# Self-Cleaning Pump Built For Shallow Water

Anyone who depends on river or canal water for irrigation will be interested in this new water-driven, self-cleaning pump that's designed to work in water as shallow as 4 in.

"There's nothing else on the market that can pump out of such shallow water and also clean itself at the same time," says inventor Bob Wietharn.

The Riverscreen floats on four pontoons and draws water from more than 35 sq. ft. of screening area. Water is delivered through a pipe available in 4, 6, 8, 10, or 12-in. dia. with 150 gpm to 4,000 gpm capacity. A screened, rotating drum measuring 32 by 48 in. is supported by an aluminum frame that mounts on the pontoons. Flowing water moves past a series of paddles, which force the drum to rotate and self-clean via a stainless steel mesh screen. As the screen rotates with the drum it goes by a series of jets, which dislodge anything that sticks to the screen.

An optional electric power drive can be added for use in slow-moving water, tailwater return pits, and manure lagoons. Also optional is a galvanized lift boom that lets one person quickly swing out and gently lower the Riverscreen to the water surface.

"It draws water that's only 2 in. below the surface, which is usually the cleanest water," says Wietharn. "It draws water from seven times the area of the suction line. You can draw from shallower water if you're pulling it from a bigger area, because the the water moves more slowly."

Wietharn says he came up with the idea for the product as a solution to his irrigation problems. "I irrigate from a river that usually can be walked across, and the sprinkler nozzles kept plugging with debris that was sucked through the system. Cottonwood fuzz was the worst problem. A screen over the pump inlet that prevented sticks from entering would plug up with the fuzz. On the other hand, a screen large enough to let the fuzz through also allowed larger debris to enter.

"At certain times I'd have to spend several hours a day cleaning nozzles, not to mention cleaning filters. I finally decided I had to find a solution."

Sells for $1,500 to $3,150 depending on size of the delivery pipe.

Contact: FARM SHOW Followup, Riverscreen, Inc., 1925 Kiowa Road, Clay Center, Kansas 67432 (ph 785 632-5452; email: Riverscreen@kansas.net; website: www.riverscreen.com).

**Water-driven, self-cleaning pump is designed to work in water as shallow as 4 in.**

# "Better Than Lead" Shotgun Pellets

Frustrated shotgun hunters tired of wounding but not killing with standard steel shot now have a better option. Hevi-Shot by Environ-Metal is made from a tungsten-alloy that's 10 percent heavier than lead and 50 percent more dense than steel. The pellets are molded with a lightly dimpled surface like miniature golf balls.

"The dimpling is unique to our manufacturing process and delivers real tight patterns with lots of energy," says Pancho Fulton, director of sales and marketing. "I shot our Dead Coyote shells in a Remington 870 at full choke and got a 100 percent pattern in a 20-in. circle at 40 yards."

Dead Coyote is the latest in a growing line of Hevi-Shot shotgun ammunition. The Dead Coyote 12-gauge, 3-in. shot shells produce a muzzle velocity of 1,350 fps or 11 fps at 100 yards.

The company was started by 6 avid waterfowl hunters frustrated with steel shot. One of them asked a metallugist friend if he could make a shot heavier than lead.

Dr. Darrel Amick, whom Fulton describes as more farm kid than a Ph. D., came up with Hevi-Shot. Following the shot's warm reception when first introduced, Remington Arms signed a marketing agreement with Envrion-Metal, making it available nation wide. The company retained the right to sell its shot direct to consumers over the web.

Today, the company also markets slugs for big game that claim twice the penetration of lead slugs. Loads are also available for turkey, goose/waterfowl, duck, and upland game in addition to coyote.

The company does warn that Hevi-Shot should only be used in modern guns designed for steel ammunition.


**Hevi-Shot is made from a tungsten-alloy that's 10 percent heavier than lead and 50 percent more dense than steel.**

Contact: FARM SHOW Followup, Envrion-Metal, Inc., P.O. Box 834, Sweet Home, Ore. 97386 (ph 541 367-3522; email: hevishot@aol.com; website: www.hevishot.com).

# Home-Built Tree Stump Rigs

Manuel Escobar, who grows Christmas trees near Portsmouth, R.I., recently sent FARM SHOW photos of three different implements he built that make removing stumps an easier job.

"I built them mostly out of scrap material so they didn't cost much," he says. "I find that grinding or pulling out tree stumps works a lot better than using a backhoe, which removes a lot of dirt and also makes quite a mess."

The first implement consists of a 3-pt. mounted hook designed to yank out stumps. He uses it on his Farmall 350 tractor. It's made from the beam off a 3-bottom plow, with the hook that originally supported the plow point still intact. He used cast iron to make a 5-in. wide, triangle-shaped wedge and bolted it to the hook. Then, using two pieces of heavy angle iron, he bolted the beam to a drawbar.

"After the hook is lowered into position against the stump and roots, I raise the 3-pt. hitch while moving the tractor forward to pull out roots and stumps. The combination of forward movement and hydraulic lift prevents the tractor from skidding," says Escobar.

The second device is a scissors-type stump puller originally designed to pull pallets off trucks. It's equipped with a pair of steel jaws with teeth on them and is connected to a length of chain that attaches to the tractor. He welded strap metal on top of both jaws to keep them from bending or twisting out of shape as they pull on the stump. He also increased the size of the chain from 5/16 to 3/8 in. diameter.

To operate, he simply places the jaws around the stump. As the tractor moves forward, the jaws close together and the teeth on them dig into the stump so he can yank it out. "The big advantage of the stump puller is that with a long chain, I can pull out stumps that would otherwise be beyond the reach of the tractor," says Escobar.

The third implement is a 3-pt. mounted, pto-driven stump grinder equipped with five 12-in. dia. cutting blades. He used the pto shaft and 90 degree gearbox off an old baler, mounting them on a frame made from 2 by 2 angle iron. The blades mount side by side on a 1-in. dia. shaft. Because the blades rotate clockwise, he had to machine a left hand thread on the shaft in order to keep the blades from slipping.

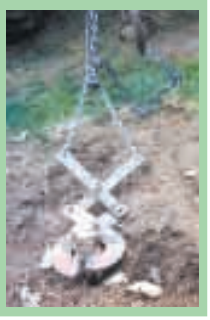
"I built it last spring and have already ground more than 100 stumps with it," says Escobar. "I use it with a Kubota 17 hp tractor. The blades are less than an inch wide so after each cut I drive forward and stop, then turn the steering wheel slightly and back up to move the blades over for the next pass. The tractor has a hydrostatic transmission so I can go forward and backward without having to do any shifting of gears. I can completely remove a 4-in. dia stump in four or five passes."

A big advantage of the stump grinder, he says, is that it works fast. "Also, I don't have to go back and fill any holes in like I do with the other two methods," he notes.

Contact: FARM SHOW Followup, Manuel Escobar, 175 Middle Road, Portsmouth, R.I. 02871 (ph 401 683-4365; email: Manysteel@aol.com).

**Manuel Escobar's 3-pt. mounted, pto-driven stump grinder is equipped with five 12-in. dia. cutting blades. They mount side by side on a 1-in. dia. shaft.**

**Made from the beam off a 3-bottom plow, Escobar's 3-pt. mounted hook is designed to yank out stumps. He uses it on his Farmall 350 tractor.**



**Scissors-type stump puller was originally designed to pull pallets off trucks. It's equipped with a pair of steel jaws connected to a length of chain that attaches to tractor.**