

## Old Silo Blower Makes Heavy Duty Leaf Blower

"I call it my Hot Rod Leaf Blower because it's so much better than anything on the market and will blow leaves up to 40 ft.," says Rick Hensley, Port Jervis, N.Y., about the 3-pt. mounted, pto-driven leaf blower he built out of an old silage blower.

Hensley operates a landscaping service and works by himself. He says he came across a big leaf blowing job - so big that he couldn't find a blower that would do the job. That gave him the idea to build his big blower. "I go back and forth, clearing leaves in swaths up to 40 ft. wide at a time."

He used a 15-year-old Ford 618 silage blower. He cut off the wheels and the blower's conveyor/auger, then made 3-pt. brackets and shortened the pto shaft. The blower was equipped with a moveable band on the blower housing which he rotated downward 90 degrees to one side. He rebuilt the blower frame to accommodate the low

spout position.

The silo blower originally had a hole on the back at the bottom for silage intake. He wanted to have the intake hole on top in order to create maximum air flow. So he unbolted the back side of the blower and rotated it to move the hole to the top. For safety reasons he mounted a metal screen over the hole. Skid plates are welded underneath to protect lawns.

"It turned out to be a bigger project than I expected, but it really does the job," says Hensley. "It'll blow leaves up to 1 ft. thick. I use a Deere 4110 20 hp tractor to power it. I go pretty slow, about 1 mph. I use the 3-pt. hitch to raise the blower."

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Hensley used a 15-year-old Ford 618 silage blower to make the bigger leaf blower. "I use a Deere 4110 20 hp tractor to power it on the 3-pt. hitch."



Bumper weighs 200 lbs. and covers the entire grill area. Miller has models that fit most pickup models. They sell for \$1,050 plus S&H.

## Heavy-Duty Bumper Grills

Marty Miller, Long Lane, Mo., needed something to protect his truck from cattle in the field so he decided to make his own heavy-duty bumper.

It weighs 200 lbs., and covers the entire front grill area. The bumper is made from powder-coated steel and Miller says it's stronger and lighter than anything on the market.

The bumper bolts to the truck in place of the original bumper. "We used square stock and tried to make it blend in with the truck's frame," says Miller.

"I realized how well it worked after one of my employees had a deer run in front of his truck on the highway. The deer didn't scratch

or dent the truck at all," he says. "The savings from that incident alone was more than double the price of our bumper."

Miller's company, Advanced Manufacturing, has standard sizes to fit most models including Ford, Chevy, Dodge, Toyota and Nissan. They also have bumpers to fit the Mercedes Unimog and other big trucks. They can custom-make bumpers as well.

The bumper sells for \$1,050 plus S&H.

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## Mining For Gold With Farm Crops

It's like panning for gold but using plants instead of water, says New Zealand researcher Chris Anderson, who has come up with a process called "phytomining" that lets plant roots pull gold and other precious metals out of the ground. Anderson is a researcher at Massey University. He's using corn and other farm crops to "hyper accumulate" gold from mine wastes that would otherwise be costly to mine.

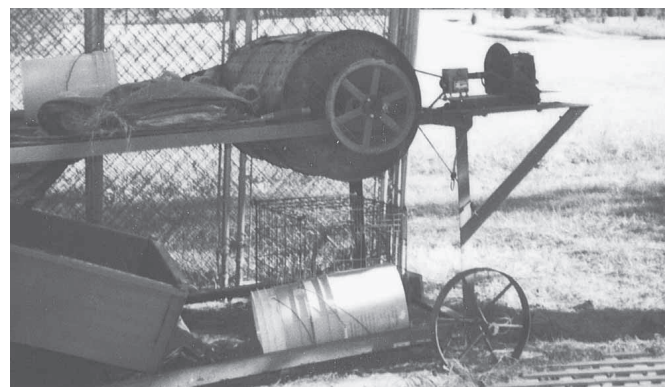
"We're still not at a commercial level, but we are getting closer," says Anderson, founder of Tiaki International, the first gold farming company in the world.

To "mine" gold with plants, he seeds corn, canola or mustard in a plot layered with waste from a gold mine. The heavier the concentration of gold particles present in the soil, the greater the eventual uptake. As the crops mature, he sprays the soil around them with

low levels of ammonium thiocyanate that induces the plants to take up the gold. After a few days, the leaves turn brown indicating the plants are ready for the gold harvest. Anderson then incinerates the plant material at 923 degrees and extracts the gold from the ash.

The gold is captured in the plant tissue as nanoparticles of pure gold, which can be sold to the medical and electronic industries. At current prices, he estimates the need for a kilogram of gold per hectare (2.5 acres) to be competitive. However, niche uses for nanoparticle gold could reduce the necessary yield to only 250 grams per hectare.

In addition to gold, Anderson is working on ways to extract other minerals and chemicals with plants. For example, so far he has identified about 350 plant species that will take up more than 1,000 milligrams of nickel



"It will hold 75 to 100 fish 3/4 to 1 lb. in size," says Capps. "If the fish are larger, we put fewer in at a time. We leave the fish in the barrel for 30 to 45 minutes."

## Barrel Makes Scaling Fish A Snap

When you catch fish by the hundreds, scaling by hand gets old real fast. That's why John Capps built a scaling barrel that takes all the work out of the job.

"I'll go down to the ocean or to the ponds around here and catch 200-300 brim, bass and bluefish in a day," says Capps. "We have a lot of fish fries in the area, and I also give fish away to folks. I wanted an easier way to get the scales off."

Capps took an old washing machine motor and a barrel and mounted them both on an angle iron framework. He mounted a cleaning table at the other end to handle the fish after they have had their scales knocked off.

A spindle runs through the length of the barrel with bearings at either end. A pulley on one end of the spindle is belt-driven by

the washing machine motor. He drilled hundreds of 3/8-in. dia. holes in the sides of the barrel to create a rough texture similar to the side of a cheese grater.

A hinged door cut in the side of the barrel lets Capps dump in fish. Once the flap door is closed, he starts the barrel spinning and turns on a garden hose over the top of the barrel to cushion and wash the fish.

"It will hold about 75 to 100 fish 3/4 to 1 lb. in size," says Capps. "If the fish are larger, we put fewer in at a time. We leave the fish in the barrel for 30 to 45 minutes."

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Plant roots pull gold and other precious metals out of mining waste that would otherwise be too costly to process.

per kilogram of dry weight plant material. Some take up more than 10,000 mg/kg. Other plants take up large amounts of arsenic, cadmium, zinc, thallium and boron.

Anderson continues to work on both the growing and processing sides of the equation. "We are in advanced planning to run a couple of extensive trials here in the south-

ern hemisphere," says Anderson.

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