MEMBERSHIP TIPS

by Jerry Cassady director of member services



Coat Color

The discussion of coat color is usually not one that often takes place amongst Angus breeders.

Angus are black, period. Correct?

Since the early beginnings of the development of the Angus breed, selection efforts and subsequent rules have been in place to give members guidelines for the rules of registration regarding coat color. Yes, Angus are indeed black in color, but exceptions are made for an allowance of white skin, provided it is only found behind the navel and on the belly. This would include the udder area on females and the scrotal area on bulls (see Rule 103 from the *Breeder's Reference Guide*).

An example of an animal with an acceptable amount of white skin (legal white) is shown below in Fig. 1. Notice the white is only found in the area allowed in Rule 103 (i.e., in the rear flank on the belly). The white skin creeps forward all the way to and including some of the navel, but is not found in front of the navel.

Rule 103 applies to all breeding animals currently allowed in our

Fig. 1: Example of an animal with an acceptable amount of white skin



registry. The one exception to this rule involves the eligibility of steers. They are allowed to have extra white found ahead of the navel (see Rule 104 from the *Breeder's Reference Guide*). An example of a steer with extra white found ahead of the navel is shown in Fig. 2.

Birthmarks

Another topic of conversation regarding coat color in Angus cattle is the issue of birthmarks. Birthmarks are poorly understood, but have not been found to be genetically inherited. These areas of discoloration often resemble a halo or bull's-eye pattern and are found in all breeds of cattle, ranging in size from very small to covering the majority of an animal. Birthmarks are accepted as nongenetic discoloration and, therefore, are not discriminated against (see Fig. 3).

Fig. 2: Example of a steer with extra white found ahead of the navel



Rule 103: Animals ineligible for registration

c. Skin color: the skin color of all animals for which application for registration is made must be BLACK, except that animals having birthmarks or white hairs on black skin may be eligible for registration. An animal red in color, or whose ancestor(s) are red in color, or with white skin above the underline, in front of the navel or on leg, foot, or tail, shall not be eligible for registration. In the event that a registered animal is discovered to be red in color or to have ineligible white skin, its registration shall be null and void, and the Certificate of Registration must be returned to the Association for cancellation.

Fig. 3: Example of an animal with a birthmark



On occasion, the determination of whether an animal indeed meets the requirements for registration or if the animal is deemed ineligible for registration needs to be made by one of our regional managers. If in doubt, please contact your area's regional manager for a closer inspection, or get a quality picture of the animal in question and send it to your regional manager or directly to me at jcassady@angus.org.

Genetic factors

The final issue regarding Angus coat color that I would be remiss if I failed to mention and discuss is the two "genetic factors" monitored by the American Angus Association: Red Color and Wild Type Color (see Rule 350 from the Breeder's Reference Guide). These two genes are both monitored by the American Angus

Rule 350GF: Genetic factors

The term "genetic factor" refers to the presence of a recessive gene that may or may not produce a certain type of offspring. The Association monitors two genetic factors: The Red Color factor and the Wild Type Color Gene factor. Both are monitored because they may, if present, result in the unintended birth of red calves. While red calves are not eligible for registration under the rules of the Association, they are not defective genetically. The Association permits the registration of animals with either of these factors, but it places the designation "RDC" or "WTC" following the animal's registration number. Additionally, such animals are listed on the Association's website. Commercial tests are available to determine whether an animal carries one of these genetic factors. For further information, please contact the office of the Director of Member Services.

Association because they may, if present in the homozygous state (i.e., both copies of the gene), result in the unintended birth of red calves.

Most of us have a basic understanding of how these two common coat-color alleles are expressed in the phenotype of Angus cattle. Black is dominant to red, so red cattle must have two red alleles. Black cattle can either have two black alleles (homozygous), or they can carry one black allele and one red allele (heterozygous).

Another less common and less understood option for coat color inheritance is the Wild Type allele, which is also referred to as the extension gene. Because of its rarity in the Angus population and complexity with gene interactions, exactly how the Wild Type allele works remains uncertain.

While unintended red calves are not eligible for registration under the rules of the American Angus Association, they are not defective genetically. As you can see in Rule 350, carriers (those animals with the heterozygous state - i.e., only one copy of the red gene) are allowed in the registry, and known carriers are subsequently listed on the website at http://www.angus.org/pub/ GeneticConditions.aspx.

Commercial tests are available at a nominal fee to determine whether an animal carries one or both of these genetic factors.

Requirements for registration

On occasion, the determination of whether an animal indeed meets the requirements for registration or if the animal is deemed ineligible for registration needs to be made by one of our regional managers. If in doubt, please contact your area's regional manager for a closer inspection, or get a quality picture of the animal in question and send it to your regional manager or directly to me at jcassady@angus.org. We would be happy to assist you in making the eligibility determination.

For a current, complete list of the "Charter, Bylaws and Rules governing the American Angus Association," please refer to the Breeder's Reference Guide found at http://www.angus.org/Pub/brg.pdf or contact the office of the Director of Member Services for an updated copy. AJ

Rule 104: Eligible for registration

b. Steers: steers are eligible for registration providing all other requirements of the Association Rules are met. Steers may have white skin in front of the naval. Steers born with white skin above the underline or on the leg, foot or tail shall not be eligible for registration.