

COOPERATIVE EXTENSION



EXTENDING KNOWLEDGE
Changing Lives

When you support Extension, grain producers learn ways to reduce their energy expenses for drying grain by obtaining energy audits from Extension engineers.

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An old grain dryer at an on-farm grain storage facility in Hopkins County

**Kentucky Grain Producers
Reduce Drying Costs by
Obtaining Energy Efficiency
Audits from Biosystems and
Agricultural Engineering
Department Extension Engineers**



extension.ca.uky.edu

Energy assessments were conducted on 79 farms and provided an estimated benefit of \$727,200 in annual energy savings per year for all producers, or an average of \$9,205 per farm in annual savings per producer.

A large portion of the state's 225 million bushel corn crop is dried to preserve value and product quality. Drying grain is an energy intensive process, and high fuel prices can add significantly to the overall cost of production. Grain dryers on many Kentucky farms have been in service for 15 to 20 years or more and are not as energy efficient as newer units. Numerous advances in grain drying technology have been incorporated into new dryers making them 20 to 40% more energy efficient than older models. Thus, replacing existing dryers with newer, more efficient equipment can reduce grain farmers' production costs.

Extension engineers from the Department of Biosystems and Agricultural Engineering (BAE) provided technical assistance in the form of energy efficiency assessments or audits of grain dryers for the U.S. and Kentucky programs to identify potential eligible applicants to receive funding. The United States Department of Agriculture (USDA) and the Kentucky Agricultural Development Board (KADB) have made cost share funds available for energy efficiency improvements since 2008 and 2010, respectively. Both programs require an energy assessment or audit as part of the application. From 2009 to 2016, energy assessments were conducted on 79-grain farms that applied for cost share funds from one or both programs.

Grain producers used the energy assessments to apply for and receive cost share funds for energy efficiency improvements to their drying systems. The proposed projects required an estimated \$10,203,000 in total investment and farmers received a total of \$2,271,000, for an average cost share of 22%. Energy assessments provided total estimated benefits of \$713,000



A new grain dryer (below) replaced an old grain dryer (above) at an on-farm grain storage facility in McLean County to potentially improve energy efficiency by 20 to 40%.



in annual energy savings per year or an average of \$9,510 in annual savings per grower. Dryer audits accounted for 43% of total cost share funds, and 36% of the total farm energy savings for the state program.

Extension BAE engineers assessed farm records and made recommendations to reduce grain-drying expenses due to utilizing old grain dryers that are less energy efficient. This project has been a collaborative effort with the USDA Rural Development (KY Office), KY Governor's Office of Agricultural Policy, and private grant writers.