

ICAR-National Research Centre for Integrated Pest Management, Pusa, New Delhi
Weekly Status Report on Insects Pests & Diseases of Crops

Name of Institute: ICAR - INDIAN INSTITUTE OF SPICES RESEARCH, KOZHIKODE 673 012, KERALA
 Date: 19.07.2018 - 25.07.2018

Crop	Crop Stage	Location (with GPS)	Major Insect Pests		Major Plant Diseases		Other Pests (Nematodes, Rat, etc.) (Scientific Name)	Pest Advisories
			Name (Scientific Name)	Status (Low, Medium & Severe)	Name (Scientific Name)	Status (Low, Medium & Severe)		
Black pepper	Nursery/ Vegetative/ spike formation	Idukki, Kozhikode, Wayanad (Kerala), Kodagu (Karnataka), Tamil Nadu	Scale insects (<i>Protopulvinaria longivalvata</i> , <i>Lepidosaphes piperis</i>) (Field) Root mealybug (<i>Planococcus</i> sp.) (Field) Mealybug (<i>Planococcus</i> sp., <i>Ferrisia virgata</i>)	Low Medium Low	Foot rot (<i>Phytophthora</i> spp.) Anthraxnose (<i>Colletotrichum</i> spp.) Stunt disease (<i>Cucumber mosaic virus</i> , <i>Piper yellow mottle virus</i>) Slow decline (<i>Meloidogyne incognita</i>).	Low Low Low Low	Nematodes (<i>Radopholus similis</i> , <i>Meloidogyne incognita</i>) (Nursery)	Field: Foliar infection and foot rot After the receipt of monsoon showers, all the vines are to be drenched at a radius of 45-50 cm with copper oxychloride 0.2% @ 5- 10 litres/vine. A foliar spray with Bordeaux mixture 1% is also to be given. Alternatively, drenching and spraying with potassium phosphonate 0.3% @ 5-10 litres/ vine (drench) or potassium phosphonate 0.3% @ 5-10 litres/ vine (drench) also may to be given.

			(Nursery) Scale insect (<i>Protospulvinaria longivalvata</i>) (Nursery)	Low	<i>Radopholus similis</i> Anthracnose (<i>Colletotrichum</i> spp.) (Nursery) Basal wilt (<i>Sclerotium rolfsii</i>) (Nursery) Viral infection (Nursery)	Low Low Low
--	--	--	---	-----	---	---------------------------

Anthracnose
Anthracnose
Prophylactic spraying with Bordeaux mixture (1%) or carbendazim - mancozeb (0.1%).

Stunt disease
Regular monitoring. Remove infected vines and destroy by burning or burying deep in soil. Control the vector (mealy bugs) by drenching neem oil (0.5%).

Slow decline
Remove and destroy severely affected vines. Apply neem cake @ 500g/vine and biocontrol agents like *Pochonia chlamydosporia* or *Trichoderma harzianum* @ 50 g/vine and metalaxyl-mancozeb (0.125%) may also be applied.

Scale insects
Spray neem oil (0.5%), once infestation is noticed.

Root mealybug
Drench neem oil (0.5%), once infestation is noticed.

Nursery:
Anthracnose
Spray Bordeaux mixture (1%).
Basal wilt
Remove and destroy affected cuttings along with defoliated leaves.
After periodic sanitation, the cuttings should be drenched with carbendazim (0.2%) or Bordeaux


							<p>mixture (1%).</p> <p>Viral infections Regular inspection and removal of infected plants. Regular monitoring for insects and spray with neem oil (0.5%) whenever infestation is noticed.</p> <p>Mealy bug and scale insects Spray neem oil (0.5%), once infestation is noticed.</p> <p>Nematodes Apply <i>Pochonia chlamyosporia</i> @ 1g/bag.</p>
Cardamom	Vegetative/ Panicle initiation/ Capsule formation	Idukki, Wayanad (Kerala), Kodagu (Karnataka)	Thrips (<i>Sciothrips cardamomi</i>) Shoot borer (<i>Conogethes punctiferalis</i>)	Low Low	Azhukal/Capsule rot (<i>Phytophthora nicotianae</i> var. <i>nicotianae</i> and <i>P. meadii</i>) Leaf blight (<i>Colletotrichum spp.</i>) Katte/Mosaic (<i>Cardamom mosaic virus</i>) Chlorotic streak (<i>Banana bract mosaic virus</i>)	Low to Medium Low Low	<p>Azhukal/Capsule rot Trashing and cleaning of the plant basin need to be carried out. Regulate thick shade. Prevent water logging by providing adequate drainage. Destroy disease affected portions and plant debris. Prophylactic sprays with Bordeaux mixture (1%). Alternatively, fosetyl-aluminium (0.2%) or potassium phosphonate (0.3%) can be used. Drench plant basin with copper oxychloride (0.2%).</p> <p>Leaf blight Maintain optimum shade level by providing 40-60% filtered light.</p> <p>Katte/ Mosaic Prompt inspection of plantation, detection and rouging of virus sources (infected plants/ volunteers) to reduce re-infection. The removed</p>

