

Grass pellets to burn

By KARA LYNN DUNN

DAIRY farmers looking to move out of that business may want to watch Tom Lee's transition plan for Second Chance Farm. Lee's transition from custom heifer raising to commercial switchgrass processing is growing according to plan.

Now into year four, the former milk producer tends 300 dairy heifers at his Madrid, N.Y., farm. He also grows and processes 40 acres of switchgrass.

This spring, Lee planted another 15 acres. "The fourth-year stand is in good shape." But he used a no-till drill to interseed a patchy second-year stand of 14 acres to improve its yield.

In 2009, Lee modified a tub grinder to pulverize switchgrass before feeding the grass into a pelletizer that pushes out briquettes. Some are stored in bulk; others are bagged directly into 40-pound sacks as Second Chance Farm Briquettes.

"There's a lot of handwork with processing small square bales," acknowledges the farmer. "So I may modify my equipment to use round bales."



HOT DEAL: Businessman Jim Thew (left) grabs a handful of switchgrass briquettes produced by Tom Lee (right). The pellets will heat Thew's apartment complex.

Demand heating up

Last winter, Lee experimented with a feedstock mix processed into 15 tons of product advertised as Second Chance Farm Briquettes. "Combining switchgrass, reed canarygrass and soybean straw makes the briquettes hold to-

gether better than switchgrass alone," he reports.

He sold to new and repeat buyers, and used the briquettes to heat his farm shop.

This summer, he plans to begin processing three days a week to meet demand from a large-scale buyer.

"I've entered into an experimental business venture to supply in bulk to heat commercial housing," Lee says. That venture involves a 30,000-square-foot elementary school 9 miles away in Waddington that was rehabbed into apartments.

Jim Thew, who's doing the project, estimates that the staged-heat hot water system will use 100 tons or more a year of Lee's product. "With my current equipment, making 100 tons of pellets will keep me pretty busy," Lee adds.

Thew sees a far wider use. "Ultimately, we would like to foster farm-based and commercial enterprises that'll sell boilers, provide fuel and maintain grass-based heating systems. We'd like to get people off reliance on fossil fuels.

"We expect to see dormant land come into use. Perhaps we'll even see conversion of existing agricultural land for biomass production," he adds.

Roy Patraw, a plant operations manager now retired from Clarkson University, where he set up an early biomass heating system, lives in the apartment complex. He's designing a conveyor to feed Lee's pellets into the furnace.

Patraw will keep day-to-day operation and BTU records that Clarkson colleagues will analyze. A natural gas furnace will be kept as a backup system.

Proven economically viable

Lee's switchgrass project stems from Cornell University's Bioenergy Feedstock Project. It initially evaluated production of switchgrass as a low-input, one-cut crop to make marginal



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farmland profitable.

Grant funding from the New York Farm Viability Institute and the Northern New York Agricultural Development Program helped Cornell establish the first 5 acres at Lee's farm.

Subsequent NYFVI and NNYADP grants funded evaluation of switchgrass varieties and seed company products for a percentage of pure live seed for quick germination to aid stand establishment.

The project also tested use of post-emergence herbicides for weed control.

Cornell project co-leader Hilary Mayton confirms that the "trial work at Tom's farm shows switchgrass can be an economically viable crop in northern New York."

More nutrient input research is needed to develop best management guidelines for maximum yield, however. And, Cornell has initiated a plant breeding program for switchgrass variety improvement.

NYFVI Executive Director Thomas Sleight says, "This is a great example of how seeding an idea with startup funding prompts opportunities to develop new enterprises such as Lee's on-farm processing. It's great to hear local energy markets are developing to support this type of practical business application."

To learn more, call 607-255-5043 or visit Cornell's Bioenergy Feedstock Project on the Web at nybiofuels.info.

Dunn writes from her farm in Mannsville, N.Y.

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