

System Pulls Drinkable Water, Nutrients Out Of Liquid Manure

Canadian entrepreneur Ross Thurston and Bill Gates of Microsoft have a lot in common. Gates is working at reclaiming water from human sewage through a machine called an Omniprocessor. Thurston has several working systems that are already extracting water from liquid livestock manure. The liquid manure processing system was developed by Thurston's company, Livestock Water Recycling (LWR).

Thurston firmly believes the LWR system will have a huge impact on the livestock industry and the future of manure management. Says Thurston, "It's a system that lets producers recycle, recover and reuse 100 percent of the liquid manure they produce. Freshwater usage on hog and dairy farms can be reduced by 40 percent and liquid manure volume can be reduced by up to 85 percent."

Thurston began working on the idea in 2003 when LWR discovered a way to extract water and other nutrients from liquid manure. By 2007 they had a prototype and in 2008 installed their first system in a Manitoba hog facility. LWR currently has working systems throughout Canada, and in New York, Wisconsin, Michigan and Indiana. Additional interest has been received from operations around the globe.

LWR uses mechanical and chemical treatments to separate solids from liquids as it flows through the processing system. In each step product is separated, filtered and purified. Up to 85 percent of the liquid is reclaimed as clean, reusable water. At the same time, ammonium and potassium are removed and concentrated into a clean, liquid solution that's ideal fertilizer for growing crops. Phosphorus in solid form is also a byproduct.

The LWR system is custom-built for each livestock facility where it's installed. It's fully assembled and delivered to the farm, installed and activated by the company. The facilities already using the system generate several million gallons of waste annually.

One of those operations is Shiloh Dairy in Brillion, Wis., which installed an LWR system last year. Owner Gordon Speirs says the installation processes the 30 million gallons of liquid manure the dairy produces annually, converting it into 18 million gallons of clean water, 6 million gallons of liquid fertilizer and about 6,000 to 12,000 tons of solid fertilizer. Speirs has about 4,200 animals, including 2,100 milk cows.

Thurston says the LWR System has tremendous benefits for livestock operations. Problems with holding tanks and lagoons



Canadian entrepreneur Ross Thurston has several working systems that extract water from liquid livestock manure. "It lets producers recycle, recover and reuse 100 percent of the liquid manure they produce," he says.

are eliminated because manure is processed daily. That means there's less environmental risk and nutrients can be field-applied at optimum times. A high amount of water is reclaimed for re-use, either for cleaning, irrigation or consumption.

Cost of the system depends on the size of

the operation where it's installed and is in line with the cost of putting in a new lagoon.

Contact: FARM SHOW Followup, Livestock Water Recycling (LWR), 3637-44th Ave S.E., Calgary, Alberta, Canada T2B 3R5 (ph 403-203-4972; www.livestockwaterrecycling.com).

DNA Additive Helps Trace Stolen Fuel

Poisonous snakes often disable their foes with deadly venom. That's why the British company Datatag ID Limited used the name "Venom" for its new fuel additive that allows owners to "tag" their fuel with a traceable DNA solution.

Datatag Managing Director Kevin Howells says Venom is a product designed to deter fuel thieves, knowing they could get caught with the pilfered product. Signage on tanks and vehicles identify that Venom is

being used. With fuel theft in the UK alone estimated at more than \$6 billion annually, the new product is generating a lot of interest.

Just a few milliliters of Venom will treat several hundred gallons of fuel. It's especially valuable when treating large quantities in large storage. Howells says that thieves often steal fuel by skimming it off once a tank is full. Those amounts can be placed in hand held containers and transported elsewhere for use. However, once the 'skimmed' fuel

that's treated with Venom is used in another vehicle or a tank, traceability is possible.

If a fuel thief is suspected and the fuel is located, law enforcement can apply a re-agent to a small sample of the suspected stolen fuel. The DNA in Venom will change the fuel color when the re-agent is added. At this stage a secondary sample is taken and sent to a laboratory to confirm the fuel's registered owner.

Datatag also sells a "whole farm system"

of security measures to protect equipment, including RFID transponders placed on machinery and tools, microscopic Datadots®, and UV stealth etching technology. Datatag says the system provides a unique "fingerprint" that thieves can't remove.

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TreePans Water, Protect Young Trees

"How you plant a tree hasn't changed much for hundreds of years. So we decided to reinvent the industry, updating the feeding and watering process with modern technology. The result is TreePans," says Bill Brown, Akron, Iowa.

TreePans fits around the base of any planted young tree, replacing the need for plastic sheeting and mulch. It's made from recyclable plastic and consists of a series of pie-shaped sections with holes in them. The sections snap together without tools to form a solid ring that slopes inward toward the center. Four adjustable "doors" snap into place on top of the ring and can be used to slide the sections in or out, allowing the ring to expand as the tree grows from 1 to 12 in. in dia.

The ring's beveled outer wall allows mowers and weed-eaters to trim grass without harming the bark. The wall is placed into the ground at time of installation, keeping water from running off and rodents from burrowing in.

"It's a complete tree care system that does a lot of things tree mats and other products can't do," says Brown. "It's the only product of its kind that actually expands with the growth of the tree. The design channels water and nutrients right to the roots where it's needed most. It creates a dome 'greenhouse' effect that keeps warm moisture locked in and reduces water consumption by up to 50 percent. It does a much better job of providing water over time to the tree's root system than using a bucket or other container with holes in it.



Pie-shaped sections with holes in them snap together to form a solid ring that slopes toward the center. Four adjustable "doors" snap into place on top of ring and can be used to slide the sections in or out, allowing ring to expand as tree grows from 1 to 12 in. dia.



"Another advantage is that you're not driving big mowers and other equipment around the base of the tree, which reduces soil compaction."

The standard TreePans sells for \$84 plus S&H.

Contact: FARM SHOW Followup, TreePans, 121 South 2nd St., Akron, Iowa 51101 (ph 712 568-3737; bbrown@treepans.com; www.treepans.com).



Carmin Mazzucco mounted a 7,500-watt 240/120 30-amp generator on the snowplow mounts in front of his Deere garden tractor.

Garden Tractor Generator

"I had a 7,500-watt 240/120 30-amp generator sitting around unused. So I mounted it to the snowplow mounts on a Deere 210 garden tractor," says Carmin Mazzucco, Northford, Conn.

"It runs off the drive from the accessory groove of the electrical clutch mower deck pulley. Now, whenever the power goes out I fire up the Deere, plug it into a cord that runs

to the house, and turn on the mower deck. Generates plenty of power to run most of the house.

"I knew that all my years of working with Deeres on the farm would come in handy."

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