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Switchgrass supply falling short of growing demand

Markets are rapidly developing for the crop as livestock bedding, ginseng cover, as well as feed



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The switchgrass industry, after years of fits and starts, has taken root. There's currently more demand than what can be supplied by the 1,000-plus acres currently in production in Ontario.

There's also more than one market.

Dairy farmers are buying switchgrass for bedding and feed and there are a number of other bedding markets. Now two US companies involved with erosion control systems are offering contracts at a premium to what growers have been paid for switchgrass at the farmgate in recent months, according to a member of the Ontario Biomass Growers Co-operative.

"Seven-and-a-quarter cents per pound. That's been the standard for quite a while," Don Nott said.

"Now there's a market that has developed over the last couple months ... A couple companies out of the United States have made us offers of nine cents per pound ... We could probably use another 3,000 to 4,000 acres right now."



Thanks to switchgrass innovators like Urs Eggiman, Don Nott and Roger Sampson, the guesswork has been taken out of establishing the warm season crop.

It's a good position to be in but it's left the co-operative's members with a decision to make. Sales to the US are an attractive option but to move all the production south of the border would leave Canadian customers out of the picture for the short term.

These include several dairy farmers along with other livestock producers and horse owners who've been using switchgrass as a premium bedding product.

One of the more interesting applications is bedding on top of rubber cow comfort mats. Ground and passed through quarter-inch screen, switch-

grass is said to be superior to either wood chips or straw. It tends to stay in place, rather than being pushed aside as cows get up and down and move about, and while absorbent, also has the quality of being able to release the moisture it accumulates.

Thomas Murray of Murray Farm and Kees Van Esveld of Kesi Farm are both pleased with the product, having used it for several months. They're featured in a video on the co-operative's website.

"We change our bedding two times a day and we put about two inches of organic matter on top the mat," Murray said, speaking from his dairy barn near Seaforth.

"If we had a straw in here, this mat would be bare and the cows would be rubbing on that rubber ... There's more of a potential of abrasion on the skin. You're going to have hock and leg issues ... So, we want to keep that covered. They're more comfortable. They're spending that time 16 to 18 hours a day on that mat just ruminating, producing

milk. They're happier. I'm happier."

Esveld, near Clinton, pointed to the hock of one of his cows in the video, showing how the hair was almost entirely grown back.

"Because it is soft, it's better for the cows," he said. "It's the combination of the mats with the softness of the switchgrass."

Marlene Paibomesai, dairy specialist with the Ontario Ministry of Agriculture, Food and Rural Affairs, also weighed in.

"Preliminary research done at the University of Guelph has shown that switchgrass has less incidence of mastitis compared to wheat straw bedding," she said.

Other bedding markets include dairy pack barns, group sow housing and poultry. Switchgrass also is being used successfully as a source of roughage in total-mixed-ration (TMR) feed formulations and for a range of agricultural mulching applications.

Along with the development of new markets, there has been

improvements in the crop itself.

The erosion control market in the US relates to switchgrass's superior characteristics to wheat straw.

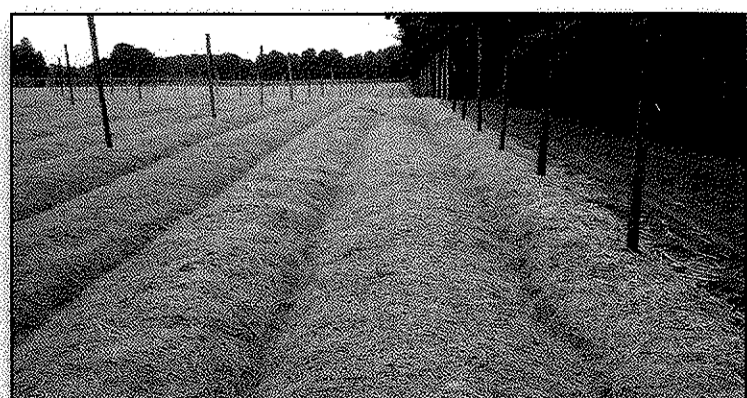
One company, Diamond Sock, is using the warm season grass for its SwitchSock product. Diamond Sock began with a single manufacturing location in Pennsylvania but has since expanded in Pennsylvania and to Ohio and Connecticut as well.

