

TWO TREES WITH WATER-CONDUCTING HEARTWOOD

by

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In the vast majority of trees the water carrying system is limited to the living bark and sapwood, however, there are exceptions to this general rule.

In New Mexico there are two species of trees which are able to transport water through both sapwood and heartwood during their entire life. The Valley Cottonwood (Populus wislizeni) is one and the Russian Mulberry (Morus alba tartarica) is the other. This ability to conduct water through the heartwood is apparent whenever a large living limb is cut off. The severed end of the stub often continues to "leak" for years; water runs out of the center of the exposed heartwood and down the trunk of the tree. In the case of the Valley cottonwood this exuding water carries an appreciable quantity of alkali which is left as a white encrustation on the bark of the tree as the water evaporates. This movement of the water through old wounds delays for years the complete covering of the scars with wound callus, while the presence of the alkali keeps the lower part of the scar over which the water flows from forming a callus, hence such wounds on this cottonwood take years to heal. In fact they will not completely close up and unite as long as the old wound continues to "leak". After a few years some of the scars quit leaking and the wound will finally be covered with callus.

The scars from the cut branches of the Russian mulberry exude a dirty brownish water which stains the trunk a dark brown color, sometimes almost black. Much smaller branches of this tree will "leak" than in the Valley

cottonwood; branches as small as a half inch in diameter but containing heartwood will exude water for months.

This "leaking" from scars made by pruning off the large branches becomes quite a factor when large neglected trees have to be pruned; since such wounds do not heal and the "leaking" water makes the trees unsightly.

The writer was able to prevent this "leaking", at least in the Valley cottonwood by painting the freshly made scar with coal tar. This should be put on the wounds about 24 hours after the branch is cut off. This delay allows the fresh scar time to dry out some so that the tar will penetrate deeper into the wound. If you wait till the scar begins to "leak" it is very hard to stop it since the exuding water pushes the tar out of the wood before it has had time to harden and close the water-carrying vessels. Valley cottonwood branches 12 to 15 inches in diameter have been prevented from "leaking" by using this coal tar paint. This experiment was not tried on the Russian mulberry but there is no good reason why it should not work with this species as well as the Valley cottonwood.

Only in very rare cases has any heartrot ever been found in either of these two trees due to the presence of alkali water in the heartwood.

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