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Group Hopeful Machine Can Create a New Market for Switchgrass

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Leonard Reggie, left, and Rodney Leighow go over the startup procedure for a switchgrass chopper. The machine was built with funds from a USDA grant and chops switchgrass into a material that can be used for poultry bedding and garden mulch.

Tom Venesky

CATAWISSA, Pa. — When Wes Ramsey looks at a field of switchgrass, he sees untapped business potential.

Ramsey, who is the executive director of the Penn Soil Resource Conservation and Development Council, has a plan to create a new revenue stream for switchgrass growers. He just needs a middleman.

In 2019, USDA awarded a grant for nearly \$30,000 to the council and the Association of Warm Season Grass Producers for a project to design and build a trailer-mounted poultry bedding machine.

Working together, the groups constructed a machine that chops switchgrass into poultry bedding, removes the dust and deposits the material into paper sacks that can hold 30 pounds.

The machine is similar to a bedding chopper in principle, but it's portable and powered by a generator that supplies electricity to a series of motors that run the chopper, hammer mill, conveyors and trommel screen to remove dust.

The machine was demonstrated at Ag Progress Days in August, and again at the Rodney Leighow farm in Catawissa on Oct. 23. Ramsey said early feedback has been positive, and demonstrations have sparked interest from farmers.

“We’re looking for somebody to start a business processing poultry bedding. They would contract with farmers who grow switchgrass, process it and then sell it,” Ramsey said.

While poultry bedding would be the main use for the chopped switchgrass, the product could also be used for garden mulch or as a natural absorbent, he said.

The reaction at Ag Progress Days left Ramsey optimistic about the business potential.

“We ran it every hour, producing 40 to 50 bags of bedding, and people were just snapping them up,” he said.

“This adds value to the product, which is bales of switchgrass, and several people expressed interest in it.”

While the plan is to find someone to start a business, Ramsey also hopes there's interest in fabricating the machine as well. Leonard Reggie, a farmer and engineer who built the prototype, said there is a market for poultry beddings that offer an alternative to sawdust or pine shavings.

The price and availability of pine shavings can be unpredictable, with much of it brought in from Canada, he said. He believes switchgrass offers local, more dependable sourcing, and said the product is more absorbent and cleaner.

“A lot of people are getting into backyard poultry and gardening, and that’s where I feel the market is for this,” Reggie said. “The potential is there to realize a wholesale market for this and sell it to retailers.”

The potential for a poultry bedding market may give new life to switchgrass growers. At one time, Reggie said, there was hope that switchgrass pellets would be a profitable option for biomass heating.

But in 2008, he said, sawdust and wood products became the preferred option for heating pellets, and switchgrass growers lost their market.

Ramsey estimated the use of poultry bedding would add \$90 to \$100 of additional value to a ton of switchgrass. Although switchgrass takes time to establish after planting, he said it’s a low-input commodity that doesn’t require much fertilizer, grows vigorously and produces impressive yields. Once the grass becomes dormant in late fall, it produces a brittle straw that is easy to chop.

Reggie estimates that building the prototype chopper cost between \$30,000 and \$40,000, but he feels there’s enough acres of switchgrass in the state to justify the investment.

“You also have a lot of CREP (Conservation Reserve Enhancement Program) acres coming out, so this is a potential market for landowners to utilize the switchgrass that’s already been planted,” he said. “I’m optimistic the timing is right for this.”

Aside from the financial benefits, there’s an environmental appeal. According to Ramsey, switchgrass is a perennial crop that can sequester carbon and serve as excellent wildlife habitat. Deer won’t damage the crop by feeding on it, he added, and since switchgrass is harvested in the winter, nesting birds and fawns won’t be affected.

“The income potential with this machine is real, and that will give people an incentive to plant more switchgrass,” Ramsey said. “With the lower input costs for switchgrass and the quality of the bedding it produces, the potential income over the long run is really good.”

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