They Feed Livestock With The Push Of A Button

A South Dakota farmer turns seed into feed in only 6 days and can harvest it with the push of a button. Dihl Grohs' company, HydroGreen Global Technologies (HGT), has created a near totally automated system to produce sprouted grain. It spreads the seed on a poly film liner, waters it, and at the end of the 6th day, sprouted grain that HGT refers to as Hydrogreens is rolled off to be fed.

"When the Hydrogreens reach the edge of the rack, a high-pressure spray jet slices through the mat and cuts off sections that are removed to be fed," says Dan Kippley, Hydrogreen Global Technologies. "When all the HydroGreens are removed, the spray jet also cleans off the film prior to automated reseeding."

While there are any number of other sprouting systems in use, the level of automation in production and self cleaning sets the HGT system apart from most. Software developed to run the system controls and monitors all aspects of production in a climate controlled building. Kippley credits the environmental controls of temperature, vapor pressure and dew point, along with the spray jet cleaning, for preventing growth of mold or other contaminants. Eventually the system may be even more automated.

"A conveyer belt could be installed that would carry the HydroGreens out of the building to a mixer wagon," says Kippley.

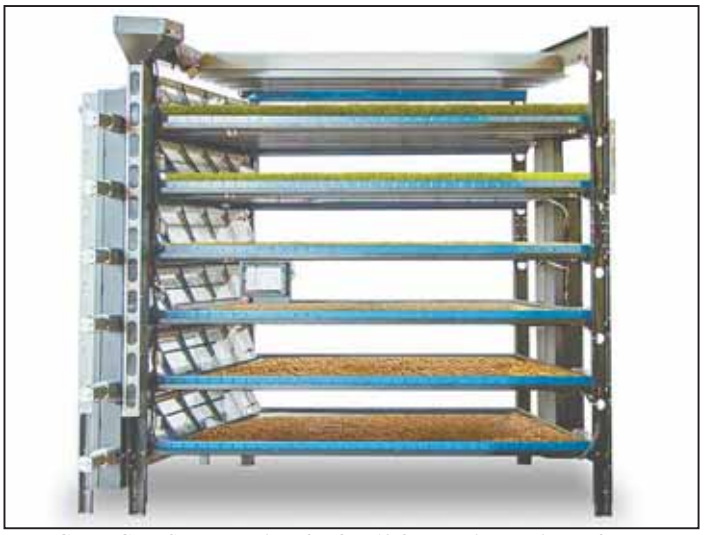
A HydroGreens Grow System consists of an 8 by 10-ft. rack with 8 by 6-ft. growing surfaces stacked 6 high to a total height of 10 ft. Seeding one growing surface each day with 1.8 bu. of seed can produce 487 lbs. of HydroGreens every 6 days or 87 tons of feed per year. While multiple racks can be connected for increased production, the company estimates that a single 6-layer rack could produce enough HydroGreens for 20 to 25 head, while three 6-layer racks could potentially provide most of the feed for a herd of 100 1,000-lb. cattle.

Kippley suggests feeding approximately 20 lbs. of HydroGreens per day along with straw or grass hay. The dry matter counters the high moisture sprouts. He reports that the rate of gain is similar to a conventional ration, but with lower feed costs and labor. It also raises the potential for livestock producers to expand current production without adding more land.

"If they can't add to their footprint, HydroGreens allows them to expand their herd," says Kippley. "It can also replace feed supply in a drought."

While Grohs started working on the concept in 2012, it wasn't until 2015 that he put together HGT to bring the concept into production. This past fall HGT began to market the systems.

"A single 6-level rack is the most expensive per square foot at $41,000, while three 6-level racks would be less than twice that at $75,000," says Kippley. "Eventually we hope to come out with smaller units that aren't as automated, but would fit someone with 50 chickens or a few head of sheep and could sell for less than $10,000."



HydroGreens Grow System consists of an 8 by 10-ft. rack with growing surfaces stacked 6 high. Totally automated system produces sprouted grain.

He reports that South Dakota State University is evaluating HydroGreen rations for lactating cows and dairy heifers. To better serve its customers and respond to their questions, HGT is setting up its own test facility. "We will have 3 different growth tables to test a variety of small grains and perhaps some peas, as well as water types and supplements," says Kippley. "We'll also have some livestock for mini-trials comparing conventional rations with Hydrogreen based rations."

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Back-up camera mounts on loader tractor frame behind the forks. "It's especially helpful for seeing anything down low on the ground where my view normally is blocked," says Ted Lacy.

Camera-Assisted Loader Tractor

"When using the forks on my loader tractor to move pallets around, I often can't see the ends of the forks as I'm picking up the pallet. I solved the problem by mounting a back-up camera on the loader frame behind the forks, and mounting a monitor in the cab. It saves a lot of trips getting on and off the tractor," says Ted Lacy, Worley, Idaho.

According to Lacy, the camera is especially helpful for seeing anything down low on the ground where the driver's view normally is blocked. "The camera stays on my tractor all the time and sets far enough back that nothing can bump into it," says Lacy. "The only limitation to the view is when the camera has to look into the morning sun. It also doesn't help much when a pallet is sitting in tall grass or weeds."

He received the camera as a Father's Day gift. "It's a color camera, but a black and white model would work just as well," says Lacy, who made small brackets for both the camera and monitor. "The camera and monitor both run off the tractor's ignition through a switch in the cab, so when I turn off the ignition key, both the camera and monitor automatically shut off. If I need to run the tractor but don't need to use the camera, I just flip a switch in the cab to shut power off to both the camera and monitor."

Camera and monitor both run off tractor's ignition through a switch in the cab.

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"No Salt" Water Softener Uses Membrane Filters

The convenience of not having to haul softening salt and bottled water attracts customers to The Water Clinic "no salt" water softener. But the purity of the water makes them customers for life, says Philip Stadnyk, president and one of the owners of The Water Clinic, based in Saskatoon, Sask.

The system purifies water with proprietary membrane technology.

"Once the water is tested we can determine what type of membrane system and capacity should be installed," Stadnyk explains. "The technology is different than reverse osmosis, because our membranes remove iron, manganese, hardness and total dissolved solids."

Most customers in North America are rural homeowners who have their own wells or ponds and are concerned about water quality. Besides awareness of chemicals used for farming that can leach into groundwater, they appreciate other benefits of the membrane system.

"Customers in the farm sector feed the water to the shop and wash their farm implements so they are spot free," Stadnyk says. Poultry and other livestock producers can raise birds and animals to maturity in fewer days and save money, because the water is better so they drink more water and need less food.

The Water Clinic has dealers in both Canada and the U.S. Within a few minutes of taking a water test, the water consultant can determine which system is needed.

Equipment and installation can range from $3,000 to $15,000 depending on how bad the water is and the quantity of water used, Stadnyk says.

To maintain the system, the membrane (about $350) needs to be changed every one to three years depending on the water and quantity used. Replacing the membrane is as easy as changing a furnace filter, Stadnyk says.

The Water Clinic purifies water with membrane filters that remove iron, manganese, hardness and dissolved solids.

He notes The Water Clinic also works with towns and villages. "Once we install a system for an entire village or town, the residents no longer need to have a water softener, haul salt or ever purchase expensive bottled water again," he says.

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