

Pruning

Mature Trees



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THE PRUNING of mature trees by surgical methods to retain and strengthen the structure of the older tree goes back less than 80 years. We call this surgical pruning.

Pruning of young trees had been developed to a fine degree by nurserymen and gardeners many centuries ago in Europe, where the training of the smaller structure of the young tree was accomplished without damage, even though branches were stubbed and beneficial results were produced with sucker growth. Most good earlier pruning done on mature trees was on the small limbs.

Special gardener pruning effects of topiary, espalier, pleaching, and even pollarding emphasized clipping (which is stubbing) of small branches. This no doubt has contributed to the belief that stubbing can be done on all mature trees, even though it takes little study to show that these special-effect cuts are only made on terminal or second-year wood.

Pruning mature trees, on the other hand, must follow surgical principles to heal wounds quickly and create only normal healthy growth.

We must recognize two new factors in the mature tree: (1)

all exposed heartwood must be protected by callus heal before heart rot decay weakens the tree, and (2) suckers in a mature tree do weaken the tree. Suckers are connected only to the outside sapwood layers making a ball and socket joint. If the sucker does not pull out when young, in later years a splitty crotch develops, and heavy end growth outgrows the strength of the sucker.

Healing Callus Can Be Induced

Tree surgery techniques do prove that a healing callus can be induced to cover cuts or trunk wounds much faster than untreated wounds. Callus can grow in two directions, outward or across, depending on the greater immediate tree need. When left untreated, it usually buttresses around the sides of the wound. If traced to allow the best sapflow around the wound, callus will heal thin and rapidly across the wound. This same principle, using nature's callus growth variation at the crotch, creates an equally fast thin callus heal around the cut.

This area varies in each crotch, but can be identified. We call it "Davey shoulder ring area," as it was identified by Wellington Davey in his experimental work on trunk wounds before 1900.

Surgical pruning requires three judgments in every cut: (1) an exact positioning of the cut, (2) cutting to a strong enough lateral branch or leader to take the sap flow, and (3) keeping an overall balance between tops and roots. This point of balance is shown by natural divisions between the first and second top. It should never exceed more than 1/3 of the top, even when the four types of superfluous branches (dead wood, weak limbs, interfering branches, and suckers) are removed in a general pruning.

One final factor that will strongly affect good work is the ability of the man to climb the tall tree and reach the position to make the cuts properly. Rope climbing and rigging make the largest trees accessible, and are still considered the best methods of reaching these hard-to-get-at locations in mature trees.