

CENTRE FOR PLANT PROTECTION STUDIES
PEST FORECAST FOR THE MONTH OF JANUARY 2026

1. Paddy

Ear head bug damage was noticed in Pudukkottai district. Leaf folder and ear head bug damage was noticed in Madurai district. Leaf folder and gall midge damage were recorded in Cuddalore and Thanjavur district. Leaf folder damage was noticed in Tuticorin district.

- 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 gall midge, spray Thiamethoxam 25% WG 40 g/ac
- For the management of earhead bug, spray any one of the following, the first during flowering and second a week later for one acre: Quinalphos 1.5% D 10 kg or Malathion 50% EC 200 ml / ac or Neem seed kernel extract 5% (10 kg kernel/ac).

Blast and bacterial leaf blight (BLB) diseases are observed in many rice growing districts of Tamil Nadu due to the prevailing weather conditions. If blast is noticed in the main field, farmers are advised to spray carbendazim 50 WP @ 500 g/ha or tricyclazole 75 WP @ 500g/ha or metominostrobin 20SC @ 500 ml/ha or azoxystrobin 25 SC @ 500 ml/ha. The fungicide spray should also cover the weeds present in the bunds. 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.

2. Millets

Maize

Fall army worm incidence were noticed in Madurai, Kallakurichi and Cuddalore Districts. 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 (0-6 PDI) is noticed in some maize growing tracts of Coimbatore and Tiruppur districts. The disease can be managed by foliar spraying with mancozeb 75% WP @ 1 kg/ha or propiconazole 25 EC @ 500 ml/ha.

Sorghum

In Coimbatore district, the incidences of anthracnose and leaf blight diseases are noticed from 15 to 18.5%. These diseases can be managed by spraying mancozeb 75% WP @ 1 kg/ha as foliar spray twice at weekly intervals.

Pokkah boeng disease in maize and sorghum

Although, the Pokkah boeng disease has not been observed in the farmers' field, it was recorded in the research trials (evaluation of MLT cultures) of maize and sorghum at Regional Research Station, Aruppukkottai. As an ad-hoc management measure, spraying of propiconazole 25% EC @ 1 ml per litre of water, directed towards the central whorl of the plants, may be recommended.

Cumbu

Whenever the symptoms of blast disease are noticed in Rabi crop, spray carbendazim 50% WP @ 500 g/ha and repeat 15 days later if necessary.

3. Pulses

Black gram

Spodoptera litura damage was recorded in Pudukottai district. To manage *Spodoptera*, grow castor as border or intercrop in black gram fields to serve as indicator or trap crop. Monitor the emergence of adult moths by setting up light trap @1/ac and pheromone traps@ 5/ac. Collect egg masses and destroy. Collect the gregarious larvae and destroy them as soon as the early symptoms of lace-like leaves appear on castor. Spray NSKE 5% (10 kg/ac) and to manage *Spodoptera* installing pheromone traps @ 5/ac, for monitoring and trapping of adults was recommended.

Green gram

Leaf hopper damage was recorded in Pudukottai district. For the management of leafhoppers, intercrop lab lab with groundnut @ 1:4 ratio, spray any one of the following insecticides: Imidacloprid 17.8 SL 40ml/ac or Quinalphos 25 EC 600 ml/ac

General integrated management strategy for yellow mosaic disease

The following integrated management strategies can be recommended for newly sowing blackgram and greengram crops.

- Seed soaking with borax @ 2g/kg + 10% nochi leaf extract @ 50 ml/kg for 30 minutes followed by seed treatment with thiamethoxam 30% FS @10ml/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 of sowing.
- 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 miner infestation was observed in Cuddalore 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.

Incidence of collar rot was noticed upto 3% in groundnut crop raised in the V. Irrupukurichi and Kolapakkam villages of Vriddhachalam block of Cuddalore district. The disease can be managed by spot drenching with carbendazim @ 1g/lit of water. In the ensuing season before sowing seeds can be treated with *Trichoderma asperellum* @ 4 g/kg of seeds.

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.

5. Cotton

Alternaria leaf blight, 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 tebuconazole 25 EC @ 1 ml/lit or trifloxystrobin 25% + tebuconazole 50% WDG @ 0.6 g/litre to manage *Alternaria* leaf blight. Spraying copper oxychloride 50% WP @ 2.5 g/litre is recommended for managing the bacterial blight. Parthenium weeds in and around cotton fields should be eradicated to prevent the spread of TSV. Spraying fipronil 5% SC @ 2 ml/ litre or flonicamid 50% WG @ 0.4 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 constantly 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 Krishnagiri, Theni and Dindigul 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.

Tomato

Fruit borer incidence was recorded in Theni and Dindigul 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, farmers are advised to spray mancozeb 75%WP @ 500g/ha or azoxystrobin + difenoconazole @ 500ml/ha twice at 15 days interval.

Chillies

Chilli thrips was noticed in Madurai, Dindigul and Theni district. To manage thrips, grow Sesbania (Agathi) as intercrop. Spray imidacloprid 17.8%SL 3ml/ 10 lit. or emamectin benzoate 5% SG @ 4 gram/ 10 lit or acetamipride 20 %SP 10 gram/ 10 lit. is recommended.

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 after destroying the infected plants immediately after noticing the initial symptoms. Repeat the spray 15 days later, if necessary.

Bhendi

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.

