

## G. DNA typing and verification of records.

1. All DNA /Genomics testing for parentage markers for the AGA will be processed by the AGA's official DNA laboratory.
  - a. After July 1, 2002, all animals that require DNA/Genomics testing must have applicable DNA Genotype(s) on file. If parent verification is required, animal must be parent verified to sire and dam via DNA parentage markers of parents except in cases when one or both parents are deceased and no sample is available for DNA testing.
2. AGA requires, as of March 1, 2013, Genomics testing with parentage markers and/or parent verification for the following situations:
  - a. All sires whose semen has been collected for A.I. use must have the Genomics Option #1 test with parentage markers on file and be parent verified. It is the responsibility of the owner of record of the bull at the time of collection to notify AGA and request the necessary DNA typing material. The Genomics test shall be done at the owner's expense and parentage marker results must be on file at AGA before use of the semen.
    1. All sires who have been parent verified are eligible to receive a A.I. Permit. This permit allows the progeny of said sire, produced from artificial insemination, to be eligible for registration or computation. A.I. sires may apply for the permit which will require a \$50.00 one time fee. All sires holding a permit will be so recognized in online displays of animal information or in future editions of the AGA Sire Summary. Before registration or computation of offspring of A.I. sires, the permit must have been issued and on file with AGA (Rule II,B,3).
    2. Blood or DNA typing and parent verification shall not be required for A.I. sires born prior to December 31, 1988 who are deceased. (Rule II,G,2a,2). Sires born prior to January 1, 1989 could apply for a A.I. permit at no cost.
    3. Effective January 1, 2016 all sires of pasture exposed calves born on or after January 1,2016 are required to have a minimum of Genomic Option # 2 (GGP-LD) test on file prior to registration of 2016 calves.
  - b. As of March 1, 2013 all females used as donor dams in an embryo transfer program must have the Genomics Option #1 test with parentage markers on file. Donor dams verified prior to above date should have DNA parentage markers on file or parentage or have been blood typed prior to 5-1-2002. It is the responsibility of the owner or lessee of record prior to the time of embryo transfer to notify AGA, submit a donor dam application and submit the necessary DNA for testing and request the necessary DNA-marker-typing material. The DNA-marker-type shall be done at the owner's expense and results must be on file at the AGA before performing any embryo transfer procedure (Rule II,C,3).
    1. Non-AMGV donor females, that are owned by AGA members, must have Genomics Option #1 and be DNA profiled by the AGA DNA laboratory as described above for progeny to be registered or computed.
    2. Non-AMGV donor females, that are not owned by AGA members, must have a DNA parentage profile on file at their Native association or with the AGA. If the DNA profile is on file at their Native association, any ET progeny must be then verified to the AMG V sire of record for that ET progeny to be registered or computed.
  - c. All registered offspring resulting from matings wherein the dam was exposed to more than one (1) sire within twenty-four (24) days; whether by artificial or natural mating will be evaluated for required sire verification by DNA parentage markers. Using a 10 day window on either side of the calf's birthdate for service dates, if multiple AI Dates or AI Date(s) and the beginning Natural Service date fall within the window the calf must have DNA parentage markers typed for sire verification. The DNA parentage markers shall be done at the expense of the owner of the dam at the time of breeding and DNA parentage results must be on file at AGA before the registration certificate will be issued. Animals recorded prior to these results being on file will be placed on hold till parentage results are received. Also see Rule II, B,4.

- d. All foreign/Imported Gelbvieh (Rule I,A,2) must be DNA typed. DNA parentage markers shall be done at the owner's expense and DNA parentage markers must be on file at AGA before the registration certificate will be issued.
    - e. Where parentage is questioned by AGA, DNA parentage marker testing will be required at the owner's expense.
    - f.
    - g. AGA will require random DNA parentage verification on approximately every 300th registered female. The DNA parentage markers will be obtained at AGA's expense and DNA parentage results must be on file at AGA before the registration certificate will be issued.
    - h. AGA reserves the right to grant exceptions in parent verification if the dam and/or sire are dead/disposed or are located in a foreign country.
3. Requirements for additional DNA testing specific to Genetic Abnormalities are outlined in Rule IX.
  - b. As of August 16, 2013 all new AI sires and Donor dam will be required to be tested for genetic abnormalities with monitor status.
4. Any blood or DNA sample from an animal registered in the AGA Registry and received by the AGA official DNA laboratory may be parent verified if the records for dam and/or sire are on file.
5. If, after the recording of an animal in the AGA Registry, anything shall be learned which raises a doubt as to the propriety of such registration, the Executive Director may cause the matter to be investigated and will have power to suspend the registration, pending the investigation. If, upon due hearing by the Executive Committee, it is found that an animal has been improperly registered, they may cause the registry of the animal and any offspring in the AGA Registry, to be expunged, or corrected and take any other steps the case may require, subject, however, to an appeal to the Board of Directors either by the owner of said animal or by any person financially interested in maintaining its registry or by any two (2) members of the Board itself under appeal procedure similar to that provided in Subsection E and F of Section 3 of the By-Laws.
6. The Executive Director may, with cause, investigate or cause to be investigated, examined, identified or DNA tested, any animal or herd of registered Gelbvieh cattle and may examine the breeding and herd records maintained for the purpose of verifying the applications and records on file in the AGA office or for the purpose of investigating other matters in which the AGA may be interested.
7. Blood or DNA type phenotypes shall be treated as confidential information by the AGA and shall not be released except in cases where the information is necessary for foreign export.
8. In the event an animal has been accepted for registration by the current method of parent verification at the time of registration, the parentage of such animal shall not later be questioned even though a later method of parent verification may become available which is more accurate.