factsheet

Pork Information Gateway

Meat Quality

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We raise pigs to produce pork for consumers to eat. It is important that pigs exhibited in youth swine shows produce meat that has high eating quality. Muscle color, firmness or wetness and marbling are measurements which help predict the final eating quality of pork. The carcass traits of leanness and muscling and the presence of the stress gene can impact the eating quality of pork. These traits are often seen at a higher, or more extreme level, in show pigs.

Measurements of Meat Quality

Muscle Color:

- Pork color can be described as pale (P), red (R) or dark (D).
- Color is important because it impacts consumers' first impressions of the meat. Most consumers prefer pork that is reddish-pink colored (R), as compared to pale (P) colored pork.
- Pale-colored pork is more likely to turn gray or green during display in a grocery store, making it even less appealing to consumers.

Muscle Firmness or Wetness:

- Muscle firmness or wetness can be described as soft and exudative (SE), firm and normal (FN), or firm and dry (FD).
- Soft and exudative means that the meat does not hold its shape and that moisture drips from the meat.
- Soft and exudative meat is often drier and tougher when cooked, so it is less desirable to consumers; it does not work very well for processing into sausage products.
- Soft and exudative meat is often associated with pale colored meat; this is known as PSE, or pale, soft and exudative meat.
- Both firm and normal and firm and dry meat are considered acceptable in the meat industry and to consumers.

Marbling:

- Marbling is the fat within the muscle, also called intramuscular fat.
- Marbling provides juiciness and flavor to meat.
- Meat with adequate marbling is less likely to be tough.

Other Factors that Affect Meat Quality

Stress Gene:

- Pigs that carry the stress gene often have carcasses that are leaner and heavier muscled. Because of this, many show pigs carry the stress gene.

- Negatively, over 95% of stress-positive pigs and 30-50% of carrier pigs produce meat that is PSE. Stress-positive pigs are those that inherit a copy of the stress gene from both parents. Carrier pigs inherit a copy of the stress gene from only one parent.

Extreme Leanness and Muscling:

- Overemphasis on carcass leanness and muscle may reduce meat quality.
- When backfat decreases, marbling also decreases.
- When loin-eye area increases, marbling often decreases.
- Decreased marbling can reduce flavor intensity, juiciness and tenderness of meat.

Conclusion

Show pigs have a higher incidence of the stress gene and are often more extreme in terms of leanness and muscling. These factors contribute to a higher percentage of show pigs, as compared to commercial pigs, which have unacceptable meat quality. The most common meat quality problem is PSE, or pale, soft and exudative meat. PSE meat is less desirable to consumers because of its color, and because it is drier and tougher after cooking. Producing quality meat is important to maintain a market and public support for pork production.

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