Pull-Type Roller Converted To 3-Pt.

"A friend gave me a 3-ft. wide pull-type roller that worked well, but it was difficult to load and bring to driveway jobs, so I converted it to a 3-pt. hitch arrangement that works a lot better," says Michigan inventor Ian Carolla. "Now I can pick it up to load it on a trailer and work with it easier on my tractor."

To make the conversion, Carolla removed the drawbar hitch from the roller and built a U-shaped channel iron frame that attaches to each end of the roller's center axle. He designed the attachment to fit his tractor's quick hitch by welding brackets with a 1-in. pin on the front of the channel iron. The channel iron upright connects to the top hook. Reinforcing diagonal braces extend down and back from the upright to the corners of the frame. A small bracket at the left corner of the frame holds a 2-in. pipe with a 6-in. by 6-in. foot plate jack stand.

Carolla carries the cement-filled 1,100-lb. roller behind his 36-hp. Mahindra tractor. Counterweight in the loader bucket offsets the roller. "I've got 50 bucks and a day's worth of work invested in the hitch conversion, and that's a whole lot less than buying something ready-made," Carolla says.

Carolla converted a pull-type roller to a 3-pt. mounted model that he uses in his landscaping and excavation business.

Contact: FARM SHOW Followup, Ian Carolla, Carolla's Compact Construction, Eau Claire, Mich. (carollascc@gmail.com).

Yields of parents, boosted variety and conventional potatoes.

Boosted Breeding Yields Better Potatoes

Ohalo Genetics is prepared to change the way potatoes are planted. No more cutting whole potatoes into pieces to be planted. Instead, potato fields will be planted with seed, like nearly every other major food crop. Costs will be lower, and yield increases of 100 percent or more appear possible, not just for potatoes. The company calls this concept "Boosted Breeding" and plans to apply it to all major crops.

Until now, planting a potato seed was like planting an apple seed. The seed carried all the genes of parent plants with no guarantee of what would result. Plant 50 potato seeds from a single large, white Russet potato plant and harvested potatoes could be any size or color, not to mention other features.

Ohalo claims the ability to cross two potato plants and produce polyploid potato seed that contains both parents' beneficial traits. Not only are all the progeny alike, but Ohalo claims they produce significantly higher yields. The hybrid plant is more vigorous, healthier, and grows bigger and faster.

In a recent episode of the All-In Podcast, Ohalo CEO David Friedberg claimed yield increases with some plants of 60 to 100 percent or more. "We've seen incredible yield gains in potatoes almost overnight," he says.

Switching to genetically identical seed instead of planting potato pieces could reduce grower costs by 20 percent. In addition, Ohalo is looking at producing potatoes with desirable levels of nutrients and sugars.

Ohalo isn't limiting itself and its technology to potatoes. Cross any two plants, and the resulting hybrid has half the genes of each parent. It's a gamble on which genes are passed on and which aren't. With Boosted Breeding, all the beneficial traits from both are passed on. Ohalo's technology can select the desired traits.

"We're going to be applying this boosting technology across nearly every major crop worldwide," says Friedberg. "It'll increase yield, but it'll also have a massive impact on the ability to deliver seeds, help farmers, and lower food prices."

Contact: FARM SHOW Followup, Ohalo Genetics, Mills River, N.C. (hello@ohalo.com; www.ohalo.com).

After many sets of drawings and several attempts, Wandel developed a prototype, a twin-axle 18-m. (60-ft.) unit with a pick-up to collect the straw and an elevated shredder to transport material on conveyor belts to six rotating spreaders.

Homemade Straw Spreader Designed For Controlled Traffic Farming

MR & HL Wandel Farms of Scaddan, Australia, grows cereals and beans on a large operation under a strictly controlled traffic farming (CTF) policy. Driving is restricted to a 3 m. (10 ft.) track width and 18 m. (60 ft.) tramlines.

To adhere to this policy, the farm needed to chop and spread its harvested straw in a separate pass, as its earlier equipment dropped too much material directly behind the combine rather than spreading it evenly over the field. Additionally, they hoped to increase the efficiency of their harvester by using a separate machine for the task.

"We had to chop and spread straw up to 18 m. (60 ft.) for the proper execution of our harvesting system," says Mark Wandel.

Finding no suitable existing straw-spreading equipment options, he designed his own trailed machine.

After many sets of drawings and several attempts, he developed a prototype, a twin-axle 18-m. (60-ft.) unit with a pick-up to collect the straw and an elevated shredder to transport material on conveyor belts to six rotating spreaders.

"When we first started, we'd take the machine into the paddock for an hour and then back to the workshop for 6 hrs.," Wandel says. "Then we'd go out to the paddock for 2 hrs. and bring it back for 4 hrs."

Eventually, persistence paid off, and the farm's last harvest saw the "Straw Spreader" operate smoothly.

Its combine headers now pick up 10 to 30 percent more horsepower and increase ground speed by not having to chop the straw.

Contact: FARM SHOW Followup, MR & HL Wandel Farms, Griffiths Rd., Scaddan, WA, Australia 6447 (ph +61 427 753 043; admin@mrhlwandel.com.au).

Growing chamber with plexiglass windows lets field day visitors see root development of cover crops at Tourne-Sol Cooperative Farm in Quebec.

Grow Box Windows Show Cover Crop Roots

"Visitors to our field day were really impressed with two 4-ft. by 6-ft. by 3-ft. deep growing chambers that showed the rooting value of cover crops," says Reid Allaway of Tourne-Sol Cooperative Farm in Quebec. One side of the rectangular chambers had a slanted heavy-duty acrylic window that showed exactly how roots penetrate deep into the soil during the growing season.

Allaway says in the past, they've used field root pits to show how deep roots penetrate, but they're a mess to dig, roots are difficult to wash, and if the weather doesn't cooperate, the pits aren't very effective. "The above-ground growing chambers let people get a very close look at the impressive root array of various species growing against the clear plexiglass," Allaway says.

Tourne-Sol acquired the chambers from the Agricultural College and National Organic Agricultural Institute in Victoriaville, Quebec. Students and professors built them to research root development in any crop. The clear plexi was covered with fiberglass insulation and plywood so roots could grow without direct sunlight during the growing season.

Allaway says they filled both chambers with soil, creating A and B horizons like their fields. They compacted one of the chambers when the soil was wet and watered both chambers differently. A range of legumes were grown without fertility amendments.

"The big surprise for me," Allaway says, "was the impressive roots on red clover, hairy vetch, and fava beans, even when foliar growth was modest. Visitors were impressed with the visualization and could more easily understand how cover crops develop root biomass that can penetrate even compacted soil. Roots from legume and cereal cover crops stay in the soil and become organic matter that benefits productive crops."

Contact: FARM SHOW Followup, Reid Allaway, Tourne-Sol Cooperative Farm, 1025 Chemin St-Dominique, les Cedres, Quebec, Canada J7T 1P5 (ph 450-452-4271; info@fermetournesol.qc.ca; www.fermetournesol.qc.ca).