							<p>plants may be burnt or buried deep in soil. Removal of natural hosts like <i>Colocasia</i> and <i>Caladium</i> to destroy breeding sites and check population build-up of the vector.</p> <p>Chlorotic streak Prompt inspection of plantation, detection and rouging of virus sources (infected plants/ volunteers) to reduce re-infection. The removed plants may be burnt or buried deep in soil.</p> <p>Shoot borer Spray quinalphos (0.075%).</p> <p>Thrips Spray quinalphos 25%EC (0.075%) after undertaking thrashing.</p>
Ginger	Planting	Karnataka. Kerala	Rhizome scale (<i>Aspidiella hartii</i>)	Soft rot (<i>Pythium aphanidermatum</i> and <i>P. myriotylum</i>)	Low	<p>Nematodes Root knot (<i>Meloidogyne</i> spp.). Burrowing (<i>Radopholus similis</i>) and Lesion (<i>Pratylenchus</i> spp.)</p> <p>Soft rot As prophylactic measures: Use disease-free seed rhizomes for planting. Select well drained soil for planting and provide adequate drainage to prevent water stagnation. Treat seed rhizomes with mancozeb (0.3%) or metalaxyl-mancozeb (0.125%) for 30 minutes before planting.</p> <p>Rhizome scale Treat the seed rhizomes with quinalphos (0.075%) (for 20-30 minutes) before planting if the infestation persists.</p> <p>Nematodes As prophylactic measures: Use nematode-free healthy seed</p>	

							rhizomes for planting. In root knot nematode endemic regions, the resistant variety IISR Mahima may be cultivated. The bioagent, <i>Pochonia chlamydosporia</i> may be incorporated in ginger beds (20 g/bed with 10 ⁶ cfu/g) at the time of planting.
Turmeric	Planting	Andhra Pradesh, Telangana, Tamil Nadu, Odisha	Rhizome scale (<i>Aspidiella hartii</i>)	Rhizome rot (<i>Pythium aphanidermatum</i>)	Low	Nematodes Root knot (<i>Meloidogyne</i> spp.), Burrowing (<i>Radopholus similis</i>) and Lesion (<i>Pratylenchus</i> spp.)	Rhizome rot As prophylactic measures: Use disease-free seed rhizomes for planting and provide adequate drainage to prevent water stagnation. Treat seed rhizomes with mancozeb (0.3%) for 30 minutes before planting. Rhizome scale Treat the seed rhizomes with quinalphos (0.075%) (for 20-30 minutes) before planting if the infestation persists. Nematodes As prophylactic measures: Use nematode-free healthy seed rhizomes for planting. In root knot nematode endemic regions, the resistant variety IISR Pragati may be cultivated. The bioagent, <i>Pochonia chlamydosporia</i> may be incorporated in ginger beds (20 g/bed with 10 ⁶ cfu/g) at the time of planting.
Vanilla	Vegetative	Karnataka		Root and stem rot	Low		Root and stem rot Soil drenching with copper

Director
 National Institute of Spices Research
 Shimoga Campus-577 318
 Shimoga, Karnataka, India

					(<i>Fusarium oxysporum</i> f. sp. <i>vanillae</i>) Viral diseases (<i>Bean common mosaic virus</i> , <i>Bean yellow mosaic virus</i> , <i>Cucumber mosaic virus</i> , <i>Cymbidium mosaic virus</i>)	Low		oxychloride @ 0.25% followed by spray with carbendazim (0.25%) at monthly interval. Viral diseases Regular inspection and removal of infected plants. The removed plants may be burnt or buried deep in soil. Control of vector (aphids) may be undertaken by spraying neem oil (0.5%).
Nutmeg	Bearing	Kerala			Leaf fall and fruit rot (<i>Diplodia natalensis</i> and <i>Phytophthora</i> sp.)	Low		Leaf fall and fruit rot In endemic regions, spray Bordeaux mixture (1%) covering both foliage and fruits as a prophylactic measure.


 (Nodal Officer) 18.7.18
 Name: Biju. C.N.
 Designation: Sr. Scientist
 (Plant Pathology)


 Director/Head of Institution
 निदेशक Director
 भारतीय मसाला फसल अनुसंधान संस्थान
 Indian Institute of Spices Research
 कालिकट Calicut-673 012
 केरल Kerala, भारत India