ,iyg;g[s;sp nehiaf; fl;Lg;gLj;j xUypl;l; jz;zPUf;F, nkd;nfhbrg; 75% WP @ 2 fpuhk;;;

my;yJ blgpa[fndhnrhy] 50% + oiug[shf;rp!;l]nuhgpd; 25% WDG @ 0.6 fpuhk;; vd;w mstpy; bjsp;fntz;Lk;. nth; mGfy; nehiaf; fl;Lg;gLj;j fhh;bgd;lhrpk; 50% WP XU ypl;lh; jz;zPUf;F 1 fpuhk; my;yJ blgpa[fndhnrhy] 50% + oiug[shf;rp!;l]nuhgpd; 25% WDG xU ypl;lh; jz;zPUf;F 0.75 fpuhk; vd;w mstpy; fye;J nth;gFjp eida[k;go Cw;w ntz;Lk;. ghf;Ohpay; fUfy; nehapid fl;Lg;gLj;j fhg;gh; Mf;!pFnshiuL 50% WP 2.5 fpuhk;/ypl;lh; vd;w mstpy; bjsp;f ntz;Lk;. g[ifapiy fPw;W er;Raphp nehapid fl;Lg;gLj;j gh;h;j;Pdpak; fisr; brofis mfw;w ntz;Lk;. ,e;nehapid gug;g[k; ,iyg;ngd;fis fl;Lg;Lj;j ildl;onghuhd; 20% SG @ 0.3 fpuhk;/ypl;lh; vd;w mstpy; bjsp;f ntz;Lk;.

6. fUk;g[

,ilf;fqj; Jisg;ghd; kw;Wk; FUj;J kht[g;g{r;rp jhf;Fjy; flYhu;/ tpGg;g[uk; kw;Wk; jpUtz;zhkiy/ khtl;l;jpy; fhzg;gl;lJ. ,ilf;fqj; Jisg;ghidf; fl;Lg;gLj;j Kl;ilfisj; jhf;Fk; oiuf;nfhfpuk;kh ifnyhdp!; xl;Lz;zpia 15 ehl;fSf;F xU Kiw el;l ehd;fhk; khjj;jpypUe;J MW Kiw vf;lUf;F 2.5 rprp vd;w mstpy; gad;gLj;jt[k;. kiHf;fhyk; kw;Wk; fUk;gpy; vWk;g[fs; mjpfk; cs;s rkaj;jpy; xl;Lz;zpiaf; bfhRtiy;Jzp loa gpsh!;of; Ftisfs; lyk; taypy; tplt[k; .Kl;il xl;Lz;zpf; ntshz; g{;r;rpapay; Jiw/ jkpH;ehL ntshz;ikg; gy;fiyf; fHfk; nfhak;g[j;Jhupy; fpilf;fpwJ.

FUj;Jkht[g;g{r;rpiaf; fl;Lg;gLj;j.

- g[nuhgpnfhdnrhy; 25% <.rp. @ 100 kpyp/Vf;fh; kw;Wk; ,kplhf;nshgphpl; 70 lgps;a{. v!; @ 100 kpyp/Vf;fh; Mfpatw;iw 20 epkpl';fSf;F brl; rpfpr;ir bra;at[k;
- elt[bra;j 45/ 60 kw;Wk; 75 ehl;fSf;Fg; gpwF Kiwna j.nt.g.f. fUk;g[g{!;lh; 1 fpnyh/ 1.5 fpnyh kw;Wk; 2 fpnyh bjsp;f ntz;Lk;; (ghpe;Jiuf;fg;gl;l ntshz; eilKiw).
- FUj;J kht[g;g{r;rp nkyhz;ikf;F/ fUk;gpd; ikar; FUj;J neh;fp gpd;tUk; g{r;rpbfhy;ypfis bjsp;ft[k; - FUj;J kht[g;g{r;rp kw;Wk; nghf;fh ngha'; neha;
- mwpFwpfs; Muk;gj;jpy; njhd;wpa gpwF g[nuhgpnfhdnrhy; 25% <.rp. @ 200 kpyp/Vf;fh; + ,kplhf;nshgphpl; 17.8% v!;.vy; @ 80 kpyp/Vf;fh;
- bjspg;gjw;F Kd; fha;e;j nrhiffis mfw;Wtij cWjp bra;at[k;.
- rpwe;j fl;Lg;ghl;ow;F g{r;rp;bfhy;ypfis FUj;J gFjpay; ed;F gLkhW bjsp;fntz;Lk;.
- taypy; vWk;g[fspd; elkh;l;j;j bjhhl;e;J fz;fhzpf;ft[k;.
- nrjk; mjpfk; ,Uf;Fk; gFjpfspy; ,uz;L kWjhk;g[fSf;F nky; gaph; bra;tij jtpu;f;ft[k;
- kWjhk;g[gapu; mWtilf;Fg; gpwF ghpe;Jiuf;fg;gl;l mst[cu';fs; kw;Wk; Ez;q]l;lr; rj;Jf;fis ;l;L kz;midf;f ntz;Lk;.

k";rs; ,iy neha;;

flY}u; khtl;l;jpy;; gaphplg;gl;Ls;s fUk;g[gapupy; k";rs; ,iy neha; fhzg;gLfpwJ.
,e;nehia fl;LgLj;j elt[bra;a nehaw;w fuizfs; gad;gLj;jt[k;. fLikahf ghjpf;fg;gl;l gFjpfspy;
kWjhk;g[gapiuj; jtpu;f;ft[k;. gupe;Jiuf;fg;gl;l mst[cu';fisg; gad;gLj;Jt[k;. vspjpy; ghjpf;f
Toa fUk;g[uf';fshd CoV 09356 kw;Wk; ,dk; bjhpahj ,uf';fs; elt[bra;tij jtpu;f;ft[k;. fUk;g[
njhiffis mfw;wp gapu;fis fis ,y;yhj epiyapy; guhkupf;ft[k;.

