

Low-Cost Rig Processes Chickens Fast

The 500 broilers Matt Eby raises each year are too many to butcher by hand and too few to justify the cost of commercial poultry processing equipment. Looking for an alternative, he came up with low-cost ways to scald and pluck his birds.

"We have several commercial poultry processors in the area, including USDA slaughter plants, but they don't all have good reputations," says Eby. "We know we can do really high quality work ourselves."

Maintaining high quality is essential for keeping satisfied customers who pre-order broilers and pick them up at Eby's farm. Having right-sized and priced equipment lets him process birds to match demand.

"I made the plucker about 4 years ago and the scalding tank about 2 years ago," says Eby. "The plucker didn't require any special equipment, but the scalding tank did. It took longer to find the right tank."

The plucker is based on others on the market, like Herrick Kimball's Planet Whizbang chicken plucker (Vol. 31, No. 4). Like Kimball's, Eby's uses commercially available rubber "fingers." The fingers are mounted in a food grade plastic barrel with a metal plate in the bottom.

Eby cut the barrel down from 55 gal. to about 30. Powered by a 1 hp motor and reduced by a 16-in. pulley, the plate spins the barrel inside a wooden frame at about 215 rpm's.

The rubber fingers are mounted to the plate and to the sides of the barrel. They tumble the birds and pull out feathers without tearing the skin.

"If the birds are properly scalded, the plucker will remove 99 percent of the feathers in about 30 sec.," says Eby. "I can do 2 broilers at a time."

If Eby drops in 3 or 4 broilers or a large

turkey, the belt slips. He plans to upgrade the plucker to resolve that problem with a 10:1 gear reducer. Although it will raise his costs to around \$300, it's still far less than the \$1,200 he says a comparable size unit would run.

Although it took time, Eby knew he had what he needed for the scalding tank when he found a stainless steel tank at his local salvage yard. It came with a built-in heat exchanger. With the addition of a wood-fired boiler and hydronic water pump, he can supply scalding water to the heat exchanger in a closed loop that keeps tank water separate from boiler water.

"At the same time I found the tank, I saw a gear reduction, chain-drive motor," says Eby. "I added a sprocket to reduce motor speed to 9 rpm's to drive a paddle."

Eby fabricated the paddle out of stainless steel, expanded metal screen and hardware. The paddle driveshaft is mounted just above water level. At 9 rpm's the expanded metal paddle churns the water without splashing and rotates the birds in and out of the water for an even scald.

"It takes 2 to 3 hrs. to get the tank up to temperature, but the 200 gal. of water reduce temperature fluctuation," says Eby. "A digital thermostat ensures precise temperature control, which is important for a good scald."

Eby says he is confident he could scald as many as 12 to 15 broilers or 4 large turkeys at a time. That is more than he can process at one time, but the price was right.

"The boiler and pump cost only \$50," recalls Eby. "The total cost for the boiler and the scalding tank setup was about \$700. A similar sized commercial unit would have cost from \$5,000 to \$7,000."

Contact: FARM SHOW Followup, Matt Eby, 56641 Glenwood Rd., Cassopolis, Mich. 49031 (ebyfarmsllc@gmail.com).



Wood-fired boiler (left) heats 200 gal. of water inside Matt Eby's home-built scalding tank.



He built this plucker using a cut-down, food grade plastic barrel set in a wooden frame.



Scalding tank's expanded metal paddle rotates birds in and out of the water (above). Photo below shows interior of plucker fitted with rubber fingers.



Purple Carrot Popularity Explodes

Purple carrots are catching on fast at farmers' markets and in home gardens across North America. Described as a super food by some, purple carrots are loaded with beneficial nutrients, according to Kathy McFarland, Baker Creek Heirloom Seed Co.

"The market for purple carrot heirlooms is growing fast as people rediscover them," says McFarland.

According to the World Carrot Museum, based in the U.K., both yellow and purple carrots originated in central Asia. Orange carrots were first bred in the 17th century. Purple carrots have always been grown widely in India.

