

enemies as is normal for living creatures to do, and so far, the best explanation of what happens in the wounded tree is given by Dr. A.L. Shigo as described in the CODIT system.

It is easy to find walls 2, 3, and the barrier zone, wall 4, but the next step of importance to tree surgeons must be to find out how and where we can benefit the tree and help it to a longer life.

We must respect the science that tells us how the patient tries to work out the problem, but we need further recommendations about what we can do to help the walls in the compartment to be effective and recommendations for the work procedures that we must use in order not to break the laws of nature.

To me it looks like most cavity work should be forsaken, at least for a while. I am not certain of this when dealing with very old trees or trees that are rotting away from the inside and growing well at the outside, when you have a demand from your client that the tree shall be preserved for as long as possible, possibly for historical reasons. The walls in the compartment are likely to be on the decline, and one's thoughts return to the direction of the traditional treatment of wood and

timber, with wood preservatives, tree paint, etc. It hurts me that I do not know what to recommend to be honest both to the tree and to the business.

As a result of arboricultural research it was a pleasure to receive the unequivocal information about cutting off the branch outside the collar, where this is present. I have seen many flush cuts all over Europe leaving very big wounds, and sometimes they are painted with a super product that is believed to be artificial bark.

In order to spread more information about tree care, the first Interscandinavian Tree Care Conference was arranged in Malmo, Sweden in August 1980. There were 250 participants, and Gordon King, A.L. Shigo, and Erik Jorgensen from the U.S.A. and Canada were invited as speakers. The conference went on for two days and came out with a profit. Part of the profit has been sent to the ISA research trust with the wish that it shall be used to bring the results from science into the hands of the European arborist.

Scandinavian Instant Trees
Hellerup, Denmark

ABSTRACT

BLACK, KIM. 1980. **How to protect plants against heat.** Am. Nurseryman 152(12): 68-74, 89.

The growth of plants is restricted to a definite temperature range. Growth proceeds smoothly within the optimum range and begins to decline once that range is surpassed. In the case of plants, there is a rapid increase in growth in the 40° to 60° range, followed by a steady increase above 60° until the optimum range 65° to 85° is reached. Temperatures above 85° lead to a decline in growth, the rate of which increases as the thermal death point is approached. Plants must be protected from these excessive temperatures if they are to survive and flourish. Leaf temperatures can have a tremendous impact on plant growth. When leaf temperatures are in the optimum range, plant activity increases, which in turn stimulates growth. The opposite is true when leaf temperatures rise too high. Adequate soil temperatures must be maintained if the roots are to develop and grow properly. Optimum root growth generally occurs when the soil temperature is between 75° and 85°. The previous discussions on leaf and root temperatures show what damage can result when these influences are left unchecked. Learning how to safeguard against these problems is critical if plantsmen are to obtain the results they desire.