

# MAKING A DIFFERENCE *for Iowans*

## Clippings



**Lyon • O'Brien • Osceola • Sioux Counties**

A Weekly Column from Iowa State University Extension and Outreach

Week of August 31, 2015

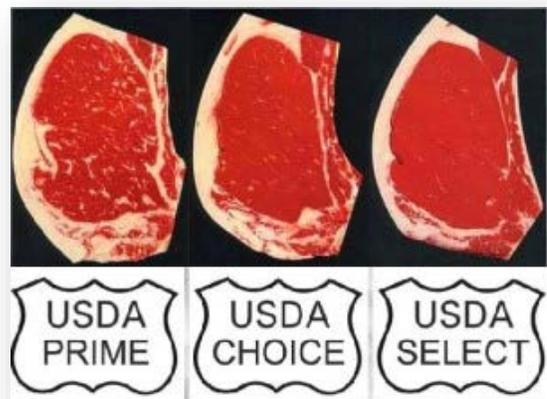
**For Immediate Release**

## Let's Discuss Meat Quality

*Dave Stender, ISU Extension and Outreach Swine Program Specialist*

I've always been fascinated by the differences in the quality of meats. It started in my college days when I was doing research on the palatability (tenderness, juiciness, and flavor) of steaks. The purpose was to measure the palatability of meat based on the amount of marbling. Marbling is flecks of fat interspersed within a beefsteak muscle. The USDA Quality Grade uses marbling to grade meat into categories like Prime, Choice and Select.

The result of my research years ago showed that marbling was a very poor predictor of meat quality - especially grades of quality that are close. The taste panel had difficulty sensing any difference between Low Choice and Select Grades. The statistics indicated that only about five percent of the variation in palatability was due to marbling. While I was doing the research, I remember trying to look at the meat and predict the palatability by color, texture, firmness and fiber size. I did this unsuccessfully. What I learned from my research was tenderness versus toughness is mostly due to the muscle structure. Some muscle fibers break down sooner and more completely resulting in a tender piece of meat.



When I look for a great steak, I start by looking for a genetic line of cattle that has a history of high quality meat. There are variations within breeds so picking your favorite breed is not a guarantee. More importantly, how the meat is cooked affects the tenderness of the meat as

much as any other factor. When cooking, use lower heat and cook longer but not to well done. Less well done is tenderer. Red juice on the plate is only meat juice pigment, a similar pigment that turns blood red – but - a very different pigment.



Pork is a different. I am able to tell by looking in the meat case which pork chop is likely to have high quality characteristics. The degree of excitement that the pig experiences during handling will affect how tough the pork chop will be. Lactic acid is released in the muscle during intense physical events resulting in denatured proteins (loss of water out of the meat muscle) in the pork chop. Meat quality experts measure the pH of the meat to determine how much lactic acid was in the muscle. A low pH pork chop will be tougher and tend to be dry versus a tenderer and moist high pH pork chop. At the meat counter, I can tell which pork chop is likely high or low pH by the color. Low pH pork chops are pale while high pH - superior eating pork chops are a dark red color.

Cooking will dramatically affect the palatability of a pork chop similar to a beefsteak. New guidelines allow cooking to 145° F internal temperature with a three-minute rest after cooking. The color is pink inside the chop. I prefer my chops at this degree of doneness because it is moist and tender.

Another import factor in beef or pork tenderness is the cut of meat. Great variation in palatability exists between retail cuts of meat. Usually the more expensive cuts are more tender.

To hear about the discussion of meat quality, join me Wednesday, Sept. 16 at 1 p.m. at the Clay County Fair in 4-H Building auditorium (east side of the fairgrounds). I will discuss this topic more in depth and can answer your questions. See you at the Clay County Fair!

For the latest research-based programming in the area, visit [www.extension.iastate.edu/countyname](http://www.extension.iastate.edu/countyname).

-30-

Dave Stender, Swine Program Specialist  
Iowa State University Extension and Outreach  
712-225-6196 or [dstender@iastate.edu](mailto:dstender@iastate.edu)