

Tree Injury from 1930 Drought Calls for Treatment Now

By MARTIN L. DAVEY

THIS spring help will be needed badly by innumerable trees which have been seriously weakened as a result of the unusual weather conditions during the past two years. Unless help is given, many of the trees undoubtedly will perish.

The spring of 1929 was cold and wet and the summer which followed was hot and dry. As a result, trees were able to store up only a fraction of the amount of food required and they entered the growing season of 1930 in a weakened condition. Then came the worst drought in the memory of any living man. Many sections had no rain whatever for several months. Countless thousands of trees were killed and thousands more are now in the process of dying. All the ill effects of the drought were not immediately apparent—some will not show up until this year.

Many of the trees which are now hovering on the border line between life and death can be saved if cared for properly. The main thing they will need when the growing season starts this spring will be an available supply of nourishing food. If they are properly fertilized, they will be able to build up their strength rapidly and overcome the handicaps they are now under. If their food supply is inadequate and they fail to get a good start, they may be defeated in their battle for life.

Special care should be given to spraying this year for the same reason that the trees should be fertilized. Should they be defoliated by disease or insects, the effects probably will be very serious. Consequently, it is obvious that more than ordinary attention should be paid to disease and insect prevention.

Advises Spraying

The many kinds of scale, which are particularly dangerous to trees in a weakened condition, should be attacked as soon as possible. The substances which must be used to kill them are injurious to leaves and consequently the spraying must be done while the trees are still dormant.

Many of the diseases which afflict trees and also many of the trees' insect enemies

can only be attacked or warded off after the leaves come out. It will be advisable, therefore, to have the trees inspected this year at regular intervals to determine whether spraying will be required. One or two sprayings may prove to be the deciding factor in the trees' struggle to overcome the effects of the drought.

Spraying, incidentally, is a phase of tree work which should be done by experts. It is easy enough to mix a couple pounds of chemicals with water and spray the mixture on the trees, but unless the spraying is done by someone who knows exactly what insects or diseases are harming the trees, he cannot know what chemicals to use, what quantities, how they should be applied, or at what season. Done improperly, spraying may injure the trees and perhaps kill them; done by experts, it is the most effective means known for combating pests.

Pruning Aids Trees

Removal of all dead branches and limbs also will help the trees greatly in their battle for life. The deadwood provides an ideal breeding place for insects, bacteria, and the spores of fungus growths. When it is cut away and burned, the trees have a much better chance to remain healthy. Pruning, moreover, greatly improves the appearance of the trees and eliminates a serious menace—dead branches often crash to the ground when least expected, destroying property and endangering human life.

Trees which have been weakened by the drought urgently need fertilizing, spraying and pruning. But they have countless brothers, unaffected by adverse weather conditions, which will be greatly benefited if given these fundamental forms of tree care. Times without number, priceless trees are neglected year after year, and almost invariably the price of this neglect is premature death.

Innumerable trees growing on golf courses throughout the country are injured every year by storms. Many of these trees could be saved if they were properly

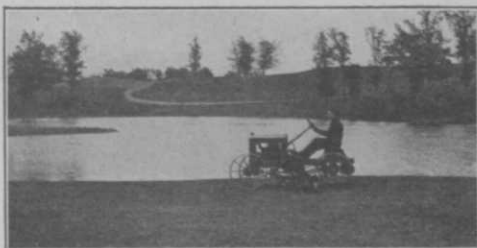
braced and cabled. By this method, tree experts so strengthen the trees that they can weather bad storms without being harmed. Cables now used are so inconspicuous that they can barely be seen and yet they will bear an astoundingly heavy load. When properly placed and properly applied, they provide mechanical support for the trees which can be obtained in no other way.

Brace V Crotches

Ninety per cent of the trees which suffer serious injuries during storms are those with weak crotches. It is easy, even for the layman, to distinguish a weak crotch from one which is strong. The right angled crotch formed when a limb grows out laterally from the trunk or parent stem is mechanically perfect. It will never split except under very unusual circumstances. Almost as good is the "U" shaped crotch where the two branches grow apart with a curved section of wood binding them together. The truly weak crotch is the one which is formed in the shape of the letter "V." Here the fibre tissues of one limb run approximately parallel to the fibre tissues of the adjacent limb. The attachment is weak and the tendency to split is inherent. Unless a tree with such a crotch is given mechanical support, it is likely to be seriously injured at any time.

It is easy to understand why trees with weak crotches are susceptible to injury. The top of the tree is like a mighty sail and in heavy winds it bends back and forth, and twists and weaves from side to side. The strain is tremendous. Inevitably, sooner or later, the crotch begins to weaken and starts to split apart. Water gets into the crevice which is formed and carries with it spores of fungous disease. When the fungous disease once gets started, it proceeds rapidly with its work of destruction. The crack may heal over but the disease keeps eating away and the interior of the crotch becomes weaker and weaker. Ultimately it is so weakened that it can no longer sustain the load upon it, and one of the limbs crashes to earth.

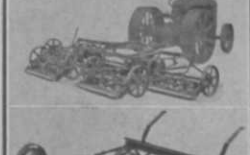
Trees with weak crotches are not necessarily doomed. The weakness can be speedily corrected. By installing bracing rods above the crotch at the proper positions, and by cabling the limbs together, the tree expert can so strengthen the crotch that danger of splitting is practically eliminated. Countless beautiful trees have been saved in this manner.



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If the crotch has started to split, and decay has started, the problem becomes more complicated. The operation requires not only a complete removal of the decay and disease and careful sterilization of the interior, but it demands adequate and ingenious mechanical bracing to hold it against the tremendous force of the winds. And yet there are tens of thousands of these skillful operations that have resulted in complete success, and the trees stand as living monuments to a great and useful science.

Danger Signals of Rot

Cavities in trees are caused by rot fungus, a low form of vegetable life which lives by tearing down and consuming other forms of vegetable life. At certain times in the year, the fungus growth throws out what are called fruiting bodies. They resemble toadstools; in fact, many of them are toadstools. Often they can be seen on the side of the trunk or limbs of trees where the disease is working on the inside. These fruiting bodies give off a myriad of tiny microscopic seeds called spores, so small as to be invisible to the naked eye. The spores float through the air and most of them fall to the ground and perish. But some find lodgment in open wounds in trees and start their work of destruction.

Once established in a tree, the fungi send out their little threadlike tentacles which spread in all directions and penetrate from one cell to another. These avaricious tentacles consume the cell structure because that is their food. They continue their greedy destruction of one cell after another until the entire interior is a mass of decay and the tree has become so weakened that it crashes to the ground.

Decayed areas in trees are treated by the tree surgeon in much the same way as a dentist treats a decayed tooth. The decayed spot, whether large or small, is cut out with painstaking care. Every trace of diseased wood is removed—every trace of infection. If any part of the fungus growth is allowed to remain, it will continue to spread and ultimately the tree will be as badly decayed as before. The wound is then sterilized and covered with a protective dressing and the cavity is then filled with sectional concrete, installed in such a way that the tree's structural strength is entirely restored. Bark creeps over the filling from the edges, and in time all traces of the wound are concealed.