Extension's Western US Agritourism and Christmas Tree Tour

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> ***"There is more potential Christmas tree acreage being permanently lost to home and resort development in western NC than to* Phytophthora *root rot."***

As you drive through any western North Carolina community where Fraser fir Christmas trees are grown, you can see some fields with trees dying from *Phytophthora* root rot. Some consider it to be the industry's greatest threat to sustained production. However, there is more potential Christmas tree acreage being permanently lost to home and resort development across the region than to *Phytophthora* root rot.

Farmers, community leaders, and Extension personnel have been compelled to seek ways to protect agriculture from continued encroachment of development. Efforts have ranged from farmland protection ordinances and land trusts to increasing farm income. Agritourism is a recent approach to adding value and income to existing farm enterprises by bringing the public onto the farm in some paying capacity. While there is a groundswell of new agritourism efforts in North Carolina, other regions of the country such as the West and Northeast have developed agritourism over a longer period of time with many established successes.

To learn more of what western states have achieved in agritourism, four NC State Extension personnel spent eleven days visiting ranchers, Christmas tree growers, and university and extension personnel in Colorado, Wyoming, Montana, Washington, Oregon, and California. The tour was funded in part by a NC State University Extension Grant. Organized by Lanny Hass, a small business management agent, the tour also included Jeff Owen, Area Christmas Tree Specialist, Jerry Washington, Christmas Tree Extension Agent in Ashe and Allegheny Counties and David Tucker, Horticulture Extension Agent in Watauga County. With strong representation of Christmas tree personnel, the tour focused on Christmas tree farms and nurseries throughout Washington and Oregon. Take-home lessons from the tour of western states touched on Christmas trees, agritourism, and managing growth in rural areas.

Holiday Tree Farms' Noble fir production near Salem, OR

Christmas Trees

Over three days, the tour group visited six different Christmas tree operations. We saw nursery and greenhouse production of seedlings and transplants, choose & cut farms, and large wholesale operations. Production was similar to NC in some ways but very different in others.

We saw many species of true fir including Fraser fir being grown as plugs in the Weyerhauser greenhouses in Rochester, WA. We also observed high quality transplants at Ken Scholz's nursery in Orting, WA, and Jim Heater's Silver Mountain Christmas Trees nursery in Silverton, OR. While Frasers

Phytophthora root rot mortality in Fraser Fir surrounded by healthy Noble firs

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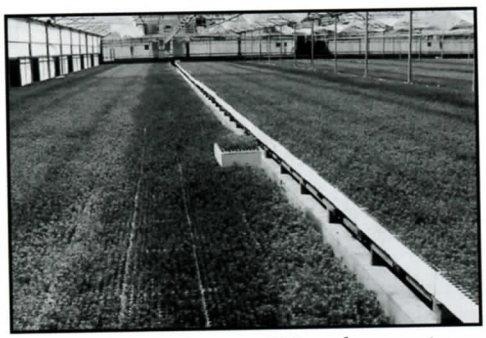
tended to be more variable in growth than some of the other species of fir, both seedling and transplant quality appeared to be very good. A number of the beds of seedlings or transplants at each nursery that we visited were under contract to different NC Fraser fir growers. Both plant quality and accelerated greenhouse production were incentives for NC growers to contract with these western nurseries. While very deep volcanic soils minimized many soil problems, the field nurseries were periodically fumigated, in part to suppress or avoid *Phytophthora* root rot, a problem they are no more immune from than NC growers. Transplants were stored and shipped frozen in air tight plastic bags and wax boxes. If kept frozen until a day or two before planting, these transplants have performed well. Some NC growers have several years of experience now with such frozen-shipped transplants.

Each farm we visited did have Fraser firs, but only two were continuing to plant them. Major growers in the Pacific Northwest use aerial application to treat most insect and mite pests, but cannot control balsam woolly adelgid (BWA) from the air. The growers we visited had problems with BWA on their Fraser firs, but not on their Noble fir which seem to be tolerant of BWA. With the prices of their Noble fir ($25 to $28) running about three dollars higher than their prices for Frasers ($22 to $25), the growers were shifting their production to Nobles.

"With prices of their Noble fir running about $3 higher than their prices for Frasers, Pacific Northwest growers are shifting their production to Nobles."

While Nobles are clearly going to remain their major crop, several of the growers we visited were experimenting with Canaan, Nordmann, and Turkish firs, particularly for their wetter ground. Replant problems for both Noble and Fraser firs in the Pacific Northwest appeared to be associated as much with the heart-rotting fungi, *Heterobasidium annosum* and *Armillaria mellia*, as with *Phytophthora* root rot. We did observe one block of Fraser firs that had been mostly killed by *Phytophthora* root rot. Stump grinding and/or chopping appeared to be a primary strategy for avoiding both of the heart rotting diseases along with replanting between rows rather than next to the old stump. Noble fir did exhibit its own set of problems that included current season needle necrosis, a physiological disorder.



Fir plugs grown at Weyerhauser in Rochester, WA

Genetics was a key concern among the growers that we talked to. They knew the genetic source of different blocks of trees in their fields and were familiar with the attributes of each source. We were able to tour an intensively managed Noble fir seed orchard at Silver Mountain Christmas Trees. Periodically, the trees had been partially girdled to stimulate heavy cone crops. We were also able to see a Canaan fir progeny test where trees were being evaluated by Gary Chastagner from Washington State University for post harvest needle retention as well as growth. Trees were being evaluated for their heritable characteristics and not just their appearance.