Bottle gourd

The incidence of gummy stem blight disease was recorded in Kinathukadavu block of Coimbatore district. The disease can be managed by spraying chlorothalonil 75 WP @ 1 kg/ha for two times at weekly interval.

Snake gourd

Fruit fly infestation was observed in Theni and Dindigul districts. 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.

Bitter gourd

A field survey was conducted in Bitter gourd field at Narasipuram village, Coimbatore District. *Meloidogyne incognita* was recorded @ 281 per 200 cc of soil and 43 per 5 g root. Recommendations: Soil application of neem cake @ 250 kg/ha and carbofuran @ 40g / plant was recommended.

8. Fruit crops

Banana

Rugose spiraling whitefly damage was observed in Krishnagiri district. To manage this pest, Remove the weeds and keep the field clean. Removal of affected plant parts (Removal parts to be covered with sack or any material and disposed away from the field). Installation of yellow sticky traps or use yellow colour hard plastic sheet, coated with oil and hang it in the infested area. Spray neem oil (commercial formulation) @ 2 ml / litre (Use hand sprayer and wet the both upper and bottom portion of the leaf completely).

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 fields at Karamadai village, Coimbatore District. *Radopholus similis* was recorded @ 252 per 200 cc of soil and 26 per 5 g root. Recommendations: Soil application of neem cake @ 250 kg/ha and carbofuran @ 40g / plant around the plant basin was recommended.

Guava

Tea Mosquito bug and Fruit fly infestation was observed in Madurai district. Aphid and Mealy bug damage were observed in Erode district. For the management of fruit fly, collect and destroy fallen fruits, install methyl eugenol trap @ 4/acre and spray neem oil 3 % (30ml lit). For the management of tea mosquito bug spray Malathion 50 EC 2ml/l. Spraying should be done in early mornings or late evenings, at least four times at 21 days interval during fruiting season. For the management of mealybug release *Cryptolaemus* predatory beetles @10/tree. For the management of Aphid, Spray dimethoate 30 EC 2 ml/l. For the management of aphids Spray dimethoate 30EC 2ml/lit.

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.

Sapota

Mealy bug damage was observed in Erode district. For the management of mealybug, release *Cryptolaemus* predatory beetles @10/tree.

Acid lime

Fruit mite damage was observed in Dindigul and Theni district. To manage this pest, Spray Diafenthiuron 50 WP @ 2 g/l.

Grapes

Flea beetle and Thrips was observed in Dindigul and Theni district. To manage thrips, Spray Cyantraniliprole 10.26 OD @ 7ml/10l. or Emamectin benzoate 5 SG @ 4g/10l. For the management of flea beetle spray cyantraniliprole 10.26 OD @ 7ml/10 lit.

Powdery mildew disease incidence has been noticed on grapevine grown in different parts of Theni district. It 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. Giant African snail infestation was noticed in Pudukottai district.

Giant African Snail (*Lissachatina fulica*)

- Keep area free from weeds and unwanted fallen dried coconut fronds.
- Handpicking (covered with gloves) of snails before dawn and after dusk.
- 10% common salt solution should be used for killing snails.
- Lime or bleaching powder may be sprinkled in the infested area.
- Use wet gunny bags and papaya leaves as bait to collect and destroy them.
- Bands of thin copper sheet around tree trunks prevent snails from climbing.
- Sawdust, ash, lime, and copper sulphate are also act as effective barriers.
- Spread the bait mixture of rice bran and metaldehyde (5%) to cover the paths of snails or sprinkle 5 per cent metaldehyde pellets around the infested plants.
- Birds, snakes and ducks are natural predators which feeds on snails.

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 constantly observed 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 Leaf gall thrips 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 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 Thiachloprid 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.

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fjpu; ehtha;g;g{r;rp jhf;Fjy; g[Jf;nfhl;il kw;Wk;; kJiu khtl;lj;jpy;; fhzg;gl;IJ. ,iy;RUI;Lg;g[G kw;Wk; Mizf;bfhk;gd; jhf;Fjy; flYhh; kw;Wk; j";rht{h; khtl;lj;jpy; fhzg;gl;IJ. ,iy;RUI;Lg;g[G jhf;Fjy; Jhj;Jf;Fo khtl;lj;jpy; fhzg;gl;IJ.

- bey; ,iy;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;

- Mizf;bfhk;gd; <f;fisf; fl;Lg;gLj;j jahkPj;jhf;!hk; 25 WG 40 fpuhk; / Vf;fu; bjspf;f gupe;Jiuf;fg;gLfpwJ.
- fjpu; ehtha;g;g{r;rp jhf;Fjiyf; fl;Lg;gLj;j g{f;Fk; jUzj;jpYk; xU thuk; fHpj;Jk; ,tw;wpy; VjhtJ xU g{r;rpf;bfhy;yp kUe;ij bjspf;ft[k;. Ftpehy;gh!; 1.5% D 10 fpnyh/ Vf;fu; my;yJ khyj;jpahd; 50 % EC 200 kpyp / Vf;fu; my;yJ ntg;g tpij fiury; 5 rjk; (10 fpnyh/ Vf;fu;).

