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	**(a) Vegetative/ Initiation of spikes** **(b) Nursery**	Idukki, Kozhikode, Wayanad (Kerala), Kodagu (Karnataka)	**Leaf gall thrips** (*Liothrips karnyi*) **Top shot borer** (*Cydia hemidoxa*) **Pollu beetle** (*Lanka ramakrihnai*) **Mealybug** (*Planococcus* sp., *Ferrisia virgata*) (Nursery)	Medium Medium Low Low	**Stunt disease** (*Cucumber mosaic virus, Piper yellow mottle virus*) **Foliar infection (due to *Phytophthora capsici*)** **Anthracnose (***Colletotrichum capsici***)** **Foliar infection due to *Phytophthora capsici*** (Nursery)	Low Medium Low Low to Medium	**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 with chlorpyrifos (0.075%). **Foliar infection due to *Phytophthora capsici*** 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/

					Anthracnose (*Colletotrichum gloeosporioides***)** (Nursery) **Basal wilt** (*Sclerotium rolfsii*) (Nursery) **Viral infection** (Nursery)	Low Low Low to Medium		vine (drench) or potassium phosphonate 0.3% @ 5-10 litres/ vine (drench) also may to be given. **Anthracnose** Prophylactic spraying with Bordeaux mixture (1%) or carbendazim + mancozeb (0.1%). **Leaf gall thrips** Spray dimethoate (0.05%) during emergence of new flushes on young vines. **Top shot borer** Spray quinalphos (0.05%) on tender terminal shoots; repeat spraying at monthly intervals to protect emerging new shoots. **Pollu beetle** Spray quinalphos (0.05%). **Nursery:** **Foliar infection due to *Phytophthora capsici*** If foliar infection is noticed, spray Bordeaux mixture (1%) and drench with copper oxychloride (0.2 %). Alternatively, metalaxyl 0.01% (1.25 g/litre) or potassium phosphonate 0.3% (3 ml/litre) could also be used. **Anthracnose** Spray Bordeaux mixture (1%) alternating with carbendazim (0.1%). **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 dimethoate (0.05%) whenever insect attack is noticed. **Mealy bug** Spray dimethoate (0.05%), once infestation is noticed. **Nematodes** Apply carbosulfan (0.1%) @ 50 ml/bag.

Cardamom	**(a) Vegetative/ Panicle initiation/ Capsule formation** **(b) Primary seedling nursery**	Idukki, Wayanad (Kerala), Kodagu (Karnataka)	**Panicle/Shoot borer** (*Conogethes punctiferalis*) **Thrips** (*Sciothrips cardamomi*)	Low Medium	**Leaf blight** (*Colletotrichum gloeosporioides*) **Katte/Mosaic** (*Cardamom mosaic virus*) **Chlorotic streak** (*Banana bract mosaic virus*) **Azhukal/Capsule rot** (*Phytophthora nicotianae* var. *nicotianae* and *P. meadii*) **Damping off or seedling rot** (*Pythium vexans, Rhizoctonia solani, Fusarium oxysporum*) (Primary Seedling Nursery)	Low Medium Low Low Low		**Field:** **Panicle/Shoot borer** Spray quinalphos (0.075%) coinciding with emergence of panicles and new shoots. **Thrips** Under Karnataka conditions, spray Fipronil (0.005%) or Spinosad (0.0135%) after undertaking thrashing. Ensure irrigation after thrashing. **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. **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%). **Primary seedling nursery:** **Damping off or seedling rot** Prevent water stagnation by providing adequate drainage. Remove and destroy infected/dead seedlings. When initial symptoms are noticed, drench nursery beds with 0.2% copper oxychloride @ 3-5 litres/m^2. Repeat drenching two to three times at an interval of 15 days.

Vanilla	**Vegetative/ flowering/ bean formation**	Karnataka			**Premature yellowing and bean shedding** (*Colletotrichum vanillae*) **Bean rot** (*Phytophthora meadii*, *Sclerotium* sp.) **Viral diseases** (*Bean common mosaic virus*, *Bean yellow mosaic virus*, *Cucumber mosaic virus*, *Cymbidium mosaic virus*)	Medium Medium Medium		**Premature yellowing and bean shedding** Provide 50% shade in the plantation. Spray carbendazim – mancozeb (0.25%) at 15 – 20 days interval. **Bean rot** Regulate shade. Remove and destroy infected plant parts and mulch. Spray Bordeaux mixture (1%) and drench soil with copper oxychloride (0.25%) 2 – 3 times, In case of Scelrotium rot, spray carbendazim – mancozeb (0.25%) twice at 15 days 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 dimethoate (0.05%).
Ginger	**Vegetative**	Kerala, Karnataka, Tamil Nadu	**Leaf roller** (*Udaspes folus*)	Medium	**Soft rot** (*P. aphanidermatum* and *P. myriotylum*) **Leaf spot** (*Phyllosticta zingiberi*) **Bacterial wilt** (*Ralstonia solanacearum*	Low Low to Medium Medium to Severe		**Soft rot** Seed rhizomes are to be selected from disease free gardens. Treat seed rhizomes with mancozeb (0.3%) or metalaxyl mancozeb (0.125%) for 30 minutes before planting. **Leaf spot** Spray Bordeaux mixture (1%) or mancozeb (0.2%) or carbendazim (0.2%) when the initial symptoms

					Biovar-3)			appear. Care should be taken that the spray solution should reach lower surface of the leaves also. **Bacterial wilt** Affected clumps may be removed carefully without spilling the soil once the disease appears in field. Dispose the removed plants far from the cultivated area or destroy by burning. The affected area and surrounding areas should be drenched with copper oxychloride (0.2%). **Leaf roller** Spraying malathion (0.1%) at 21 days intervals.
Turmeric	**Vegetative**	Kerala, Tamil Nadu, Andhra Pradesh, Telangana	**Leaf roller** (*Udaspes folus*) **Leaf feeding beetle** (*Lema* spp.)	Low	**Rhizome rot** (*Pythium aphanidermatum*) **Leaf spot** (*Colletotrichum capsici*)	Low Low		**Rhizome rot** Treating the seed rhizomes with mancozeb (0.3%) for 30 minutes prior at the time of planting. **Leaf spot** Spray carbendazim or mancozeb (0.2 %) or copper oxychloride (0.2%). **Leaf roller** Spraying malathion (0.1%) at 21 days intervals. **Leaf feeding beetle** Spray quinalphos (0.05%).