

system was turned off through an error. I used an electronic leaf, English device, which I showed at a previous meeting and which I find most satisfactory, for all my propagation. My cuttings are in a greenhouse with bottom electric cable heat at around 65 to 70 degrees. I believe that green lilac wood can be rooted without a greenhouse, but that full sunlight, mist, and bottom heat are essential.

During the past year, Roger Coggeshall had an article in the trade paper in which he showed good results with cuttings taken later. But my experience is that the earlier cuttings are much better than the later, harder ones. Also that the thin spindly cuttings root with more ease than the heavy sturdier ones. I used to put rooted cuttings into plant bands, but thanks to a talk with Jack Hill at one of the meetings, I now put them right out in the open. (I use a shader.) You can see they have made new growth which is most important to get sizeable plants sooner and to help winter the plants over. I show you a cutting made last May, and one the previous May, which is the lilac the 2nd year from a cutting. Note the sturdy root system.

A publication called *Lilacs for America* should help anyone interested in lilacs. The first edition was in 1941 and it was revised and republished in 1953. The work was done by a committee headed by Dr. Wister — and the book shows a lot of it. A list of the 100 best lilacs according to those who should know — classified by color and whether single or double. A long list of all the lilacs that have been named, a list of nurseries who carry lilacs, public gardens where lilacs can be seen, etc. The book costs just \$1.00 and I have a copy here which I'll gladly show anyone. While we have peony, holly, rose and many other societies devoted to single species, I do not think there is any U.S. Lilac Society. There should be — for everyone loves a fine spray of lilacs — and I find that the plants sell better than any other deciduous shrub.

MODERATOR MCDANIEL: Thank you, Al. Next we shall hear from Steve O'Rourke who will tell us about Arcillite as a soil amendment.

ARCILLITE AS A SOIL AMENDMENT IN POTTING MIXTURES

C. E. WILDON AND F. L. S. O'ROURKE

*Department of Horticulture
Michigan State University
East Lansing, Michigan*

Practical plantmen have always used certain soil amendments to "lighten" soil for pot and container growing. Organic matter such as peat moss, leaf mold and compost and inorganic materials like sand, cinders, perlite and vermiculite are frequently used. One of the more recent materials to be employed is arcillite, a montmorillonite clay which has been calcined at high

temperatures so that the crevices and spaces within the arcillaceous mineral are firmly fixed to resist decomposition.

One of the earlier uses of arcillite was its incorporation in the soil of golf greens. It has proven quite resistant to breakdown by freezing and thawing and as reported by Montgomery (1) greatly stimulates the uniform growth of grass apparently by allowing air to penetrate to the root zone

Arcillite is a satisfactory medium for the cutting bench, either used alone or mixed with peat. It requires more frequent watering than other media due to its higher degree of porosity, but is ideal under mist systems. It has also been used mixed with fine peat as a medium for germinating many kinds of seeds.

In preliminary trials at Michigan State University arcillite was used alone, and in various concentrations with soil and with peat moss ranging from 10 percent to 50 percent. With the standard system of greenhouse watering, pure arcillite dried out more quickly than the mixtures and plant growth was usually somewhat less. The "half and half" (50 percent) was quite satisfactory but no more so than "two to one," or 2 parts soil to 1 part of arcillite. This latter concentration was therefore used in all further tests.

In 1962, Wildon and O'Rourke (2) reported on the result of trials with arcillite and several other soil amendments on the growth and bloom of Pink Peace roses. The plants grown in soil or peat mixtures containing arcillite were superior to those grown in mixtures of several other commonly used soil amendments. Continued trials with a large number of both greenhouse and woody plants have consistently shown greater growth, superior bloom and general all around vigor when the potting soil contained a third part of arcillite. The rapid increase in growth is particularly marked with newly potted plants from the seed flat or the cutting bench. This head start is usually maintained throughout the life of the plant so that the plants in the arcillite mixture attain a saleability status in advance of those growing in the standard potting soil. While the results vary with different species and seasons, it appears that those plants which have a high oxygen requirement and thus, require greater aeration in the root zone, respond to the arcillite mixes to a higher degree than those which tolerate more compact soils.

REFERENCES

- 1 Montgomery, Robert 1961 The evaluation of calcined clay aggregates for putting green root zones. Proc Midwest Regional Turf Foundation Conference, pp 88-91.
- 2 Wildon, C E and F L S O'Rourke 1962 Growth of 'Pink Peace' rose in potting mixtures containing arcillite Mich Agr Expt Sta. Quart Bul. 44: 497-499.

MODERATOR MCDANIEL: Thank you very much, Steve. Dr. Donald Schoeneweiss from the Illinois Natural History Survey, Urbana, Illinois will tell us about grafting to overcome chlorosis in pin oaks.