**List of important medicinal plants of Karnataka attacked by various pests**

Medicinal plants are majorly affected by fungal diseases. There are many other diseases caused by pests in medicinal plants grown in India. List of pests causing diseases in few medicinal plants Noni, Glory lily, Makoi, Medicinal Coleus, Senna, Ashwagandha, Costum and Amruthaballi and their affected parts are given in the table below.

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| **Plant** | **Pest causing disease** | **Disease name** | **Affected part of medicinal plant** |
| Noni | Lacewing Bug:Dulinius conchatus (Tingidae, Hemiptera) | Anthracnose: Colletotrichum gloeosporioides | Leaves |
| Black fly: Aleurocanthus terminaliae (Aleyrodidae, Hemiptera) | Dry Fruit Rot: Colletotrichum gloeosporioides | Makes leaf blackish and curled, fruits, flowers, twigs |
| Green Coffee Scale: Coccus viridis (Coccidae, Hemoptera) | Leaf Blight and Dry Fruit Rot: Alternaria alternate | Stem, leaves, fruits and green twigs |
| Southern Green Sting Bug: Nezara gramineae (Fabricius) (Pentatomidae, Hemiptera) | Soft Rot of Fruits: Pantoea agglomerans | Shoots and fruits, rots |
| White Fly: Bemisia tabaci (Gennadius) (Aleyrodidae, Hemiptera) | Root-Knot Nematode (RKN): Meloidogyne incognita | Foliage, roots |
| Mealy Bug: Maconellicoccus hirsutus (Pseudococcidae, Hemiptera) |  | young shoots and leaves |
| Humming bird Moth: i. Macroglossum gyrans (Walker) (Sphingidae, Lepidoptera) |  | flowers and leaves |
| Leaf- Folding Caterpillar: Psara obscuralis (Leadered) (Pyralidae, Lepidoptera) |  | Leaf |
| Leaf Beetle: Scizonycha ruficollis (Melolonthidae, Coleoptera) |  | Roots, leaves |
| Grasshoppers  Wingless grasshopper: Orthacris maindroni (Pyrgomorphidae, Orthoptera)  Cotton Grasshopper: Cyrtacanthacris tatarica (Acrididae, Orthoptera) |  | Leaves |
| Stem Girdlers  Sthenias grisator (Cerambycidae, Coleoptera)  Apriona swainsoni (Cerambycidae, Coleoptera) |  | Stem, leaves |
| Fruit Fly: Bactrocera dorsalis (Tephritid Fruit Flies) (Tephritidae, Diptera) |  | Fruit |
| Glory Lily: Gloriosa superba | Thrips: Thrips tabaci (Thripidae, Thysanoptera) | Root Rot: Macrophomina phaseolina | Leaves, flowers, roots |
| Lily Caterpillar: Polytela gloriosae (Noctuidae, Lepidoptera) | Leaf Blight: Alternaria alternata | Leaves, pods and seed |
| Semilooper: Plusia signata (Noctuidae, Lepidoptera) |  | Leaves |
| Tobacco Caterpillar: Spodoptera litura (Noctuidae, Lepidoptera) |  | Leaves |
| Makoi (Solanum nigrum) | Mealybugs: Paracoccus marginatus and Phenacoccus solenopsis (Pseudococciae, Hemiptera) | Powdery Mildew: Leveillula taurica | Leaves, fruits |
| Aphids: Aphis craccivora (Aphididae, Hemiptera) |  | Leaves, shoots |
| Thrips: thrips tabaci (Thripidae, Thysanoptera) |  | Leaves |
| White Flies: Bemisia tabaci (Aleyrodidae, Hemiptera) |  | Leaves |
| Red Spider Mite: Tetranychus urticae (Tetranychidae, Acari) |  | Leaves |
| Yellow Mite: Polyphagotarsonemus latus (Tarsonemidae, Acari) |  | Leaves |
| Tobacco Caterpillar: Spodoptera Litura (Noctuidae. Lepidoptare) |  | Leaves |
| Hadda Beetle: Henosepilachna vigintioctopunctata (Coccinellidae, Coleoptera) |  | Leaves |
| Semilooper: Plusia signata (Noctuidae, Lepidoptera) |  | Leaves |
| Leaf Miner: Liriomyza trifolii (Agromyzidae, Diptera) |  | Leaves |
