### "Cage Tote" Bulk Bins

John Drew didn't want to spend the money for portable bulk bins to feed his guinea hens, so he built his own bins out of a pair of big metal cage totes.

"I've raised guinea hens on my farm for years and had been feeding them bagged grain purchased at a farm store," says Drew. "I knew I could buy grain from our local farm co-op for a lot less money, but I had to buy it in bulk. I started looking around for commercial portable bulk bins but wasn't willing to spend \$900 to \$1,500 apiece for them.

"I had previously purchased several cage totes designed to hold soap and I used them for everything from portable water storage to dog house tanks, firewood storage, and even as tree stands. Wandering through a local farm store I found 8-in. grain gates on sale for \$20 apiece. I decided to install them on 2 cage totes."

He removed each tank from its cage and cut a section out of the top, then cut out part of the cage frame to make room for the grain gate. "I put the tank back in the cage and positioned the gate, then drilled 2 mounting bolts into the tank to steady the gate and marked the gate opening," says Drew. "After cutting out the gate opening I bolted the gate to the tank. I used large fender washers inside the tank for extra strength."

He mounted both tanks on an old running gear so that he could move it around. "Once the tanks are full of grain, I strap a tarp on and then store them in my shed out of the weather. Each tank holds a little more than 20 bu.," says Drew.

He paid \$15 apiece for the cage totes and \$20 apiece for the gates. "Including the running gear and a couple of tires, my total cost was about \$325. I easily saved twice that much the first time I filled the tanks with grain from the local co-op, over the cost of bagged grain," notes Drew.

Contact: FARM SHOW Followup, John Drew, 2034 N.W. 70 Ave., Great Bend, Kansas 67530 (ph 620 791-7580; drewfarms@gbta.net).



John Drew needed bulk bins to feed his guinea hens. He saved money by making his own out of big metal cage totes.

#### They Teach Livestock To Eat Toxic Weeds

Canadian thistles are tough to treat, but can be delicious to eat. And, with as much protein as alfalfa, they are nutritious too. With a tried-and-true technique, some Canadian producers have trained their livestock to eat and enjoy the prickly weed in just five days.

"The biggest thing is to learn that they're good to eat. They learn to manipulate the thistle in their mouths," says Kari Bondaroff, Invasive Plant Program Manager with the Peace River Regional District in Dawson Creek, B.C. Working with the Peace River Forage Association on a two-year research project, Bondaroff arranged for Kathy Voth of Loveland, Colo. (www.livestockforlandscapes.com) to coach producers how to train livestock to want to eat undesirable plants.

"It works with positive feedback by introducing feeds with weird textures," Bondaroff says. "It's easy for producers. We're not locking the animals up or affecting their routine. We're not starving them, we're offering them healthy snacks."

Livestock were given treats twice a day in bins for 4 days. Everything from milled flax to horse crunchies to peas and beet pulp were feeds the animals liked, but all had different textures. On day five, the bins were filled with chopped thistles – and the animals ate that too.

The lesson transferred to the pasture for many of the animals.

"We watched one group of heifers. These girls showed off and they ate thistles, flowers, seed heads and leaves. The goats stripped the thistles from the ground all the way to the top.



Canadian thistles are nutritious, but cattle won't eat them without special training.

Sheep nipped the tops," Bondaroff says.

Without any additional training, one herd ate stinging nettle. Another herd ate curly dock and sow thistle.

"It's exciting to see them try things," Bondaroff says.

Older cows are less excited to eat the weeds, she adds. Young cattle are much more adaptable, as are sheep and goats.

"We want to give producers a cost efficient tool. The cattle benefit from the weeds, and the producer doesn't have to use chemicals (to eliminate thistles)," she explains. "We haven't done a cost analysis, but for less than \$200 for feed and five days of their time, they now have 40 to 50 animals working for them, cleaning up the farm."

Contact: FARM SHOW Followup, Kari Bondaroff, Peace River Regional District, Box 810, 1981 Alaska Ave., Dawson Creek, B.C. V1G 4H8 (ph 250 784-3200; www.prrd. bc.ca; Kari.Bondaroff@prrd.bc.ca).

#### ground all the way to the top. bc.ca; Kari.Bondaroff@pr

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## **Simple Fixes For Wood Furnace**

Dawson Hill knows how to make a woodfired boiler work better. His simple fixes automate basic outdoor furnaces.

"I added a few extra control systems with sensors," says Hill. "They turn fans on and off according to the temperature in the house and in the boiler."

Hill added a sensor and control for the combustion fan on his wood boiler. It automatically turns the combustion fan off when the boiler water drops below 100°F.

"If the furnace is out of wood, this stops cold air from being blown into the house," says Hill.

Hill also added 2 controls to his in-house

system. The first senses hot water in the system. It turns on a fan to cool the water if it reaches 200°F, thereby preventing it from boiling.

"I also added a sensor to turn the blower fan off if the water temperature gets below 100 degrees," says Hill. "It also triggers a small light I installed above the wood furnace thermostat. When the light goes on, it tells me the water temperature is very low, and I need to check on the furnace."

Contact: FARM SHOW Followup, Dawson Hill, 6805 Mansfield Rd., Stittsville, Ont., Canada K2S 1B8 (ph 613 838-5165).

# **Erosion Control Remedy Has Lasted 25 Years**

"My wife and I bought the property where we live more than 30 years ago because it was quiet, wooded and had a small creek that ran behind the house," says retired New York contractor John Collins. "We didn't know at the time that the creek would flood even when we got 2 to 3 in. of rain, and wash away the bank. After one really heavy rain the creek washed 20 to 30 ft. off our property, and I knew I had to do something more than just put dirt back and add some rocks."

Collins asked local conservation officials what he could do, and they said the best way to preserve the bank was to use large boulders. Collins says he told them, "I'm just a small landowner here, someone who doesn't have the means to repair 300 ft. of creek bank with several hundred tons of rock."

Collins came up with a solution that's lasted more than 25 years without any additional improvements. "I knew from construction jobs I'd worked on that hillsides and banks can be stabilized if they're packed well and protected with wire mesh. Our idea on the creek bank was to put the dirt back in place, put rocks and scrap concrete over the dirt at the base of bank, and pack it in well. Then I cut 12-ft. pieces of chain link fence and laid it over black plastic on the slanted part of the bank. We also built up the area that had washed out of our yard, packed it in real well and seeded it with deep rooting grass."

His project required 7 loads of old concrete sidewalk slabs, 40 loads of fill and several rolls of old chain link fence. Collins staked



This creek bank stopped eroding after John Collins used scrap concrete and chain link fence to shore it up.

the fencing together to create a solid wire mat, then secured the top, bottom and a few places in the center with pieces of re-bar bent in the shape of an L. "We also covered the bottom with rocks to keep the water from washing under the fence and into the bank."

Collins says the native grasses he seeded on the bank grew real fast and anchored the fence to the stream bank in a few months. "The mesh was fairly easy to install, and it didn't cost us anything because a neighbor was throwing it away."

Collins says that even though his small part of the streambank is preserved, he sees other places along the stream that erode more every year because water is washing across bare soil on the banks. "Some people think plain rocks will stop erosion, but in my experience I think adding a fence mat or another type of mat that grass and small trees can grow through works much better."

Contact: FARM SHOW Followup, John Collins, 8498 State Highway 12, Sherburne, N.Y. 13460 (ph 607 674-9079).