

Approximately 40 miles southeast of Eugene, Oregon, along the Willamette Pass Highway, lies the small community of Westfir. Here, at the foothills of the Cascade Range, is where the Westfir Transplant Nursery is situated.

The Nursery was established in 1960 by the Willamette National Forest to: "provide a large vigorous seedling which could be lifted and planted to the field in a very short time". The Nursery lies on alluvial terraces of the Middle Fork of the Willamette River at an elevation of 1,020 feet. The annual precipitation rate is 42 inches of rainfall and the mean average temperature is 53 degrees Fahrenheit.

In proposing the establishment of Westfir, the Forest contemplated the production of transplant stock solely for those sites most difficult to reforest. Furthermore, the Forest recommended the transplant operation be discontinued when stock of equal quality but lower cost became available.

We have come a long way since those Forest recommendations were made. Outplanting of Westfir stock began in the fall of 1960. In December of 1961, the nursery was enlarged to 6 acres, with a projected capacity of 1.4 million seedlings. Trees being lifted, in those days, had to be transported to the Flat Creek Work Center for processing, a distance of 10 miles. The equipment for nursery work came from surplus property lists, except for the tractors, those were rented from local farmers.

The efficient and economical operation of the nursery required additional bed space, equipment storage facilities, the acquisition of additional equipment, the construction of a processing room and a cold storage facility. The process of getting approval and budgeting for these improvements came over a span of six years.

Since 1976, additional improvements have been made at the Nursery. We identified soil problems arising from extended use of Simazine and Atrazine as well as some poor cultural practices. Through close cooperation with the Forest soil scientist and other personnel, a soil management plan was developed and activated.

In 1978, a new office and an additional tree storage facility were under construction. These are completed now and provide a pleasant atmosphere for the 50 employees the facility employs during its operating season.

Today we have 17 acres available for transplant seedlings. We try to put 4-5 acres a year into a cover crop of annual rye grass.

1/ Paper presented at Joint Meeting of Western Forest Nursery Council and the Intermountain Nurseryman's Association, Boise, Idaho, August 12-14, 1980.

2/ Nursery manager, Westfir Transplant Nursery, U.S.D.A. Forest Service, Oakridge, Oregon 97492.

A serious drainage problem, which caused mortality and chlorotic trees, was reduced and in some cases eliminated by installing 7 miles of perforated drainage pipe. The installation of this pipe, with laser equipment, to maintain depth and slope specifications, was a real learning experience in itself.

Irrigation efficiency was increased with the installation of a new pump and mainline assembly. Our water is pumped directly from the river by a submersible Jacuzzi 7J horsepower pump. A 6 inch mainline feeds the 2 inch laterals where 55 psi head pressure is maintained for uniform coverage.

As is the case at most nurseries, Westfir has a weed problem. An aggressive weed control program which includes fumigation, as well as the utilization of herbicides and hand weeders, helps keep the situation manageable.

The Nursery utilizes two International tractors for heavy cultivation work and a small International for light cultivation.

A Mann-Fleming tree lifter, with spare shaft, is used for lifting. Our transplanting is accomplished by using a New-Holland Model #500 six row transplanter. We have found this model easy to adjust and it can be operated at a fairly good rate of speed.

The Nursery last year provided services to four National Forests and the Bureau of Land Management. We produced 1.9 million transplants at a cost of \$190/M.

The Nursery has generally been transplanting bare-root 2-0 seedlings grown from the Wind River, Medford and Humbolt Nurseries. We have noticed an increased request for transplanting 1-0 bare-root seedlings as well as some containerized stock .

This year as in the past few years we regretfully turned away potential customers because we had already filled all available bed space. Even though - there is talk of a new nursery in the Willamette Valley, I believe Westfir, as well as other transplant nurseries, can expect a very productive future.