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Teacher Has Huge Seed Collection

Glenn Drowns doesn’t just save seeds of a few favorite varieties—he maintains a collection of nearly 3,000 varieties of seeds and crops. The collection has its own home: an old farmhouse where he and his wife once lived. Every room is lined with shelves full of jars of seed. In the basement, eight freezers

are packed with seed. One-third of the basement holds shelves of totes containing his 250 varieties of sweet potatoes, along with cannas and fennel bulbs. His garlic went into the ground last fall. This is in addition to the 219 varieties of heritage poultry he maintains (Vol. 41, No. 6).

“Tracking them all is a challenge,” admits Drowns. “I have an extensive record system on my computer with every variety listed by the type of vegetable, except for beans, which I have to break down by snap or shell.”

Drowns notes that he can’t grow out every variety every year. He says his hands and knees can’t take it, even if he had the time. However, he does grow a sample of each variety of squash and melon each year. They’re all hand-pollinated.

Not only does Drowns maintain his collections—refreshing older seeds and experimenting with new ones—but he also teaches school three-quarters time. On the side, he sells seed. This year, his website lists more than 50 vegetables, 29 herbs and 38 grains, as well as zinnias, sunflowers, cotton and other flowers. Last fall, he sold out of the 13 varieties of garlic he had listed. In addition, he offers collections of seed grown by various Native American tribes.

By mid-January, all his seed has been processed, cleaned, germination tested, and stored in jars. Throughout the fall and winter, he updates his seeds for sale. Unlike most seed companies, Drowns, his wife and

a helper handle every step, from planning to planting to shipping out orders.

Drowns is an advocate of people saving seed. He’s been a member of Seed Savers Exchange for more than 45 years and has donated more than 600 varieties to their permanent collection. This year, he offered 81 varieties on the Exchange.

“Pick a crop or something that means something to you,” says Drowns. “Beans are a simple crop to start with. There are lots of resources available on how to save seeds.”

He notes that saving seed is important work. It ensures that genetic diversity is maintained. “We don’t know what genetic trait might be needed at some point in the future,” he says.

He adds that finding that special variety that has meaning is also interesting. “I got some watermelon seeds from a family,” he recalls. “They’d been growing it since the Civil War.”

Contact: FARM SHOW Followup, Heirloom Seeds & Poultry, 1878 230th St., Calamus, Iowa 52729 (ph 563-246-2299; sandhill@fbcom.net; www.sandhillpreservation.com).

Real-Time Stock Tank Monitoring

Ranchbot lets you check the water levels of remote stock tanks at any time of the day or night. You’ll receive an alert if levels drop too fast or not fast enough.

“The whole idea of Ranchbots is to give a rancher the information they need when they need it,” says Evan Ogden, Ranchbot. “Other monitoring systems might give an update once or twice a day, but you can’t check at any given moment or understand what the water has been doing throughout the day.”

Ogden suggests that the monitoring system was designed to be super user-friendly and to provide as much information as a customer could want.

Ranchbot monitors communicate via satellite or 3G/4G cellular, where available, and utilize GPS for location identification. They’re solar-powered with lithium batteries and, when properly installed, are accurate to within 1%. On-site options vary in features, but all communicate via the MyRanchbot platform or other platforms if preferred.

The platform detects leaks or faults and takes action, notifying operators before an issue occurs. It provides easy-to-read graphs showing water status trends and

livestock consumption. It can be viewed by one or more ranch team members from a smartphone, laptop or other device. Member roles can be selected, and alert triggers tagged accordingly.

On-site options include Ranchbot Lite, Ranchbot Trough Monitor, and Ranchbot Water Monitor. Ranchbot Lite can be used with stand-alone tanks up to 19 ft. in depth. It connects to a single sensor and can be installed in 20 min. or less.

Ranchbot Trough Monitor is designed to monitor tanks 5 ft. in depth or less remotely. It connects wirelessly to a Ranchbot Water Monitor to send alerts if the water level is too low or too high.

“Wireless connections require a line of sight and to be within three to five miles,” says Ogden. “Trough Monitors vary from \$500 to \$700, depending on the unit and what it does.”

