

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: 09.08.2018 - 15.08.2018


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/ Spike formation/settin g	Idukki, Kozhikode, Wayanad (Kerala), Kodagu (Karnataka), Tamil Nadu	Scale insects (<i>Protospulvinaria longivalvata</i> , <i>Lepidosaphes piperis</i>) (Field)	Low	Foot rot (<i>Phytophthora</i> spp.)	Medium	Nematodes (<i>Radopholus similis</i> , <i>Meloidogyne incognita</i>) (Nursery)	Field: Foliar infection and foot rot Provide adequate drainage. Foliar spray with Bordeaux mixture (1%) and drench the vines at a radius of 45-50 cm with copper oxychloride (0.2%) @ 5-10 litres/vine. 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 can be given. Anthracnose Spray 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
			Root mealybug (<i>Planococcus</i> sp.) (Field)	Low	Anthracnose (<i>Colletotrichum</i> spp.)	Medium		
			Mealybug (<i>Planococcus</i> sp., <i>Ferrisia virgata</i>) (Nursery)	Low	Stunt disease (<i>Cucumber mosaic virus</i> , <i>Piper yellow mottle virus</i>)	Low		
			Scale insect (<i>Protospulvinaria longivalvata</i>) (Nursery)	Low	Slow decline (<i>Meloidogyne incognita</i> , <i>Radopholus similis</i>)	Low		
					Anthracnose (<i>Colletotrichum</i> spp.) (Nursery)	Low		
					Basal wilt (<i>Sclerotium rolfsii</i>) (Nursery)	Low		


					Viral infection (Nursery)	Low	
Cardamom	Vegetative/	Idukki,	Thrips	Low	Azhukal/Capsul	Low to	<p>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>Scale insects Spray neem oil (0.5%), once infestation is noticed.</p> <p>Root mealybug Drench neem oil (0.5%), once infestation is noticed.</p> <p>Nursery: Anthraxnose Spray Bordeaux mixture (1%).</p> <p>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 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 chlamydosporia</i> @ 1g/bag.</p> <p>Azhukal/Capsule rot</p>

	Panicle initiation/ Capsule formation	Wayanad (Kerala), Kodagu (Karnataka)	(<i>Sciothrips cardamomi</i>) Shoot borer (<i>Conogethes punctiferalis</i>)	Low	e rot (<i>Phytophthora nicotianae</i> var. <i>nicotianae</i> and <i>P. meadii</i>) Leaf blight (<i>Colletotrichum</i> spp.) Katte/Mosaic (<i>Cardamom mosaic virus</i>) Chlorotic streak (<i>Banana bract mosaic virus</i>)	Medium Low Low Low	<p>Trash and clean the plant basins. Prevent water logging by providing adequate drainage. Destroy disease affected portions and plant debris. Spray 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). The removed 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). 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% (0.075%) after undertaking thrashing.</p>
Ginger	Vegetative	Karnataka,	Leaf roller	Low	Soft rot	Low to	Soft rot

		Kerala	(<i>Udaspes folus</i>) Shoot borer (<i>Conogethes punctiferalis</i>)	Low	(<i>Pythium aphanidermatum</i> and <i>P. myriotylum</i>) Bacterial wilt (<i>Ralstonia solanacearum</i>) Leaf spot (<i>Phyllosticta zingiberi</i>)	Medium Low Medium	<p>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%).</p> <p>Bacterial wilt Confirm identity of the disease by "ooze test". After confirmation, 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.</p> <p>Leaf spot Spray Bordeaux mixture (1%) or mancozeb (0.2%) or carbendazim (0.2%) with the appearance of initial symptoms. Care should be taken that the spray solution should reach lower surface of the leaves.</p> <p>Leaf roller Spray malathion (0.1%) at 21 days interval.</p> <p>Shoot borer Prune and destroy freshly infested pseudostems and spray malathion (0.1%).</p>
Turmeric	Vegetative	Andhra Pradesh, Telangana, Tamil Nadu,	Leaf roller (<i>Udaspes folus</i>)	Low	Rhizome rot (<i>Pythium aphanidermatum</i>)	Low	Rhizome rot Once noticed in the field, the beds should be drenched with copper oxychloride (0.2%) or metalaxyl -

		Odisha					mancozeb (0.125%). Leaf roller Spray malathion (0.1%) at 21 days interval.
Vanilla	Vegetative	Karnataka			Leaf spot (<i>Colletotrichum vanillae</i>) Stem rot (<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 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 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%).
Nutmeg	Bearing	Kerala			Leaf fall and fruit rot (<i>Diplodia natalensis</i> and <i>Phytophthora</i> sp.)	Low to Medium	Leaf fall and fruit rot In endemic regions, spray Bordeaux mixture (1%) covering both foliage and fruits.


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