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Identification of some more phenotypes of Shisham (*Dalbergia sissoo* Roxb.) and their response to dieback and wilt diseases

Arshad Javaid, Rukhsana Bajwa and Tehmina Anjum

Department of Mycology and Plant Pathology, University of the Punjab, Quaid-e-Azam Campus Lahore 54590, Pakistan

Abstract

In a previous study, nine varieties of Shisham (*Dalbergia sissoo* Roxb.) were identified on the basis of physical appearance of the plant, branching pattern, pod characters, leaf and leaflet size and shape, branching and leaf density and stem surface characteristics. The genetic variability of these varieties was confirmed through DNA finger printing. On the basis of level of dieback incidence, various varieties were designated as Resistant 1, Susceptible 1 – 4 and Unspecified 1 – 4. The present study reports the identification of nine more varieties of Shisham, and dieback and wilt disease incidence in these varieties. The various identified varieties have been named as Resistant 2, and Unspecified 5 to Unspecified 12. The Resistant 2 is characterized with very long, weak and drooping outer branches having lush green, vigorous, large-sized leaves. Leaves on outer branches are larger than leaves on inner branches. Pods are more frequent on upper than on lower branches. The branching pattern and leaf structure in this variety closely resembles Resistant 1 variety. However, unlike latter it does not form a compact canopy and attains a reasonable height. Young plants grow more upward than outward. However, older plants also grow outward forming a loose canopy. Unspecified 10 and Unspecified 11 are also very vigorous varieties. It is suggested that only Resistant 1 and Resistant 2 along with Unspecified 10 and Unspecified 11 varieties should be planted on well drained sandy loam soils in future.

Key words: *Dalbergia sissoo*, varieties, wilt, dieback.