Fiyneha] kw;Wk] ghf;Ohpa ,iyf;fUfy; nehapd; mwpFwpfs; jkpHfj;jpy; bey; gaphpLk; gy;ntW khtl;!;fspy; bjd;gLfpwJ. Fiynehiaf] fl;Lg;gLj;j fhh;gd;lrpk; 50WP @ 500 fp/vf;lh; (m) oiuirf;nshry; 75WP @ 500 fp/vf;lh; (m) mrhf;!pl;nuhgpdp; 25SC @ 500 kp.yp. /vf;lh; (m) bkl;lhpndh!;l;nuhgpdp; 20SC @ 500 kp.yp/vf;lh; bjspf;f ntz;Lk;. ,e;j g{"rhzbhfhy;ypfis tug;g[fspy; cs;s fisr;brofspdp; kPJk; ed;F eida[k;go bjspf;fntz;Lk;. ghf;Ohpa ,iyf;fUfy; nehiaf] fl;Lg;gLj;j fhg;gh; iQl]uhfj]iL 77 WP @ 1.25 fpnyh/vf;lh; (m) !;l;bug;nlhikrpd; ry;ngl] 90%+ bll;uhirf;spd; 10% SP@ 300fp + fhg;gh; Mf;!pFnshiuL 50% WP@ 1.25 fpnyh/vf;lh; vd;w mstpy] bjspf;fntz;Lk;. njitg;gl;lhy; 15 ehl;fs; fHpj;J kPz;Lk; xUKiw bjspf;fntz;Lk;.

2. rpWjhdpa';fs;

kf;fhr;nrhsk;

gilg;g[G jhf;Fjy; fs;sf;Fwpr;rp/ tpUJefu; kw;Wk; flYhu; khtl;l';fspy;; fhzg;gl;IJ.
.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;hpdpypg[nuhy; 19.8% rjk; + jahkPj;jhf;rk; 19.8% rjk;; xU fpnyh tpijf;F 4
kpyp vd;wstpy; tpij neh;j;jp bra;a ntz;Lk;. ,witapy; jl;il gaph/; vs;/ Jtiu my;yJ
R{hpahe;jp kw;Wk; khdhthhpapy; jPtd nrhsj;ij tug;g[gapuhf \d;W thpir tpijf;f ntz;Lk;.
gilg;g[G jha; me;jpg;g{r;rpfsdpd; elkh;l;j;ij fz;fhzpf;f Vf;fUf;F 5 ,df;fth;r;rp bghwpfis itf;f
ntz;Lk;. gilg;g[Gtpd; ghjpg;ig thuk; xU Kiw jkpH;ehL ntshz;ikg; gy;fiyf;fHf nrj mstPL
fzf;if 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;l;hpdpypg[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;jhj xd;W) g{ kw;Wk; fjph;
cUthFk; gUtj;jpy; bjsp;f gupe;Jiuf;fg;gLfpwJ.

nfhak;gl;J}h; kw;Wk] jpUg;g{h; khtl;l';fspy; rhFgo bra;ag;gl;Ls;s kf;fhr;nrhsg]
gaphpy; ,iyf;fUfy; nehapd; ghjpg;g[gutyhf (6% 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;gl;J}h; khtl;l;jpy; rhFgo bra;ag;gl;Ls;s nrhsj;jpy; Me;j;uhf;ndh!; kw;Wk;
,iyg;g[s;sp 15.0-18.5 rjtPjk;; fhzg;gLfpwJ. ,e;nehiaf; fl;Lg;gLj;j nkd;;nfhbrg] 75% WP

xU bQf;nlUf;F 1 fpnyh vd;w mstpy; bjsp;f ntz;Lk;;. njitf]F Vw]g ,ij 15 ehs; fHpj;J kPz;Lk;; bjsp;ft[k;.

kf;fhr;nrhsk; kw;Wk; nrhsg; gaph;fspy; bghf;f – nghap'; neha; :

kf;fhr;nrhsk; kw;Wk; nrhsg;gaph;fspy; bghf;f – nghap'; neha; tpthrhapfspd; tay;fspy; fhzg;gltpy;iy vd;whYk; TI mUg;g[f;nfh;il kz;ly Muha;r;rp epiyaj;jpy; epWtg;gl;Ls;s gy ,l nrhjid Muha;r;rp jply;fspd; ,d';fspy; fhzg;gLfpwJ. ,jidf; fl;Lg;gLj;j mtruj;njitahf xU ypl;lh; jz;zPUf;F g[nuhg;gpfdnrhy; 25% EC 1 kpyp vd;w mstpy; gaph;fspd; FUj;J gFjpia neh;fp bjsp;f ghpe;Jiuf;fg;gLfpwJ.

fk;g[

ugp gUtj;jpy; Fiynehapd; mwpFwpfs; bjd;gl;lhy; mjidf; fl;Lg;gLj;j fhh;gd;lhrpk; 50rj eida[k] Jhs; xU vf;IUf;F 500fpuhk; vd;w mstpy; bjsp;ft[k]. njitf]F Vw]g ,ij 15 ehs; fHpj;J kPz;Lk;; bjsp;ft[k;.

