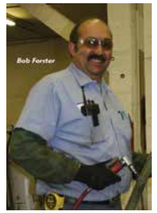
We would like to introduce you to one of the newer members of the Propagation Department staff: 'Bob, the Layer Packer'. Actually, 'Bob' is a custom-made machine named in honor of Bob Forster, our shop foreman, who fabricated him to order based on similar equipment originating from Europe.



Apple layers, which include SproutFree® and all the Malling selections are produced by mounding sawdust around bases of shoots as they grow from a mother plant. This mounding (or "packing") has been done by hand for many years, which is pretty labor intensive. In our desire to expand mechanization, we looked for equipment that would allow us to mechanize some or all of this process.

The design of the machine features metal fingers on 2 ft. long axles powered by hydraulic motors. Rotation speed is controlled by a hydraulic flow control valve and the operating depth is set by hydraulically adjusted gauge wheels. The rotating fingers gently move sawdust into the center of the layers while simultaneously lifting the shoots, keeping them from being buried by the flying sawdust.

Prior to using the layer packer, sawdust is moved close to the mother plants by a simple steel plow. Several passes with Bob the packer will be made over the course of the growing season to gradually raise the sawdust height as the layers grow.

'Bob', the Layer Packer

- By Mike Anderson

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We hope to see you at our open house August 20, 2008. Tours will be going all day and we will top off the day with a delicious salmon and prime rib dinner, live music and a wine bar. Come, relax and enjoy!

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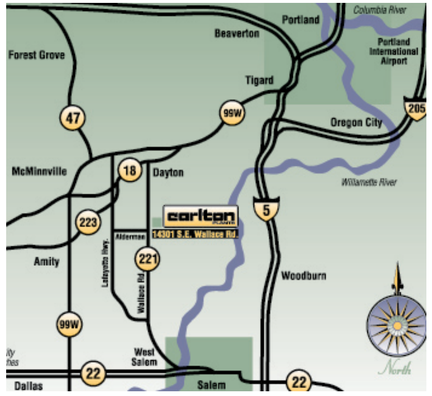

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Plantline

August 2008 A Newsletter from Carlton Plants LLC

The Sport of Seed Collecting

- By Mike Anderson

Seed collecting is a favorite activity for the Carlton Plants propagation team; more on a par with activities like fishing or hunting than might be said of more humdrum or tedious jobs that occur every year. It has many of the same elements of these sporting activities; the endless search for game (new seed trees) and the elation of 'bagging' the quarry at the end of the chase.

About 50% of the seed planted every year comes from collected seed. The balance is purchased from reputable seed vendors. The quality of collected seed is preferred to purchased seed because the origin is obvious and there is no mystery as to the age and handling of the seed.

Crews will travel north and south to metropolitan areas to collect from city parks and street trees. In the past, we used to travel yearly all the way to New Jersey to collect species that were otherwise difficult to obtain.

Seeds may be shaken down and caught on tarps, hand picked from the tree, or picked up from the ground using our 'Bag-A- Nut' seed sweeper www.baganut.com. Timing and method vary from species to species.

Over twelve years ago we planted the first of several plantings of seed trees. These have developed into a major resource, serving to offset purchases and have eliminated our need to travel to the east coast. Species including Acer griseum, Carpinus caroliniana, Ostrya virginiana and Amelanchier species have developed to the point that 100% of our needs are met by our own seed production. Many others are in the works to move us closer to self-sufficiency.

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Autumn begins with a subtle change in the light, with skies a deeper blue, and nights that become suddenly clear and chilled. The season comes full with the first frost, the disappearance of migrant birds, and the harvesting of the season's last crops.

-Glenn Wolff and Jerry Dennis

IN THIS ISSUE

Before .....

Investing in Conservation

- by Catie Anderson

Carlton Plants is involved in various conservation projects. As a company we are personally invested in conservation and have enjoyed many diverse benefits from the different trials we've done over the years. One of our recent projects revolves around water restoration and wildlife habitat.

In 2002 we acquired a new farm we call Hutchens, named after our retired friends of many years. It has a natural spring and pond but over time those water areas became filled with debris. We went to work to restore it. Brush and trees were removed from one side of the pond to allow equipment in to dredge and rebuild the existing dam. The dam is used to regulate water flowing out to the stream so the pond depth can remain consistent. The pond can now be used for irrigation and overflow as well as for wildlife habitat.

Water is pumped from the nearby Willamette River to the growing fields for irrigation and the extra water is pumped into the pond. Then the water is pumped from the pond to irrigate the upper fields.

For the next phase of our Hutchens Farm Pond Restoration project, the task was to maintain water temperatures so that water flowing out is cooled for the fish and aquatic life downstream. The cleared bank was planted thickly with NW Oregon native plants that were purchased from the local soil and water conservation district as well as plants from our nursery.

