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: 27.09.2018 - 03.10.2018

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 setting**	Idukki, Kozhikode, Wayanad (Kerala), Kodagu (Karnataka), Tamil Nadu	**Mealybug** (*Planococcus* sp., *Ferrisia virgata*) (Nursery) **Scale insect** (*Protopulvinaria longivalvata*) (Nursery)	Low Low	**Foot rot** (*Phytophthora* spp.) **Anthracnose** (*Colletotrichum* spp.) **Stunt disease** (*Cucumber mosaic virus, Piper yellow mottle virus*) **Anthracnose** (*Colletotrichum* spp.) (Nursery) **Basal wilt** (*Sclerotium rolfsii*) (Nursery) **Viral infection** (Nursery)	Medium to Severe Medium Low Low Low Low	**Nematodes** (*Radopholus similis, Meloidogyne incognita*) (Nursery) **Physiological wilting/yellowing due to water stagnation**	**Field:** **Foliar infection and foot rot** Remove and destroy affected plant parts. Prevent water stagnation. 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. Drench and spray disease affected vines with metalaxyl-mancozeb (0.125%) or potassium phosphonate (0.3%) @ 5-10 litres/vine. **Anthracnose** Spray leaves of the affected vines with 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%).

								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 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 insects** Spray neem oil (0.5%), once infestation is noticed. **Nematodes** Apply *Pochonia chlamydosporia* @ 1g/bag. **Physiological wilting/yellowing due to water stagnation** Provide adequate drainage.
Cardamom	**Vegetative/ Panicle initiation/ Capsule formation**	Idukki, Wayanad (Kerala), Kodagu (Karnataka)	**Thrips** (*Sciothrips cardamomi*) **Shoot borer** (*Conogethes punctiferalis*)	Medium Medium	**Azhukal/Capsule rot** (*Phytophthora nicotianae* var. *nicotianae* and *P. meadii*) **Rhizome rot** (*Pythium vexans*, *Rhizoctonia solani, Fusarium*	Medium to Severe Medium		**Azhukal/Capsule rot** Prevent water logging. 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%). **Rhizome rot**

					spp.) **Leaf blight** (*Colletotrichum* spp.) ***Katte*/Mosaic** (*Cardamom mosaic virus*) **Chlorotic streak** (*Banana bract mosaic virus*)	Low Low to medium Low		Prevent water logging. Destroy disease affected portions and plant debris. Drench plant basins with copper oxychloride (0.25%) and spray with Bordeaux mixture (1%). Alternatively, potassium phosphonate (0.3%) or metalaxyl-mancozeb (0.125%) can be used for drenching and spraying. *Trichoderma harzianum* mass multiplied on suitable carrier media may be applied to plant basins @ 1 kg. **Leaf blight** Maintain optimum shade level by providing 40-60% filtered light. ***Katte*/Mosaic and 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. Removal of natural hosts like *Colocasia* and *Caladium* to destroy breeding sites and check population build-up of the vector. **Shoot borer** Spray quinalphos (0.075%). **Thrips** Spray quinalphos 25% (0.075%) after undertaking thrashing.
Ginger	**Vegetative**	Karnataka, Kerala	**Leaf roller** (*Udaspes folus*) **Shoot borer** (*Conogethes*	Low Medium	**Soft rot** (*Pythium aphanidermatum* and *P.*	Low to Medium		**Soft rot** Remove affected clumps and drench affected and surrounding beds with mancozeb (0.3%) or metalaxyl

			punctiferalis)		*myriotylum*) **Bacterial wilt** (*Ralstonia solanaceraum*) **Leaf spot** (*Phyllosticta zingiberi*)	Medium Medium		mancozeb (0.125%) or copper oxychloride (0.2%). **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%). Dispose the infected plants far from the cultivated area or destroyed by burning. **Leaf spot** Spray Bordeaux mixture (1%) or mancozeb (0.2%) or carbendazim (0.2%). Care should be taken that the spray solution should reach lower surface of the leaves. **Leaf roller** Spray malathion (0.1%) at 21 days interval. **Shoot borer** Prune and destroy freshly infested pseudostems and spray malathion (0.1%).
Turmeric	**Vegetative**	Andhra Pradesh, Telangana, Tamil Nadu, Odisha	**Leaf roller** (*Udaspes folus*)	Low	**Rhizome rot** (*Pythium aphanidermatum*)	Low		**Rhizome rot** Once noticed in the field, the beds should be drenched with copper oxychloride (0.2%) or metalaxyl - mancozeb (0.125%). **Leaf roller** Spray malathion (0.1%) at 21 days interval.
Vanilla	**Vegetative**	Karnataka			**Leaf spot**	Low		**Leaf spot**

					(*Colletotrichum vanillae*) **Stem rot** (*Fusarium oxysporum* f. sp. *vanillae*) **Viral diseases** (*Bean common mosaic virus*, *Bean yellow mosaic virus*, *Cucumber mosaic virus*, *Cymbidium mosaic virus*)	Low Low		Spray Bordeaux mixture (1%) at 15 – 20 days interval. **Stem rot** Remove and destroy infected plant 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%).
Nutmeg	**Bearing**	Kerala	**Borer** (*Xylosandrus* spp.)	Low	**Leaf fall and fruit rot** (*Diplodia natalensis* and *Phytophthora* sp.)	Medium		**Leaf fall and fruit rot** In endemic regions, spray Bordeaux mixture (1%) covering both foliage and fruits. **Borer** Adopt strict phytosanitation and crop hygiene measures. Prune and destroy severely affected plant parts.

27.9.18

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