

Berkshire Purity Is Important to Meat Quality

words by Mallorie Boggs

DNA affects meat quality. With 145 years of traceable DNA, the American Berkshire Association (ABA) values that statement. An important factor that gives Berkshire pork that high-quality taste is the absence of the Renedment Napole (RN) gene. What is the RN gene and why does it matter?

The RN gene causes a low ultimate pH (24-48 hour) in swine. A low pH in pork causes low water-holding capacity. A low water-holding capacity causes more water to be lost during processing, storing, and cooking process ("Meat pH and Pork Quality"). This results in pork that is tough and dry rather than tender and juicy.

According to Dr. Steven Moeller, professor and swine extension specialist at The Ohio State University, the RN gene began to be studied when processors found it difficult for pork of Hampshire origin to hold the curing solution. The result of the RN gene was that the pork didn't bind (hold) to the natural water in the product. "This leads to a product that is will be dryer as it is consumed and potentially have an unappealing flavor," Moeller said.

Why is the RN gene important to the ABA? All Berkshire sires that are submitted for registration of the ABA must have DNA on file for each pedigree.

The DNA is sent to a laboratory to be tested for two genetic traits that affect meat quality: (1) the stress (HAL 1843) gene, and (2) the RN gene. This DNA test is performed using the ABA supplied blotter card. Owners who wish to register a Berkshire boar with the ABA submit a blood or semen sample on the blotter card. The DNA sample card is sent to the ABA office. Once received, the blotter card is sent to a lab where the DNA is extracted and recorded in the registry. The results are listed on the ABA pedigree.

"The breed as a whole is naturally free of the Napole gene," said Moeller. However, the RN gene can be introduced to the Berkshire breed by crossing with crossbreds or non-Berkshire breeds. Without the DNA test, there is no proof that a Berkshire pig is free of the RN gene.

Berkshire producers want to have Berkshire pigs that do not have the RN gene. Why? There Berkshire pork will be taste better for the consumers. Having pigs free of the RN gene creates higher profits for the producer and processor. Consumers who have positive eating experiences with registered and 100% pure Berkshire Pork® will be become repeat customers. Because Napole-free pork is better quality, producers should



100% Pure Berkshire Pork®

The goal of the 100% Pure Berkshire Pork® Program is to assure consumers a quality dining experience. To accomplish this, the ABA has developed a certification program to ensure that all pork sold under the 100% Pure Berkshire Pork® label has been produced from pigs that are offspring of purebred, pedigreed Berkshire sires and dams.

focus on only selling Napole-free Berkshire pork. “That pork is going to give them a more favorable juiciness, a more favorable flavor profile, and will also have the potential to be more tender when compared to a pig that carried the mutant gene,” stated Moeller.

Another positive genetic trait for purebred Berkshires is the absence of a mutant stress gene. “Berkshires also have the normal genotype when it comes to the stress gene,” said Moeller. “So when you have the combination of a breed that has not been directly influenced by the Rendement Napole gene or the stress gene, you have the ability to be producing pork that is more consistent when compared to animals that have those mutant populations.” Napole-free and stress-free Berkshire pork contributes to the Berkshire breed for being ranked #1 on several meat quality traits.

The ABA’s 100% Pure Berkshire Pork® Program ensures the high-standards of producing and processing Berkshire pork. Berkshire pigs within this program must be negative for the RN gene, as well as the mutant stress gene. Producers and processors who participate in the 100% Pure Berkshire Pork® Program provide consumers the confidence that the Berkshire pork can be traced to registered purebred Berkshire

genetics that free of two genetic defects (Napole and stress). This will increase the likelihood of having the most positive eating experiences with Berkshire pork, and consumers will identify the 100% Pure Berkshire Pork® brand and seal as excellent meat quality.

100% Pure Berkshire Pork® is desirable for many reasons, all of which begin with genetics. Having a pedigree, which serves as the only proof of a purebred Berkshire, gives a consumer peace of mind when putting registered purebred Berkshire pork on their plate. Whether you’re looking at your next breeding pairings or purchasing breeding stock, look for the absence of the Rendement Napole gene and the stress (HAL 1843) gene. Your customers will appreciate your decisions to provide them with 100% Pure Berkshire Pork® that is both Napole-free and stress-free. Consumers who are fortunate to Experience Berkshire will be back for more 100% Pure Berkshire Pork®! •

References

“Meat PH and Pork Quality.” Ministry of Agriculture, Food and Rural Affairs, www.omafra.gov.on.ca/english/livestock/swine/facts/info_qs_meatph.htm.