

South Dakota

Rural Business Service • REAP

Cost Effective Measures Helps Rural Farmer Reduce Energy Consumption

Al Moore owns and operates a family farm operation located near the town of Brandt, South Dakota. Al had been using a 2004 GSI 114 Continuous Flow horizontal dryer to dry his grain and was also hauling grain to an off-site drying facility to have it dried and stored commercially. The dryer moisture sensing system didn't work properly, and he had to check the grain moisture manually. Due to these inefficiencies, he sought to identify cost-effective opportunities to reduce energy consumption to his current operation.

Al used a \$20,000 USDA Rural Development Rural Energy for America Program (REAP) Renewable Energy Efficiency Grant to purchase and install an energy efficient grain dryer. The federal funding was leveraged with an applicant contribution of \$66,500 for a total project cost of \$86,500. The new system is a SuperB SQ20D Continuous Flow model heat/cool horizontal

dryer. The dryer will operate as a full heat dryer and will transfer the grain into cooling bins. This model has one modulating burner with an average rate of 4.50mBtu/hr, which provides a greater amount of CFM and will require a lower plenum temperature for higher efficiency and even heat. The Intui-Dri® Electronic Control, which monitors the incoming and outgoing grain moisture will be used to achieve desired moisture removal in the most efficient way possible. The variable-speed control adjusts the unloading system speed to consistently run at an efficient capacity, which provides more accurate exit moisture readings for the grain as well as better fuel efficiency.

This project will realize \$10,662 per year in savings, and will save 211,611 kWh of electricity per year, equating to 44.54%, which is enough electricity to power 19 homes. The overall cost savings of the new energy efficient dryer will allow him to invest in other areas of his operation and improve his bottom line.



Photo of new grain dryer.

Obligation Amount: \$20,000 REAP Grant

Date of Obligation: March 24, 2020

Congressional District: Representative Johnson and Senators Thune and Rounds

Partners: Al Moore, farmer and USDA Rural Development

Demographics: Brandt is a town in Deuel County, South Dakotawith a population of 107.

Impact: The overall cost savings of the new energy efficient dryer will allow him to invest in other areas of his operation and improve his bottom line.