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A Different Tire Ballast Solution

EnviroTech Services, Inc. sells Bio-Ballast®, a biodegradable, non-flammable, and water-soluble liquid ballasting solution for tires. It offers an environmentally safe alternative to calcium chloride, which is corrosive and can create rust that damages rims over time.

Add it to your tires, and you'll experience increased traction, stability, and pulling power for vehicles or off-road heavy machinery. Compared to the cast iron weights traditionally used for weighing down tires, liquid ballasting tends to be less expensive and easier to manipulate to achieve the ideal balance.

Bio-Ballast® is USDA-certified, 100 percent organic and safe for use on organic farms. "We are the second generation of organic tire ballast, with the first being a by-product of the sugar beet industry," says William Bebb, the Bio-Ballast® lead sales associate.

Since the solution is biodegradable, it's safe for use around humans, animals, and plants. Explains Bebb, "Today's environmentally-conscious owners and operators are turning

their attention towards what happens if a catastrophic tire failure happens in the garden, field, feedlot, or construction site. We do not want something leaking out that will damage crops, livestock, equipment, or the environment. Many of the products in use today cannot meet those specifications."

Bio-Ballast® can be mixed with other liquid ballast products without creating viscosity issues. It's safe for use in both tubes and tubeless tires and will keep their inner liners soft and pliable. The formula remains slush-free down to -30 F and won't foam when pumped.

At publication, Bio-Ballast® is sold by dealers across North America. Pricing for Bio-Ballast® varies based on purchase location and shipping logistics. Speaking directly with your local dealer will give you the best price estimate.

Contact: FARM SHOW Followup, Envirotech Services, 910 54th Ave, Suite 230, Greeley, Colo. 80634 (ph 800-369-3878; info@envirotechservices.com; www.envirotechservices.com).



The 1210's uniquely designed row units consist of adjustable 25-in., 6-ga. cutting coulters and scrapers, 16-in. floating notched disc blades to clear residue from the strip, adjustable depth shanks, and Kuhn's exclusive Strik'R technology chain reels.

Strip-Tillage System Is User-Friendly

For strip-tillage, precision nutrient placement, and seedbed management, Kuhn offers their Gladiator 1210 strip-tillage system.

The pull behind or 3-pt. hitch-furnished equipment is foldable and features 8, 12 or 16-row units spaced at 30 in.

The fixed frame toolbar and connected row units are designed for easy adjustment without additional tools. Components are built without grease zerks to save time and increase productivity plus all mechanisms take identical bearings to reduce downtime.

"It's a strip tillage machine for liquid, dry, and NH₃ gas applications," says Randy Papineau, Sales and Precision Farming Specialist for Kuhn distributor, Grosshans International. "Tubes for all three applications are available, even at the same time. Dry tanks can be mounted onto a pull-behind bar, plus there's a hitch on the back to tow an NH₃ tank."

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"A closing disc seals the trench up if you're putting in any liquid or anhydrous," Papineau says. "The rolling basket features chains that turn, slap at the clods, and break them up, creating a smooth seed bed."

Papineau recommends farmers contact their local dealer for pricing but says the 8-row, 3-pt. hitch models start in the \$60,000 to \$65,000 range. Prices increase on the larger sizes.

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Microbes Help Improve Quinoa Seeds

Quinoa is a South American grain that's gaining a reputation worldwide for its versatility and high protein content. One drawback is that the crop is vulnerable to crop diseases. Recent breakthroughs might solve that problem.

One breakthrough involves a form of symbiotic bacteria found on quinoa roots. These microbes rely on the roots to support themselves. In turn, they improve the bioavailability of nutrients in the soil for the plant and fend off potential disease-causing pathogens.

Plant pathologist Anna Testen and Pennsylvania State University professor Paul Blackman are working together to determine whether this bacteria has the potential for use as a quinoa seed inoculant. In theory, this would help protect quinoa plants throughout the growing season.

Their research focuses on five traits of the bacteria: its ability to produce phytase, indole acetic acid, and chitinase; its ability to make phosphorus usable for the quinoa plant; and its ability to prevent the growth of fungi that cause "damping off" and root rot during the early growth stages.

Early results in petri dishes show that the bacteria has the most substantial potential for solubilizing phosphorus, while there's less evidence it will work to fight off the fungi. Even so, finding bacteria families that accomplish all five well remains a high priority.

The end goal might be selling seed inoculants to farmers that are tailored to the farming challenges in their region. Ideally, the inoculants would use bacteria indigenous to where it will be used to prevent the spread of microbes from one region to another. One strategy has been to look at native weeds within the same family as quinoa - such as



"We identified bacteria from the genus *Bacillus* that have the potential to reduce damage to quinoa from plant diseases and environmental stressors," explains Dr. Testen.

lambsquarters - for bacteria serving a similar purpose.

Many challenges still exist with this research, including national regulations. Phytosanitary rules can make it illegal to transport microbes from one region to another, even in the name of food production. This will make it harder for any research breakthroughs to benefit farmers outside the immediate region where they happen.

Still, researchers remain optimistic about the long-term benefits of this research. Says Dr. Testen, "We would like to be able to use this approach and screen these bacteria in quinoa production in the field. We would also like to see other researchers worldwide be able to use approaches similar to what we used to collect beneficial microbes from quinoa that would work best in their local crop production environments."

Contact: FARM SHOW Followup, Dr. Anna Testen (Anna.Testen@usda.gov).



"Like a big, tall man, it lifts the bales about 10 ft. in the air before tossing them onto a hayrack or truck box," says Dale Rogers, recent purchaser of a BL 54.

Loader Arm Made Bale Handling Easy

In the 1940's, plenty of agricultural minds thought outside the box. One such unique piece of equipment designed to make bale handling easier was the BL 54 bale loader built by Snow-Co.

The small bale loader attached to the side of a hayrack or truck box and rolled on tires, collecting bales from the field. As bales were approached, claw-like fingers grabbed them and raised them off the ground.

"Like a big, tall man, it lifts the bales about 10 ft. in the air before tossing them onto a hayrack or truck box," says Dale Rogers, recent purchaser of a BL 54. "It's ground driven and has dogs welded onto the main wheel and the winch clutch that move to engage, hold the bale and lift it skyward."

Once the bale is raised to a certain height, the clutch is disengaged, the claws open and the arm assembly returns down to grab the next bale.

Rogers' loader was completely inoperable when he bought it, but with some help from internet pictures, a couple of homemade replacement parts, and a new paint job, he got it working like a charm.

"They were made in the 1940's, 50's, 60's and maybe even the early 70's," he says. "Before I bought this one, I didn't know a machine like this even existed."

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