7. fha]fwpg]gaph]fs;

fj;jhp

njdp khtl;l;jpy; FUj;J kw;Wk; fha;Jisg;ghd; jhf;Fjy; fhzg;gl;IJ. ,tw;iwf; fl;Lg;gLj;j
jhf;Fjypd; Muk;gepiyapy; nrjkile;j gFjpfis nrfupj;J mHpf;f ntz;Lk;. brow;if igupj;uha;L
kUe;Jfis bjsp;f;fTlhJ. ntg;gtpij;rhW 5 rjk; (25 fpnyh/bQf;lh;) my;yJ mrhouhf;fod; 1 rjk;
30 kpyp/ 10 ypl;lu; my;yJ ,khbkf;od; bgd;nrhnal; 5% SG 4 fpuhk; / 10 ypl;lu;
my;yJjnahofhu;g; 75%WP 20 fpuhk;/10 ypl;lu; my;yJ g[Sbgd;oaikL 20%WDG 7.5
fpuhk; / 10 ypl;lu; bjsp;f;f ghpe;Jiuf;fg;gLfpwJ.

btz;il

fha;j;Jisg;ghd; jhf;Fjy; kJiu kw;Wk; njdp khtl;l';fspy; fhzg;gl;IJ. ,tw;iwf;fl;Lg;gLj;j
nrjkile;j fha;fis nrfupj;j mHpf;fntz;Lk;. Vf;fUf;F le;J ,df;ftw;r;rpg; bghwpfs; itj;J me;jp
g{r;rpfis ftu;J mHpf;fshk;. ,khbkf;od; bgd;nrhnal; 5% SG 3 fpuhk; / 10 ypl;lu; my;yJ
Ftpdhy;gh!; 25% EC@ 2.5 kpyp/ 10 ypl;lu; bjsp;f;f ghpe;Jiuf;fg;gLfpwJ.

nfhit khtl;l;jpy; gaphplg;gl;Ls;s btz;ilf;fha; gaphpy; euk;g[j; njky; neha;
bjd;gLfpwJ. ,e;j nehia gug;g[k; bts;is <-f;fis fl;Lg;gLj;j vf;IUf;F kPj;ijy; blkl;lhd; 800
kpy;yp my;yJ ijnahkpj]jhf]!hk]; 250 fpuhk; vd;w mstpy; bjsp;J nehapid fl;Lg;gLj;jyhk;
vd mwpt[Wj;jg;gLfpwJ. nehapid; jPtupj;ijg; bghWj;J kPz;Lk; 15 ehl;fs; ,ilbtspapy;
bjsp;f;ft[k;.

KU';if

,iyRUI;Lg;g[G jhf;Fjy; njdp khtl;l;jpy; fhzg;gl;IJ. ,jidf;fl;Lg;gLj;j ngrpy!;
Jupd;rpvd;rp!; 2. kpyp/ ypl;lu; bjsp;f;f ghpe;Jiuf;fg;gLfpwJ.

jf;fhsp

fha;j;Jisg;ghd; jhf;Fjy; njdp kw;Wk; jpd;Lf;fy; khtl;l';fspy; fhzg;gl;IJ/ ,jidf;
fl;Lg;gLj;j ,zf;ftu;r;rpg;bghwp Vf;fUf;F le;J itf;ft[k;. ,khbkf;od; bgd;nrhnal; 5% SG 4

fpuhk; / 10 ypl;lu; my;yJ mrplhkpg;gpiul;l 20% SP 10 fpuhk; / 10 ypl;lu; bjspf;f ghpe;Jiuf;fg;gLfpwJ.

jf;fhsp gaphpy; g[s;sp thly;/ ,iy RUI;L kw;Wk; Kd;gUt ,iyf;fUfy; neha:fspd; jhf;Fjy; fpU#;zfphp/ nfhak;g[j;J}h]/ jpz:Lf;fy] kw;Wk; jUkg[hp khtl;l';fspy; gutyhf fhzg;gLfpwJ. g[s;sp thly; kw;Wk; ,iy RUI;L er;Raphpfis Kiwna gug;g[k; ,iyg;ngd;fs] kw;Wk; bts;is <f;fis fl;Lg;gLj;j vf;IUf;F ilkPnjhnal] 30 EC @ 500 kp.yp. my;yJ ,kplhFnshgphpl; 17.8 SL@ 100 kp.yp. vd;w mstpy; bjspf;fyhk.; g{r;rp;f; bfhy;yp kUe;ij 15 ehl;fs; ,ilbtspapy; nehapd; jPtuj;ijg; bghWj;J kPz;Lk; bjspf;ft[k;. Kd;gUt ,iyg;g[s;sp nehiaf; fl;Lg;gLj;j nkd;nfhbrg; 75%WP g{rzf;bfhy;ypia vf;IUf;F 500 fpuhk; (m) mrhf;rp!;l;nuhgpd; + ilbgd;nfhdhnrhy; 500kpyp vd;w mstpy; bjspf;ft[k;.

kpsfha:

jpz:Lf;fy/; nfhak;g[j;J}h; kw;Wk; njdp khtl;l';fspy; gaphplg;gl;Ls;s kpsfha; gaphpy] ,iy RUI;L kw;Wk; njky; neha:fspd; jhf;Fjy] fhzg;gLfpwJ. ,e;j itu!: nehia gug;g[k; g{r;rp;fis; fl;Lg;gLj;j vf;IUf;F ilkPnjhnal] 30 EC @ 500 kp.yp. my;yJ ,kplhFnshgphpl; 17.8 SL @ 100 kp.yp. vd;w mstpy; bjspf;fyhk.; nkYk;/ neha; jhf;Fz;l brofis mfw;wp tplt[k;. g{r;rp;f; bfhy;yp kUe;ij 15 ehl;fs; ,ilbtspapy; nehapd; jPtuj;ijg; bghWj;J kPz;Lk; bjspf;ft[k;.

gPf;f';fha;

gH<f;fspd; jhf;Fjy; nfhit khtl;l;jpy; fhzg;gl;IJ. ,jiff; fl;Lg;gLj;j nrjkile;j fha;fis nrfupj;J mHpf;f ntz;Lk;/ kPj;ijy; a{lpdhy; ftu;r;rp;g;bghwp Vf;fUf;F 5 itf;f ntz;Lk; . irahd;l;uhdpypg;g[nuhy; 10.26 OD @ 18 kpyp / 10 ypl;lu; my;yJ mrhouhf;od; 3000 ppm 30 kpyp / 10 ypl;lu; bjspf;f ghpe;Jiuf;fg;gLfpwJ.

