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: 06.06.2019 – 12.06.2019

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/ Bearing stage**	Idukki, Kozhikode, Wayanad (Kerala), Kodagu (Karnataka) ,Tamil Nadu	**Scale insects** (*Protopulvinaria longivalvata, Lepidosaphes piperis, Unaspis* sp.) (Field) **Root mealybug** (*Planococcus* sp.) (Field) **Pollu beetle** (*Lanka ramakrishnai*) (Field) **Mealybug** (*Planococcus* sp., *Ferrisia virgata*) (Nursery)	Medium Medium Low Medium	**Stunt disease** (*Cucumber mosaic virus, Piper yellow mottle virus*) **Slow decline** (*Meloidogyne incognita, Radopholus similis*) **Anthracnose** (*Colletotrichum* spp.) (Nursery) **Basal wilt** (*Sclerotium rolfsii*) (Nursery) **Viral infection** (Nursery) **Foot rot**	Medium Medium Low Low Medium 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. **Scale insects** Spray neem oil (0.5%), once infestation is noticed. **Root mealybug** Drench neem oil (0.5%), once

					(Nursery & Field) *Phytophthora capsici*			infestation is noticed. **Pollu beetle** Spray neem oil (0.5%), once infestation is noticed. **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. **Foot rot** Removal and destruction of dead vines along with root system from the garden is essential as this reduces the buildup of inoculums Drench the vines at a radius of 45-50 cm with copper

								oxychloride (0.2%) @ 5-10 litres/vine after the receipt of monsoon showers (May-June). A foliar spray with Bordeaux mixture (1%) is also to be given. Drenching and spraying need to be repeated during August-September. A third round of drenching may be given during October if the monsoon is prolonged. Apply *Trichoderma harzianum* around the base of the vine @ 50 g/vine (10^{10} cfu/g) at the onset of monsoon (May-June). **Nematodes** Apply *Pochonia chlamydosporia* @ 1g/bag.

Cardamom	**Flowering**	Idukki, Wayanad (Kerala), Kodagu (Karnataka)	**Thrips** (*Sciothrips cardamomi*) **Shoot borer** (*Conogethes punctiferalis*)	Low Low	**Leaf blight** (*Colletotrichum* spp.) **Katte/Mosaic** (*Cardamom mosaic virus*) **Chlorotic streak** (*Banana bract mosaic virus*)	Medium Medium 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 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. **Shoot borer** Spray quinalphos (0.075%). **Thrips** Spray quinalphos 25%EC (0.075%) after undertaking thrashing.

Vanilla	**Vegetative**	Karnataka			**Root and 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		**Root and stem rot** Soil drenching with copper oxychloride @ 0.25% followed by spray with carbendazim (0.25%) at monthly interval. **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*)	Low	**Soft rot** (*Pythium aphanidermatum, P. myriotylum*)	Low	**Nematodes** Root Knot (*Meloidogyne* spp.), Burrowing nematode (*Radopholus similis*) and Lesion nematode (*Pratylenchus* sp.)	**Rhizome scale** Treat the seed rhizomes with quinalphos (0.075%) for 20-30 minutes before planting. **Soft rot** 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 meatalaxyl-mancozeb (0.125%) for 30 minutes before planting **Nematodes** In root knot nematode endemic regions, IISR Mahima may be cultivated. Apply *Pochonia*

								chlamydosporia @ 20 g/bed (10^6cfu/g) at the time of planting.
Turmeric	**Planting**	Andhra Pradesh, Telangana, Tamil Nadu, Odisha	**Rhizome scale** (*Aspidiella hartii*)	Low	**Rhizome rot** (*Pythium aphanidermatum*)	Low	**Nematodes** Root Knot (*Meloidogyne* spp.), Burrowing nematode (*Radopholus similis*) and Lesion nematode (*Pratylenchus* sp.)	**Rhizome scale** Treat the seed rhizomes with quinalphos (0.075%) for 20-30 minutes before planting. **Rhizome rot** 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 **Nematodes** In root knot nematode endemic regions, IISR Pragati may be cultivated. Apply *Pochonia chlamydosporia* @ 20 g/bed (10^6cfu/g) at the time of planting.

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