

Van Belle Nursery was named NMPRO's No. 12 Success Story for its use of automation in the production process. The nursery continually audits its processes to look for more efficient methods.

Van Belle Nursery

Lean manufacturing techniques cut waste, boost production for an already high-tech nursery

Van Belle Nursery in Abbotsford, British Columbia, Canada, had all the components of a high-tech nursery — state-of-the-art greenhouses, a complete environmental control system and a conveyor system. But company general manager Dave Van Belle wanted to make sure all the pieces fit into an efficient production system.

Van Belle enlisted the help of FlowVision, a Colorado-based Lean and flow manufacturing services firm, to evaluate the propagating and packing process and remove waste.

"It's been a real eye-opening experience. We have improved our productivity by about one-third," Van Belle said. "More importantly, we're changing our culture to continually look for incremental improvements that, over time, add up."

Van Belle grows woody ornamentals as liners and gallon-sized material. The nursery propagates about 99 percent of everything it ships.

With the help of Lean manufacturing, the nursery is aiming for about four turns per greenhouse per year.

"The whole focus is to be set up like a bedding plant grower without the bedding plant prices," Van Belle said.

Propagation progress

The nursery completely changed its propagation process without "over-mechanizing things," he said.

Flats go through a flat filler and a watering tunnel. Next the flats are dibbled, travel through the conveyor to awaiting employees who remove the trays and stick them. Next the trays



Plants are easily moved in and out of the Cravo houses with roll-up sides.

travel on another conveyor, loaded onto a rolling bench and placed in the production area of the greenhouse.

"We can propagate our plants so fast now, we're either going to have to build more greenhouses or root plants faster," Van Belle said. "We can fill a greenhouse with flats in two weeks, but plants don't root that quickly."

Previously, employees pre-filled the flats on the benches, rolled the benches into the greenhouse and stuck the plants on the bench.

Pack it up

Only a week after changing the packing process, it was operating faster than before, Van Belle said.

The rolling bench system brings the plants directly to the packing line. The new packing line allows the nursery to pack two tractor-trailers a day, which equals about 60,000 plants. Because the nursery can't pull 60,000 plants a day, Van Belle plans to revisit and improve that process.

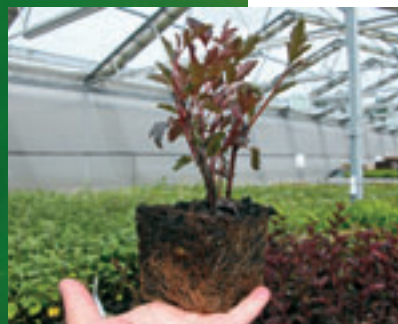
Lean manufacturing helped the nursery increase production by 20 percent, which doesn't reflect the whole story because the new processes were implemented in June. Typically the nursery starts production in April.

The propagation and packing are done in a third of the space before implementing Lean techniques. The nursery is using the extra space as a holding area for outbound orders. Van Belle plans to use the extra space for more production during the next year or two.

Van Belle Nursery implemented other efficiencies such as keeping only a four-day supply of boxes on hand and reducing the number of warehoused containers. The nursery reduced its water use by 25 percent each year the last two years by changing irrigation nozzle sizes and misting less often.

◆ **For more:** Van Belle Nursery Inc., 34825 Hallert Road, Abbotsford, British Columbia, Canada V3G 1R3; (888) 826-2355; www.vanbelle.com. FlowVision LLC, P.O. Box 1585, Dillon, CO 80435; (970) 262-6536; www.flowvision.com.

— Kelli Rodda



The nursery ships 4-inch liners year-round and coast to coast. Van Belle sticks at least two cuttings per pot.



Van Belle Nursery mapped and timed every process before implementing Lean manufacturing techniques.

Van Belle Nursery Inc.

Location: Abbotsford, British Columbia, Canada.

Production area: 50 acres.

Crops: Containerized woody ornamentals from 4-inch liners up to 3 gallon. Many plants are hardy in USDA Hardiness Zones 3-5.

Market: All of North America, primarily north of Interstate 70.

Employees: Approximately 50 year-round and 80 during the spring and summer.

Founded: In 1972 by Bill and Grace Van Belle.