8. gHg]gaph]fs;

kh

,iyg;ngd; jhf;Fjy; fpU#;dfPup khtl;l;jpy; fhzg;gl;IJ. ,jidf; fl;Lg;gLj;j Cjhepw xl;Lg;bghwp itf;f ntz;Lk;/ xU kuj;jpw;w xU fpnyh ntg;gk;g[z;zhf;F ,Intz;Lk;. nlhy;bgd;iguhl; 15% EC 2 kp.yp. / ypl;lu; bjspf;f ghpe;Jiuf;fg;gLfpwJ.

thiH

jz;Lj;Jisghd; jhf;Fjy; Jhj;Jf;Fo khtl;l;jpy; fhzg;gl;IJ. ,jidf; fl;Lg;gLj;j gf;fthl;oy; tsUk; fd;Wfis elt[bra;j 8 khjk; Kjy; mfw;w ntz;Lk;. mjpfkfhf jhf;fgl;l kuj;ij mfw;wp vwpf;f ntz;Lk;. thiH jz;Lfis ,uz;lhf gpse;J tay;fspy; itj;J tz;Lfis ftu;e;J mHpf;fyhk;.

rpfhnlhfh ,iyg; g[s;sp neha; thiH gaphplg;gl;Ls;s khtl;l';fspy; gutyhf fhzg;gLfpwJ.
,e;nehia fl;Lg;gLj;j

- kpft[k; ghjpp;j xd;W my;yJ ,uz;L mo ,iyfis mfw;wp vhpj;Jtplt[k; my;yJ kz;zpy; g[iij;J tplt[k;.
- vf;lUf;F fhh;gd;lhrpk; 50% WP @ 500fp my;yJ khd;nfhbrg; 75% WP 1000fp xU khj ,ilbtspapy; bjsp;ft[k;. khw;whf g[nuhgpbfhdnrhy; 25 EC 500 kpyp/vf;lh;+ kpduy; vz;bza; 10kpyp/ 1 ypl;lUf;F fye;J bjsp;ft[k;. xl;Lk; jputk; Og;ghy; my;yJ nrhg;g[fiury; 5kpyp / 10 ypl;lh; kUe;J fiurYld; nrh;f;ft[k;.

nfhaKj;J}h] khtl]lk; bts]skil fpuhkj;j]py; thiH rhFgo bra;a[k; tay;fspy; Ma;t[nkwb;bfhs;sg;gl;lJ. kz; khjphpfspy] ntu] Jisg]ghd] Ehwl]g[G, *nuhnlhngghy!; rpkpyp!;* (211/200 cc) kw;Wk; RUs] tot Ehwl]g[G, *bQypf;nfhilyd;f!; ky;orpd;ll;* (196/200 cc) fhzg;gl;lJ. nth; khjphpfspy] *gpuhl;oyd;f;!; fhg;gpna* (42/ 5 fpuhk;) kw;Wk; *bQypf;nfhilyd;f;fh!; ky;orpd;ll;* (36/ 5 fpuhk;) fhzg;gl;lJ. ghpe;Jiufs; - *fhh;nghgpa[uhd;* 40 fpuhk; ntiu Rw;wp ,LkhW ghpe;Jiuf;fg;gl;lJ.

bfha;ah

gH < jhf;Fjy; njdp kw;Wk; jpz;Lf;fy; khtl;l';fspy; fhzg;gl;lJ. ,jidf; fl;Lg;gLj;j ,il cHt[bra;a ntz;Lk;/ nrjkile;j gH';fis nrfupj;J mHpf;fntz;Lk;. ntg;bgz;iza; 3 rjk; (xUypl;lu; jz;zPUf;F 30 kpyp) fha; fha;f;Fk; gUtj;jpy; bjsp;f ntz;Lk;. kPj;ijy; a{\$pdhy; bghwp Vf;fUf;F 4 itf;f ntz;Lk;.

nfhaKj;J}h] khtl;lk;; jPj]jPghisak] fpuhkj;jpy; bfha]ah (yf;ndh 46) rhFgo bra;a[k; gHj]njhl]l]j]py; Ma;t[nkwb;bfhs;sg;gl;lJ. ,jpy; 45 rj tPjk] bfha]ah kuk]] ntu]Kor]R Ehwl]g[Gf]]fshy] ghjpf;fg;gl;oUg;gJ fz;lwpag;gl;lJ. ,e;E}w;g[Gf;fspd; vz;zpf;if 200 fpuhk; kz; khjphpfspy; 296 E}w;g[Gf;fs; kw;Wk; 5 fpuhk; ntu]khjphpfspy] 11 vd]w mstpy] gjpt[bra;ag;gl;lJ. ghpe;Jiufs: Kl;il xl;Lz;zp g{rzkh d *bghf;nfhzpah fpnshkpnlh!;nghupah* 2.5 fpnyh + 100 fpnyh bjhG cuk;;; fye;;J kz;zpypljy;.

