



Clark Kadis used a 55-gal. plastic barrel to build an inexpensive gravity-fed waterer that he pulls behind his 4-wheeler.

Low-Tech Veggie Watering System

Clark Kadis wanted to try his hand at vegetable farming without spending a lot of money. He needed a cheap way to water his plants, so he used a 55-gal. plastic barrel to build an inexpensive gravity-fed waterer that he pulls behind his 4-wheeler. It's equipped with a 3-ft. long "boom" on one side of a 2-wheeled trailer that the barrel sets on.

"It's simple and easy to operate," says Kadis, whose vegetable garden measures 400 ft. long by 250 ft. wide. "I worked for 7 years for a commercial vegetable grower who uses raised beds with drip irrigation and plastic mulch for weed control. I wanted to try it without a lot of expense, but to do that I needed a way to water right after planting. I grow pumpkins, green and wax beans, turnips, and carrots."

He leaves a 5-ft. wide unplanted area between each set of rows, where he drives the ATV and waterer. "I go back and forth down the field. I use the same gaps at harvest with the ATV and a wagon to collect buckets of vegetables," says Kadis.

The watering pipe is made from 1/2-in. dia. pvc and attaches with connectors to the bungee hole at one end of the barrel. It has a series of holes spaced about 1 in. apart in it



A 3-ft. long "boom" extends out one side of the 2-wheeled trailer.

and is equipped with a shut-off valve and an end cap.

"It works good. I use the shut-off valve to adjust how much water comes out of the holes," says Kadis. "The end of the pipe is braced by a rope that runs up to the top of the barrel. I cut a hole on top of the barrel to fill it. I run a rope over the top to keep it from bouncing around."

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Homemade duck-billed shovel is welded to a length of rebar that's fastened to an air hammer. Hackman recently used the shovel to dig an 8-in. deep trench in hard ground.

Air-Powered Shovel Digs Trenches In Hard Ground

"I had a big problem with skunks getting under my double wide and needed to do something to get rid of them," says retired farmer Russell Hackman of Texas. "I figured the best way to keep them out was to bury a fence in the ground and connect it to the underside of the trailer. That way they'd get discouraged, give up and go away."

The ground was too hard to trench by hand, so Hackman built a small air-powered shovel to handle the job out of a flat piece of 3-in. channel iron that he curved in a duckbill shape. He welded a piece of rebar to one end and fastened it to an air hammer.

Hackman used his invention to dig a trench about 8 in. deep around the outside of his trailer. Then he cut welded wire mesh in pieces about 24 in. long to reach from the bottom of the trench to the underside of his trailer. He connected the mesh to the

undershirt with hog rings. With the mesh securely in place he re-filled the trench and had a secure fence to keep out any type of burrowing critters.

"It's been very dry around here so the ground is very hard and impossible to dig with a shovel or a grubbing hoe," says Hackman, "but the duckbill shovel I built worked real well. When I got the fence in place I left a small space open and sat back to make sure the skunks were out from underneath the trailer," Hackman says. "Sure enough, two of them came out, and my 20 ga. took care of them both before they could get back underneath. I closed up the opening and the buried fence has kept out anything else that's tried to get in."

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"Made It Myself" 3-Pt. Trencher Lays In Cable

"I needed to bury an electric cable to my daughter's playhouse without destroying my lawn. There was nothing on the market that would do what I needed at a reasonable cost, so I built one," says Michael Boyer, Post Falls, Idaho.

He built the trencher by welding a short length of 1-in. thick scrap steel at an angle to a vertical length of square steel tubing. The top end of the tubing is welded to a horizontal tube that fits into a receiver hitch, which mounts on a steel bracket that fastens to his tractor's 3-pt. hitch. A 1/4-in. thick "cutting edge" is welded on front of the trencher. A curved 1-in. dia. tube clamps on behind and feeds the cable down into the bottom of the trench.

"It works similar to the trenchers used by utility companies to lay in cable, except instead of pulling it behind a bulldozer I'm using my Deere 2250 2-WD loader tractor," says Boyer. "I'm able to lay cable about 20 in. deep."

"I keep the cable spool on a vertical pipe that attaches to the loader bucket and keep the bucket up in the air. The cable comes off the spool, back over the tractor, and down to the trencher. Once the trencher knife enters the soil, the forward motion of the tractor sucks it down into the soil. It's a small trencher, but it takes everything my 50 hp tractor has to pull it."

"The only limitation is that I have to make big, slow sweeping turns. A tractor equipped with front wheel assist would probably work better because the front end would be pulling, allowing a tighter turn."

"The only items I bought were the cable-



A curved 1-in. dia. tube clamps on behind 3-pt. trencher to feed cable down into trench.

laying pipe and the receiver hitch tube. My total cost was only about \$15."

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New Clover Grows Up To 10 Ft. Tall

By Mark Newhall, Editor

An unusual package showed up in our office the other day – an 8-ft. long, vacuum-packed plastic bag containing a brand new kind of tall clover.

FIXatioN Balansa Clover is being commercially released by SalGrassland Oregon, a pioneer in the research, development and promotion of forage and cover crops.

According to the company, the new clover outperforms all other clovers in hardiness, biomass, nutrient fixing and crude protein levels. It can grow to 10 ft. tall in the field, although the crop collapses on itself as it grows to stand approximately 3 ft. tall.

The small-seeded annual legume features rapid germination and a lot of biomass. The biomass produced completely shades the ground, smothering the majority of weed and crop species. In Oregon field trials, FIXatioN was able to outgrow and smother rogue radish plants that hadn't winter-killed.

According to the company, the plant's deep tap roots also contribute to long-term soil health and conservation, creating channels for rainfall to penetrate deep into the soil, breaking up compacted soil and preventing erosion.

FIXatioN yields high crude protein levels ranging from 22 to 28.4 percent. And, as the plant matures, it produces blossoms that are attractive to pollinators.

The plants retain actively growing leaves from the tip of the stem to the rosette at the soil surface, allowing for better recovery than Crimson, Arrowleaf and other annual clovers, says the company.

The new clover performs best when fall



Editor Mark Newhall holds a sample of a new kind of tall clover, mailed to FARM SHOW in an 8-ft. long vacuum-packed plastic bag.

seeded and has been proven to withstand snow covering or temperatures as low as 5 degrees F without snow.

It can also be used as silage, by itself, with small grains or in rotation with corn silage. "A lot of people are interested in this clover for producing hay, and we're trying to determine whether it will dry down, adequately," says the company.

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