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: 15.06.2017 to 21.06.2017

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**	Idukki, Kozhikode, Wayanad (Kerala), Kodagu (Karnataka), Tamil Nadu	**Mealybug** (*Planococcus* sp., *Ferrisia virgata*) (Nursery) **Scale insect** (*Protopulvinaria longivalvata*) (Nursery)	Low Low	**Stunt disease** (*Cucumber mosaic virus, Piper yellow mottle virus*) **Slow decline** (*Meloidogyne incognita., Radopholus similis*) **Foot rot** (*Phytophthora* spp.) **Anthracnose (***Colletotrichum gloeosporioides***)** (Nursery) **Viral infection** (Nursery)	Low to medium Low Low Low	**Nematodes** (*Radopholus similis, Meloidogyne incognita*) (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%). **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. **Foot rot** After the receipt of few 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:** **Anthracnose** Spray Bordeaux mixture (1%). **Viral infections** Regular inspection and removal of infected plants. Regular monitoring for insects and spray with neem oil (0.5%) whenever infestation is noticed. **Mealy bug and scale insect** Spray neem oil (0.5%), once infestation is noticed. **Nematodes** Apply *Pochonia chlamydosporia* @ 1g/bag.
Cardamom	**Vegetative/ Panicle initiation/ Capsule formation**	Idukki, Wayanad (Kerala), Kodagu (Karnataka)	**Thrips** (*Sciothrips cardamomi*)	Medium	**Leaf blight** (*Colletotrichum gloeosporioides*) **Azhukal/Capsule rot** (*Phytophthora nicotianae* var. *nicotianae* and *P. meadii*) **Katte/Mosaic**	Low Low		**Leaf blight** Maintain optimum shade level by providing 40-60% filtered light. **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 in soil. Removal of

					(*Cardamom mosaic virus*) **Chlorotic streak** (*Banana bract mosaic virus*)	Low		natural hosts like *Colocasia* and *Caladium* 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%).
Vanilla	**Vegetative**	Karnataka			**Leaf spot** (*Colletotrichum vanillae*) **Stem rot** (*Fusarium oxysporum* f. sp. *vanillae*)	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

					Viral diseases (*Bean common mosaic virus*, *Bean yellow mosaic virus*, *Cucumber mosaic virus*, *Cymbidium mosaic virus*)	Low		parts. Apply *Trichoderma harzianum* and *Pseudomonas fluorescens* (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	**Planting**	Karnataka, Kerala	**Rhizome scale** (*Aspidiella hartii*)		**Soft rot** (*Pythium aphanidermatum* and *P. myriotylum*)		**Nematodes** Root knot (*Meloidogyne* spp.), Burrowing (*Radopholus similis*) and Lesion (*Pratylenchus* spp.)	**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 and drench at 30 and 60 days after 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 Mahima may be cultivated. The bioagent,

								Pochonia chlamydosporia 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** (*Aspidiella hartii*)		**Rhizome rot** (*Pythium aphanidermatum*)		**Nematodes** Root knot (*Meloidogyne* spp.), Burrowing (*Radopholus similis*) and Lesion (*Pratylenchus* spp.)	**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%) for 30 minutes before planting and drench at 30 and 60 days after 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 Mahima may be cultivated. The bioagent, *Pochonia chlamydosporia* may be incorporated in ginger beds (20 g/bed with 10^6 cfu/g) at the time of planting.

Nutmeg	**Bearing**	Kerala			**Leaf fall and fruit rot** (*Diplodia natalensis* and *Phytophthora* sp.)			**Leaf fall and fruit rot** In endemic regions, spray Bordeaux mixture (1%) covering both foliage and fruits as a prophylactic measure.