The Ranchbot Water Monitor offers multi-site monitoring and more. It connects to as many as five wired sensors and 10 wireless sensors.

“Anything that uses an electric switch, such as an electric pump, can be hard-wired to the Water Monitor,” says Ogden. “That’s

also true for a generator or tank heater. All can be turned on and off via the website.

Add-on options include the Rain Gauge and Pump Control. With its self-emptying bucket, the Rain Gauge automates rainfall data gathering. Daily, weekly and monthly rainfall can be exported to multiple formats for analyzing trends and patterns and a better understanding of pasture growth rates and yield potential.

Pump Control provides remote monitoring of pump activity. It offers remote start and stop of pumps of all types, whether diesel, solar or main line powered.

Ranchbot users pay an upfront cost for hardware and an annual subscription fee. It covers all real-time alerts sent via text or email throughout the year.

“Visit with a sales representative to discuss options for your situation,” says Ogden. “The Ranchbot Water Monitor is priced at \$1,400. A dollar per day subscription fee provides access to MyRanchbot software and backend data for monitoring and analysis.”

Installation is easy, requiring only a drill and 10 to 15 min. of time. All other equipment is included.

In addition to tanks and troughs, Ranchbot



Platform detects leaks or faults and takes action, notifying operators before an issue occurs.

can monitor any water source, including bores, dams and channels. Contact the company for information on tailored applications.

Contact: FARM SHOW Followup, Ranchbot Monitoring Solutions, 1701 River Run, Suite 1109, Fort Worth, Texas 76107 (ph 512-706-9084; sales@ranch-bot.com; www.ranch-bot.com).



“The bottom line is, to have a predictable yield, we need to stabilize temperatures in the high tunnels when outside temperatures are unpredictable,” says Millsap.

Low-Cost High Tunnel Heat

Heating high tunnels during cold snaps can be costly when growing winter vegetables and cut flowers. Curtis Millsap and Jason Hirtz found a lower-cost way to moderate temperature swings. Starting in 2023, they used modular propane heaters and ground-level convection tubing in two high tunnels

to keep crops warm.

“It’s now pretty normal every year to see a 60-degree temperature swing in a 24-hr. period,” says Hirtz.

In each case, they added frost blankets over the tubing and the crops in one of the tunnels. A grant from the USDA Sustainable

Agriculture Research and Education (SARE) helped the Missouri farmers fund the project.

“We were pretty happy with the results,” says Millsap, Millsap Farms. “Using the heater without the row cover was less efficient, but it was still effective at saving the crop.”

Both farms experienced heating system failures on frigid nights but didn’t lose their crops, thanks to the added protection of row covers. The covers provided a greater margin for error and also reduced propane usage by 58%, offsetting their cost in about six weeks.

“The bottom line is, to have a predictable yield, we need to stabilize temperatures in the high tunnels when outside temperatures are unpredictable,” says Millsap. “The modular heaters on wheels gave us that. Installing a permanent heater in a greenhouse can cost several thousand dollars.”

The mobile ventless heaters allowed Millsap and Hirtz to heat only the high tunnels in production in the winter. They ran flexible ductwork across the ends of the tunnel and poly tube ducting with vent holes every 12 in. down the aisles. They also placed Inkbird thermostats at ground level throughout the tunnels as backup to the heater’s OEM thermostat.

“One thing we fine-tuned was thermostat placement,” says Millsap. “We suspended them under the row covers. The heaters didn’t kick on soon enough when on the ground or above the covers.”

Both farmers agree they would’ve lost crops without the heaters. They also saw an increased rate of growth and regrowth with the heated tunnels. In addition, they felt the decreased disease pressure recorded was due to better humidity control.

In Millsap’s case, he installed thermostats connected to Wi-Fi. This allowed him to boost the temperature in the early mornings to get condensation off the plastic.

“I was growing greens and cut flowers, and the cut flowers really benefited from the extra heat,” says Millsap.

Full details of the project can be found at <https://projects.sare.org/project-reports/fnc23-1384/>.

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