3. gaWtifg; gapu;fs;

cSe;J

g[nuhOdpah g[G jhf;Fjy; g[Jf;nfh;il khtl;l;jpy; fhzg;gl;IJ. g[nuhOdpah g[Gf;fisf; fl;Lg;gLj;j cSe;J tay;fspd; Xu';fspy; Mkzf;Fr; brofisg; bghwpg;gapuhfg; gaphpLtjd; \yk; ,g;g[{r;rpiaf; fl;Lg;gLj;jyhk;. tpsf;F bghwp Vf;fUf;F xd;W kw;Wk; ,df;ftu;r;rp; bghwp Vf;fUf;F le;J itj;J me;jpg; g{r;rpfisf; fth;e;J mHp;ft[k;. Kl;ilfisr; nrhfpj;J mHp;ft[k;. TI;lkhf thGk; ,sk; g[Gf;fis Mkzf;F/ jl;ilg;gaW kw;Wk; epyf;fliy ,iyfspy; ,Ue;J nrhfpj;J mHp;ft[k;. ntg;g';bfhl]ilr;rhW 5 rjk; bjsp;ft[k; (10 /vf;fu;) .

gr;ir gapW

jj;Jg;g{r;rp jhf;Fjy; g[Jf;nfh;il khtl;l;jpy; fhzg;gl;IJ. jj;Jg;g{r;rp jhf;Fjiyf;fl;Lg;gLj;j xU tupir bkhr;rira[lid; 4 gr;ir gapW vd;w tpfpj;jpy; CLgapu; bra;anntz;Lk;. ,kplhFnshgphpl; 17.8 v!;vy;. g{r;rp;bfhy;yp kUe;ij XU Vf;fUf;F 40 kpyp;yp my;JJ Ftpdhy;gh!; 25% EC 600 kpyp/Vf;fu; bjsp;f ghpe;Jiuf;fg;gLfpwJ.

cSe;J kw;Wk; gr;irg;gaW tpijg;g[bra;a[k; tpthrhapfSf;F fPH]fz]l xu';fpize;j k";rs; njky; neha; eph;thf tHpKiwfs; ghpe;Jiuf;fg;gLfpwJ.

- tpijfis nghuhf;!; @ 2 fpuhk; / fpnyh kw;Wk; 50 kpyp behr;rp ,iyr;rhW (10 rjk;) fiurypy; miu kzp neuk] Cwitj;J gpd; jakPj;jhf;rp; 30% FS @ 10 kpyp / fpnyh vd;w mstpy; tpij neh;j;jp bra]antz]Lk].

- *ngrpy;y!; rg;oyp!;* vf;IUf;F 2.5 fpnyh vd;w mstpy; 100 fpnyh kf;fpa bjhG cuj]Jld] fye;J kz;zpy; ,Intz[Lk].
- kf;fhr;nrhs gaphpid ,uz;L thpirapy; taypd; Xu';fspy; tug;g[gapuhf 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 tpjj;j 25 ehl;fs; tiu fise;J mHpf;ft[k;.
- tpjj;j 30-k; ehs; 0.1 rj nghuhf;!; kw;Wk; 10 rj behr;rp ,iyr;rhW bjspf;ft[k;.
- njitbadpy; neha; gug;g[k; bts;is <f;fisf; fl;Lg;gLj;j mbrokpgphpl; 20 WP vf;IUf;F 250 fpuhk; bjspf;ft[k;.

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

epyf;fliy

flYhh; khtl;l;jpy;,,, ,iyr;RUI;Lg;g[G jhf;Fjy;; 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;/ Ftpdhy;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.

flY}u; khtl;l;jpy; cs;s tp. ,Ug;g[[f;Fwpr;rp kw;Wk; bfhs;g;ghf;fk; fpuhk';fspy; gapuplg;gl;Ls;s epyf;fliyapy; fGj;J mGfy; nehapd; jhf;Fjy; 3 rjtPjk; tiu fz;lwpag;gl;Ls;sJ. ,e;neha nkyhz;ik bra;a ghjpf;fg;gl;l brofs; kw;Wk; mjid Rw;wpa[s;s brofSf;F fhu;b;gd;lhrpk; 1 fpuhk; 1 ypl;lu; ePupy; vd;w mstpy; fye;J kz;zpy; ntiur;Rw;wp Cw;wt[k;. nkYk;/ tUk; gUtj;jpy; epyf;fliy tpjif;Fk; nghJ oiunfhu;kh *m!;guy;yk*; 1 fpnyh tpjif;F 4 fpuhk; vd;w mstpy; tpj neu;j;jp bra;J tpjif;f gupe;Jiuf;fg;gLfpwJ.

vs;

fha;j;Jisg;ghd; jhf;Fjy; flYhh; kw;Wk; jpUtz;zhkiy khtl;l;jpy; fhzg;gl;IJ. ,jdf; fl;Lg;gLj;j nrjkile;j fha;fis nrfup;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/

5. gUj;jp

nfhit, jpz;Lf]fy; kw;Wk; tpUJefh] khtl;l';fspy; rhFgo bra;ag;gl;Ls;s gUj;jp gaphpy; *My;lh;ndhpah* ,iyg;g[s;sp, ghf;Ohpay; fUfy; kw;Wk; g[ifapiy fPw;W (*gl'ifapiy fPw;W er;Raphp*) neha;fspd; jhf;fk; mjpgf mstpy; fhzg;gl;IJ. *My;lh;ndhpah* ,iyg;g[s;sp neha;f; fl;Lg;gLj;j xU ypl;lh; jz;zPUf;F, nkd;nfhbrg; 75% WP @ 2 fpuhk;;; my;yJ og[nfhdnrhy; 25% EC @ 1 kpy;yp my;yJ og[nfhdnrhy; 50% + oiug[shf;rp!;l]nuhgpd; 25% WDG @

