

# Effects of ambient temperature and transportation distances on the resulting pork quality

**Abstract:** Factors beyond the farm gate can affect the quality pork product, among them temperature and amount of time for transport. This study examines how these factors affect producers selling in the niche pork market.

*The levels of pH and pork meat color have long been observed to be affected by stress; including heat related stress. However, it has proven difficult to isolate specific producer related methods which could be shown to have measureable improvement on carcass pH. Variables include handling facilities, trailer condition and size, weather conditions including humidity, hauling distance, rations, access to water and specific genetics of the hogs.*



## What was done and why?

*Niche pork marketers emphasize the quality and consistency of their products. Specific factors (temperature and time on the truck) have been identified in other studies as potential causes of product variability and lower quality. Also, Berkshire hogs frequently are chosen for niche production, and little research has been conducted on this breed.*

In order to identify opportunities to more effectively manage product variability, this project was structured to test and control for the ways temperature and travel times can affect product quality. The investigators attempted to evaluate the combined effects on pork quality of the ambient weather and transportation distance. Niche-marketed hogs from Eden Natural producers were used in the study.

## What did we learn?

The ultimate pH of Berkshire loins appears to be relatively stable, despite the stresses of sorting and shipping procedures prior to slaughter. However, management practices to ensure the health of the animals will help generate the quality pork that niche marketers want to produce.

It is not easy to pinpoint specific ways to improve pork quality within the value chain. While ambient temperature is a factor in porcine stress, the way the producer responds to this and other stress factors is more critical. Gathering data that isolate individual factors is challenging, and within this study proved unsatisfactory to ISU scientists who examined the data sets. It appears that the outcomes of stress are more of a “syndrome” than single elements of easily traceable cause-and-effect mechanisms.

Producers need to plan for the effects of weather extremes in their hog management set-up. As producers, such as those in Eden Natural, gain ownership of the downstream transactions, it is in their best interest to understand the incremental management responses that mitigate stress and reduce costs.

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## More details:

[www.leopold.iastate.edu/research/grants/2009-1/M2007-13.pdf](http://www.leopold.iastate.edu/research/grants/2009-1/M2007-13.pdf)