

THE IMPORTANCE OF GOOD NURSERY QUALITY CONTROL, PART 2

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The BLM has experienced and continues to have all of the seedling quality problems listed by Mr. Nicholson. Generally seedling quality has improved during the last five years. The one exception to this is the 2-1 transplant seedling that I will discuss later.

During an average year we plant from 17 to 19 million trees. Due to reduced logging, 11.6 million trees were planted in 1982. We presently purchase stock from 7 bare-root and 2 container nurseries, with the bulk of the production in 4 bare-root and 1 container facilities.

In a normal year (if there is such a thing?) 70 percent of the complaints I receive are related to roots. Problems regarding root length are the most common. However, muddy roots (mud balls) and J or L roots are our most serious problem. I would estimate the first year survival for "mud ball" stock is less than 50 percent. It is my opinion that stock with a significant amount of mud on the roots should be considered in the same category as diseased seedlings and culled at the nursery.

Since Lewie has covered the contract planting problems associated with root lengths and mud balls, I'll continue on with 2 additional seedling quality problems.

For five of the last six years we have attempted to contract for the production of 2.5 to 3.0 million 2-1 seedling annually. Deliveries have been approximately 60 percent of the quantity contracted for annually. The general overall quality has been poor. Fall down has occurred due to losses during the first two growing seasons, J and L roots, and lack of shoot-root balance.

In response to the quality problems experienced with 2-1 seedling, we have reduced our future orders to under 1 million 2-1's annually. In an attempt to salvage our transplant program, we have begun contracting for Plug-1 seedlings. The quality of plug-1's received to date has varied from excellent to poor. Major problems effecting quality have occurred during the transplant phase, primarily muddy roots and poor shoot-root ratios.

The last item I want to discuss is a quality problem I'll call "The Green Dead" for the lack of a better term. This is a seedling that from an outward appearance has all the characteristics of a high quality seedling, good color, large buds, excellent shoot-root ratio, and etc. Just about every year we receive a lot or part of a lot from several nurseries that are

dead within 10 to 30 days after planting. Occasionally, once every 3 of 4 years, several thousand "Green Dead" are received and planted prior to a problem being identified.

At the present time, the only means we have of determining seedling viability is through the seedling viability test conducted at Oregon State University. Test results from this procedure take a minimum of 30 days and generally only serve to confirm field results.

One partial solution to this problem would be to base acceptance and payment for seedlings on O.S.U. viability test results. Test results which indicate a stress test viability of less than 80 percent would trigger an adjustment in payment.

The BLM has recently issued a tree planting contract which has payment based on seedling survival after three years. We have used the O.S.U. viability test to determine seedling quality and viability at the time trees are delivered to the contractor. Test results showing a test stress of less than 80 percent trigger an adjustment in the payment to the contractor.

In summary, I believe that far too often seedling quality is lost or deterioration is initiated due to poor quality control during seedling processing and storage.