



Cabbage waiting to be processed.

Sauerkraut Juice Improves Yield

When a million dollars' worth of organic sauerkraut went bad, it didn't go to waste. The ensuing investigation identified the culprit: weak cell walls in the cabbage. According to Dieter Harle, a semi-retired agricultural nutrition consultant, uncovering the issue, identifying a possible solution, and pursuing it further was a fortunate combination of coincidences.

"In 2022, Dr. Don Huber and I were visiting the GLK Sauerkraut plant in Bear Creek, Wis., to learn more about raw sauerkraut juice (RSKJ)," says Harle. "During the plant tour, the manager mentioned the mystery of the soggy sauerkraut and the resulting poor fermentation."

Huber, Harle and others have spent much of the past 10 to 15 years investigating the impact of glyphosate on crops and livestock. A German researcher told Huber about the impact of RSKJ on glyphosate in the rumen of dairy cattle. As a plant scientist at Purdue University, Huber knew that glyphosate created micronutrient deficiencies in plants. He and Harle offered to help identify a remediation procedure.

A mineral analysis showed lower levels of multiple nutrients involved in plant cell wall development. The soggy sauerkraut was not tested for glyphosate. They knew that *Lactobacillus plantarum* that ferments sauerkraut fully degrades the herbicide.

The organic cabbage fields had received an application of glyphosate-tainted turkey and chicken manure. The birds had been fed crops that tested very positive for active glyphosate.

Putting the clues together, the researchers wondered if RSKJ could impact glyphosate in the soil and the crops that grew in it.

"We convinced a local farmer who grew conventional cabbage for the company to let us test out our theory on a field where cabbage had just been planted," says Harle.

They tested the field for glyphosate load and, using GPS, applied alternating strips of

RSKJ at 15 gal. per acre. They returned to the field that fall and found that from May until November, the glyphosate load in the soil had been reduced by 80 percent.

The following spring, the farmer planted glyphosate-tolerant corn in the field and applied glyphosate for weed control. Using GPS to identify the treated strips, the farmer reported a 12-bushel increase in the strips for a yield of 225 bu./a.

Harle admits the two researchers only had a hunch about what would happen. "It merits more controlled studies and more repetition," he says. "We don't know how much of the glyphosate the crop took up, how much the sun took out, or how much stayed in the roots."

While RSKJ might reduce glyphosate in the soil and glyphosate's effect on yields, the impact of RSKJ will be limited by its availability. "The plant makes 100,000 lbs. of sauerkraut a year and may get 20 percent of that as raw sauerkraut juice, formerly considered waste," explains Harle. "We used 15 gal. per acre, but have applied as much as 1,000 gal. per acre in a very small trial without killing the crop. We're still trying to establish thresholds."

The good news is that *Lactobacillus plantarum* is also available in other forms. Harle notes that in addition to applying RSKJ, they also did treatments of two proprietary mixtures PB027 and PB027SK with similar results.

"There are also other biologicals on the market that claim to have a similar function," says Harle. "We owe gratitude to the GLK Sauerkraut management team. More information will be presented at the upcoming Wisconsin Farm Technology Show in August."

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Made-It-Myself Salt Spreader Cart

John Herren of Louisville, Ky., built a transportation cart for his salt spreader. "The idea for the cart was to hold the spreader in position for easy loading and unloading on my truck," Herren says. "I built it with 2-in. by 6-in. lumber I had on hand and covered it with 3/4-in. plywood. The cart works fine. It's easy to use and I wouldn't change a thing."

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Cart holds salt spreader and can be rolled out of the way for easy storage.

Winch-Powered Snow And Soil Bucket

"I have a truck I use to plow snow during the winter that works well if I'm plowing forward, but sometimes, I need to scoop the snow away from a doorway or blind spot," says Michael Heron.

To address this issue, Heron built a winch-powered bucket for the rear of his truck, which can move snow and dirt.

He bought a T-shaped connection at Princess Auto that slides into his truck's towing receiver and is pinned into place. It's easily removable if not needed.

The bucket is attached to the bottom of the hitch and is slightly wider than 5 ft. to clear the snow past the width of the truck's axle.

"To operate it, I drive into the snow to fill the bucket, then push the button for the electric winch to lift," Heron says. "There's a catch that limits the upward movement, and when I release the bucket by turning the winch backward, it tips and dumps. Once the winch lifts the bucket, it slides back up. I disengage the catch, lower the winch, and it's ready to scoop another load."

Heron plans to use the unit in his garden this spring. He estimates he spent about \$400 on the steel and winch.



Heron's bucket is powered by an electric winch.

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With the Catch and Release Stick, the fish is not handled or removed from the water, and the treble hook remains 3 ft. away.

Releasing Game Fish The Easy Way

The Catch and Release Stick from Fish Go Free makes returning game fish, like muskies and northern pike, to the water easy. Catch-and-release is an increasingly common practice, with an estimated release of 98% of all muskies caught. However, releasing them can be difficult and even dangerous for fish and fishermen. After years of accidental release, lifelong fisherman Peter Sohnle devised his easy method.

"Muskie fisherman, in particular, often use a treble hook lure," explains Sohnle, Fish Go Free. "Usually, the lure ends up with one hook in the fish's jaw and two outside. If you miss netting it, the other hooks often catch in the net, the fish shakes its head, and the other hook comes loose."

Sohnle designed the Catch and Release Stick to emulate the net for those times when a photo or retention isn't the goal. The 3-ft. handle has a 3-in. frame at the end. The frame is covered in loosely packed netting and angled around 45 degrees from the handle.

"When you bring the caught fish alongside your boat to release it, just engage the treble hook in the netting," says Sohnle. "The fish will either shake itself free or you shake it off, but the hook stays in the netting."

Sohnle points out that catch-and-release aims to avoid damaging the fish. An actively thrashing fish with two or three hooks outside its mouth can also harm the fisherman. With the Catch and Release Stick, the fish isn't handled or removed from the water, and the

treble hook remains 3 ft. away.

"The Catch and Release Stick works with pike as well," says Sohnle. "It also works with salmon or trout caught by trolling in a lake. It could even be used with bass or trout in streams using a smaller lure with a treble hook."

Sohnle notes that his company is the only one that makes devices for releasing fish. "Everyone else makes equipment to catch them," he says. "I have another one I'm developing, which is a handheld hook-releasing device."

The Catch and Release Stick from Fish Go Free costs \$29.95 and can be found on eBay and Amazon.

When Sohnle isn't catching and releasing muskies, he can often be found videotaping them. He even developed a low-tech device for trailing a GoPro camera ahead of a lure.

"Muskies like to follow a lure, but the camera by itself will spin from side to side, explains Sohnle. "I made a housing from a funnel with supports to clamp the camera at the big end of the funnel. I run a wire through the funnel to my fishing line with the lure at the other end. The funnel keeps the camera from going back and forth."

Sohnle uses the videos to attract people to his sales booth at outdoor shows.

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