Oregon Plantation Finds Its Niche

Upper Columbia Mill

By Bob Bruce

When the bottom fell out of the pulp market, both Potlatch and Boise sold their holdings in the Boardman, Ore., area to GreenWood Resources, a Portland-based tree farm management group with holdings in North America, South America, and China. The decision was made to branch out from just pulp stock and work toward developing other viable markets for the huge acreage of fast-growing semi-hardwood poplar hybrids that had been established on the Boardman property.

A Different Kind of Mill

In 2008, GreenWood began construction of a $35 million sawmill sited roughly in the center of the tree farm and brought in The Collins Companies, also based in Portland, to run the mill and market the resulting products.

Kerry Hart is the sawmill manager for the Upper Columbia Mill (UCM). Unlike many other mills, the UCM operates under some unusual conditions. “Because the plantation is run as an agricultural operation rather than a forestry operation, we are supposed to stay within a 12-year crop rotation, which works out to harvesting and processing 2,000 acres each year.”

Harvesting is contracted out to an independent logging company, and according to Kerry, that has been handled for the last ten years by Joe Nash and his crew. “Joe has all the equipment, everything from the feller bunchers and processors to the shovels, log trucks, tub grinders, and field chippers.”

Everything but the Oink

One of the reasons Joe has to maintain such a wide array of equipment is because this is an agricultural operation. In a forestry situation, a logger would typically come into a section, harvest the trees, and leave behind the slash piles for someone else to either burn or grind into mulch. But this being a farming set-up, the goal is to extract every bit of marketable value from the crop — just the way pig farmers try to use “everything but the oink.” Any part of the trees that can’t be made into boards is turned into pulp or hog fuel. Even the sawdust from the sanding mill is compressed into bricks for fireplaces and wood stoves.

Joe got his start in the timber industry by driving log trucks, and later he got into felling the trees. “I got started with the Boardman plantation when it was still owned by Potlatch, and they were using it primarily to grow pulp stock,” he says. At the time, Potlatch was just beginning to look into the possibility of using their hybrid poplars as saw logs.

As it turned out, the wood proved suitable for a number of non-structural applications such as molding, pallet stock, picture frames, veneer, balusters, and so on. In the beginning, the big challenge for Joe was figuring out the best way to be efficient.
Lay of the Land

The Boardman farm is broken up into 40-acre and 70-acre parcels with access roads separating the parcels from each other on all sides. Most of the parcels have been planted with about 600 trees per acre, and although Joe’s guys go through and thin these parcels out at least twice before final harvest to open up the stands, the stems are still spaced pretty close together. The first step, therefore, is to send in a feller to clear a pathway about 100 feet or so inside one edge of the parcel. They cut as close to the ground as possible leaving very little stump. The first couple rows of trees are set down in between the still-standing trees just bordering the access road. After that, it’s a fairly simple matter of chugging up and down the rows cutting and stacking. “We fell everything from the same direction” says Joe. “You get the routine, and once you get that down, things go pretty quick.”

“We’ll take like 20 rows and line them up on a strip and run them through the processor, buck the saw logs, and separate the saw logs from the chip logs. Then we just take the trucks and go right across the field and load them out,” he explains.

That repetition is what makes it so different from logging out in the brush. “It’s more repetitious, but you for sure know where you’re going to be the next day. In many ways, this is where the logging industry is heading. It hasn’t worked real well to take a seasoned veteran logger and try to show them how to do this, but I’ve taken a lot of young kids who basically don’t know anything about logging and trained them, and they’re happy. It’s a good steady job, and I have very little turnover.”

Hard on Equipment

But where the steady routine is good for worker retention, it can be hard on the equipment. “It’s a lot harder on the equipment doing this kind of harvesting. There are lots more repetitions, and your equipment never takes a break,” he says. “I’ve been in what I call the real woods before, and you don’t use your equipment near as hard in the woods.”

“On a normal day, we’ll do 25 loads of saw logs and another 25 loads of chip logs from the saw log side, and probably 13 loads of chip logs from our thinning side. So that’s up around 65 loads a day that we’ll deliver to the mill, and each load averages about 35 to 40 net tons.”