bfha]ah ku';fspy; nth;Kor;R E}w;g[G jhf]fk] jkpHfj]jpy] nfhaKj;J}h], jpz;Lf;fy;/ flYhh;; kJiu, bjd]fhrp, tpUJefh], g[Jnfh]lil, jpUtz]zkiy kw]Wk] flYh] khtl;l';fspy; fhzg]gLfpwJ. ,e;E}w;g[Gf;fs; jhf;Fjyhy; ,iyfs; gGg;g[epwkhfp bjhlh;e;J k";rs; epwkhfp RUz;L fhzg;gLk;. nth; gFjpfspy; nth; Kor;Rfs;; fhzg;gLk] nkYk; nth;fs; fUg;g[epwkhfp mGfpa[k; fhzg;gLk;. ,jid fl;Lg;gLj;j 2.5 fpnyh *gh;g[hpnahrpypak] ypyhrpdk;* (*bgrpnyhikr!; ypy]yhrpd!;*) kw;Wk; 2.5 fpnyh *bghf;nfhdpah fpnshkpnlh!;nghupah*

caphpdf; fyitia 100 fpnyh bjhG cuk;;; fye;;J 15 ehl;fSf;F epHypy; itj;J ePh; bjspj;J itff ntz]Lk]. gpd;dh; ,ejj caphpdf]fyitia kuj;jpw;F 500 fpuhk; tPjk; ,uz;L khj';fSf;F xU Kiw ,Intz;Lk;. nfe;jp kyh] broia kuj;ijr] Rw]wp tsh]ff ghpe;Jiuf;fg;gLfpwJ. E]w;g[Gf;fs; mjpgfKs;s ,l';fspy; xU Vf;fUf;F g[[Snthiguk;; 500 kpy]yp ypl;lh; mjid bjhlh;e;J fhh;igd;lhrpk; 2 fpuhk;/ 1 ypl;lh; jz;zPh; kw;Wk; igl;nlhyhd; 2 fpuhk;/ 1 ypl;lh; ePhpy; fye;J kuj;ij Rw;wp Cw;wt[k; ghpe;Jiuf;fg;gLfpwJ.

vYkpr;ir

JU rpye;jpjhf;Fjy; njdp khtl;lj;jpy; fhzg;gl;IJ. ,jidf; fl;Lg;gLj;j ilahbgd;jpa[{uhd; 50% WP 2 fpuhk;/ypl;lu; bjspf;f ghpe;Jiuf;fg;gLfpwJ.

jpuhl;ir

njdp khtl;lj;jpy; rhFgo bra;ag;gl;Ls;s jpuhl;irapy; mor;rhk;gy; neha] kw;Wk; rhk;gy; nehapd; ghjpg;g[fhzg;gLfpwJ. mor;rhk;gy; nehiaf] fl;Lg;gLj;j bkl;lyhf;!py; 8% + nk';nfhbrg] 64% WP @ 2 fpuhk; xU ypl;lh; jz;zPUf;F vd;w mstpy; bjspf;f ntz;Lk;. rhk;gy; nehiaf; fl;Lg;gLj;j bQf;rhnfhdnrhy; 5% EC @ 1 kpy;yp / ypl;lh;my;yJ eida[k; fe;jf Jfs; 80% WP @ 2 fpuhk; / ypl;lh; vd;w mstpy; ePhpy; fye;J bjspf;fyhk;;.

9. eWkz kw;Wk; kiyy; njhl;;;lg;gaph;fs;

fUntg;gpiy

rpy;ypL my;yJ Fjpf;Fk; g{r;rp kw;Wk; ,iy;RUI;Lg; g[G jhf;Fjy; nfhit khtl;lj;jpy; fhzg;gl;IJ. rpy;ypl; my;yJ Fjpf;Fk; g{r;rp kw;Wk; ,iy;RUI;Lg;g[G jhf;Fjy; nfhit khtl;lj;jpy; fhzg;gl;IJ.

rpy;ypl; kw;Wk; ,iy;RUI;Lg;g[G jhf;FjYf;fhd jPtpu xU';fpize;j g{r;rp nkyhz;ik

- rpy;ypl; g{r;rpSf;F Vf;fUf;F 50 vz;fs; k";rs; epw xl;Lg;bghwpfs; (30 br.kP x 15 br.kP) itf;f ntz;Lk;.
- ,iy;RUI;Lg; g[Gitf; fz;fhzpf;f Vf;fUf;F xU xspg;bghwpia epWt ntz;Lk;.
- ,iy;RUI;Lg;g[Gitf; fl;Lg;gLj;j Kl;ilfisj; jhf;Fk; oiuf;nfhfpuk;kh ifnyhdp!; xl;Lz;zpia ,UKiw fhthj;J bra;j 35 kw;Wk; 50 tJ ehspy; vf;IUf;F 5 rprp vd;w mstpy; gad;gLj;jt[k;. nkYk; *fpiunrhbg;yh rh!;l;nuhtp rpy;bykp (Chrysoperla Zastrowi sillemi)* vd;w gr]irfz]zho ,wf]if g{r;rp ,iu tpG';fp Kl]ilfis vf;IUf]F 10000 tPjk] ,U Kiw fhthj;J bra;j 40 kw;Wk; 55 tJ ehspy; jhf]fg]gl] ku';fspy] tpl;Lk; fl;Lg;gLj;jyhk;.
- rpy;ypl; kw;Wk; ,iy;RUI;Lg;g[Gf;fisf; fl;Lg;gLj;j ntg;g';bfhl;ilf; fiury; 2.5% + kpduy; vz;bza; 0.25% gad;gLj;jyhk;.

