

## ARKANSAS FACT SHEET

January 2012

### PRACTICE DEFINITION

Development and implementation of improvements to reduce on-farm energy use or improve the energy efficiency of on-farm equipment.

### PRACTICE PURPOSE

Reduce energy use from agricultural systems or components by implementing the recommendations from on-site energy audit. The practice is applicable to all farming enterprises, including but not limited to, confined animal, grazing, and cropland.



### PRACTICE INFORMATION

The practice applies to non-residential structures and energy-using systems where reducing energy use is the identified goal. This practice shall be used exclusively for implementing recommendations from a current on-farm energy audit performed in accordance with the standard ASABE S612 Performing On-Farm Energy Audits.

Where required, certify that the new, replacement, or retrofit system and related components or devices meet or exceed currently applicable federal, state, and local standards and guidelines.

Components shall meet NRCS conservation standards or industry standards, as appropriate. Common standards include NRCS 533 Pumping Plant, NRCS 372 Combustion System Improvement, ASABE EP566.1 Selection of Ventilation Fans, ASABE EP406.4 HVAC for Greenhouses, ASHRAE 90.1-2010 Energy Standard for Buildings, NEMA MG 1-2009 Motors and Generators.

This document is not all inclusive and should not be considered as the final rule for implementation. The Conservation Practice Standard, Practice Specification and applicable Arkansas amendments are the official guidance documents for implementation of this practice.

## PRACTICE PAYMENT SCENARIOS

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### LED Bulbs

paid per Each Bulb

Replacement of conventional "incandescent" light bulbs with dimmable "Light-Emitting Diode (LED)" bulbs. The typical LED bulb uses only 1/5 to 1/4 of the electric power to provide the same light output. The bulbs cost around \$36 each but reportedly have a seven to nine year life expectancy when designed for poultry house environments. LED bulbs are available to fit standard E26/E27 screw-in bulb light fixtures without retrofits. The new bulbs must produce at least 400 lumens of light. See the practice jobsheet for additional specifications.

### Radiant Heaters

paid per 1000 BTU output

Replacement of forced-air space heaters and conventional "pancake" brood heaters with "radiant tube" or "quad radiant" heaters. Radiant heat warms the birds, floor, and other occupants directly through infrared waves rather than heating air, which is so easily lost through the cracks and gaps. Radiant heat systems reportedly allow the temperature setpoints in a broiler house to be set a few degrees lower. Incentive payments cover the labor and material costs for removing old heaters and reworking gas lines and mounting systems. See the practice jobsheet for minimum specifications.

### Sealant

paid per Each House

Interior sealing of the exterior walls at the footer plate, eaves, gable ends, and ridge cap, but not the side walls. The extent, type, and quality of required sealant can only be applied by a professional contractor. It is not merely that from a spray can. The sealant must be a type approved for poultry production facilities. Alternative payment amounts are provided for "open-ceiling" houses and "drop-down ceiling" houses given the differing amount of work. See the practice jobsheet for specifications.

### Attic Insulation

paid per Each House

Installation of a minimum of 4" of cellulose insulation in the attic of a "drop-down ceiling" poultry house. Investigations have revealed that attic insulation sometimes settles due to vibration from fans and other equipment. This scenario provides for increasing the insulation value of the dropped ceiling. See the practice jobsheet for minimum specifications.

### Power Unit Replacement or Conversion

paid per Brake Horsepower (@1800 rpm)

An old or inefficient internal combustion engine (a "power unit") is replaced with a new diesel engine of the latest available EPA TIER rating or the installation is converted to an electric motor system. The fuel injection systems necessary to implement emission reduction in new diesel engines also facilitate improved fuel economy over the technology and worn condition of older engines. The old power must have been placed in service in 2002 or earlier. Also, an installation which is proposed for conversion to electric must have three-phase electrical power existing within 700 ft. In any case, the old power unit must be permanently disabled.