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Shisham (*Dalbergia sissoo*) decline by dieback disease, root pathogens and their management: a review

Kabita Kumari Shah ^{(1)*} Injila Tiwari ⁽²⁾ Bindu Modi ⁽³⁾ Hari Prasad Pandey ⁽⁴⁾ Sudeep Subedi ⁽⁵⁾ Jiban Shrestha ⁽⁶⁾

⁽¹⁾ Institute of Agriculture and Animal Science, Gokuleshwor Agriculture and Animal Science College, Baitadi, Nepal.

⁽²⁾ Himalayan College of Agricultural Science and Technology, Kathmandu, Nepal.

⁽³⁾ Central Department of Chemistry, Tribhuvan University, Kirtipur, Nepal.

⁽⁴⁾ Ministry of Forests and Environment, Nepal, Singh Durbar, Kathmandu, Nepal.

⁽⁵⁾ National Plant Breeding and Genetics Research Centre, Nepal Agricultural Research Council, Khumaltar, Lalitpur, Nepal.

⁽⁶⁾ National Plant Breeding and Genetics Research Centre, Nepal Agricultural Research Council, Khumaltar, Lalitpur, Nepal.

Abstract

Shisham or sissoo (Dalbergia sissoo) is an important multipurpose tree with great economic importance, but this tree has been infected by various root pathogens. This review article shows the works conducted on root pathogens and die back disease of Shisham and their management. Around seventy-one endophytic fungus has been found in sissoo trees in Nepal. Several fungi, including, Fusarium solani, F. oxysporum, Ganoderma lucidum, Phellinus gilvus, Polyporus gilvus, Rhizoctonia solani, Polyporus spongiosum, etc. cause sissoo diseases. Ganoderma Lucidum and F. Solani are two main pathogenic agents in Shisham, all of which causes root rot and vascular wilt diseases, and are the causes for the large-scale death of this tree species. Root rot ganoderma is wide spread in both natural and plant-based forests. Older trees in Shisham are usually attacked by these pathogens and cause large-scale death. However, when sissoo is grown as a re-forested pure plant without the removal of the stumps or root of the initial plant, a serious problem of root rot can develop. Field sanitation and proper management of field are necessary to control the fungal diseases of Shisham. Another deleterious disease of Shisham is dieback disease, where sissoo plantations have been confirmed to this disease when the infected trees begin to get dry from the top. There is no suitable solution for control of dieback of Shisham. There is a need of developing resistant varieties and to improve the quality of seed. This review may be useful tool for Forest Pathologists and other persons who are working in forestry and natural conservation sectors.

Author Keywords

Dieback, Disease, Fungicides, Pathogen, Root pathogen, Shisham

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