- rpy;ypl; g{r;rpf;fisf; fl;Lg;gLj;j ntg;g';bfhl;ilf; fiury; 5% (10 fpnyh;/ Vf;fu; gad;gLj;jyhk;.
- ed;ik bra;a[k; g{r;rpfis mjpufpf;f CLgapuhf jl;ilg;gaiua[k; jLg;g[g; gapuhf nrhsj;jija[k; gapu; bra;a ghpe;Jiuf;fg;gLfpwJ.

bjd;id

bts;is <f;fs;/ fhz;lhcpUftz;L/ rptg;g[f; Tz;tz;L/ vupnahigl; rpye;jp jhf;Fjy; jkpH;ehl;od; midj;J khtl;l';fspYk; fhzg;gl;lj.

bts;is <f;fis fl;Lg;gLj;j xU';fpize]j nkyhz]ik

- k"]rs] epwghypj;jPd; jhs;fshy; cUthf;fg;gl;l/ ,uz;L g[wKk; tpsf;bfz;bza; jltg;gl;l k"]rs] epwxl;Lk; bghwpfs; (ePsk] 5 moxmfyk] 1.5 mo) Vf;fUf;F 20 tPjk; 6 mocauj;jpy; bjh';;ftpl;Lk; my;yJ bjd;idku';;fspd; jz;Lg;gFjpapy; Rw;;;wpa[k; <f]fspd; elkh]l]ij fz;fhzpj;Jk; ftu;e;Jk; mHpf;fyhk;.
- jhf]fg]gl]l ku']fspy] cs]sfPH]kl]l Xiyfspd] cl;gFjpapy; gLkhW tpir] bjspg]ghidf] bfhz]L kpf ntfkhf jz]zPiugPa;r;rp moj;J bjspg]gjd] \ykht[k; <f]fspd] vz]zpf]if bgUftij Fiwf]fyhk].
- bts]is <f]fspd; ,s';F"]Rfis fl]Lg]gLj]Jk]/ jpwd; bfhz;l xl]Lz]zp Fstp vd]fhh]rpah (*Encarsia guadeloupae*) Tl]Lg]g[G gUti;j cs]slf]fpa bjd]id Xiyfs] Vf]fUf]F 10 ,iyJz]Lfs; tPjk; 10 kuj;jpw;F xU ,iyj;Jz;L vd;w vz;zpf;ifapy; jhf]fg]gl]l Xiyfspd] kPJ 10 kuk] ,ilbtspapy] itj]Jk;/ fl;Lg;gLj;jyhk;.
- fpiunrhgpl; (Chrysopid) vd;w gr]irfz]zho ,wf]if g{r;rp ,iu tpG';fp Kl]ilfis Vf]fUf]F 400 tPjk] jhf]fg]gl]l ku';fspy] itj;Jk; fl;Lg;gLj;jyhk;.
- Vz;fhu;rpah xl;Lz;zpfspd; bray;ghLfis mjpufpf;f bjd;id ku';fSf;F ,ilna thiH/ fy;thiH kw;Wk; rPj;jh brofis Vf;fUf;F 20-25 vd;w vz;zpf;ifapy; elt[k;.
- xU ypl;lu; jz;zPUf;F ntg;bgz;iza; 5 kpyp kw;Wk; xl;Lk; jputk; xU kpyp vd;w mstpy; fye;J ,iyfspd; mog;gFjpapy; gLkhW bjspj;J fl;Lg;gLj;jyhk;.
- RUs; bts;is<f]fspd; jhf;Fjyhy; Vw;gLk; fUk]g{rz]ij fl]Lg]gLj]j ikjhkht[gir fiuriy xU ypl]lh] jz]zPhpy] 25 fpuhk] kw;Wk; xl;Lk; jputk; xU kpyp nru;j;J fPH; ,iy mLf;Ffsy; goe;jpUf;Fk; fUk;g{rhz';fspd; nky; ed;whf gLkhW bjspf;ft[k; . ikjh kht[gir bjspj;j 3 Kjy; 5 ehl;fsy; ,iyfsy; goe;jpUe;j fUk;g{r z';fs; btapypy; fha;e;J cjpue;J tpLk;.
- braw]if ighpj]jpuha]L kw]Wk] ,urhad g{r]rpf]bfhy]ypfs; ,aw]if vjpupfismHpj]J tpLtjhy; mtw;iw mwnt gad]gLj]jnt TlhJ.

- gupe;Jiuf;fg;gl;l cu';fis ,l;L jz;zPu;;gha;r;rntz;Lk;.

fhz;lhkpUf tz;il fl;Lg;gLj;j xU';fpize]j nkyhz]ik

- ,we;j ku';fis mg;g[wg;gLj;jp vupj;J tplt[k;.
- vUf]FHpapy; fhzg]gLk] g[Gf;fs; kw]Wk; Tl]Lg] g[Gf;fisr; nrhfpj;J mHpf]ft[k].
- \d]W me]JUz]ilfis eLf]FU]ijr] Rw]wpa[s]s 3 kl]il ,Lf]Ffsy] xd]W tPjk] itf]ft[k] my]yJ ntg]g';bfhl]il J}s] 150 fpuhk; kw;Wk; fha]ej kzy; 300 fpuhk; vd;w mstpy] fye]J eLf]FU]Jg] gFjpapy] Jhtptplyhk;.
- vUf]FHpapy] tsh]e]J tUk] g[Gf]fismHpf]f kiHf]fhy';fspy] gr]ir kl]fhh]od] (*Metarhizium anisopliae*) vd]w g["]rhz]ij 5x10¹¹tpj]Jf]fs;/kP³ vd]wmstpy] Cw]wyhk;.
- iundhypo{h] fth]r]rpg] bghwpfis vf]lUf]F xd]WtPjk; itj;JMz] kw]Wk] bgz; tz]Lfisf; fth]e]J mHpf]fyhk].
- fth]r]rpg; bghwpfis bjd;id kuj]jpnhy my]yJ Xiyfspnyh fl]oitg;gij jtph]f]ft[k].
- fth;r;rpg; bghwpfspy; tpGk; tz;Lfisf; fz;fhzpj;J cldoahf mHpj;J tpltntz;Lk;.
- Mkzf]F gpz]zhf]F 1 fpnyh 1 ypl]lh] jz]zPUld] cs]s ghidfis Vf]fUf]F 30 tPjk] itj]J tz]Lfisf] fth]e]J mHpf]fyhk].
- kuj;jpd; FUj;Jg; ghfj;jpy; tz;Lfs; nrjg;gLj;jpa Jisfsy; fk;gpia cl;brYj;jp tsh;e;j tz;Lis btspna vLj;J mHpj;Jtpl ntz;Lk;.
- nfhil kw;Wk; kiH fhy';fspy; ,ut[neu;j;jpy; tpsf;F bghwpfis Vf;fUf;F xd;W tPjk; itj;J tz;Lfis ftu;e;JmHpf;fyhk;.
- xd;Wf;Fk; nkw;gl;l nkyhz;ik Kiwfis XU';fpizj;J nkw;bfhz;lhy; jhd; fhz;lhkpUftz;od; jhf;Fjiy; Fiwf;fKoa[k;.
- bjd;idtptrhapfs; Tl;lhf xd;W nrh;e;J nkyhz;ik Kiwfis filg;gpoj;jhy; TLjy; gyd; fpilf;Fk;.

