

## SOIL TESTING

### Technical Session IV

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Much as I would like to tell you that we are all set up and ready to offer you the services of a nursery soils specialist, I cannot. I am even at a greater disadvantage in not knowing what exactly will be the set-up and services offered by the entire State and Private Forestry organization.

As most of you know, the Forest Service recently acted on reorganization recommendations involving all the eastern regions. We are to be the Northeastern Area comprising 20 states from Maine to Maryland and west to Missouri and Minnesota. The Nurserymen's Conference next year will most likely include those other States of Ohio, Indiana, Illinois, Missouri, Iowa, Minnesota, Wisconsin, and Michigan. We may gain a nursery specialist from another region before we fill the position of soils specialist as requested by your group. Most of you attended the January 1965 Northeast Forest Nurserymen's Soil Course at Syracuse. You therefore have a better idea of the opinions expressed and the recommendations proposed by that group to Region 7 of the Forest Service than I.

Basically, these recommendations state that there is no substitute for a centralized nursery soils expert with the task of gathering data (from tests and service trips) upon which he would base his practical recommendations. This man should also serve as a trouble shooter for nurserymen during the growing season and follow up the soil conditions that result from his recommendations.

Charles Clements impressed upon me before he retired, that nursery soil management is a highly specialized field. One not easily learned by nurserymen who are often so busy that they cannot specialize. Our attempts to find a qualified man are met with many problems. We feel a soil specialist must be aware of the problems of a production nursery to be of greater service to nurserymen. Some of us believe it would take longer to develop a competent nurseryman than vice-versa. In other words, we lean toward giving an experienced nurseryman a concentrated dose of soils experience, rather than try training a soils specialist in nursery practices. We would propose to send a nurseryman back to school for six to eight months of soils study at a number of schools, thus offering a variety of courses.

We would like to hire a nurseryman without creating a hardship for a state. (By this we mean that we would not want to hire the only nurseryman a state has.) We would be happy to have your suggestions pertaining to the type of man you think would be most helpful and the specialized training desired.

Right now, with limited funds available, we feel that test interpretations and recommendations are of first concern, rather than use these monies to build and equip a central testing lab. We realize, however, that the quick tests, imprecise techniques and equipment now in use, can give a false impression and occasionally incorrect recommendations.

We recognize that soil tests are only a tool or vehicle through which you can work toward better soil management and fertility practices. Eventually you may rely on prescriptions for controlled fertilization that can overcome the different initial fertility levels and "program" the seedlings' growth to the size and vigor demanded by the forest managers and planting public. Soil testing would then be a small part of a total program incorporating plant tissue analyses, growth measurements, and other indices of effectiveness to bring about better prescriptions.

We still feel it is desirable to have uniform tests from place to place and year to year. This insures some degree of comparability of the soil test results. The Northeast Soil Research Committee is working toward this standardization and coordination of methods among state.

We feel that better sampling will be required as improved testing becomes common. We should have more information on the actual utilization of nutrients extracted by the seedlings.

We would further suggest that interactions between nutrients be determined as the amount and frequency of fertilizer applications increase (pH adjustment falls under this category as does the salt concentration of your irrigated nursery soils).

In summary, the present outlook from our viewpoint is to first consolidate the Milwaukee and Upper Darby State and Private offices, see where we stand personnel-wise. Then act as soon as we can to train a nurseryman in soil management. We doubt if such a man will be available to you from the Upper Darby office until possibly late 1966 or early 1967. We are placing first priority on obtaining or developing a competent, full-time man for field studies, test interpretation, and trouble shooting. We are looking to you for suggestions and support for such a position.