0.6 fpuhk;; vd;w mstpy; fye;J bjspf;fntz;Lk;. ghf;Ohpay; fUfy; nehapid fl;Lg;gLj;j fhg;gh; Mf;lpFnshiuL 50% WP @ 2.5 fpuhk;/ypl;lh; vd;w mstpy; bjspf;f ntz;Lk;. *glifapiy fPw;W er;Raphp* neha; gutiy fl;Lg;gLj;j ghj;j;Pdpak; fisr; brofis mfw;w ntz;Lk;. ,e;nehapid gug;g[k; ,iyg;ngd;fis fl;Lg;gLj;j gpg;nuhdpy; 5 rjtPjk; SC @ 2 kpy;yp/ypl;lh; my;yJ g[nshdpf;ikL 50 WS 0.4 fpuhk;;/ypl;lh;; vd;w mstpy; bjspf;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; fs;sf;Fwpr;rp khtl;lj;jpy; fhzg;gl;IJ. ,ilf;fqj; Jisg;ghidf; fl;Lg;gLj;j Kl;ilfisj; jhf;Fk; *oiuf;nfhf;fpuk;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 \oa gpsh!;of; Ftisfs; \yk; 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;J kht[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 bjspf;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 bjspf;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 bjspf;fntz;Lk;.
- taypy; vWk;g[fspd; elkh;l;ij bjhlh;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};lr; rj;Jf;fis ,;l;L kz;midf;f ntz;Lk;.

k";rs; ,iy neha;;

flY}u; khtl;lj;jpy;; gaphplg;gl;Ls;s fUk;g[gapupy; bjhlh;e;J k";rs; ,iy neha; fhzg;gLfpwJ. ,e;nehiaf] fl;Lg;gLj;j/ eltpw;F nehaw;w fuizfs; gad;gLj;j ntz;Lk;. fLikahf

ghjpf;fg;gl;l gFjpfspy; kWjkhk;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

FUj;J kw;Wk; fha;Jisg;ghd; jhf;Fjy; fpU#;zfphp/ njdp kw;Wk; jpd;Lf;fy;
khtl;l';fspy; fhzg;gl;lJ. ,tw;iwf; fl;Lg;gLj;j jhf;Fjypd; Muk;gepiyapy; nrjkile;j gFjpfis
nrfupj;J mHpj;f ntz;Lk;. braw;if igupj;uha;L kUe;Jfis bjspf;fTlhJ. ntg;gtpijr;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;yJ g[Sbgd;oaikL 20%WDG 7.5 fpuhk; / 10
ypl;lu; bjspf;fghpe;Jiuf;fg;gLfpwJ.

jf;fhsp

fha;j;Jisg;ghd; jhf;Fjy; njdp kw;Wk; jpz;;Lf;fy; khtl;l';fspy; fhzg;gl;lJ/ ,jdf;
fl;Lg;gLj;j ,df;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.y. my;yJ
,kplhFnshgphpl; 17.8 SL @ 100 kp.y. vd;w mstpy; bjspf;fyhk.; g{r;rp;f; bfhy;yp kUe;ij
15 ehl;fs; ,ilbtspapy; nehapd; jPtupj;ijg; bghWj;J kPz;Lk; bjspf;ft[k;. Kd;gUt ,iyg;g[s;sp
nehiaf; fl;Lg;gLj;j nkdnfhbrg; 75% WP g{r;f;bfhy;ypia vf;IUf;F 500 fpuhk; (m)
mrhf;rp!;l;nuhgpd; + ilbgd;nfhdhnrhy; 500kpyp vd;w mstpy; bjspf;ft[k;.

kpsfha;

,iyg;ngd; jhf;Fjy; kJiu jpz;;Lf;fy; kw;Wk; njdp khtl;l;jpy; fhzg;gl;lJ. ,iyg;ngd;
jhf;Fjiyf; fl;Lg;gLj;j mfj;jpia CLgapuhf gapu;bra;a ntz;Lk;. ,kplhf;Fnshg;gpl;17.8 SL 3
kpyp / 10 ypl;l;h; my;yJ ,khbkf;od; bgd;nrhnal; 5% SG 4 fpuhk; / 10 ypl;lu; my;yJ
mrplhkpgpiul 20 SP 10 fpuhk; /10 ypl;l;h; bjspf;f ghpe;Jiuf;fg;gLfpwJ.

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. neha; jhf;Fz;l brofis
mfw;wp mHpj;J tpl;L/ nehia gug;g[k; g{r;rp;fisf; 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; bjsp;fyhk.; g{r;rp; bfhy;yp kUe;ij 15 ehl;fs; ,ilbtspapy; nehapy; jPtup;ijg; bghWj;J kPz;Lk; bjsp;ft[k;.

g[ly';fha;

gH <f;fspd; jhf;Fjy; njdp kw;Wk; jpd;Lf;fy; khtl;l';fspy; fhzg;gl;IJ. ,jidf; fl;Lg;gLj;j nrjkile;j fha;fis nrfup;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; bjsp;f ghpe;Jiuf;fg;gLfpwJ.

btz;ilf;fha;

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

Riuf;fha;

nfhak;gj;J}h; khtl;lk;/ fpz;Jf;flt[tl;lhu;jpy; gaphplg;gl;Ls;s Riuf;fha; gaphpy; jz;oy; rhW toa[k; nehapy; jhf;Fjy;fs; M';fh';nf bjd;gLfpwJ. ,ijf; fl;Lg;gLj;j Fnshnuhjnyhdp;,, 75 WP vd;w g{"rhzf; bfhy;yp kUe;ij ypl;lh; jz;zPUf;F 2 fpuhk; tPjk;; bjsp;Jf; fl;Lg;gLj;jyhk;. nehapy; jPtup;ijg; bghWj;J 7 ehl;fs; ,ilbtspapy; kPz;Lk; bjsp;fyhk;.