rptg;g[Td; tz;L xU';fpize]j nkyhz]ik

- ,t;tz;odhy; ghjpf;fg;gl;l bjd;id ku';fis Muk;gepiyapy; fz;lwptJfodk; vd;gjhy; tUk; Kd; fhf;Fk; tHp KiwfSf;F Kf;fpaJtk; mspf;fntz;Lk;.
- fhz;lhkpUftz;od; jhf;Fjy; Td; tz;od; jhf;FjYf;F tHptFg;gjhy;/ ghjpf;fg;gl;l bjd;de;njhg;g[fspy; fhz;lhkpUf tz;il fl;Lg;gLj;Jk; tHpKiwfis gpd;gw;wntz;Lk;.
- kuj;jpy; Vw;gLk; fha';fspy; Td]tz]L Kl]ilapLtjhy]/ fha';fs; Vw;glhky; ghh;j;Jf; bfhs;sntz;Lk;.
- gr]ir kl]ilfis btl]Ltijj] jtph]f]ft[k]/ mtrpak] Vw]gl]lhy] jz]Lg] gFjpapypUe]J 3 mojs]sp btl]lt[k].

- ,ojhf]fpa/ Td] tz]L jhf]fpa ku';fs] njhg;gpy; ,Ue;jhy;/ cldoahf mg;g[wg;gLj;jp jPapI;L mHpf;fntz;Lk;.
- fth;r;rpg; bghwpfs; vf;lUf;F xd;WtPjk; itj;J rptg;g[Td; tz;Lfis fth;e;J mHpf;fyhk;.
- fth;r;rpg; bghwpapy; ftug;gLk; tz;Lfis mt;tg;ngHJ fz;fhzpj;J mHpf;fntz;Lk;.

vupnahigl; rpye;jpia fl;Lg;gLj;j xU';fpize]j nkyhz]ik

- rhpahd cu kw]Wk; ePh] eph]thfk] bra]tjd] \yk] kl]Lnk <hpnahigapl; rpye]jpapd] jhf]Fjiy Fiwf]f Koa[k]. jhf]fg]gl]I ku';fSf]F a{upah 1.3 fpnyh/ R{g;gu; gh!;ngl; 2.0 fpnyh/ bghl;lh#; 3.5 fpnyh/ Ez;rj;J 1 fpnyh/ \$pg;rk; 1 fpnyh/ ntg;gk; g[z;zhf;F 5 fpnyh kf;fpaFg;ig 50 fpnyh/ ,e;j cu mst[fs; xU kuj;jpw;F xU tUl;jpw;F. ,e;j cuj;ij ,uz;lhf gpupj;J MW khjj;jpw;F xU Kiw ,l ntz]Lk].
- jhf]fg]gl]I ku';fspy] xU ypl]lh] jz]zPhpy] mrrouhf]od; (1%;) 3kpyp (my]yJ) xU ypl;lu; jz;zPUf;F ntg]bgz]bza; 30 kp.y p kw;Wk;; xU kp.y p. xl]Lk; jputk] fye]J \$dthp/ khh]r] kw]Wk] nk khj';fspy] bjsp]fyhk]. Fwpg]ghf 45 ehs; FUK]igfspy] bjsp]jhy] nghJkhdJ.
- nkYk] jkpH]ehL ntshz]ik gy]fiyf] fHf]jpd] bjd]id lhdp]if kuj]jpw]F 200 kpyp vd]wmstpy] MW khj ,ilbtspapy] tUl]jpw]F 2 Kiw nth] \yk] brY]jt[k].

nth;thly; neha;

bjd;idapy; nth;thly; nehahdJ nfhaKj;J}h;/ njdp/ jpUg;g{h;/ bjd;fhrp/ jpUbey;ntyp kw;Wk; fd;dpahFkhp khtl;l';fspy; gutyhf fhzg;gLfpwJ. ,e;nehapid fPH;tUk; xU';fpize;j nkyhz;ik Kiwfisf; bfhz;L fl;Lg;gLj;jyhk;.

- nkhrkhf ghjpf;fg;gl;l ku';fis btl;o mfw;w ntz;Lk;.
- rhpahd tofhy; trjp bra;antz;Lk;.
- gRe]jhs] cu']fshd j]ilg]gaW/ rzg]ig my;yJ jf]ifg]g{z]L Mfpatw]iw tl]lg]ghj]jp my;yJ njhg;g[gFjp KGtJk; tsh;j;J g{f]Fk] Kd]dnu klf;fp cGJ tpl ntz]Lk].
- ghpe;Jiuf;fg;gl;l msthd xU kuj;jpw;F bjhG cuk;- 50 fpnyh/ ntg;gk; g[z;zhf;F- 5 fpnyh/ a{hpah- 1.3 fpnyh/ Ng;gh; gh!;ngl;- 2 fpnyh kw;Wk; \hpnal; Mg; bghl;lh#;- 3.5 fpnyh vd;w mstpy; rhp ghjpahf gphpj;J MW khj ,ilbtspapy; tUl;jpw;F ,uz;L Kiw ,l ntz]Lk].
- xU kuj;jpw;F 100 fpuhk; *oiuf;nfhblh;kh m!;gbuy;yk;/* 100 fpuhk; *ngrpy;y!; rg;oypl;/* 100 fpuhk; mnrlh!;ighpy;yk;;/ 100 fpuhk; gh!;nghghf;Ohpah kw;Wk; 50 fpuhk;; nth;cl;g{rzk; Mfpatw]iw 5 fpnyh kf;fpa bjhG cuj;Jld; fye]J tUl]jpw]F ,U Kiw tl;lg;ghj;jpapy; ,l;L kz;iz fpswptpl ntz]Lk].

