

on an angle iron crossbar bolted to the front end plate.

"The crossbar allows the angle irons to pivot if the toolbar rides up," says Krush. "It has two vertical arms made from square tubing to help guide the angle irons as they ride up and down."

A short length of angle iron welded to the ends of the angle irons connects them and serves as a base for a hydraulic cylinder that activates the toolbar.

The toolbar has five spring-tooth shafts with spade ends mounted to a 2 by 2-in. square steel bar. The bar rides inside two short

older Oliver's that Krush owns. He doesn't just collect them. He uses them.

The 88 is his gated pipe marker tractor. In addition to the front-mounted toolbar, he has a Mormon creaser on the back 3-pt. It's simply a length of gated pipe with spades attached at the gates.

"I have implements mounted on different tractors," says Krush. "Almost every one has a 3-pt. implement of some kind ready to be used when I need it."

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Water wagon and paddock ready to be grazed.

Sheep Help Cut Costs Grazing Trees

Elise and Jeff Koning planted half an acre of Christmas trees two years in a row at Sylvanmore, their Indiana farm. They quickly found that keeping the grass moved around the trees took time, labor and equipment. They decided to try giving the job to their sheep.

"It made life easier for both of us," says

Elise Koning. "We both have off-farm jobs, so our time is limited. If we could keep sheep in the Christmas trees, it would cut down on mowing."

Koning already had the right sheep for the job. She had raised Shropshires her entire life and discovered their soft mouths discouraged them from eating conifers. A grant from the

USDA Sustainable Agriculture Research and Education (SARE) program helped cover the cost of electric netting and an energizer.

They created a mobile water source using a 300-gal. IBC tote on a flatbed wagon. It supplied water to a ground-level tub through a hose and a float valve.

They designated a 1/2-acre plot for grazing and the other 1/2-acre for mowing for cost comparison. Koning notes that the first year had a steep learning curve. They were used to rotational grazing of pasture, but grazing the trees was different.

"Leaving the sheep in a paddock too long, they'd begin nibbling the trees," said Koning. "But if we moved them too soon, the grass would overgrow the trees."

They used five ewes with lambs, rotating them among five paddocks in trees only 9 to 15 in. tall. Even though it was a drought year, the sheep couldn't keep up with the grass, and some supplemental mowing was needed.

In the second year, they used 10 ewes and six paddocks in older trees that were a couple of feet high. Again, they compared grazing with conventional mowing on the other 1/2 acre.

"We found 10 was the right stocking rate," says Koning. "With one or two less, they didn't stay ahead of the grass."

Koning notes that the drought year required limited mowing. The second year was wet, with heavy growth and increased mowing.

"Our labor was the same both years with the sheep," says Koning. "However, labor increased significantly with mowing the second year."

The grazed half-acre required some extra labor for weed control. While the sheep kept

the grass down, thistles still needed mowing and spraying.

The Konings are still evaluating the practice and have produced a final report for SARE (FNC24-1423). They're planning a handbook on best practices. She cautions other growers against jumping into grazing without studying the practice.

Koning is grateful for advice from European Christmas tree growers who use sheep for grass control. She notes that there's a Shropshire Sheep Tree Club on Facebook.

One concern they found was a tendency for sheep to rub their heads against trees as the trees grew taller. In 2025, Koning set out a scratch brush. While the sheep used it some, they also used the trees.

"We're trying to figure out what age of trees are least likely to be damaged," she says. "Some suggest waiting until the tree leaders are taller so the sheep won't damage them. The species of tree may also make a difference. A grower in Scotland had success grazing Fraser firs."

Koning says it remains to be seen whether they'll continue, much less expand, the practice. While initial costs for grazing made it more expensive than conventional mowing, spraying and mulching, many of those latter costs recur year after year.

"We found that 99% of the cost of grazing was items that'll be reused," says Koning. "Only 66% of conventional grass control expenses can be used long term."

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