Ekstrom Nursery and Its Tools (Toys)©

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Ekstrom Nursery is predominantly a balled-and-burlap (B&B) nursery growing a diverse plant mix of approximately 300 taxa. Our main production is geared to a retail garden center market with some re-wholesalers. Customers are spread throughout the United States and Canada with a mix of 50% of our customers located in the east and 50% of our customers located in the west. This has proven to be a good blend for us in being able to spread our shipping through the fall, early spring, and late spring. We ship over 500 semi-trailer trucks of material from November through late April with the bulk of our shipping occurring in February and March.

When my father started the nursery in the mid 1950s, he began by growing arborvitae, juniper, and other common popular plants of the day. He was a truck-crop farmer growing berries, potatoes, and cabbage on the family farm that his father had immigrated to from Sweden in the late 1800s. He looked to a few nurserymen who were very open to give him guidance and he would always be looking for different plants he could add to help improve his mix.

In the late 1960s and early 1970s, my brother and I grew up and began to help around the nursery. The assortment of plants grown increased greatly and more land was acquired.

A B&B nursery is a very labor intensive operation. Now Ekstrom Nursery, Inc. has roughly 290 acres and we have 60 full-time employees with a seasonal addition of 10–15 people. Any tool we can find that is cost effective, and that is an important point, is taken into consideration.

In the early days of the farm, rows were planted on 44-inch centers and things were tight. I can remember guiding a horse cultivator behind a stripped down lawn tractor for weed control in the summer and the spring weeds were ground under with an old Howard walk behind rototiller. It was nice being young and strong in those days.

Due to the change in plant material and tractor companies coming out with smaller "real tractors," we stretched our rows to the current 54-inch row. This is still fairly narrow but seems to work well with the equipment we have.

When it comes to equipment we are gleaners, not necessarily innovators. We do have our own in-house shop where we have modified available equipment and developed some tools our self. Most of the time we see something being used at other nurseries or farms and modify it to fit our needs. Many of the ideas we have found have come when we were on an I.P.P.S. tour in one of the North American regions.

My father's cousin had one of the top dairy herds in Oregon, but he always toured with the dairy groups. Dad questioned him about all the time he spent since his operation was at the top already. His cousin said "The worst dairy may have an idea I never thought of. If I can use it that pays for the whole day."

Some of the issues we deal with are soil erosion and organic matter depletion. Years ago we began using cover crops in our narrow rows. The choice of cover crop

is critical to the tools that are needed to process the residue in the spring. We began using annual ryegrass and have since switched to Poco barley. Poco Barley doesn't provide the good root growth and extra organic that the ryegrass did but is much easier to deal with in the spring and is adequate for erosion control. Seeding in the fall is done with drop-type seeders mounted to disc harrows which are generally available in the industry.

In the spring we first mow the residue with a flail mower built by Rears Manufacturing to a specific width to fit our rows. The next operation is to drop bands of fertilizer along each side of the plant row with a custom-built spreader. Each row has its own hopper for application so we are able to accurately meter the amount per acre we desire to apply. We also have a granular insecticide drill to apply a systemic insecticide to some of the trees that will benefit by this operation. After these jobs are finished we use an old cover crop disc built by Running Horse Equipment. The style we use has been discontinued so we keep welding and rebuilding them to keep them in good shape. From there, narrow tillers finish the spring tillage between the rows.

We generally shy away from the scorched earth style of herbicide use and try to limit our use of herbicide. We generally use a fall application of herbicide banded on the plant row and depending on its effectiveness we possibly use an early-spring application to reduce the weed pressure through late-spring and early-summer.

Through the summer we use a shank-style cultivator that has been custom-made with parts from an old international cultivator. These give us a nice finish and a fast way to take care of any weeds that pop up. They also provide a dirt mulch to prevent moisture loss. Our soil type is 2–3 ft of top soil with a deep clay base that absorbs water all winter. I'm no scientist, but it seems like the dirt mulch helps to keep the clay wicking the moisture up to the root zone. Even on our dry land farms we have adequate moisture into late August each year.

We have also designed other tools for use in our operation, such as a set of racks to haul irrigation pipe on a tractor rather than using a conventional pipe trailer.

Cost effectiveness of specific tools is a very important point as was referred to earlier. To have a fancy tool to do a job is nice and can make the job more pleasurable, but the all-important pencil is a major factor in making sure that having the tool is the most profitable way to do the job. Weighing the cost of the tool, the amount of use, and the availability of labor must all be taken into account before purchasing a new tool.

We purchased a small Holmac plant digger to help with digging B&B plants. Once we began to use it we realized it wasn't cost effective until the ball size was 22 in. or greater. Our hand B&B diggers were more productive and cost effective on the smaller size balls.

We also purchased a GK H7 tree digger that was a very expensive piece of machinery which we only use 80–100 h per year. It has been of tremendous importance in our bare-root harvest, giving us speed and flexibility in its use.

Probably the most valuable tool we have is a system for material handling of the 40- to 80-lb balled plants that we grow. In the early years we redesigned a tractor mounted 3-point pallet fork to increase the stability by widening the fork frame. We have probably sold over 150 of these over the years and have even sent some to our customers across the country. It is no special idea but being able to back the tractor up to the plants that have been dug out in the field, load them on the pallet, transfer

them to the holding yard and then back the pallet into the semi-truck for loading has reduced our workers need to handle the plants multiple times. The tractor mounted fork coupled with the truck bed height dock has given us the ability to load full semi-trucks in 2 hr or less with 3–4 workers. In the busy spring it has given us the capacity to load 8–10 full trucks or up to 17 full and partial trucks a day with just 2 and a half crews, approximately 9–10 workers.

In this day and age, efficiency is a very important part of the nursery industry. I don't want to say that we have all of the best ideas or that our ideas will work for everyone's operation, but they work well for us now. I am still going to I.P.P.S. meetings and other tours because I know someone out there probably has a better way of doing a job that I need to get done. As I said earlier we are always looking for a faster, better, and easier way to get the job done.