| Fruit Borer: Leucinodes orbonalis (Pyraustidae, Lepidoptera) |  | Flower buds, fruits |
| Medicinal Coleus (Coleus forskohlii) | Mealybug: Coccidohystrix insolita and Paracoccus marginatus (Pseudococcidae, Hemiptera) | Wilt: Fusarium chlamydosporum and Fusarium solani | Leaves, shoots |
|  | Bacterial Wilt: Ralstonia solanacearum | Roots |
|  | Root Rot: Macrophomina phaseolina | Root, leaves, stem |
|  | Root Knot Nematode (RKN): Meloidogyne incognita (Heteroderidae, Tylenchida) | Leaves, roots, tubers |
| Senna (Cassia angustifolia) | Aphids: Aphis craccivora (Aphididae, Hemiptera) | Alternaria Blight: Alternaris alternate | Leaves, shoots |
| Pierid Butterfly: Catopsilia pyranthe and Eurema hecabe (Pieridae, Lepidoptera) | Cercospora Leaf spot: Cercospora sp. | Leaves, shoots |
| Pod Borer: Etiella zinckenella (Pyralidae, Lepidoptera) | Leaf and Pod Spot and Dieback: Phomopsis spp. | Seeds |
|  | Wilt and Dieback: Phomopsis cassia |  |
|  | Wilt: Fusarium oxysporum | Leaves, stem |
|  | Root-Knot Nematode (RKN): Meloidogyne incognita (Heteroderidae, Tylenchida) | Leaves, roots |
| Ashwagandha (Withania somnifera) | Henosepilachna vigintioctopunctata Fab. | Leaf spot disease: Alternaria alternate (Fr.) Keissler | Leaves |
| Deilephila nerii Linn. | Wilt: Fusarium oxysporum and Fusarium solani | Root |
| Myllocerus viridanus Fab. |  | Leaves |
| Myllocerus discolor Fab. |  | Leaves, root |
| Leaf miners |  | Leaves |
| Aphis gossypii Glover |  | Leaves, shoot |
| Mealybug |  | Leaves, fruit |
| Ferrisia virgata Fab. |  | Shoot, leaves, fruit |
| Green plant bug |  | Stem, flower, root |
| Nezara viridula |  | Leaves, stem, fruit, flower |
| Lepidopteran caterpillar |  | Leaves, stem, flower, fruit |
| Helicoverpa sp. |  | Leaves, flower, fruits |
| Tetranychus urticae Koch. |  | Leaves |
| Costum (Costus speciosus)  (J. Konig.) Sm. | Anacridium flavescens (F.) | Leaf spot disease | Leaves |
| Atractomorpha crenulata |  | Leaves |
| Oxyrachis tarandus Fab. |  | Leaves, stem |
| Chrysocoris stolli |  | leaves |
| Nezara viridula |  | Shoot |
| Lepidoptera |  | Leaves |
| Spilosoma oblique walk |  | Leaves |
| Myllocerus discolor |  | Leaves |
| Thrips: Scirtothrips dorsalis |  | Leaves |
| Orthezia insignis |  | Leaves |
| Amruthaballi (Tinospora cordifolia) | Othresis maternal | Phoma Leaf Spot: Phoma putaminum | Leaves |
| T. cordifolia | Flat stem disease: Phytoplasma | Stem |
| Myllocerus viridanus Fab. |  | Leaf |
| Neorthacris acuticeps |  | Leaves |
| Sweet flag (A. calamus L.) | Uromyces acori | Rust disease | Leaves, stems |
| Unidentified | Leaf spot disease | Leaves |
| Xanthomonas campestris P.V.O. Oryzae | Bacterial leaf blight disease | Leaves |
| Adosa (A. vasica (L.) Nees) | Fusarium oxysporum | Wilt disease | Leaves |
| Rhizoctonia solani and Collectotrichum gloeosporioides | Leaf spot disease | Leaves |
| Alternaria alternate | Leaf spot disease | Leaves |
| Colletotrichum capsici | Anthracnose disease | Leaves |
| A. Alternate | Alternaria blight | Leaves, stem, petioles, sepals, seed |
| Puccinia thwaitesii | Leaf rust | Leaves |
| Aecidium adhatodac | Leaf rust | Leaves |
| Safed musli (Chlorophytum borivilianum) | Alternaria alternata and Colletotrichum chlorophytumi | Leaf blight | Leaves |
| Unidentified | Red spot | Leaves |
