

Custom-Built Wild Blueberry Harvester

Leon Perry's home-built wild blueberry harvester makes it easy to pick wild blueberries without driving over them first, reducing field losses.

Wild blueberries grow only about 12 in. high, as opposed to domestic bushes that grow much taller at 4 to 5 ft. Perry built the machine because he's greatly expanding his wild blueberry acreage and is also building a blueberry processing factory that will take in berries produced by other local growers. He's convinced his wild blueberry harvester is the best on the market.

"Wild blueberries are higher in antioxidants than cultivated blueberries and more healthful and therefore command higher prices," says Perry. "There are many wild blueberry harvesters on the market, some smaller and some larger than mine. The most common mass-produced one sells for up to \$250,000. I'm trying to build a machine that will pick premium berries with as little damage as possible."

He has built 4 wild blueberry harvesters so far – 2 for himself and 2 for other growers.

"Wild blueberries are grown predominantly in Maine and eastern Canada," says Perry. "They're far less common than cultivated blueberries but are becoming more popular. About 100,000 acres are grown in the 2 countries. But in the last 3 years producers in Maine and Canada have cleared about 30,000 more acres of new land to grow them."

His harvester is built on a subframe that runs directly behind the tractor instead of out to the side to avoid running over blueberries. The front part of the subframe is welded to

a backhoe loader-type mounting bracket that attaches to the tractor, while the back part is supported by a separate set of wheels and axles located about 7 ft. behind the tractor. As a result, the harvester can be operated by a small 30 hp. tractor. "The in-line design of my harvester also makes the machine much more stable on hillsides," says Perry.

The machine's 31-in. wide pickup head is suspended by springs instead of wheels as on conventional blueberry harvesters. The head sends blueberries onto a conveyor that unloads them into plastic totes that set on a walkway on one side of the platform. A worker then moves the loaded totes to the back of the platform, which can hold a total of about 60 totes.

To support the subframe, Perry removed the wheels from the tractor's rear axles and moved them 7 ft. back onto individual axles made from 4140 steel. He mounted big 32-tooth, No. 100 sprockets on the tractor axles and uses them to chain-drive the new axles. "The new individual axles have their own differential lock and brakes," says Perry.

The machine is operated by 2 pto-driven hydraulic pumps - one runs a blower that removes debris from the conveyor, and the other operates the pickup head. It's also equipped with vinyl shades that keep the sun off the driver and worker.

Perry sells his wild blueberry harvester for about \$70,000. You can see a video of it in action at FARMSHOW.COM

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Septic Tank Cold Storage

John Richards figures out practical uses for things he has on hand. That outlook led him to make an inexpensive cold storage cellar.

"I used a fiberglass septic tank. We put apples, carrots, parsnips, squash, and potatoes in it. It stays 40 degrees F all winter," Richards says.

He purchased the tank from a neighbor for \$150 after seeing it in his yard for years.

Richards dug a hole in the side of a hill near his house to accommodate the 8-ft. long, 5-ft. wide, 6 1/2-ft. tall tank. He framed in a door and washed the inside of the tank twice with a disinfectant. Covered with 4-in. styrofoam, plastic, and a foot of dirt, the storage unit is

well insulated.

With a vent out of an inlet hole, he's never had problems with moisture in the tank during warm weather, and he plugs the vent during the winter.

With a couple of shelves inside, the storage area preserves vegetables that Richards, 82, and his wife grow every summer.

"We never lose anything," he says, and the couple enjoys fresh vegetables from their on-farm "store" all winter long.

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John Richards used a fiberglass septic tank to make an inexpensive cold storage cellar. He dug a hole in a sidehill near his house and buried tank.

Niche Products Produced From Water Buffalo Milk

Water buffalo may seem out of place in Nova Scotia, but they provide milk for a welcome niche market in the region.

"They give less milk than dairy cows but it has almost double the fat; and the milk is very white. It makes mozzarella cheese that is very soft and milky," says Desiree Gordon, a food scientist, who has learned to make yogurt as well as ricotta and mozzarella cheese from buffalo milk.

She and her husband, Stefan Kirkpatrick, purchased two pregnant females and a bull from an Ontario farmer in 2015. The Canadian entrepreneurs wanted to create a value-added product to compliment their baking business, but were dissuaded by Canada's expensive and bureaucratic process of operating a traditional dairy farm. After years of research they traveled to Italy where water buffalo farms and making mozzarella cheese is common. They did their homework before purchasing the three animals for \$3,000 to \$4,000 each.

"Learning how to milk a water buffalo was a major learning curve," Gordon says. "They

can hold their milk and not let it down."

Despite their wild appearance and horns that require caution, they are basically gentle animals that require loving attention specific to them, Kirkpatrick explains. Mia needs lots of neck and tail scratching to get her in the mood for milking, while Cora just needs a little scratching.

He uses a portable milker for once-a-day milkings and gets between 1 and 2 gal. a day. The calves take care of the second milking. It provides enough milk for Gordon to make yogurt and cheese that the couple sell at farmers markets and to restaurants along with the sourdough breads, French pastries, and croissants they bake. Some of the buffalo milk is also used in chocolate truffles.

Having their own milk and making their own products is worthwhile, Gordon notes. One gallon of milk makes 2 lbs. of mozzarella cheese worth about \$30/lb.

Water buffalo produce milk well into their 20's, and they process feed efficiently to get the most out of forage. Caring for them is slightly different than dairy cattle.

The couple built a sturdy pole barn with 6 by 6 beams because the 1,500 to 2,000-lb. buffalo like to scratch. The animals respect electric fences, Kirkpatrick notes, but they are shrewd at opening gates so they need to be built carefully.

The buffalo stay in the barn during cold weather, and wallow in a pond in the hot weather because they lack sweat glands. The buffalo thrive on hay and a 16 percent dairy ration when they are being milked. With a heifer born last year, the couple is slowly growing their herd, and they plan to remain a small operation. They will milk twice a day as they develop markets and increase yogurt and cheese production.

"I want to make and sell it within two days so it's fresh," Gordon says, noting that so far the demand for products has been good.

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A Nova Scotia couple has learned to make yogurt as well as ricotta and mozzarella cheese from buffalo milk. "Water buffalo produce less milk than dairy cows, but it has almost twice as much fat," they say.