All carrots are loaded with dietary fiber, vitamins A, K and C, and potassium and manganese. Like other colored carrots, purple carrots contain carotenoids, especially lutein. They're also high in plant pigments called anthocyanins.

The World Carrot Museum reports that purple carrots have as much as 28 times the anthocyanins as orange carrots and are also higher in other antioxidants. They have been shown to possess anti-inflammatory, anti-viral, antiseptic, antimicrobial and anticarcinogenic properties.

Purple carrot pigments can be used as a natural colorant in candy and jelly. Their natural antioxidants are also being used to delay rancidity in sunflower oil.

McFarland encourages market gardeners to introduce purple carrots to their customers. However, like any new crop, she suggests including recipes and "how to use" advice.

Some purple carrots have orange or yellow insides and lose their color when cooked.



Baker Creek Heirloom Seed Co.'s Pusa Asita Black carrot is dark all the way through.

Baker Creek's Pusa Asita Black carrot is dark all the way through. McFarland suggests treating it like beets when adding to recipes, as the purple color will bleed.

The Pusa Asita Black is open-pollinated, so properly saved seed will reproduce. Carrots are biennial. Replanted mature carrots or overwintered and heavily mulched carrots will produce a seed head in year two. Care must be taken in areas where Queen Anne's Lace (wild carrot) or other carrots are allowed to mature to prevent cross-pollination. The flowers may need to be covered and hand-pollinated. McFarland suggests the effort is worth it.

"You should try to produce your own seed and then share them, as this is a rare and precious variety," she says.

Contact: FARM SHOW Followup, Baker Creek Heirloom Seed Co., 2278 Baker Creek Rd., Mansfield, Mo. 65704 (ph 417 924-8917; seeds@rareseeds.com; www.rareseeds.com).



This 7-ft. wide, 40-ft. long spreader box has a total heaped capacity of 55 tons of solid manure. It recently set a world record by spreading 4,648 tons of manure in 24 hrs.

Giant Spreader Sets World Record

If you want to break the world record for manure spreading, you'll have to go fast and furious to beat the Brochard EV 2200-120. It recently raised the bar, setting a world record by spreading 4,648 metric tons of manure on 548.08 acres in 24 hrs. This wasn't a custom-built job, but production equipment available to anyone with a lot of manure to move.

"Farmers can order the same machine that was used for breaking the world record," says Clément Granger, Brochard North America. However, there is a delay of 3 months between ordering and delivery of the European-built spreader.

The 7-ft. wide, 40-ft. long spreader box has a total heaped capacity of 2,100 cu. ft. That is 1,800 bushels or 55 metric tons of solid manure in every load. It is equipped with hydroelectric controls, on board scale, GPS, touch control panel and heavy-duty gearbox for vertical beaters. The spreader can be ordered with a variety of rear gates and spreading systems, tracks and multiple wheel systems. The record setting model had 4 axles.

Granger recommends a minimum tractor

size of 380 to 400 hp. to power the spreader. For the record-breaking effort, Brochard partnered with New Holland, using its 615 hp. T9 tractor, the biggest in its range. In homage to its partner, Brochard painted the spreader in New Holland colors.

The effort, which was judged by Guinness World Records Association, involved 2 Brochard employees, each taking two 6-hr. shifts. The event took place in a 650-acre field in the Ukraine, where 250,000-acre farms are not uncommon.

The EV 2200-120 is priced at \$180,000 (\$240,000 Canadian) delivered in Canada. Granger indicates the company is starting to work with several dealers in Canada and expects to be active in the U.S. in 2016.

You can check out a video of the record-breaking event at FARMSHOW.com.

Contact: FARM SHOW Followup, Brochard North America, 1400 rue Jean Berchmans-Michaud, Drummondville, Quebec Canada J2C 7V3 (ph 819 477-5511 or 819 817-4928; info@brochard-ca.com; www.brochardnorthamerica.com).