ghfw;fha;

nfhak;J}h; khtl;lk; eurPg[uk; fpuhk;j]jpy; ghfw;fha; rhFgo bra;a[k; tay;fspy; Ma;t[nk;w;bfhs;sg;gl;IJ. kz; khjphpfspy] bkyha;nlhifd; ,d;fhf;dpl;lh (281/200 cc) fhzg;gl;IJ. nth; khjphpfspy] 43/ 5 fpuhk; fhzg;gl;IJ. **ghpe;Jiufs:** ntg;gk; gpz;zhf;F bQf;lUf;F 250 fpnyh kw;Wk; fhh;nghgpa[uhd; 40 fpuhk; ntiu Rw;wp ,LkhW ghpe;Jiuf;fg;gl;IJ.

8. gHg]gaph]fs;

thiH

thiHapy; Unfhæ; RUs; bts;is < jhf;Fjy;; fpU#;zfphp khtl;lj;jpy; fz;lwpag;gl;IJ. ,jid fl;Lg;gLj;j fPH;f;fz;l eltof;if Kiwifis ifahs ntz;Lk;.

- fisfis mg;g[wg;gLj;jp Jha;ikahf itj;jpUf;f ntz;Lk;.
- jhf;fpa thiH kuj;jpid mfw;wp tpl ntz;Lk;.

- mjpfkhd jz;zPu; gPr;rp jhf;fpa ,iyfspd; nkw;g[wk; kw;Wk; fPH;g[wk; ifbjspg;ghid bfhz;L bjspf;f ntz;Lk;.
- k";rs; xl;Lk; bghwp itj;J RUs; bts;is <f;fis nrfupj;J mǝpf;f ntz;Lk;.
- jhf;fk; mjpfkfhf ,Uf;Fk; gl;rj;jpy; ntg;g vz;bza; 2 kpyp;yp xU ypl;lu; jz;zPhpy; fye;J bjspj;J fl;Lg;gLj;j ntz;Lk;.

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

- kpft[k; ghjpj;j xd;W my;yJ ,uz;L mo ,iyfis mfw;wp vhpj;Jtplt[k; my;yJ kz;zpy; g[ijj;J tplt[k;.
- vf;IUf;F fhh;gd;lhrpk; 50% WP @ 500fp my;yJ khd;nfhbrg; 75% WP 1000fp xU khj ,ilbtspapy; bjspf;ft[k; . khw;whf g[nuhgpbfdnrhy; 25 EC 500 kpyp/vf;lh; + kpduy; vz;bza; 10kpyp/ 1 ypl;IUf;F fye;J bjspf;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; fhukil fpuhk;j]py; thiH rhFgo bra;a[k; tay;fspy; Ma;t[nkw;bfhs;sg;gl;IJ. kz; khjphpfspy] ராஜேரபேரலஸ் சிமிலிஸ் (252/200 cc) fhzg;gl;IJ. nth; khjphpfspy] 26/ 5 fpuhk; fhzg;gl;IJ. **ghpe;Jiufs:** ntg;gk; gpz;zhf;F bQf;IUf;F 250 fpnyh kw;Wk; fhh;nghgpa[uhd; 40 fpuhk; ntiu Rw;wp ,LkhW ghpe;Jiuf;fg;gl;IJ.

bfha;ah

njapiy bfhR ehtha;g;g{r;rp kw;Wk; gH < jhf;Fjy; kJiu khtl;l;jpy; fhzg;gl;IJ. mRtpdp kw;Wk; kht[g;g{r;rp jhf;Fjy; <nuhL khtl;l;jpy; fhzg;gl;IJ. gH < jhf;Fjiyf; fl;Lg;gLj;j, ,il cHt[bra;a ntz;Lk;/ nrjkile;j gH';fis nrfupj;J mHp;fntz;Lk;. ntg;bgz;iza; 3 rjk; (xUypl;lu; jz;zPUf;F 30 kpyp) fha; fha;f;Fk; gUtj;jpy; bjspf;f ntz;Lk;. kPj;ijy; a{\$pdhy; bghwp Vf;fUf;F 4 itf;f ntz;Lk;. njapiy bfhR ehtha;g;g{r;rpiaf; fl;Lg;gLj;j khyj;jpahd; 50 EC 2 kpyp / 10 ypl;lu; bjspf;f ghpe;Jiuf;fg;gLfpwJ. kht[g;g{r;rpiaf; fl;Lg;gLj;j ,iutpG';fpahd *fphpg;nlhyPk!* bghwp tz;oid kuj;jpw;F 10 vd;w vz;zj;jpy; tplt[k;,. mRtpdpiaf; fl;Lg;gLj;j g[{r;rp;bfhy;yp kUe;jhd ilkPj;njhna; 30 ,.rp. 2 kp;yp;,. xU ypl;lh; jz;zPhpy; fye;J bjspf;ft[k;.