- jkpH;ehL ntshz;ikg; gy;fiyf;fHfj;jpd; bjd;id lhdpf; 40 kpy;ypia 160 kpy;yp jz;zPUld;] fye]J Mz;ow]F ,uz;L Kiw nth; \yk; cl;brYj;j ntz]Lk].
- ,iy mGfy; neha; jhf;Fjy; bjd;gl;lhy;/ xU kuj;jpw;F 2 kpy;yp bQf;rhnfhdnrhy; 5% EC g{rzf;bfhy;ypia 300 kpy;yp ypl;lh; jz;zPhpy; fye;J kuj;jpd; FUj;Jg; gFjpapy;; Cw;w ntz;Lk;.
- neha]f;fhuzpia gug;g[k; rhW cwp";Rk; g{r;rpfsd fz;zho ,wf;if kw]Wk; jj;Jg;g{r;rpfsf; fl;Lg;gLj;j ntg;g';bfhl;il bgho 200 fpuhk; rhptfpj kzYld; fye;J kuj;jpd; FUj;Jg; gFjpapy;; ,Intz;Lk;.
- jkpH;ehL ntshz;ikg; gy;fiyf;fHfj;jpd; 'nfhnfhfd;' jha; Ez;qaph; fyitia (5 ypl;lh;)/ fUk;g[r;rh;f;fiu (10 fpnyh)/ japh; (5 ypl]lh;)/ rikay; cg;g[(500 fpuhk;) kw;Wk; jz;zPh; (150 ypl]lh;) cld; fye;J 5-7 ehl;fs; tsh;f;fntz;Lk;. ,t;thW ,dg;bgUf;fkhd 'nfhnfhfd;'; Ez;qaphpia kuj;jpw;F 2 ypl]lh; vd;w mstpy; 8 ypl]lh; jz;zPh; fye]J nth; gFjp ed;F eida[khW \d;W khj ,ilbtspapy; tl;lg;ghj;jpapy; Cw;wntz]Lk]. 'nfhnfhfd;'; jha;f;fyit nfhak;g[j;J]h; jkpH;ehL ntshz;ikg; gy;fiyf;fHfj;jpd; gaph; nehapy; Jiwap; fpilf;fpwJ.

moj;jz;IGfy; neha;

bjd;idapy; moj;jz;IGfy;; nehaJ/ nfhit/ jpUg;g{h;/ fpU#;zfpup, <nuhL/ fhnthp bly;lh kw;Wk; flnyhu khtl;l';fspy; gutyhf fhzg;gLfpwJ. ,e;nehapid fPH;tUk; xU';fpize;j nkyhz;ik Kiwfisf; bfhz;L fl;Lg;gLj;jyhk;.

- ghj;j;J ,we;j ku';fis cldoahf btl;o mfw;w ntz;Lk;.
- gRe]jhs] cu'fshd jilg]gaW/ rzg]ig my;yJ jf]ifg]g[z]L Mfpatw]iw tl]lg]ghj]jp my;yJ njhg;g[gFjp KGtJk; tsh;j;J g{f]Fk] Kd]dnu klf;fp cGJ tpl ntz]Lk].
- xU kuj;jpw;F tUlj]jp]F 50 fpnyh bjhG cuk;/ 5 fpnyh ntg;gk; g[z;zfh;F/ 1.3 fpnyh a{hpah/ 2 fpnyh Ng;gh; gh!;ngl; kw;Wk; 3.5 fpnyh \hpna; Mg; bghl;lh#; vd;w mstpy; rhp ghjpahf gphpj;J MW khj ,ilbtspapy; ,uz;L Kiw ,l ntz]Lk].
- xU kuj;jpw;F 100 fpuhk; oiuf;nfhblh;kh V!;gbuy;yk;/ 100 fpuhk; ngrpy;y!; rg;oypl;/ 100 fpuhk; mnrl;ighpy;yk;/ 100 fpuhk; gh!;nghghf;Ohpah kw;Wk; 50 fpuhk;; nth;cl;g{rzk; Mfpatw]iw 5 fpnyh kf;fpa bjhG cuj;Jld; fye]J tUlj]jp]F ,U Kiw tl;lg;ghj;jpapy; ,l;L kz;iz fpswptpl ntz]Lk].
- 1 rj nghh;nlh fyit kuj;jpw;F 40 ypl;lh; vd;w mstpy; ntiu Rw;wp Cw;w ntz;Lk; (Fwpg;g[- Ez;qaphpfs; gad;gLj;jp ,Ue;jhy;/ nghh;nlhfyit cgnahf;j;jtph;f;ft[k;).
- xU kuj;jpw;F bQf;rhnfhdnrhy; 5% EC 2 kp.yp vd;w mstpy; 100 k.p.yp ePUld; fye;J 3-4 khj ,ilbtspapy; (nehapd; jPtpuk; bghWj;J) nth; \yk; cl;brYj;Jjy; ntz;Lk;.

fhg;gp

rptg;g[jz;Lj;Jisg;ghd;/ bts;is jz;Lj; Jisg;ghd; kw;Wk; fhg;gp bfhl;il Jisg;ghd; jhf;Fjy; nryk; khtl;lk; Vw;fhl;oy; fhzg;gl;IJ. jz;Lj; Jisg;ghd; jhf;fFjiyf; fl;Lg;gLj;j

