

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

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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	Mealybug (<i>Planococcus</i> sp., <i>Ferrisia</i> <i>virgata</i>) (Nursery)	Low	Stunt disease (<i>Cucumber</i> <i>mosaic virus</i> , <i>Piper yellow</i> <i>mottle virus</i>)	Low	Nematodes (<i>Radopholus</i> <i>similis</i> , <i>Meloidogyne</i> <i>incognita</i>) (Nursery)	Field: 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%).
				Low		Slow decline (<i>Meloidogyne</i> <i>incognita.</i> , <i>Radopholus</i> <i>similis</i>)		
				Foliar infection/Foot rot (<i>Phytophthora</i> spp.)	Low	Slow decline 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.		
				Anthracnose (<i>Colletotrichum</i> <i>gloeosporioides</i>)	Low			
				Anthracnose (<i>Colletotrichum</i> <i>gloeosporioides</i>) (Nursery)	Low			

					Viral infection (Nursery)	Low		<p>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.</p> <p>Anthracnose Prophylactic spraying with Bordeaux mixture (1%) or carbendazim - mancozeb (0.1%).</p> <p>Nursery: Anthracnose Spray Bordeaux 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 insect Spray neem oil (0.5%), once infestation is noticed.</p> <p>Nematodes Apply <i>Pochonia chlamydosporia</i> @ 1g/bag.</p>
Cardamom	Vegetative/ Panicle initiation/ Capsule formation	Idukki, Wayanad (Kerala), Kodagu (Karnataka)	Thrips (<i>Sciothrips cardamomi</i>)	Medium	Leaf blight (<i>Colletotrichum gloeosporioides</i>) Azhukal/Capsul e rot (<i>Phytophthora nicotianae</i> var. <i>nicotianae</i> and <i>P. meadii</i>)	Low Medium		<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 plants may be burnt or buried deep</p>

					Katte/Mosaic <i>(Cardamom mosaic virus)</i> Chlorotic streak <i>(Banana bract mosaic virus)</i>	Low Low	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. 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. 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%). Thrips Spray quinalphos (0.075%) after undertaking thrashing.
Vanilla	Vegetative	Karnataka			Leaf spot <i>(Colletotrichum vanillae)</i> Stem rot <i>(Fusarium oxysporum f. sp. vanillae)</i> Viral diseases	Low Low Low	Leaf spot Provide 50% shade in the plantation. Spray Bordeaux mixture (1%) at 15 – 20 days interval. Stem rot Remove and destroy infected plant parts. Apply <i>Trichoderma harzianum</i> and <i>Pseudomonas</i>

					(<i>Bean common mosaic virus</i> , <i>Bean yellow mosaic virus</i> , <i>Cucumber mosaic virus</i> , <i>Cymbidium mosaic virus</i>)		<i>fluorescens</i> (cfu 10 ⁸) 50 g per vine. 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%).
Ginger	Vegetative	Karnataka, Kerala	Leaf roller (<i>Udaspes folus</i>) Shoot borer (<i>Conogethes punctiferalis</i>)	Low Medium	Soft rot (<i>Pythium aphanidermatum</i> and <i>P. myriotylum</i>) Bacterial wilt (<i>Ralstonia solanaceraum</i>) Leaf spot (<i>Phyllosticta zingiberi</i>)	Medium Medium Medium	Soft rot Once disease is observed in field, remove affected clumps and drench affected and surrounding beds with mancozeb (0.3%) or metalaxyl mancozeb (0.125%) or copper oxychloride (0.2%). Bacterial wilt Confirm identity of the disease by “ooze test”. After confirming as bacterial wilt, affected clumps shall be removed carefully without spilling the soil in the field and drench surrounding beds of infested areas with copper oxychloride (0.2%). Care should be taken to dispose the removed plants far from the cultivated area or destroyed by burning. Leaf spot Spray Bordeaux mixture (1%) or mancozeb (0.2%) or carbendazim (0.2%) when the initial symptoms appear. Care should be taken that the spray solution should reach lower surface of the leaves also. Leaf roller

								<p>Spray malathion (0.1%) at 21 days intervals.</p> <p>Shoot borer Prune and destroy freshly infested pseudostems and spray malathion (0.1%).</p>
Turmeric	Vegetative	Andhra Pradesh, Telangana, Tamil Nadu, Odisha	Leaf roller (<i>Udaspes folus</i>)	Low	Rhizome rot (<i>Pythium aphanidermatum</i>)	Low		<p>Rhizome rot Once noticed in the field, the beds should be drenched with copper oxychloride (0.2%) or metalaxyl - mancozeb (0.125%).</p> <p>Leaf roller Spray malathion (0.1%) at 21 days intervals.</p>
Nutmeg	Bearing	Kerala			Leaf fall and fruit rot (<i>Diplodia natalensis</i> and <i>Phytophthora</i> sp.)	Low		<p>Leaf fall and fruit rot In endemic regions, spray Bordeaux mixture (1%) covering both foliage and fruits as a prophylactic measure.</p>