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[Jnfhl]il, 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 fpyh gh;g[hpnahrpypak] ypyhrpd;
(bgrpnyhikr!; ypy]yhrpd!;) kw;Wk; 2.5 fpyh bghf;nfhdpah fpnshkpnlh!;nghupah
caphpdf; fyitia 100 fpyh bjhG cuk;;; fye;;J 15 ehl;fSf;F epHypy; itj;J ePh; bjspj;J itf]f
ntz]Lk]. gpd;dh; ,]e]j caphpdf]fyitia kuj;jpw;F 500 fpuhk; tPjk; ,uz;L khj';fSf;F xU Kiw
,lntz;Lk;. nfe;jp kyh] broia kuj;ijr] Rw]wp tsh]f]f ghpe;Jiuf;fg;gLfpwJ. E}w;g[Gf;fs;
mjpfKs;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; ignlhyhd; 2 fpuhk;/ 1 ypl;lh; ePhpy;
fye;J kuj;ij Rw;wp Cw;wt[k; ghpe;Jiuf;fg;gLfpwJ.

vYkpr;ir

rpye;jp jhf;Fjy; njdp kw;Wk; jpd;Lf;fy; khtl;lj;jpy; fhzg;gl;IJ. ,jidf; fl;Lg;gLj;j
lahbgd;jpa{uhd; 50 WP 2 fpuhk;/ ypl;lu; bjspf;f ghpe;Jiuf;fg;gLfpwJ.

rg;nghl;lh

kht[g;g{r;rp jhf;Fjy; <nuhL khtl;lj;jpy; fhzg;gl;IJ. kht[g;g[{r;rpiaf; fl;Lg;gLj;j
,iutpG';fpahd fphpg;nhyPk!; bghwp tz;oid kuj;jpw;F 10 vd;w vz;zj;jpy; tplt[k;;.

jpuhr;ir

,iytz;L kw;Wk; ,iyg;ngd; jhf;Fjy; njdp kw;Wk; jpd;Lf;fy; khtl;lj;jpy; fhzg;gl;IJ.
,iyg;ngd; jhf;Fjiyf; fl;Lg;gLj;j irahd;l;uhdpypg;g[nuhy; 10.26 OD 7 kpyp/ 10 ypl;lu;
my;yJ ,khbkf;od; bgd;nrhna; 5 SG 4 fpuhk; / 10 ypl;lu; bjspf;f ghpe;Jiuf;fg;gLfpwJ.
,iytz;L jhf;Fjiyf; fl;Lg;gLj;j irahd;l;uhdpypg;g[nuhy; 10.26 OD 7 kpyp/ 10 ypl;lu; bjspf;f
ghpe;Jiuf;fg;gLfpwJ.

njdp khtl;lj;jpy; rhFgo bra;ag;gl;Ls;s jpuhl;irapy; rhk;gy; nehapd; ghjpg;g[
fhzg;gLfpwJ. ,e;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; kiyj; njhl;,,,lg;gaph;fs;

fUntg;gpiy

rpy;ypL my;yJ Fjpf;Fk; ehta;g;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;rpfSf;F Vf;fUf;F 50 vz;fs; k";rs; epw xl;Lg;bghwpfs; (30 br.kP x 15 br.kP) itf;f ntz;Lk;.
- ,iyr;RUI;Lg; g[Gitf; fz;fhzpf;f Vf;fUf;F xU xspg;bghwpia epWt ntz;Lk;.
- ,iyr;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;fUf;F 5 rprp vd;w mstpy; gad;gLj;jt[k;. nkYk; *fpiunrhbguy;yh rh!;l;nuhtp rpy;bykp (Chrysoperla Zastrowi sillemi)* vd;w gr[jirfz]zho ,wfjif g{r;rp ,iu tpG';fp Kl]ilfis vf;fUf;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; ,iyr;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 mjpgupf;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;lhkpUftz;L/ rptg;g[f; Tz;tz;L/ vupnahigl; rpye;jp jhf;Fjy; jkpH;ehl;od; midj;J khtl;l';fspYk; fhzg;gl;IJ. Mg;gphpf;f ,uhl;rr ej;ij g[Jf;nfh;l;il khtl;lj;jpy; fhzg;gl;IJ.

Mg;gphpf;f ,uhl;rr ej;ij

- fisr; brofs; kw;Wk; ,ju fHpt[fis mfw;wp ej;ijfs; kiwe;J thGtjw;F Vw;w ,l';fs; ,y;yhky; bra;a ntz;Lk;.
- ifa[iw mzpe;J bfhz;L ej;ijfis ifahy; bghUf;fp czt[cg;g[cs;s thspapy; ,l;L mHpf;f ntz;Lk;.
- czt[cg;ig tay;fs; my;yJ njhl;l';fis Rw;wp itj;J ej;ijfs; EiHahky; jLf;f ntz;Lk;.
- Kl;ilnfhR ,iyfs; my;yJ gg;ghsp jz;Lfis rpWrpW Jz;Lfshf eWf;fp tay;fspy; M';fh';nf itj;J ej;ijfisf; fth;e;J mHpf;f ntz;Lk;.
- 15 rj cg;g[ePhpy; eid;jj <u Jzprhf;Ffis Xh; Vf;fUf;F 10 ,l';fspy;; M';fh';nf itj;J ej;ijfisf; fth;e;J mHpf;f ntz;Lk;.
- bkl;lhy;oiQl; 2.5 rj o.g;gp. kUe;ij Xh; Vf;fUf;F 8 fpnyh vd;wstpy; taypy; bjspf;f ntz;Lk;.