- fhg;gpbrofSf;F bghJkhd mst[epHy; Vw;gLj;j ntz;Lk;
- khu;r; kw;Wk; brg;lk;gu; khj';,fspy; jhf;fg;gl;l brofis nrhjid bra;J mHpf;fntz;Lk;.
- ,df;ftu;rpg; bghwfpfis Vf;fUf;F 10 vz;fs; itf;f ntz;Lk;
- broapd; jz;Lg; gFjpapy; xl;o ,Uf;Fk; kuj;Jhs;fis bjd;id kl;ilfis itj;J mfw;w ntz;Lk;.
- jhf;fg;gl;l jz;Lg;Fjpapy; 5x5 br. kP mstpy; Jisj;J Fnshu;igupgh!; 25% EC 50 kpyp/ 10 ypl;lh; vd;w mstpy; fye;J gUj;jpg; g";rpy; eidj;J fl;Intz;Lk;.

fhg;gpf; bfhl;il Jisg;ghd; jhf;Fjiyf; fl;Lg;gLj;j

- rupahd nej;jpy; mWtil bra;a ntz;Lk;
- cjpu;e;J fpilf;Fk; fhg;gpbfhl;ilfis nrfupj;J vwpJ;J tplntz;Lk;
- gUtk; khwpfha;f;Fk; fhg;gp bfhl;ilfis nrfupj;J vwpj;J tplntz;Lk;
- fhg;gp brofSf;F mjpfkhd mst[epHy; bfhl;f;fTlhJ
- bghJkhd mst[fthj;J bra;tjhy; ey;yfhw;nwhl;IKk; btspr;rKk; fpilf;Fk;/ ,jdhy; jhf;Fjy; Fiwa[k;
- fhg;gp bfhl;ilfis gupe;Jiuf;fg;gl;l mst[<ug;gjj;jpw;F fhaitf;f ntz;Lk;.
(muhgpf;fh–buhg!;lh 10 rjk; muhgpf;fh bru;up 10.5 rjk;/ buhg!;lhbru;up 11 rjk;).

kpsF

,inygd; kw;Wk; brjpy; g{r;rpjhf;Fjy; nryk; khtl;lk; Vw;fhl;oy; fhzg;gl;IJ. ,jidf; fl;Lg;gLj;j mrhouhf;od; xUrjk; 3 kpyp/ypl;lh; my;;yJ ntg;bgz;iz (30 kpyp/ypl;lh; my;yJ gpntupah ngrpahdh 5 fpuhk; /ypl;lh; kw;Wk; ypl;IUf;F xUk pypxl;Lk; jputk; nru;j;J bjsp;f ghpe;Jiuf;fg;gLfpwJ.

bfhy;ypkiy kw;Wk; bfhl;f;fhdy; kiyg;gFjpfspy] gaphplg;gl;Ls:s kpsF bfhofspy; thly; neha;;fspd; jhf;fk; mjp;f mstpy; fhzg;gLfpwJ. ,e;nehapid fPH;tUk; xU';fpize;j nkyhz;ik Kiwfis bfhz;L fl;Lg;gLj;jyhk;.

- neha; bjd;gl;lt[l;d; nghh;nlh fyit (1 rjk;) my;yJ khd;;nfhbrg; 64% + bkl;lyhf;rpy; 8% 72 WP fyit kUe;ij ypl;IUf;F 2 fpuhk; vd;w mstpy; bjsp;f;fntz;Lk;.
- g{";rhzf;bfhy;ypfs; gad;gLj;jhj rkaj;jpy; oiuf;nfhblh;kh m!;gbuy;yk; (vf;IUf;F 2.5 fpnyh) kw;Wk; ngrpy;y!; rg;oypl; (vf;IUf;F 2.5 fpnyh) Ez;qaphpfis bjhG cuj;Jld; fye;J gpd; nth;g;gFjpapy; kz;zpy; ,Intz;Lk;.

10.kyh;;;tifg; gaph;fs;

ky;ypif

g[{ bkhf;Fj;Jisg;ghd; jhf;Fjy; <nuhL/ njdp/ jpz;Lf;fy;/ tpUJefu; kw;Wk; fpU#;zfpup khtl;!'fspy;; fhzg;gl;IJ. ,tw;wpd; jhf;Fjiyf; fl;Lg;gLj;j jahf;Fbshg;gpiul; 240% SC 1 kpyp/ypl;lh; !;igndhrhl; 45% SC 0.5 kpyp/ypl;lh; bjspf;f ghpe;Jiuf;fg;gLfpwJ

brd;Lky;yp

mbkupf;fd; fha;f;g[G jhf;Fjy; njdp kw;Wk; jpz;Lf;fy; khtl;!'fspy;; fhzg;gl;IJ. ,tw;wpd; jhf;Fjiyf; fl;Lg;gLj;j !;igndhrhl; 45% SC 0.75 kpyp/ypl;lh; bjspf;f ghpe;Jiuf;fg;gLfpwJ.

jfty;

1. ,af;Feh;/ gaph; ghJfhg;g[ikak;/ jkpH;ehL ntshz;ikg; gy;fiyf;fHfk;/ nfhit – 3/ bjhiyngrp – 0422 6611237.
2. nguhrphpah; kw;Wk; jiyth;/ g{r;rpapay; Jiw/ jkpH;ehL ntshz;ikg; gy;fiyf;fHfk;/ nfhit –3, bjhiyngrp – 0422 6611214.
3. nguhrphpah; kw;Wk; jiyth;/ nehapay; Jiw/ jkpH;ehL ntshz;ikg; gy;fiyf;fHfk;/ nfhit –3, bjhiyngrp – 0422 6611226
4. nguhrphpah; kw;Wk; jiyth;/ E}w;g[Gtpay; Jiw/ jkpH;ehL ntshz;ikg; gy;fiyf;fHfk;/ nfhit –3, bjhiyngrp – 0422 6611264