Different equipment use and grower innovations were valuable lessons gained from this trip. The major growers we visited used airplanes to fertilize and apply pesticides and helicopters to harvest trees. Smaller operations used narrow orchard style mistblowers to control pests that could be pulled behind a tractor along every row. With close proximity to each tree, these mistblowers were able to control BWA in the Fraser firs. At one farm, tree planters were equipped to incorporate slow-release fertilizer into the planting trench. Site preparation involved everything from stump grinding, subsoiling, and discing to simply resetting trees next to the old stump. At Silver Mountain, Jim Heater developed a "slicer", a double gang of large disks weighted to cut deep in the soil, which they ran in four directions across their cleared fields. Not only was the land tilled and smoothed, but the old stumps were cut small enough to be poor food for the heart-rotting fungi. Harvesting equipment included tree-palletizing systems and balers equipped with tree shakers and trunk drillers. One grower was continuing to ship palletized trees to customers capable of handling them while the other grower who had used the system discontinued their use because of poor care of palletized trees by chain stores.

Fir stump colonized by Annosus *root rot, able to infect neighboring tree*

Agritourism

Three of the Christmas tree farms that we visited had implemented different aspects of agritourism on their farms. Shirley Heater operated a bed & breakfast at Silver Mountain Christmas Trees during summers until recent family obligations required a change in priorities. Begun as a way to generate supplemental income from an existing guest house, Shirley felt that the greatest value was the exposure that her guests had to Christmas tree farming. In visiting the farm, sharing meals, and getting to know her family, guests were able to put a friend-

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ly face on farming in general and Christmas trees in particular.

Two farms used choose & cut operations as primary marketing strategies. Glenn Thornton and his family operate Thornton's Treeland, in Vancouver, WA. They sell between five and six thousand choose & cut Christmas trees each season at their farm. Within sight of Mt. St. Helens and Mt. Hood, growing conditions appeared to be ideal. Species included Douglas fir, Noble fir, Fraser fir, Grand fir, Shasta fir, and Concolor fir. With so many customers, parking and traffic flow were critical. Even while providing hayrides, farm animals, and a nativity, customer service had to be streamlined to accommodate everyone quickly.

Along with wholesale Christmas trees and a nursery, Ken Scholz operates a choose & cut farm in Orting, WA that draws from the populations of Tacoma and Seattle, WA. The species of trees include Noble fir, Fraser fir, Grand fir, and Douglas fir. Parking and traffic flow was again critical to handle more than 300 customers at a time. To manage the large crowds, signs were used effectively to communicate pricing, procedures, safety, and tree care.

Each of these agritourism activities added value to the total farm operation. Each provided public exposure to Christmas tree farming. While agritourism can encompass a range of activities beyond what was seen at these three locations, such activities must fit within the individual goals of the farm family and the available time and resources. As a rancher in Montana stated, you have to begin agritourism by analyzing and then using all your resources including your personal skills, your business, and your land.

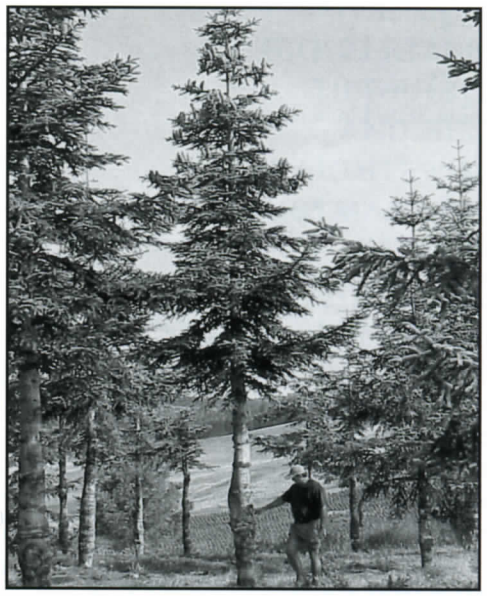
"Guests were able to put a friendly face on farming in general and Christmas trees in particular."

Managing Growth in Rural Areas

As the tour progressed from the greater metropolitan area of Denver, CO to San Francisco, CA, extensive development of rural lands was visible near every town and city. In some areas, non-productive

"Slicer" used for chopping stumps and site prep

"ranchettes", mini-farms, and "trophy homes" were replacing the former agricultural community. In such areas, land values had increased to the point that even those who wanted to stay on their farms could not afford to. Almost all the Western farmers were facing dual pressures of low commodity prices and increasing land values.



Partially girdled Noble fir see tree at Silver Mountain

When we reached Marin County, CA, which neighbors San Francisco, the influence of zoned corridors was refreshing. At least part of the county was still rural agriculture dominated by family dairy farms. The towns in the rural corridor still maintained their character and the entrance to the Point Reyes National Park had not become a commercial strip. Family farms were still family farms. Where the zoning changed to moderate development, "trophy homes" on 30 acre ranches began to dominate. Condominiums and strip malls marked the outer edge of the urban corridor. Without zoning in place, the entire county would have been swallowed by the city's expanding population and agriculture would be replaced completely. Based on prevailing land use trends at the time that zoning was developed, each area was allowed to grow uniquely. While Marin County is a different place from western North Carolina, their success in preserving a part of their heritage merits our attention.

Conclusion

By visiting Christmas tree farms in the Western U.S., we saw different tools, techniques, and strategies for growing trees. By studying agritourism, we learned ways that individuals can add value to their existing farm enterprises. By learning about others' efforts to continue farming in the face of development pressures, we could see the value of laws that allow individuals to preserve their land. The survival of individual farms will depend on all three factors. Farmers and Christmas tree growers will have to be efficient in producing their crops, they will have to access new value-added markets that increase income and can compete with income from development, and they will need legislation that will protect their rights to keep farming.