Growers like Nott, and James Fisher, president of the biomass co-operative, now have access to improved switchgrass cultivars developed by Montreal-based

Resource Efficient Agricultural Production (R.E.A.P.) Canada.

"It will be the cooperative members who have first access to the new varieties," Fisher said.

There's up to 20 per cent increased yield potential with the new varieties and it's felt they're easier to establish.



Mulch for ginseng production is among the many niche markets for switchgrass.

• See SWITCHGRASS on page 5B

SWITCHGRASS

• Continued from page 1

Fisher, who is in the hay business, has 150 acres of switchgrass on sloping ground that's part of the Niagara Escarpment near Burlington. Even with the older cultivars, he sees switchgrass as a profitable crop.

These yield around four to five metric tonnes per acre at location with a gross return of more than \$600 per acre.

"Once you get it established, you basically have no cost except the cost of harvesting it and maybe a little nitrogen. If you are in the haying business like we are, you already have the equipment."

Switchgrass is usually harvested in early spring, prior to the haying season. At that point most of the nutrients in the above-ground portion of crop have leached back to the soil.

Nott sees the crop as being part of a five to seven-year rotation. He said his son, Dan, already has experience growing corn and soybeans after a long-established stand of switchgrass.

It's a good piece of ground but well short of the best that Huron County has to offer.

Nott said his son had a soybean yield of 52 bushel per acre and 212 bushels of corn per acre in 2016—a dry year. While some fertilizer was provided for the corn crop, the input used for the soybeans was inoculant.

"The root mass from switch gives you organic matter and that gives you water-holding capacity," Nott said.

"Another big benefit of switchgrass is that it revitalizes the land and if you keep it down for five or six year you create a clean field with less disease and weed seeds."

Nott feels the positive impact on cash crops from having switchgrass in the rotation should last several years.

Fisher and Nott are among 33 members of the co-operative and are both ramping up their production.

That's going to take time. During the establishment year, there's no harvest. A small harvest may be available in the second year and, by the third year, production should have reached or be close to the full yield potential.

New growers entering the industry have an advantage. Far more is known about the agronomics of producing switchgrass and the markets into which it's being sold.

That's due in part to the efforts of the cooperative, which was established in 2009, but others have been involved, including specialists with the Ontario Ministry of Agriculture, Food and Rural Affairs and Roger Sampson with R.E.A.P.

Sampson has been a proponent of the crop, and other biomass species, for years.

He said his switchgrass journey began with research paper concerning warm season grasses when he was a student at the University of Guelph in 1983. Three years later R.E.A.P. Canada was launched but the organization's focus on switchgrass and other biomass crops only began in 1991.

The early interest for the purpose-grown biomass crop revolved around the production of energy, a renewable alternative to fossil fuels. That potential remains, but the evolution of the crop has taken it in new directions.

"I think switchgrass is com-

ing into its own," Sampson said.

"There's no reason we couldn't be at 10,000 to 30,000 acres in Ontario in five to 10 years ... It's been a long haul and I think we have a sustainable growth strategy."

Finding the right markets has been a challenge along with learning how to establish and harvest the crop. For new entrants into the industry, it's become a lot easier.

Sampson is the author or co-author of a number of publications detailing production

methods and how the crop can be used for a wide range of mulching and bedding applications.

Using Switchgrass and Miscanthus as Sustainable Livestock and Poultry Bedding and Using Switchgrass and Miscanthus in Mulching Applications were just recently released.

Switchgrass has also taken root in Quebec where markets have been developed in the dairy industry, poultry industry, as strawberry mulch and for other niche markets.

Pork drives record U.S. red meat month

Driven by record-high pork production, overall U.S. red meat output also moved into record territory in February.

According to the latest USDA report, total red meat production amounted to 4.06 billion pounds in February, up three per cent from February 2017.

Pork production reached record numbers for the month at 2.06 billion pounds, four per cent higher than the year before. The increase was due mainly to a three per cent rise in hogs going for slaughter.

Beef production was three per cent higher than the previous year at 1.98 billion pounds, with cattle slaughter trending two per cent higher.

Veal production also rose by three per cent to 5.8 million pounds, while lamb and mutton production increased five per cent to 11.8 million pounds.

Through the first two months of 2018, U.S. red meat output sits at 8.65 billion pounds, five per cent higher than in 2017. Beef and pork production are up five per cent, while veal and lamb and mutton are four per cent higher.