

# **Policy of the American Angus Association Relating to the Registration Status of Potential and Known Carriers of PRKG2 Gene Mutation for Dwarfism (“D2”)**

(as adopted August 29, 2011 and amended effective September 19, 2011)

## **Preface**

Pursuant to Rule 307 of the Rules of the American Angus Association (hereinafter “the Association”), the Board of Directors hereby adopts the following policy regarding the following genetic defect: PRKG2 gene mutation for dwarfism (hereinafter “D2”)

D2 was recognized as a genetic defect on September 7, 2007.

## **The Impacted Genetics**

For the purposes of the procedures that follow, the phrase “the impacted genetics”, as it references the D2 mutation, currently refers to all animals with confirmed carriers of the D2 mutation in their pedigrees. These currently identified references do not preclude other ancestors from potentially being identified as carriers at a later time.

## **Procedures**

The following procedures shall be followed in connection with the registration status of potential and known carriers of D2:

### **I. Status of Currently Registered Females and Bulls**

A. As used herein, the word “currently” in the phrase “currently registered” shall mean that date on which the Board adopted its policy related to D2. Such date(s) will be published on the Association’s website.

*Note: With respect to D2, that date was August 29, 2011.*

B. All currently registered females and bulls with the impacted genetics in their pedigrees shall remain registered. In other words, their registrations will not be revoked, cancelled or suspended.

C. All currently registered females and bulls with the impacted genetics in their pedigrees that are tested and determined to be carriers of the mutation shall remain registered.

### **II. Resulting Progeny of Carrier Females and Bulls**

#### **A. Heifer Calves**

All resulting heifer calves of currently registered carrier females or carrier bulls must be DNA tested for the mutation recognized under this policy at a laboratory authorized by the Association in order to be eligible for registration. The results of such test (reflecting whether the heifer calf so tested is a carrier of the mutation or free of it) shall be denoted on that animal’s registration and performance certificates in the manner prescribed below.

#### **B. Bull Calves**

All resulting bull calves of registered carrier females or carrier bulls must be DNA tested for the mutation recognized under this policy at a laboratory authorized by the Association and found to be free of that mutation in order to be eligible for registration.

#### **C. Steer Calves**

All resulting steer calves of currently registered carrier females or carrier bulls may be registered without submitting to testing.

### **III. Currently Registered Animals Determined to be Affected by the Mutation**

Any animals identified as being homozygous for the mutation, shall therefore be considered to be affected by the defect, and are not eligible for registration under Rule 103d. In the event that a registered animal is discovered to be affected by the defect, its registration shall be considered null and void, and the Certificate of Registration must be returned to the Association for cancellation.

### **IV. Currently Registered A.I. Sires Determined to be Carriers of the Mutation**

A. All calves sired artificially by non-owned bulls (calves that would require an AI service certificate) shall be ineligible for registration if conceived after sixty (60) days following the date on which that sire is listed on the Association's website as a carrier of the mutation. Calves resulting from embryos conceived artificially by non-owned bulls with embryo removal dates after 67 days following the date on which that sire is listed on the Association's website as a carrier of the mutation shall be ineligible for registration.

B. The Association will publish the names and registration numbers of such sires on its website only upon receipt of a test determination from an approved laboratory.

### **V. Registration of Clones With Impacted Genetics**

Clones of any animal determined to be a carrier of the mutation shall be ineligible for registration. Clones of untested animals with the impacted genetics shall also be ineligible for registration.

### **VI. Testing of Animals**

A. Testing to determine whether an animal is a carrier of the mutation, is free of the mutation, or affected by it shall be conducted at those laboratories approved by the Association.

B. The results of such testing shall be provided to the Association and the submitting member as soon as practicable after the test results are available.

### **VII. Publication of Test Results by the Association**

Upon receipt of a test result from an approved laboratory that determines whether an animal is a carrier of the mutation, free of the mutation, or affected by it, the Association shall list the name, registration number and test result of each such animal on its website. The Association shall also maintain an updated list of each animal determined to be a carrier or determined to be affected, as well as those who have tested free of such defect. Upon request, the Director of Member Services shall provide such a list at no cost to the requesting member.

### **VIII. Right to Request a Second DNA Test**

In those instances in which an animal previously registered or seeking registration is tested and determined to be a carrier of the mutation (and is identified as such on the Association's website), the member owner of record may request that an approved laboratory conduct a second DNA test on a sample from such animal. In order to process a request for a second test, the member owner of record must provide materials or samples sufficient to permit the laboratory to verify the parentage of the animal in question.

## **IX. Notations on Registration and Performance Pedigree Certificates**

A. Upon receipt of a test result from an approved laboratory, the Association shall place or electronically display the letter designation(s) "D2F" on the registration and performance pedigree certificates of any animal that has been determined by such a test to be free of the mutation. D2F shall mean "PRKG2 Dwarfism – Free", or that an animal is free of the mutation.

B. Upon receipt of a test result from an approved laboratory, the Association shall place or electronically display the letter designation(s) "D2C" on the registration and performance pedigree certificates of any animal that has been determined by such test to be a carrier of the mutation. D2C shall mean "PRKG2 Dwarfism – Carrier", or that the animal is a carrier of the mutation.

C. Upon receipt of a test result from an approved laboratory, the Association shall place or electronically display the letter designation(s) "D2A" on any animal that has been determined by such test to an affected animal. The "D2A" letter designation shall be reflected on any registration and performance pedigree certificates where the affected animal appears as an ancestor. D2A shall mean "PRKG2 Dwarfism – Affected", or that the animal is affected by the mutation.

D. The Association shall place or electronically display the following notation on the registration and performance pedigree certificates of all registered animals that descend from an animal determined to be a carrier of the mutation, unless an intervening D2F status eliminates all genetic ties to a known carrier ancestor.

*This animal has one or more ancestors known to carry a mutation that can result in calves with a genetic defect known as PRKG2 Dwarfism (D2), The American Angus Association recommends DNA testing at an approved laboratory to confirm the absence or presence of the mutation.*

Such notification will remain in place until the Association receives an official determination from an approved laboratory that the particular animal tested as a carrier of the mutation or free of it, in which case its certificates will be denoted pursuant to Sections VIII.A and B of these procedures.

NOTE: These procedures apply only to PRKG2 gene mutation for dwarfism.