

only and I believe all of you now have this sheet upon which appears my talk. In order to save time, I will not go into very much detail.

Professor O'Rourke presented his paper on the "Establishment and Maintenance of Stock Blocks."

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## ESTABLISHMENT AND MAINTENANCE OF STOCK BLOCKS

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It has been shown that stock blocks established for a ready supply of propagative material must be well fertilized, sprayed for pests, given weed control, and irrigation when necessary. Other factors to consider are site selection, economy of space, pruning, and virus-free certification.

The site for stock plants grown for softwood cutting material should be convenient to the greenhouse so that collections may be made frequently when the wood is in just the right condition. On the other hand, plants grown as a source of seed, scionwood, or hardwood cuttings, may be grown wherever space is available. Neither the best nor the worst land should be used for this purpose. Sloping land should be planted on contour in conformity to good soil conservation practices. Fertility and available water are always prime requisites for the production of propagative material.

Nurseries and arboretums often feel compelled to keep propagating material of a large number of different clones, even though the demand may be both sporadic and sparse. Space must necessarily be conserved. One plant of each clone is often sufficient. These may be planted closely together in rows and kept within bounds by close and frequent pruning. Permanent labels are important, but the location of each plant should also be plotted on a map to insure identity if the label becomes lost or illegible.

In England some stock blocks of apple varieties consist of single plants of each variety planted three feet apart in rows that are six feet apart. The size of the scion variety tree is controlled by grafting on a Malling IX rootstock. They are also pruned heavily both in summer and winter which not only limits the size but also stimulates the production of vegetative shoots for budwood purposes. This system is not only economical with space, but also guards against mixtures when scionwood is collected as only one variety is on one tree. When two or more scions are grafted in the limbs of a large tree, identity is often lost and the wrong variety of budwood may be collected.

Severe pruning not only keeps the plant in a vegetative state, but also induces sprouting from near the base of the tree. Cuttings and scion from these shoots usually root or unite to a greater degree than from wood taken from the upper branches. This physiological condition of the tissues is generally termed "juvenility" as it responds similar-

ly to that of young seedling trees. The juvenile condition may be maintained for many years by drastic and frequent pruning.

It is highly desirable everywhere, and in some states legally necessary, to maintain propagative wood in a virus-free condition. Although viruses are spread in several ways, the most common ones are by insect vectors or through propagative methods. Thus isolated plantings, frequent spraying, and even screened houses are sometimes used to protect the stock plants.

Propagators should consult with plant pathologists before they bring plant material into their stock blocks from outside sources. Many varieties of plants do not show visible symptoms, but still carry the viruses latent in their tissues. Fortunately, there are some plants, both woody and herbaceous, which are susceptible enough to certain viruses that they show symptoms very quickly after a bud or scion from an infected plant is inserted into their tissues. This method, known as "indexing," is reasonably reliable and should be used frequently as a check on the status of the propagative material. Seeds and rootstocks, as well as scionwood, may carry viruses and the source of each should be carefully scrutinized before purchase.

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MODERATOR HILL: Thank you very much, Steve. I believe again in the interest of cohesiveness of this program it would be well if we note as we go along the points over which we wish to raise questions and bring them all up at the end of the program.

Next I am going to call on Louis Vanderbrook, who is going to talk to us about his particular method of managing stock blocks and particularly about his fertility maintenance program. Louie, I would like to stress each time that you give us the "why" you have chosen a particular method. Here is a method you are using, obviously, you have developed it. Describe the method and then tell us as well as you can why you have chosen this method over the obvious alternative. Louis Vanderbrook!

Mr. Vanderbrook presented his paper on the techniques he has used to manage the stock block.

## **ESTABLISHMENT AND MAINTENANCE OF STOCK BLOCKS FOR PROPAGATION**

LOUIS VANDERBROOK  
*Manchester, Connecticut*

In the establishment and maintenance of a stock block for cutting purposes, layering, stooling or whatever method of reproduction you plan to use, we first have to consider the advantages and disadvantages of such a venture.

Let us first consider the advantages of a stock block. The establishment of such a planting will enable us to: