# Portable "Aqua Dam" Uses Water To Fight Floods

"Don't bring a sand bag to a flood fight".

That slogan was displayed on a big sausage-shaped polypropylene woven fabric tube on exhibit at the recent Big Iron Show in West Fargo, N. Dak. The tube is called an Aqua Dam, and it's an economical alternative to sandbagging, says exhibitor Richard Thomas of Fargo, N. Dak.

Thomas isn't a dealer or distributor for the manufacturer of the Aqua Dam. But he recently used the Aqua Dam to save his home from the flooding Red River, and he wants rural people to know about it.

The Aqua Dam can be used any place where you have to block off water. It's a system of flexible tubes that you fill with water, quickly creating a temporary dam. It consists of two side-by-side polyethylene tubes inside a single woven outer geotextile fabric tube. The two plastic tubes inside are filled with water simultaneously. The outer tube is open at one end, where it's filled and drained, and closed at the other end. The inner tube runs down to the end that's closed off, then makes a 180 degree turn and comes back to the open end.

Friction between the outer geotextile tube and the inner plastic tubes results in a solid, non-rolling "wall" of contained water which adjusts automatically to the terrain as the tubes are filled.

After the water goes down, you simply drain the tube and roll it up for storage.

Aqua Dams are available in sizes up to 16 ft. high and can be ordered in any length up to 1,000 ft. in one piece. A coupling collar at one end of the outer tube can be used to connect Aqua Dams together into greater continuous lengths. The weight of the water causes the bag to go somewhat flat, so after the bag is inflated with water it's usually a bit more than twice as wide as it is high. "It's the weight of the water and the double width to the height that makes it stable, as the water you're holding back presses against it," says Thomas.

Aqua Dams are designed to hold back 75 to 80 percent of their height in water, so if you want to hold back 2 1/2 ft. of water you'd need a bag that's 3 ft. high. Aqua Dams come rolled up. "As the Aqua Dam is unrolled it can be turned around trees and corners; it keeps its shape when filled with water," says Thomas.

Dave Doolaege of Scotia, Calif., came up with the idea for the Aqua Dam about 20 years ago. "Until now the Aqua Dam has been used mainly for stream diversions, temporary flood control barriers, dams, construction work, and temporary water storage. We haven't marketed to farmers but that might change," he says.

Thomas has used Aqua Dams to protect his home from spring flooding every year since 2009. "I join two 3-ft. high Aqua Dams together to form a donut all the way around my house. I use a total of 250 ft.," he says. "It takes just 4 hrs. to set up the Aqua Dams around my house. I fill them by pumping water from the flooding river in my back yard."

He says the Aqua Dam works "amazingly well". "There's no damage to your lawn, no wheel ruts from heavy equipment, and no worrying about the cleanup problems you have with sandbags. I think the Aqua Dam would work great for farmers worried about overland flooding and who don't have access to a lot of sandbags or workers."

Thomas paid $23 per ft. for his 3-ft. high Aqua Dams – a total of $5,750. But the first year he used them he had five neighbors who used sandbags lose their homes to flooding, and others had water damage. "I look at it as a prepaid insurance policy. It's a comfort knowing I've got it," he says.

**Photo shows Thomas's Aqua Dam being set up around his house. Two sections are connected together. One is filled with water and the other rolled out and ready to fill.**

Aqua Dams can also be used to provide temporary water storage for spraying crops or filling livestock tanks. "They might be useful if you have a slow running well and need to accumulate thousands of gallons over a period of time. You can just roll the tube out and fill it with water. When you're done using it you just drain it and roll it back up for the next use," says Thomas. "You can even transport water in an Aqua Dam by placing it in back of a pickup or flatbed truck."

A 2-ft. high Aqua Dam is designed to hold back 19 in. of water and sells for $10 per ft.

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**Photo shows bus/deer stand before it was lifted up into place.**

# He Turns School Buses Into Deer Stands

Sleepless nights often result in interesting creations by FARM SHOW readers like Shade Bland who dreamed up a school bus deer stand one night. It seemed like a simple solution to a friend's desire to have a stand with room for an Army cot.

After salvaging two old school buses from a junkyard and putting in about 100 hours of work, Bland completed the stand on a 10-ft. platform made of scrapped gas line pipe, angle iron and a ladder off a grain bin.

Bland cut off the back end of the bus and kept two windows on each side for shooting. He boxed in the front with a piece of the remaining bus that includes three windows and trimmed over the windows with metal from the bus for molding. The front panel includes an emergency window that opens all the way for access for a smaller person to shoot through.

Bland painted his stand in camouflage and jokes the trees on the side are so real birds try to land on them.

**Bland cut off back end of bus and kept 2 windows on each side for shooting.**

His first stand has held up very well after four seasons, and Bland made seven more. He sells them for $5,000.

"It will last a man's lifetime – and unless a storm takes it down – his son's lifetime," Bland says.

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# High Roller Seeds Cover Crops

Don Birky is one of those farmers who takes an idea and runs with it. When Soil and Water Conservation officer Dave Bishop mentioned they were looking for a machine to seed cover crops in standing corn, Birky was literally all ears. "Dave's question got us to thinking we might be able to modify a RoGator to give it more clearance, maybe up to 10 ft. so it would clear the tassels," Birky says.

He and his son Matt, who farm near Gibson City, Ill., and also operate On Track Farming, a spraying service, put pencil to paper and sketched out some ideas. Eventually, they settled on attaching large plates to each wheel that would pivot hydraulically and raise the RoGator frame.

"We had to widen the stance of the machine and then add steel plates that are reinforced with large straps to provide side-to-side and front-to-rear stability," Birky says. "Each extension arm has a 5-in. hydraulic cylinder with 28 in. of travel that operates from a single control in the cab. We can raise the machine from about 6 1/2 ft. up to 10 1/2 ft. of clearance."

That increased height on the High Roller is more than enough so the machine can drive in mature corn and still clear the tassels. They also built an extendable arm that reaches from the front of the machine into the standing corn, equipping it with a camera and steering sensors to guide the machine as it moves through tall corn. Birky said the sensors work like auto steer and keep the machine on track.

Seeding is done with a 60-ft. boom attached to the back of the machine. Nozzles placed 30 in. on center deliver seed via air pressure at rates from 3 lbs. to 20 lbs. an acre. The High Roller has a tank with two compartments, so it can be used for dual rate seeding or applying fertilizer with the seed. Birky said about 90 percent of the seed reaches the ground, and normal precipitation will allow most of it to germinate.

**Don Birky modified a RoGator self-propelled sprayer to seed cover crops in standing corn.**

"We can haul about 6 tons of product in a load and travel 10 to 12 miles an hour in the field with the High Roller," Birky says. "This machine is equipped only for dry product, but the adjustable legs will work on a liquid applicator too. The liquid applicator would be ideal for applying fungicide or foliar feed after the corn has tasseled."

The Birky's machine drew so much attention at field days they decided to patent the lifting mechanism and hope to sell production rights to an equipment manufacturer. "We've had interest from companies that build sprayers and companies that build component parts. We hope to make a decision on who will manufacture and market the mechanism later this year," he says.

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