To handle the equipment maintenance chores for the logging side, the thinning side, and the log loading chores back at the mill yard, Joe also has a fully-equipped shop on the Boardman tree farm site with two full-time mechanics. Although he does buy some new equipment, he says he tends to go with good used iron whenever possible. He favors Link-Belt equipment for all the shovels and loaders, while most of his fellers are John Deere.

He has four Link-Belt 290 LX’s, one 350 LX, one 3400 Q processor, one 3400 Q loader, four 2800 Q loader/excavators, three 4300 Q loaders, two 953 G John Deere fellers, one 853 G feller, one 848 H skidder, and one 535 B Cat skidder. He also has a Peterson 500 portable field chipper and a Vermeer TG5000 tub grinder.

The material from the fields arrives either as truckloads of saw logs or loads of chip logs. Saw logs are debarked and sent to the mill while the chip log material is separated into bark and other plant material to be ground up into hog fuel. Debarked limbs are sent through a whole log chipper to provide clean chip.
Pacific Albus the Tree of Choice

The type of tree they grow out at the Boardman tree farm is called Pacific Albus, a trademarked name that loosely means Pacific whitewood. “It’s a hybrid of four to five different poplars,” says Kerry. “It’s not engineered wood — we’re not modifying the genes or anything like that. We’re just crossing strains to go for better yield, faster growth, less use of irrigation water, straighter growth, things like that.”

The straightness of growth with the Pacific Albus is a real issue because of the natural growing habits of the tree and the near-constant “Boardman wind” that blows east to west, giving each plant a westerly bend.

“Each growing season the tree shoots up,” he says, “and you get these nodes where most of your heavy branching occurs, and the tree then tends to grow one direction one year and another direction the next year, giving you this sinuosity.”

Milling

Saw logs are first fed through a Nicholson debarker before heading to a Nelson Brothers computer-aided scanning system that looks for the changes in direction and calculates where to make the initial crosscuts for the most marketable lengths. “The machine looks for either 8, 10, or 12-foot lengths since those are our merchandising lengths.”

The barked and bucked lengths are then fed to a Comac single-length infeed primary breakdown machine that scans the log with three sets of scanners, positions the twin band saws, and distributes the side boards and the center cants to a Timber Machine Technologies curve sawing gang and an Optimill three-saw linearly-fed edger.

“From one point of view, the plantation-raised resource is not cheap,” says Kerry. “You’ve got a tremendous amount of infrastructure in irrigation, planting, harvesting, pruning — those are things you don’t have to worry about when you’re getting it off BLM land, and Mother Nature does all that for you.”

“The original concept of the mill is that this is a grade mill that runs at the speed of a stud mill. We want to take advantage of every potential grade opportunity we can on the individual log, but we also want to run at a speed that will keep our costs extremely low.”

Planer Mill

Once the lumber has been cut, it is trucked just a few miles away, off the plantation and across I-84 to the Port of Morrow along the south shore of the Columbia River. “Our planer mill is located at the Port of Morrow for two main reasons,” Kerry continues. “First and foremost is that we get steam from the Coyote Springs natural gas fired electrical generation plant, which is about a quarter mile away from the Port. We use that steam to feed our drying kilns.”

And drying is extremely critical to Pacific Albus. “Pacific Albus has about 300 percent moisture content in the green. It’s very, very heavy. We’re somewhere between 5 and 6 pounds per board foot in the green, and we take that down to between one and 1.5 pounds per board foot when dry. In the early days, not getting a consistent low enough moisture content was one of the problems we had in developing new markets for the product.”

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Sales

The other main benefit to hauling the lumber down the road to the Port of Morrow is that the Port is right off the interstate highway, it is served by Union Pacific railroad, and of course there is the Columbia River for easy access to the Port of Portland and up north into Washington State.

“International sales currently account for about 50 percent of our sales, and we expect that may reach close to 80 percent in the future. The Pacific Rim, which includes China, Indonesia, and Malaysia, along with Mexico, are our main export destinations, with a lesser amount going into Europe.”