| Rhizoctonia solani, Apergillus flavus, Fusarium oxysporum, Heaemofonectira haematococca sp. nov. | Root rot disease | Leaves, root |
| Colletotrichum chlorophyti | Anthracnose | Leaves |
| Gurmur (G. sylvestre (Retz. Schult.)) | Colletotrichum gloeosporioides, Pseudomonas syringae | Leaf spot | Leaves |
| Unknown | Powdery mildew | Leaves |
| Hibiscus (H. rosa-sinensis L.) | Nigrospora sphaerica | Blight | Leaves |
| Colletotrichum gloeosporioides | Anthracnose | Leaves |
| Pseudomonas cichorji | Bacterial leaf spot | Leaves |
| Podosphaera sp. | Powdery Mildew | Leaves |
| Botrytis sp., Erwinia sp. | Dieback disease | Stem, leaves |
| Fusarium oxysporum and Verticillium | Wilt disease | Leaves, entire plant |
| Choanephora infundibulifera | Choanephora blight | Flowers |
| Botrytis cinerea | Botrytis blight | Stem , leaves |
| Candidatus Phytoplasma brasiliense | Hibiscus witches’ broom disease | Leaves, shoot |
| Rhabdovirus-like particles and hibiscus ring spot virus | Viral disease | Leaves, flower |
| Plagithmysus nicotianae var. | Phytophthora disease | Leaves |
| Kuehneola malvicola | Rust | Leaves |
| Noni (M. citrifolia L.) | Colletotrichum gleosporoides | Noni anthracnose | Leaves |
| Fusarium oxysporum | Wilt disease | Leaves |
| Phytophthora species, phytophthora morindae | Black flag disease | Leaves, stem |
| Cephaleuros minimus | Algal leaf spot | Leaves |
| Unidentified | Noni shot hole | Leaves |
| Unidentified | Noni stem canker | Stem |
| Selerotium rilfsii, root knot nematodes | Noni stem blight | Stem |
| Airborne fungus | Sooty mold | Leaves |
| Phytoplasmas | Phytoplasma disease | Leaves |
| Fusarium proliferatum | Root rot disease | Root |
| Velcet bean (M. pruriens (L.) DC.) | Colletotrichum gleosporioides | Leaf blight | Leaves |
| Uromyces mucunae | Rust disease | Leaves, stem |
| Unidentified | Collar rot of seedling | Stem, root |
| Velvet bean severe mosaic virus | Velvet bean severe mosaic virus disease | Leaves, seed |
| Macrophomina phaseolina | Charcoal rot | Stem |
| Tulsi (O. sanctum L.) | Fusarium oxysporum | Wilt disease | Leaves, stem, root |
| Erysiphe biocellata | Powdery mildew disease | Leaves, stem |
| Colletotrichum gloeosporioides, Alternaria spp., Cereospora spp., Collectotrichum spp. | Fungal leaf spots | Leaves |
| Pseudomonas cichorii | Bacterial leaf spot or Basil shoot blight | Leaves, stem |
| Peronospora belbaharii | Downy mildew | Leaves |
| Cereospora ocimicola | Cercospora leaf spot | Leaves |
| Rhizoctonia solani, Pythium spp. | Root rot | Root, stem |
| Yellow mosaic virus | Viral disease | Leaves, flowers, fruits |
| Alternaria sp. | Leaf blight | Leaves, fruit |
| Botrytis cinerea | Gray mold | Leaves |
| Long pepper (P. longum L.) | Colletotrichum boninense | Anthracnose | Leaves |
| Botryodiplodia theobromae | Leaf spot | Leaves |
| Fusarium pallidoroseum | Rot | Leaves |
| Cereospora piperata | Cercospora leaf spot | Leaves |
| Crepe jasmine (Tabernaemonta divaricata/coronaria (L.)) | Colletotrichum gloeosporioides | Anthracnose leaf blight disease | Leaves |
| Fusarium oxysporum, tabernaemontanae | Wilt disease | Leaves, roots, stem |
| Phytophthora citrophthora | Leaf blight disease | Leaves |
| Plant virus | Viral infection | Fruit |
| Tobacco mild green mosaic virus | Viral disease | Leaves |
| Uredo manilensis | Rust disease | Leaves |