

RHODODENDRON STOCK PLANTS — CARE AND MANAGEMENT

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Maintaining a block of rhododendron stock plants for production of cutting wood requires more thought and attention than some of us believed was necessary. Certainly, this was the case with our firm.

We produce container-grown rhododendrons. In earlier years we relied on our stock of container plants to provide cutting wood for all of our needs. But as demand for finished plants increased we realized that more thought and planning would be required if we were to be successful in providing a good grade of cutting wood for our operations.

Our initial problems concerned the removal of wood from plants we planned to sell. We were constantly making compromises on either the quality of cutting wood or the quality of the plants we were shipping. While we were able to live with these problems we soon learned that not all of the cultivars of rhododendrons we wanted to grow responded favorably to container culture. Some had very weak roots in containers. Others were very sensitive to cultural procedures such as fertilizing and watering and generally were not healthy plants. After several years of attempting to overcome these problems we recognized that we were not doing a good job of managing the production of cutting wood. We were being forced to take leftover material, that is wood from plants not particularly saleable and wood from the survivors of plants not growing well in containers. So we set about developing a field-grown stock block of approximately two acres.

We anticipated that plants growing in the ground would have more uniform growth because of more regular watering and fertilizing and would develop better quality wood in contrast to occasional stresses caused by dryness of container stock. This decision was hastened after we had determined that our inability to satisfactorily root certain cultivars was directly associated with the quality of cutting wood and not necessarily due to our propagation techniques or facilities.

Following very simple soil preparation we commenced field planting, using available material, nothing especially selected. Our most significant observation of this phase of establishing a stock block is that the individual plants do not become productive until their new rootlets become established in the native soil. It is actually possible to destroy a plant by re-

moving the cutting wood to soon, that is before the roots are established in the new soil. Our practice, at present, is to wait at least one year before we commence removal of cutting wood from a newly acquired cultivar.

Watering is by overhead impulse sprinklers. Initially, we cultivated the field to keep out weeds, etc., but this proved unsatisfactory. the combination of overhead water and much walking about the fields compacted the soil. So we allowed the grass and weeds to grow and now rely on a power mower for weed control.

Prior to mowing we considered chemical controls and actually proceeded with separate applications of Treflan and Casoron on a limited area. This was a serious mistake. While both materials accomplished the mission of controlling weeds, we found that the long range effect of the materials on those stock plants we tested was devastating. Three and four years later we are able to detect effects of the chemicals by misshapen foliage and poor ability to root. The chemicals apparantly linger in the plant longer than they do in the soil, for after we removed most of the damaged plants, cultivated the soil and replanted, new plants grew normally. My observation of this phase of management of a stock block is to rely on mechanical weed control and to not introduce chemicals into the stock area.

While we rely nearly 100% on our stock block for cutting wood, we still make forays into our container area and remove selected wood. It is a very valuable and convenient source of material. But this past year we were reminded again that if we are going to continue to use wood from our containers, they too, just like the field-grown mother block, must receive special attention, otherwise one can easily suffer damaging results by following perfectly normal cultural practices. I am referring to *pest control procedures and fertilizing*. In the case of fertilizing, one has to be careful not to feed too often or too heavily those plants from which cuttings are to be taken. With container plants in an artificial bark mix this is a special problem. The best looking container plants, ones that are the greenest and the plumpest, are not always the best source for propagating wood. So fertilizing of those plants should be carefully considered.

The other problem is pest control. We are not quite sure of the direct cause of problems we experienced this past year, but we do know that the use of a combination of systemic materials will affect rooting. We did spray both indoors and out-of-doors plant material that was both in the process of rooting or was already rooted and awaiting transplanting. The material used was Orthene and Benlate with spreader added. Briefly, following spray application, certain of the material died. Some that sur-

vived did not make initial growth from the tip of the cutting, but rather from the root system. We feel that if some of these systemic materials, insecticides and fungicides, will affect cuttings, then some effect must also be sustained by wood not yet removed from the parent but sprayed prior to the taking of cuttings. Our observation is that it is good management to be extremely cautious with the use of systemic materials on plants to be used for cuttings.

We have soil tests made of our stock fields and apply fertilizer as required in the late fall. Too much plant food will cause the cuttings to become increasingly darker green after being stuck in the artificially heated medium. This greening effect will continue until the cutting commences to decay and is destroyed.

The method of removing cutting wood is as varied as there are propagators. Some take all of the wood every year; others take all of the wood every other year. We compromise by taking most of the wood every year, but always allow uncut leaders to remain on each limb. We have heard stories of growers who no longer can root cuttings from some of their once most dependable stock plants though the appearance of wood has not really changed.

We are not sure of the answer to this problem but suspect it is related the nutrition associated with the removal of all of the wood each year and the lack of development of new rootlets on the mother plant. Perhaps old mother plants should be discarded after a number of years. Certainly, if wood from the plant is not productive, make a replacement rather than attempt to nurse an old plant back to health.

With propagation innovations such as tissue culture, information concerning the care and maintenance of a field of stock plants might become as pertinent as the care and feeding of mules used for cultivating. But for countless small growers, such as ourselves, the suggestions I have offered based on experiences at our nursery should be helpful if only to lead growers to recognize that the quality of the cutting wood they use is vitally important and it is best preserved in old-fashioned common sense ways. Poor quality wood will not be improved by ingenious mechanical propagating devices. The simplest way to improve one's percentage of rooted cuttings is to improve one's procedures for caring for his stock plants.