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Brush-Equipped Weed Cutter Cleans Up Small Grain Fields

Controlling weeds in any field is especially tough for organic farmers. Colin Tanner may have the answer. Last year he used a Swedish-built, selective, mechanical weeder called CombCut. It combs through flexible stems of wheat and other small grains and cuts away broadleaf and other thick-stemmed weeds.

"We wanted to increase our control of Canada thistle in some of our fields," says Tanner who, along with his family, farms 800 acres organically near Regina, Sask. "With our improved fertility and moisture conservation, we really needed to improve weed control."

When Tanner first saw the CombCut, he was impressed enough to become a dealer for Just Common Sense, the Swedish company that developed and manufactures the machine. Tanner imported a dozen units and has sold most of them.

"We are currently selling machines in western Canada, but can provide them to interested growers in the U.S. as well," says Tanner. "I thought we would move into this slowly, but interest is building faster than

expected."

The CombCut is a folding toolbar that can be mounted ahead of or behind the tractor. Protruding teeth have blades mounted on one side and are opposed by small metal bars that leave an opening to the rear. The blade cuts the thicker, stiffer weed stems, while the flexible grain stalks bend around the bar. The angle of the cutting blades on the folding toolbar can be adjusted easily with a small turnbuckle on each section of knives.

The most visible component of the CombCut is the reel with its 3 sets of bright orange, 5-in. long poly brushes. They sweep the crop and the weeds into the knives. The reels are powered by a small orbital motor and can be set at a constant speed of up to 300 rpm's.

"The results with the CombCut last spring were terrific," says Tanner. "Although invented to control thistles early in cereal crops, it also can be used as a clipper in broadleaf crops."

Tanner suggests raising the toolbar above a crop like lentils to catch and cut tall weeds

before they go to seed. When used as a clipper, the gaps between cutting blade and bar are eliminated.

"We clipped wild oats as the seeds were developing and thistles at bud stage," he says. "We did it to make harvest easier, but feel it also weakened the thistle as root reserves had been expended."

In cereals, Tanner reports little to no regrowth of smaller broadleaf weeds like wild mustard and lambsquarters. Thistles were stopped for about 3 weeks with less regrowth than expected.

Research conducted in Sweden and Norway demonstrated significant weed control and resulting increased yields. Results depend on level of infestation, type of weed and density of the crop. However, a 3-year trial in barley fields infested with Canadian thistle showed a yield increase of 94 percent with the use of the CombCut.

The CombCut has given Tanner and his family confidence to try no-tilling this year. He believes the in-crop weeder could

eliminate the need for tillage weed control. Tanner emphasizes that the tool is not for organic producers alone, especially with the growth in herbicide resistant weeds. He is getting interest from conventional growers; however, available widths are limiting interest.

"The company is developing larger units better suited to large conventional fields," says Tanner. "Next year they will be introducing a 29-ft. wide CombCut."

At this time, the 21-ft. model is priced at \$36,000 (Canadian). The 27-ft. model is priced at \$44,000. Both models fold down to a 10-ft. width for transport. The company is looking for dealers in both the U.S. and Canada.

Check out the CombCut video at www.FARMSHOW.com.

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Double Plot Combine has 2 completely separate feederhouses, threshing compartments and grain tanks. It lets seed and research companies harvest 2 different seed plots in one pass.



Combine Harvests Two Plots At Once

Haldrup Manufacturing recently introduced a new Double Plot Combine that enables seed and research companies to harvest 2 different plots with 2 seed plots in one pass. The CTS-95 has two completely separate feederhouses, threshing compartments and grain tanks. Material from each side is kept completely separate throughout the harvesting process.

The machine is powered by a 218 hp water-cooled Deutz turbo-diesel engine. It can easily handle a hydraulically foldable 2x2 row Gehringhoff corn or sunflower header. Grain platforms are also available. An optional 2-speed drive moves the machine in an infinite range from 0 to 12 mph.

Two conventional threshing units on the machine have 25-in. wide threshing channels. A 17-in. threshing cylinder initially separates grain from residue. Grain is cleaned by upper and lower sieves working in opposite directions. Residue moves out of the machine over two straw walker systems, each of them

with 3 walkers over 3 steps.

Harvested crops are carried by an air system into the pre-hopper of the weighing system. A hanging scale is sensitive to vibrations and guarantees reliable results. The pre-hopper and the weighing hopper each hold slightly more than a bushel. Samples can be taken from right inside the cab as material is being harvested. The spacious cab allows excellent visibility, ample room for the machine operator, an assistant and sampling supplies.

The CTS-95 can be optioned with Harvest Manager hardware and software, near-infrared spectroscopy (NIRS) for analysis of value-determining ingredients, a hectoliter box, moisture measurement, an on-board camera, straw chopper and other options tailored to specific user needs.

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Researcher Studies Abrasive Weeding

FARM SHOW editors first heard about "blasting weeds" with corn grit when we published a story about the idea 2 years ago (Vol. 38, No. 5). Now we've learned about research being done at the University of Illinois by agroecologist Samuel Wortman using a variety of products for abrasive weeding.

In Wortman's U of Ill. study, grit made from walnut shells, granulated corn cobs, green sand and soybean meal was blasted onto nuisance weeds in growing vegetables. Wortman says the grit was applied through a handheld, siphon-fed sandblaster attached to a gas powered air compressor. The compressor was on a cart pulled between rows by a self-propelled walk-behind garden tractor.

Wortman says grit blows out the nozzle at supersonic speeds and is directed at growing weeds to completely shred their leaves. He found that particle size or type didn't have a bearing on how well the blasting worked because the force of the material always did extensive damage to weed leaves. He did advise that the process works best on transplanted crops where the good plant is larger and more mature than the small weeds around it. His test results showed that yields on the "blasted" crops were about 33 to 44 percent better than those in the non-weeded control plots. The weed control in the abrasive plots ranged from 69 to 97 percent effective.

Wortman says another benefit of pressurized weeding is that granulated fertilizers could be used as the abrasive, which would supply added nutrients to the growing crop. He



Illinois researchers used a handheld, siphon-fed sandblaster attached to a gas-powered air compressor to blast grit onto nuisance weeds in growing vegetables.

says growers also like the idea of fertilizing and killing weeds in one pass, saving time and money. His research suggests that using poly mulch or a biodegradable plastic mulch greatly improves the effectiveness of abrasive blasting when compared to straw mulch and bare soil. Additional tests will be done on other crops including kale and broccoli.

Wortman adds that growers can try abrasive weeding without a lot of up front costs. If they don't own a portable air compressor, renting one along with a sandblasting pump is one route to go. The unit could be pulled through a garden with a small tractor and wagon. Eye protection should always be used with abrasive blasting because small particles easily ricochet.

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