

“New” Fertilizer Boosts Yields With Less Nitrogen

A new form of an old fertilizer will reduce nitrogen application rates and increase yields, says inventor Dick Hartmann. Chips containing nitrogen, lime and coal are implanted in urea granules to make a new product called “Stabl-U.” As the chemical combination interacts in the soil, it stabilizes the nitrogen for slow release. This means more nitrogen available for the plant and less released into the air or leaching into ground water.

“It has been reported that up to 50 percent of applied nitrogen is unaccounted for when the crop is harvested,” says Hartmann. “When Stabl-U is applied, it breaks down slowly enough that the plant is able to utilize more of it instead of it being lost. Applied preplant, it appears farmers won’t have to sidedress their corn.”

Years ago lime nitrogen (LN) fertilizer was the first high analysis (24 percent N) commercial fertilizer, but it was expensive to make, dusty and hard to apply. Hartmann has spent the past 15 years developing a process to solve those problems. More than 500 field plots carried out in 2002 suggest he has

succeeded.

“The trials showed increased yields for a return of \$180 per ton of Stabl-U compared to ordinary urea even though it cost \$90 more per ton,” he reports. “That worked out to an average net profit increase of \$25 per acre.”

Hartmann explains that low cost urea would normally convert quickly to a nitrate form subject to leaching. The LN chip converts it instead to an ammoniac form that binds to soil particles. This form is also preferred by newly emerging seedlings, especially grass crops like corn. As the soil warms, “friendly” bacteria convert the ammoniac form to the nitrate form readily taken up by the faster growing plant. The result is 25-60 percent more nitrogen being used by the plant and not leaching into groundwater or being released into the air.

“Farmers will get better yields, and the extra initial cost qualifies for Best Management Practices cost sharing under the 2002 Conservation Security Act,” says Hartmann. Stabl-U is currently only being made in a small urea plant operated by Royster Clark.

“Farmers will get better yields with an estimated net profit of \$25 per acre,” says Dick Hartmann, talking about his new nitrogen, lime and coal fertilizer.



Hartmann suggests that if larger plants adopt the process, the current cost will fall, increasing returns even more while still reducing pollution.

“From our standpoint, American fertilizer can be clean water fertilizer,” he says.

Contact: FARM SHOW Followup, Royster Clark, Inc., P.O. Box 229, East Dubuque, Ill. 61025 or Dick Hartmann, 1827 SW Beaverton-Hillsdale Hwy., Portland, Ore. 97239 (ph 503 246-0750).

Do-It-Yourself Livestock Shelter Kits

Pre-fab frames for livestock shelters from New Horizon Enterprises go up fast and can be roofed and finished as you desire. The building frames are made of 2 1/2-in. square tubing with 3-in. square tube skids. All pieces come drilled, tapped and welded as needed for quick assembly. The skids can be capped at either or both ends.

“The frame goes together with nuts, bolts and washers that are supplied with the package,” says Linda Coughlin who, with her husband Ben, runs the company. “It’s kind of like an erector set. You can order one with steel perlin and rafters or use your own wood. You decide what to use for siding.”

Coughlin suggests lining frameworks to be used for horses with plywood, especially if the siding is steel. Cattle producers, she notes, will often put a bumper bar around the outside at a 2-ft. height to keep them away

from steel siding.

The Coughlins will custom design a shelter to buyer specs. Basic building frames range from 10 by 10-ft. to 12 by 24-ft. with a 4-ft. feed room. Optional configurations range from 3 to 4-sided shelters, with a center doorway, fixtures for an aisle, horse stalls or feed rooms. Extra uprights create further designs options, such as calf sheds with sliding bars to keep out cows.

Because of all the options, Coughlin asks that buyers call for pricing. However, according to a New Horizon Enterprises ad, a typical 12 by 24-ft. calf shelter frame with a 6-ft high front and 4-ft. high rear runs about \$800.

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Frames go together like an erector set. Shelters come in basic sizes, but custom units are available.



Self-Propelled “Tree Crusher” Creates Pasture On Logged Ground

“It crushes small trees and brush to control their regrowth and seeds pasture at the same time, providing me with a cheap way to convert logged-over land into pasture,” says Robert Friesen, Crooked Creek, Alberta, about his home-built, self-propelled combination tree crusher and breaking plow.

The 3-wheeled machine measures 40 ft. long and is powered by a 250 hp Cummins diesel engine out of a Peterbilt semi truck. It rides on a pair of 7 1/2-ft. high, 4-ft. wide, lugged steel drive wheels on front and a single 7 1/2-ft. high, 6-ft. wide steel wheel on back. The frame and steel wheels are off an old LeTourneau land clearing machine. The wheels have 6-in. deep steel lugs, spaced 1 ft. apart, that crush small trees, branches, and stumps and reduce them to small pieces. A “push bar” mounts on front of the machine, which has about 8 ft. of clearance, and scrapers mount underneath it.

The drive train consists of the engine, a truck transmission, and pulleys that belt-drive the drive axle between the front wheels, which came out of an old truck. There are 10 V-belts in all.

As the machine goes forward, a 6-bu. electric seeder spreads grass seed across a 30-ft. width. The seeder mounts on a canopy above the driver’s seat. Seed falls into the cracks made by the wheel lugs and germinates to create new pasture.

If Friesen wants, he can replace the steel wheel at the rear with a “breaking plow” that’s supported by a big rubber tire on a frame made from 36-in. dia. pipe. The plow makes a 4-ft. wide, 10-in. deep furrow that digs up tree stumps. A series of steel prongs on one side of the plow are used to roll the sod over, much like a moldboard plow does. The plow and frame are raised and lowered by a hydraulic cylinder. Another cylinder is used to control the angle of the plow.

“I used it last summer on about 100 acres of logged-over land. It worked good and shows a lot of promise, although I still have several problems to work out on it,” says Friesen. “The trees that the wheels crush definitely died, and the ones that got scraped or blazed will hopefully die. I had to add a governor to the engine and we lost traction in freezing mud.

“My machine may not look like it’s doing a good job because after I go over the ground it looks quite rough. However, it clears away competitor for the grass so that it will grow a lot better. The machine is heavy, and the lugs are hard surfaced and very sharp so they cut right through most small trees. The seed falls onto the ground before the wheels go over it, and as a result the wheels push the seed into the ground.”

According to Friesen, his home-built machine works a lot better than conventional



“Tree-Crusher” rolls over and kills trees with 4-ft. wide, lugged drive wheels. Grass seed is spread in front of the wheels so they’re pushed down to planting depth by the wheels.

land clearing methods because it does everything in one pass. And he spent less than \$10,000 to build it, yet it does the work of machines that cost hundreds of thousands of dollars.

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Close-up of wheel on LeTourneau land clearing machine.