A layer of our homegrown compost was thickly spread over the area and the plants were put in the ground. The first summer we irrigated to get the roots established and the next spring the plants took off. In the following years we have filled in as plants have died or the beavers and deer have helped themselves (oblivious to the fencing we've put in to control both). As the plants mature we are happy to let the critters have their share.

This past spring the growth was so strong that we have considered thinning the shrubs back to give the conifers room to fill out. In the future the pond may be expanded as needed.

It's always exciting driving down the hill to catch a glimpse of the elusive wildlife that is making the pond its home. We've had nesting heron, ducks, beaver and numerous birds feeding on the seeds, berries and bugs. This spring we had a red tail hawk nesting in a nearby fir.

Our most recent addition to the pond is a raptor pole for perching hawks and owls. Also, several bird houses surround the pond for wood ducks and their less colorful neighbors.

Turnbull Nurseries

Saving Water Using Drip Irrigation

- by Carlton Davidson

Water management, along with conservation of this important natural resource, has become an integral part of Carlton Plants. The nursery has established an effective plan to reduce and enhance the beneficial use of water. One of the important practices of the nursery's plan to use water more efficiently is the implementation of drip irrigation. Drip irrigation simply is the frequent application of water using low flow rates on or below the soil surface. Synonyms of drip irrigation included "trickle" or "micro" irrigation.

A primary advantage of drip irrigation is to deliver water to the root zone with minimal loss through evaporation and run-off. We think drip irrigation reduces water usage by 40 percent. Another saving many people don't realize is the electrical savings from the reduced need of large pumps in running the irrigation equipment. Another attribute to drip irrigation is the ability to save labor once the system is in place. As an example, we feel that one employee can irrigate up to 200 acres compared to four or five employees using overhead irrigation.

Some of the unknown advantages aren't realized until the system is running. These include the ability to accomplish other horticultural activities (e.g. pruning) while irrigating, less disease pressure, and reduction of broken branches caused by overhead irrigation. Another advantage allows for the ability to fertilize and apply other pesticides through the drip line. This concept has its own set of advantages including reduced labor, fuel savings, and reduced waste of the chemicals.

Saving Water continued ....

Like many things, drip irrigation presents challenges, but with careful planning and visions of benefits, the concept becomes less daunting. The hardest thing to deal with is the initial cost of implementing the drip system which includes purchasing filters, new mainlines and manifolds. Other concerns include the initial set-up and the need of clean water to reduce or prevent clogged emitters.

How can drip irrigation help you? Once the infrastructure is in place, you should see savings in labor, energy and water. In addition, retail garden centers and landscape distributors can benefit by watering during critical times while keeping customers dry. Growers should see benefits in growth and consistency while reducing weed and disease pressures. If you have the need for further assistance, please contact Carlton Davidson at the main office.

Efficiency Through Experience

– By Will Steller

On a recent trip to Turnbull Nurseries in North Collins NY, I had the honor of experiencing efficiency at work. Bob Turnbull and son Rob provided the opportunity to work with their crew harvesting small fruits (Raspberries &Grapes) bare root. The instruction I received involved the use of a digger that is one of a kind. It is called a FoBro HD and was developed by Swedish fabricators using the ideas of Bob Turnbull. Turnbull Nurseries is a producer of small fruits, ornamental shrubs, and a few deciduous trees. This is a third generation operation that has done its fair share of field work.

Bob came up with a modified digger design that does a majority of the physical work associated with harvesting bare root shrubs. The digger has two special features. It brings the plants to the employees who are working on the digger and also moves them to employees working to collect the harvested plants.

The harvested plants are carried up two sets of augers turning in opposite directions. The augers are spaced enough not to cause damage to the plants, but provide bunching pressure that helps carry the plants up the augers The long travel up the augers provides increased opportunity to shake soil off of the root systems.

Plants are collected by two employees standing next to a conveyer. The conveyor can be operated to the left or right based on where the collection vehicle is traveling. The collection vehicle is a tractor with a pull behind trailer carrying stackable bins. These bins are loaded by a single employee who collects the bundles of harvested plants that come off the end of the conveyor.

Once the trailer is full (approximately 2-3 hrs), it can then be pulled by a pickup to the coolers to be graded and sorted. I took part in the collection process at a station near the conveyor. Having participated in a fair share of field production, I have to say that this process was very comfortable. It keeps the employee alert and constantly busy. The work load is not overbearing, just constant. I worked long enough to fill one collection trailer.

Approximately 25,000 plants were harvested using 5 employees in a little under 4 hours. I can attest that the machine modifications are well received by all the employees I worked with. This is proof that sometimes an investment for the future is worth its weight in gold.