

**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: 05.07.2018 - 11.07.2018**

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	<b>Scale insects</b> ( <i>Protospulvinaria longivalvata</i> , <i>Lepidosaphes piperis</i> ) (Field) <b>Root mealybug</b> ( <i>Planococcus</i> sp.) (Field) <b>Mealybug</b> ( <i>Planococcus</i> sp., <i>Ferrisia virgata</i> )	Low  Medium  Low	<b>Foot rot</b> ( <i>Phytophthora</i> spp.) <b>Anthracnose</b> ( <i>Colletotrichum</i> spp.) <b>Stunt disease</b> ( <i>Cucumber mosaic virus</i> , <i>Piper yellow mottle virus</i> ) <b>Slow decline</b> ( <i>Meloidogyne incognita</i> ,	Low  Low  Low  Low	<b>Nematodes</b> ( <i>Radopholus similis</i> , <i>Meloidogyne incognita</i> ) (Nursery)	<b>Field:</b> <b>Foliar infection and foot rot</b> 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) <b>Scale insect</b> ( <i>Protopulvinaria longivalvata</i> ) (Nursery)	Low	<i>Radopholus similis</i> <b>Anthracnose</b> ( <i>Colletotrichum</i> spp.) (Nursery) <b>Basal wilt</b> ( <i>Sclerotium rolfsii</i> ) (Nursery) <b>Viral infection</b> (Nursery)	Low  Low  Low	<p><b>Anthracnose</b> Prophylactic spraying with Bordeaux mixture (1%) or carbendazim - mancozeb (0.1%).</p> <p><b>Stunt disease</b> 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%).</p> <p><b>Slow decline</b> Remove and destroy severely affected vines. Apply neem cake @ 500g/vine and biocontrol agents like <i>Pochonia chlamydosporia</i> or <i>Trichoderma harzianum</i> @ 50 g/vine and metalaxyl-mancozeb (0.125%) may also be applied.</p> <p><b>Scale insects</b> Spray neem oil (0.5%), once infestation is noticed.</p> <p><b>Root mealybug</b> Drench neem oil (0.5%), once infestation is noticed.</p> <p><b>Nursery:</b> <b>Anthracnose</b> Spray Bordeaux mixture (1%). <b>Basal wilt</b> Remove and destroy affected cuttings along with defoliated leaves. After periodic sanitation, the cuttings should be drenched with carbendazim (0.2%) or Bordeaux</p>
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							<p>mixture (1%).</p> <p><b>Viral infections</b> Regular inspection and removal of infected plants. Regular monitoring for insects and spray with neem oil (0.5%) whenever infestation is noticed.</p> <p><b>Mealy bug and scale insects</b> Spray neem oil (0.5%), once infestation is noticed.</p> <p><b>Nematodes</b> Apply <i>Pochonia chlamydsoria</i> @ 1g/bag.</p>
Cardamom	Vegetative/ Panicle initiation/ Capsule formation	Idukki, Wayanad (Kerala), Kodagu (Karnataka)	<b>Thrips</b> ( <i>Sciothrips cardamomi</i> ) <b>Shoot borer</b> ( <i>Conogethes punctiferalis</i> )	Low  Low	<b>Azhukal/Capsule rot</b> ( <i>Phytophthora nicotianae</i> var. <i>nicotianae</i> and <i>P. meadii</i> ) <b>Leaf blight</b> ( <i>Colletotrichum spp.</i> ) <b>Katte/Mosaic</b> ( <i>Cardamom mosaic virus</i> ) <b>Chlorotic streak</b> ( <i>Banana bract mosaic virus</i> )	Low to Medium  Low  Low  Low	<p><b>Azhukal/Capsule rot</b> 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.</p> <p>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><b>Leaf blight</b> Maintain optimum shade level by providing 40-60% filtered light.</p> <p><b>Katte/ Mosaic</b> 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><b>Chlorotic streak</b> 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><b>Shoot borer</b> Spray quinalphos (0.075%).</p> <p><b>Thrips</b> Spray quinalphos 25%EC (0.075%) after undertaking thrashing.</p>
Ginger	Planting	Karnataka, Kerala	<b>Rhizome scale</b> ( <i>Aspidiella hartii</i> )	<b>Soft rot</b> ( <i>Pythium aphanidermatum</i> and <i>P. myriotylum</i> )	Low	<p><b>Nematodes</b> Root knot (<i>Meloidogyne</i> spp.), Burrowing (<i>Radopholus similis</i>) and Lesion (<i>Pratylenchus</i> spp.)</p>	<p><b>Soft rot</b> 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><b>Rhizome scale</b> Treat the seed rhizomes with quinalphos (0.075%) (for 20-30 minutes) before planting if the infestation persists.</p> <p><b>Nematodes</b> 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 <sup>6</sup> cfu/g) at the time of planting.
Turmeric	Planting	Andhra Pradesh, Telangana, Tamil Nadu, Odisha	<b>Rhizome scale</b> ( <i>Aspidiella hartii</i> )		<b>Rhizome rot</b> ( <i>Pythium aphanidermatum</i> )	Low	<p><b>Nematodes</b> Root knot (<i>Meloidogyne</i> spp.), Burrowing (<i>Radopholus similis</i>) and Lesion (<i>Pratylenchus</i> spp.)</p> <p><b>Rhizome rot</b> 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%) for 30 minutes before planting.</p> <p><b>Rhizome scale</b> Treat the seed rhizomes with quinalphos (0.075%) (for 20-30 minutes) before planting if the infestation persists.</p> <p><b>Nematodes</b> 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<sup>6</sup> cfu/g) at the time of planting.</p>
Vanilla	Vegetative	Karnataka			<b>Root and stem rot</b>	Low	<b>Root and stem rot</b> Soil drenching with copper

					( <i>Fusarium oxysporum</i> f. sp. <i>vanillae</i> ) <b>Viral diseases</b> ( <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. <b>Viral diseases</b> 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			<b>Leaf fall and fruit rot</b> ( <i>Diplodia natalensis</i> and <i>Phytophthora</i> sp.)	Low	<b>Leaf fall and fruit rot</b> In endemic regions, spray Bordeaux mixture (1%) covering both foliage and fruits as a prophylactic measure.

  
 (Nodal Officer) 5.7.18  
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