

## DISCUSSION OF TREE CARE

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Dr. Marshall pictured the emergency period ahead when manpower and essential materials may be in short supply. Fertilizers, spray materials, spray equipment, and other materials involved in shade tree maintenance will not be as readily purchased as in past years. He cited the following as an illustration of what may happen this time, as it happened during World War II.

"I recall Dean Graves at New Haven, when he was Chairman of the Board in charge of shade trees in that city. He loved his work and he loved shade trees. One day, at the beginning of the war, he came to my office. I could see trouble in his eyes. He told me that he had asked the authorities to let him have enough arsenate of lead to spray the elms in New Haven. They had refused to let him purchase this material.

"For a few paltry dollars' he said, 'we risk what it will take 200 years to replace.'

"Canker worm and elm leaf beetle had defoliated elm trees the year before in many sections of the city. Repeated defoliation would, he feared, bring the Dutch elm disease. He drew a map for me of those sections where spraying was badly needed. The picture he drew of what was going to happen was only too accurate. Today many of those trees have been removed by death. So much for that tragedy.

"Two parts of this story are important and illustrate what may be overlooked by those who administer the organizations to which members of this group belong.

"If in highway planting we were to bring in large old trees we would get immediate results, but we would not be working for the future. Instead we plant young strong trees that will grow in beauty with the years, and we take care of those shade trees.

"Now from the standpoint of manpower, must we not continue to train young men for tomorrow regardless of present urgencies? We must continue to train technicians and labor alike to take care of the shade trees. Without them this work must fail. Those of us here today will not always be here.

"For the third point, I give you the example of the stories of Old Mother Hubbard and the cupboard that was bare. I believe that research on soil and trees must continue. We are far behind in this research because aesthetic plantings have been considered less important than monetary crops.

"I hope that in the Government, in our experiment stations, in our universities, and in industry, false economy will not support reduction of the research needed to carry out the work of shade-tree care supported by the high ideals of this group."

## QUESTIONS AND DISCUSSION

Question: W. L. Hottenstein (Pennsylvania). I would like Dr. Marshall's ideas on the new oak wilt disease.

Dr. Marshall: An example of types of care and research needed was discussed in relation to the new 'oak wilt' disease. This is a new disease of oaks that appeared on the campus of the University of Wisconsin some ten years ago. It could not have appeared at a better place in the world than in Madison. Professor J. Riker took this problem for investigation. The Department of Agriculture had an office there too. They combined forces on research on this disease. Despite a brilliant beginning, the carrier of the disease is still unknown. Here we have a disease of the oaks which superficially resembles the vascular attack of the Dutch elm disease. Symptoms are less in a 'wilt' than in leaves becoming stiff and dry on the tree. Death is sudden. This disease attacks Chinese hairy chestnuts as well as oaks.

Except for outbreaks, 'jump-spread' from one territory to another has been very slight. Local travel of the disease has been through grafting of roots underground, by natural contact. Local control has been by use of sodium arsenite to control infected trees. All parts of infected trees are then burned. Some pathologists object to the use of arsenite because it poisons cattle, deer, and other animals.

In Pennsylvania one small occurrence of 'oak wilt' was found between State College and Harrisburg. It was taken care of by the State by destruction of infected trees. The disease is being studied at State College, with an office also set up at Harrisburg where samples may be sent and infestations reported. From all over the state specimens are examined in the laboratory. This is not a complete answer to the question. More study and research are needed.

In further discussion of the serious nature of the 'oak wilt' disease, it was pointed out that some of the reports are rather frightening because the oaks are one of the most important groups of trees; in Pennsylvania, oaks form a large percentage of the tree population of the state.

Question: G. S. Tolson (Maryland). Have there been any diagnoses of oak wilt in Maryland?

Dr. Marshall: I have no reports of outbreaks in Maryland, but this does not necessarily mean the disease is not present. We get only occasional reports from outside our New England area.

Question: H. J. Neale (Virginia). We have been asked to comment on mist blowers as a means of applying spray materials and chemical weed killers. Would you give us your opinion and experience?

Dr. Marshall: Our experience as a tree company does not fit the picture of weed control under highway conditions. For general applications of materials over large areas of ground or foliage, the mist blower is a marvelous advance. For careful work, in close quarters, on private property, we must depend upon the slower but more accurate "nozzle" delivery and standard spray equipment.