Gravity-Powered Dump Trailer

No hydraulics are needed to tip Mark Yax's 4,000-lb. dump trailer. All he has to do is pull a rope from his tractor seat to release the half-cubic yard load. Once it's empty, the hopper usually swings back into the locked position. If not, a second rope pulls it into place.

"I can dump without getting off the tractor, and hooking it up is easy; no hoses involved," says Yax.

Yax also appreciates his minimal investment in the trailer. "I bought the hopper for only $350," he says. "The sides are 11-gauge steel but reinforced around the top with 1/2-in. steel. It came complete with safety chains. All I had to do was remove the caster wheels."

Yax used 2 1/2-in. square steel tubing for the frame and the tongue and mounted a pintle ring hitch.

The axle is the most unique component. It's a 1930's truck I-beam front axle. "I once bought an engine from a guy, and he had the axle laying around," recalls Yax. "He asked if I wanted it, and I told him to throw it in the trailer. It sat behind the barn for 25 or 30 years before I decided to make some use of it. I cut the springs off and used the spring mounts to bolt underneath the dump hopper."

Yax had planned to shorten the axle, which would've been a blunder, he admits. "I put the axle on, and it only cleared the hopper by a quarter inch," he says. "I had forgotten the offset of the rim."

Half yard 4,000-lb. dump trailer made from an industrial dump hopper.

To mount newer wheels on the old axle hubs, Yax had to redrill the spindles. He also drilled a hole in the bottom of the hopper for a 2-in. pipe fitting.

"I mounted a coupling to the outside, so I can use it as a water source for remote pressure washing," says Yax. "It also allows me to drain it if the hopper catches rainwater."

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Pasture coop is an 8 by 8 by 2-ft. design with room for 32 or more birds. Each side of the roof can flip up for easy access to the birds. Roost bars nudge birds along when it's moved forward to fresh pasture.

Simple Tarp-Covered Chicken Tractor

Brad Wood liked Lisa Peterson's pasture coop so much that he adopted the design for his birds. One of his upgrades was to use "wiggle wire," normally used in hoop houses, for the roof tarp.

"I saw Lisa's design on the American Pastured Poultry Producers Association online discussion group," says Wood. "It's a lightweight alternative to the Joel Salatin model. I made some changes and, with her permission, started offering plans on my website."

The pasture coop is an 8 by 8 by 2-ft. design with room for 32 or more birds. It uses 2 by 3 lumber with a solid plywood rear and hardware cloth sides. Each side of the roof can flip up for easy access to the birds. Roost bars (2 by 2 in.) mounted at the rear of the unit nudge birds along when it's moved forward to fresh pasture.

Originally, the roof tarp was held in place by an end board that was screwed in place. Wood replaced it with the wiggle wire.

"It makes the tarp easier to attach and detach," says Wood. "It also holds the tarp tighter, and it lasts longer."

Wood uses a 4-in. pvc pipe cut in half lengthwise for a feed trough. He places it at the front of the chicken tractor before moving the coop forward, but only 90 percent of its length.

"Having fresh food at the front encourages the birds to move forward as the coop moves," says Wood. "The partial move ensures that any feed that fell away from the trough during feeding remains available for the birds to eat the next day."

Wood is charging $3.33 for the plans that are still in their beta stage. Plans include detailed drawings as well as a complete list of supplies needed and sources.

"I plan to upgrade the plans in the future and will increase the price at that point," he says.

Wood has videos posted to his YouTube channel detailing watering systems he's adapted to his pastured poultry systems.

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Pasture Water System Fills Itself

Brad Wood uses ram pumps to let water do the work of keeping his chickens and gardens well watered. His gravity-fed water tower can even irrigate his pasture.

Water flows out of a spring-fed upper pond through a 10-in. pipe, releasing water to a lower pond. Wood uses the elevation difference between the two ponds to move water as needed. As water leaves the pipe, it runs across a 2 by 6-ft. pallet covered in poly roofing and into a split 55-gal. barrel. From there, it loses about 3 ft. of elevation, running downhill through pvc pipes to a set of ram pumps.

"I have a 1 1/4-in. ram pump that I use most of the time, but if the water flow drops, I can switch to the smaller pump," says Wood. "The bigger ram pump lifts the water 10 to 12 ft. to my water tower."

Wood placed two 270-gal. IBC totes, one on top of the other, on the highest point of his farm for a water tower. Three-quarter-inch poly pipe carries the water to a standpipe connected to the stacked totes. Air lock is prevented in the lower tank by an airline in the tank cap that extends above the upper tank. Before reaching the standpipe, the water passes through an Arkal disc filter.

"The filter knocks algae, sediment, and sand particles out of the water," says Wood. "I also have a valve in the pipe ahead of the filter to bleed air out of the system. Trapped air is not your friend."

Wood placed two 270-gal. IBC totes, one on top of the other, on the highest point of his farm for a water tower.

"The 550-gal. tank gives me 3 to 4 ft. of head pressure, sufficient for drip irrigation," says Wood.

The standpipe has an exit valve at its bottom, leading to a 700-ft., 3/4-in. poly pipe that runs to a 550-gal. tank near Wood's high tunnel. The tank is on the same level as the totes. As they fill, so does the tank.

"The 550-gal. tank gives me 3 to 4 ft. of head pressure, sufficient for drip irrigation," says Wood. "Pressure also is increased as I reduce the water lines from 3/4-in. to 1/2-in. drip lines."

A tap on the poly pipe ahead of the tank lets Wood run water lines to chicken tractors in the nearby field.

Overflow on the tank from the constantly running ram pump drains downhill to the upper pond.

"I've run drip irrigation for half an hour, and the tank is still overflowing," says Wood.

Wood designed the system with bypass valves on the totes and the tank. If he needs to work on any one of the three, he can do so without shutting down the ram pump.

"I've been using the system for going on 5 years," says Wood. "Most of it was salvage or picked up at auction. I got the 700 ft. of poly pipe for only $60 at a nearby Amish auction. I couldn't have afforded it new."

He did buy the ram pumps new, ordering them from an online supply company. Land To House (www.landtohouse.com) specializes in ram pump kits and components. The 1 1/4-in. ram pump kit is priced at $180. The smallest of four models is a 1/2-in. ram pump kit for $80.

"Land to House provides all the pipe ratios and head pressure information needed," says Wood. "I simply followed their recommendations."

Wood has videos posted to his YouTube channel detailing how the system works and the changes he's made.

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He Blows Leaves With His Zero-Turn

James Baughn saves time and labor blowing leaves by mounting his backpack leaf blower on the front of his zero-turn mower. With a bracket he made for the mower and bungee cords, the blower fits securely between his legs.

"I can reach the throttle and make the snout blow however I want," he says. In Kingsley, Mich., the city picks up leaves, so in the fall, he blows the leaves straight ahead of him to the curb.

Baughn uses the blower's 6-in. flat nozzle and extra tubes to reach well ahead of the mower, about 4 in. off the ground, and it doesn't take long to clear the carpet of fallen maple leaves on his property's two lots.

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Baughn uses the blower's 6-in. flat nozzle and extra tubes to reach well ahead of the mower, about 4 in. off the ground.