

TREES AND DISCOLOURED WOOD

by

Alex L. Shigo

Northeastern Forest Experiment Station, Durham, New Hampshire 03824, U. S. A.

Discoloured wood is wood altered by injury and infection. The wood is usually a colour different from sound, normally ageing wood; sapwood or heartwood. The cell contents in discoloured wood are usually altered and cell walls may be coloured but not digested; there is no reduction in specific gravity. Discoloured wood may be more protective or less protective than contiguous wood. Discoloured wood is wood in transition; long gradation of irreversible changes as moisture content, concentration of ions, and the succession of many organisms change over time. Tree and wood-inhabiting organisms interact over time and space as all are affected by the ever-changing environment. Discoloured wood is complex, yet very orderly composed. All discoloured wood does not rapidly develop to decomposed wood. But, decomposing wood in living trees develops within the boundaries of discoloured wood. Discoloured wood that is highly protective usually has low moisture and ion concentrations, and thus high electrical resistance to a direct pulsed current. Discoloured wood that is not protective

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Dying branches, dying roots, and mechanical wounds start the processes that result in discoloured wood, and sometimes decayed wood. Trees are highly compartmented, woody, perennial shedding plants, that are usually (but not always) tall, long-lived, and massive. After injury and infection, or the dying of branches and roots, the tree responds to set firmer boundaries to contain the pathogens or to resist their spread. The boundary-setting process is compartmentalisation. A model of the process is CODIT.

Studies on discolouration are studies on the early stages of the wound response. The compartmented tree responds to survive by setting boundaries. The boundaries may be chemical or anatomical. The tree sets the configuration of the column of altered wood. The invading organisms determine the condition of the wood within the boundaries: wetwood, whiterot, brownrot.