



Wesley Wheel uses specially-designed tillage points and V-shaped metal wheels to make raised beds. The shallow furrows collect water as it runs off beds.

New Tillage Implement Conserves Crop Moisture

"In our area we can't count on regular rainfall, and certainly not enough to always grow a decent crop," says Australian farmer Callum Wesley. He solved the problem by inventing the Wesley Wheel, which captures moisture and channels it right down to the growing plants. Wesley says it's a very effective way to make more efficient use of the moisture they get.

Wesley's device uses specially designed tillage points combined with trailing metal wheels shaped in a "V". The wheels press the soil into a triangular raised bed row. Between the raised soil is a shallow furrow that collects water as it runs off the raised beds. The steep incline encourages water runoff into a center channel, where it seeps into the soil, around the roots of the planted crop. Wesley said the machine was tested at 2 Australian locations in 2012 and 2013 and it showed that 26 percent yield gains were made with 18-in. row spacing. Trials of the Wesley Wheel are continuing in Australia this year.

Wesley is a third generation wheat belt

farmer and consultant with the Department of Agriculture. He came up with the concept when he was just 16 and initially tested it on a 4-row small scale machine. With that rig he planted a 10-acre test plot on his family farm and compared the yield results with other fields using conventional tillage. His plot produced about 70 bu. per acre, which was about 25 percent better than conventionally tilled fields.

Wesley has adapted his wheels onto a 50-ft. wide planting rig that his family farm uses to plant about 5,000 acres of wheat. The machine places wheat seed in 35 rows spaced 18 in. apart.

Wesley says his aim is to make the wheels adaptable to existing tillage and planting systems used on level land that receives minimal rainfall or is typically irrigated. Wesley is now focused on expanding tests of the wheel across Australia's wheat belt.

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Tom Kalista attached a pair of lawn mower wheels to the bottom of his extension ladder, making it easier to move around.

Ladder On Wheels Easy To Handle

To make it easier to move his extension ladder around, Tom Kalista, Longview, Wash., attached a pair of lawn mower wheels to the bottom of the heavy fiberglass ladder.

He inserted a 1/2-in. dia. piece of pipe through the last rung of the ladder and welded 2 washers in place on each side to hold the pipe in place. Then he took the back wheels off a big wheel lawn mower and slipped a solid rod axle through the pipe, fastening the wheels in place at either end.

The wheels make it easy to move the ladder holding onto one end. When the ladder is up against a building, the wheels are off the ground.

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Mini crane rides on a pair of old car tires and attaches to ball hitch on Miner's garden tractor. Lifting is done by a pair of manually-operated, side-by-side winches.

Rolling Crane Attaches To Front Of Garden Tractor

"I built a small-scale crane that attaches to the front of my Deere garden tractor. It comes in handy for a lot of different jobs, and I can take it anywhere," says Cal Miner, Willmar, Minn.

The mini crane rides on a pair of old car tires and attaches to a ball hitch on the tractor. A horizontal length of 4-in. well casing supports the mast, which is 8 ft. tall and has a 3-ft. reach. The lifting is done by a pair of manually-operated, side-by-side 3,500-lb. winches, one with rope and the other with cable. The rope and cable run through a pair of pulley on top of the mast, which is also fitted with a snatch block. A dolly jack is used to lift the crane off the garden tractor.

To keep the crane from tipping backward, Miner mounted a weight box on front of the well casing, and to keep it from becoming top heavy and tipping sideways he filled the tires with concrete.

"It works like a mini wrecker and lets me pick up small loads that are too heavy to carry or lift by hand," says Miner. "It's very maneuverable, and I always have a good view in front of me. I use it for everything from picking up logs and tree stumps to lifting garden tractors and pulling posts out of the ground. It also works great with a 3-ft. long double pull evener. It'll lift 250 lbs. without adding any weight to the well casing, and more than 400 lbs. by adding weight.

"The well casing itself weighs about 250

lbs. and provides enough counterbalance that I can lift 250 lbs. without tipping the mast over. By throwing another 200 lbs. in the weight box and hooking it up to the garden tractor I can pick up something as heavy as a car engine," says Miner.

According to Miner, the double winches are really handy because they make it possible to flip objects.

"For example, to flip a steel plate over so I can work on the other side I can raise one winch and lower the other one and then flip the plate around in mid air. Or, to tip up one end of a long object setting on the ground I can hook a second line up to it and then lift it until it's balanced. I've used this method to flip an engine block over so I could drain the oil out of it."

To fill the tires with concrete, Miner laid the tires on the ground and then used a hole saw to cut a pair of 2-in. dia. holes into the sidewall. He then filled the tires full of a sand and rock mixture. He let the tires sit for a week, and then bolted them onto 6-in. long stub axles that are welded to a pipe axle.

He used an aluminum street light pole to build the mast. "The light pole is strong, but not heavy enough to lose any lift capacity," notes Miner.

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