- giHa czt[fs; kw;Wk; mGfpa gH';fis taypy; M';fh';nf itj;J mjidr;Rw;wp bkl;lhy;oiQl; 2.5 rj o.g;gp. kUe;ij Xh; Vf;fUf;F 2 fpnyh vd;wstpy; bjspj;J ej;ijfis; fth;e;J mHpff;f ntz;Lk;.
- ku';fspy; jfu #Pl;fis itj;J ej;ijfs; ku';fspd; nky; Vwhky; jLf;f ntz;Lk;.
- thj;Jfs;/ gwitfs;/ ghk;g[fs; Mfpait ej;ijfis czthf cz;L mHpff;ff;Toait.

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

- k"rs] epwghypj;jPd; jhs;fshy; cUthf;fg;gl;/ ,uz;L g[wKk; tpsf;bfz;bza; jltg;gl;l k"rs] epwxl;Lk; bghwpfs; (ePsk] 5 mo x mfyk] 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; mHpff;fyhk;.
- jhf]fg]gl]l ku']fspy] cs]sfPH]kl]l Xiyfspd] cl;gFjpapy; gLkhW tpirj] bjspg]ghidf] bfhz]L kpf ntfkhf jz]zPiugPa;r;rp moj;J bjspg]gjd] \ykhft[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*) TI]Lg]g[G gUtj;ij 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 mjpfupf;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;Ffspy; goe;jpUf;Fk; fUk;g{rhz';fspd; nky; ed;whf gLkhW bjspj;ft[k; . ikjh kht[gir bjspj;j 3 Kjy; 5 ehl;fspy; ,iyfspy; goe;jpUe;j fUk;g{r z';fs; btapypy; fha;e;J cjpu;e;J tpLk;.
- braw]if ighpj]jpuha]L kw]Wk] ,urhad g{r]rp]bfhy]ypfs; ,aw]if vjpupfismHpj]J tpLtjhy; mtw;iw mwnt gad]gLj]jnt TIhJ.
- gupe;Jiuf;fg;gl;l cu';fis ,l;Ljz;zPu;;gha;r;rntz;Lk;.

fhz;lhkpUftz;ilfl;Lg;gLj;jxU';fpize]] 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; nrfhpj;J mHp]ft[k].
- \d]W me]JUz]ilfis eLf]FUj]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]FUj]Jg] gFjpapy] Jhtptplyhk;.
- vUf]FHpapy] tsh]e]J tUk] g[Gf]fismHp]f kiHf]fhy';fspy] gr]ir kl]fhh]od] (*Metarhiziumanisopliae*) vd]w g{"rhzj]ij 5×10^{11} tpj]Jf]fs;/kP³ vd]wmstpy] Cw]wyhk;.
- iundhupa{h] fth]r]rpg] bghwpfis vf]lUf]F xd]W tPjk; itj;J Mz] kw]Wk] bgz; tz]Lfisf; fth]e]J mHp]fyhk].
- fth]r]rpg; bghwpfis bjd;id kuj]jpnhy my]yJ Xiyfspnyh fl]oitg;gij jtp]f]ft[k].
- fth;r;rpg; bghwpfspy; tpGk; tz;Lfisf; fz;fhzpj;J cldoahf mHpj;J tpltz;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 mHp]fyhk].
- kuj;jpd; FUj;Jg; ghfj;jpy; tz;Lfs; nrjg;gLj;jpa Jisfspy; 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;JmHp]fyhk;.
- xd;Wf;Fk; nkw;gl;l nkyhz;ik Kiwfis XU';fpizj;J nkw;bfhz;lhy; jhd; fhz;lhkpUftz;od; jhf;Fjy; 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]] 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] jtp]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;jjpw;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.yp kw;Wk;; xU kp.yp. 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]j]pd] bjd]id lhdp]if kuj]jpw]F 200 kpyp vd]wmstpy] MW khj ,ilbtspapy] tUl]j]pw]F 2 Kiw nth] \yk] brY]j]t[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;I ku';fis btl;o mfw;w ntz;Lk;.
- rhpahd tofhy; trij 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 kl;fp cGJ tpl ntz]Lk].
- ghpe;Jiuf;fg;gl;I 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;jjpw;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; mnrh!;ighpy;yk;;/ 100 fpuhk; gh!;nghghf;Ohpah kw;Wk; 50 fpuhk;; nth;cl;g{rz; Mfpatw]iw 5 fpnyh kf;fpa bjhG cuj;Jld; fye]J tUl]j]pw]F ,U Kiw tl;lg;ghj;jpapy; ,l;L kz;iz fswptpl 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 bghe 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;; nehahdJ/ 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 claoahf btl;o mfw;w ntz;Lk;.
- gRe]jhs] cu'fshd j]ilg]gaW/ rzg]ig my;yJ j]ifg]g{z]L Mfpaw]iw tl]lg]ghj]jp my;yJ njhg;g[gFjp KGtJk; tsh;j;J g{f]Fk] Kd]dnu kl;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; bgh;l;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; Mfpaw]iw 5 fpnyh kf;fpa bjhG kuj;Jld; fye;J tUlj]jp]F ,U Kiw tl;lg;ghj;jpapy; ,l;L kz;iz fswptpl 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;r;rpq; bghwpfis 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 Fnshupigupgh!; 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 plf;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 mjpfkhdms[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

,iyngd; kw;Wk; brjpy; g{r;rp jhf;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 xUkpypxl;Lk; jputk; nru;j;J bjsp;f ghpe;Jiuf;fg;gLfpwJ.

bfhy;ypkiy kw;Wk; bfhilf;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[ld; 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; bjspj;J bfhofspd; nth; gFjpfspd; kz;iz eidf;ft[k;;.
- 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