



CaseStudy: **Williams Brothers Meat Market** Washington, Missouri

With annual energy costs on the rise, Williams Brothers was eager to find a way to reduce their energy expenditure and remain competitive.

Summary:

Equipment Applied

KE2 Evaporator Efficiency controller

Results

- savings of 5,000 kWh in one year
- reduction of over 4.6 Tons* of CO₂ emissions

Payback

19 months

Continuing Initiatives:

Williams Brothers will implement the fan and superheat control features of the KE2 Evaporator Efficiency.



An established part of Washington, Missouri for over 28 years, Williams Brothers has maintained a strong reputation for providing premier butchering and catering services. They have won over 100 awards at meat processing/wurstfest competitions for the excellence of their meat products. Williams Brothers operates a 15' x 25' dual evaporator cooler and a 30' x 30' single evaporator freezer, and processes over 20,000 pounds of meat monthly.

KE2 Therm Solutions, Inc. approached Williams Brothers with their KE2 Evaporator Efficiency (KE2 Evap) controller and the potential to significantly reduce their energy costs.

The Williams Brothers system was enhanced with the installation of the KE2 Evap controller and two sensors. Unlike the timed defrost method used previously, the KE2 sensors sent data to the KE2 Evap controller, indicating when a defrost cycle was needed. Using the KE2 Evap controller to initiate the defrost cycle, Williams Brothers reduced the number of defrosts by almost 90% (See Figure 1). Steve Williams, President of Williams Brothers was thrilled with the results "We went from 28 defrosts per week, down to 3, cutting our power consumption by 17%. I can't wait to see the system over the peak months." In addition to providing the benefit of regulating the defrost cycle for maximum energy efficiency, Williams also commented "we noticed much better temperature control in the meat locker." More stable temperature control can extend product life and reduce shrinkage.

Conclusion:

Williams Brothers is on pace for a **payback period of less than 19 months**, and is looking forward to further savings and benefits by implementing the fan and superheat control features of the KE2 Evaporator Efficiency controller

*Emissions of CO₂ in pounds per kWh are based on the Energy Information Administration, Table 1. 1998-2000 Average State-level Carbon Dioxide Emissions Coefficients for Electric Power. The Missouri rate was used at 1.84 lbs/kWh.