Common Reasons for Samples that Fail DNA Testing

General Issues
1. Biological Contamination
   a. Cross contamination between samples/animals
   b. Fecal matter and dirt in sample – any foreign material in the sample may interfere with genotyping
2. Chemical Contamination
   a. Dye/Pigment from animal markers
   b. Insect repellent
   c. Cleaning agents
3. Improper Storage
   a. Heat exposure including leaving samples in vehicle or in hot sun.
   b. Exposure to foreign material including mold
   c. Improper frozen storage - the freeze/thaw cycle of a self-defrosting unit can degrade DNA
   d. Extended sample storage – DNA degrades over time
4. Insufficient sample
5. Improper shipping

Concerns Specific to Sample Type

Hair cards
1. Too few or no follicles (<30) – DNA only occurs in the ‘root’ of the hair. The actual strands do not contain DNA.
2. Small follicles taken from young calves - hair samples should not be taken from calves < 6 months of age.

Blood cards
1. Insufficient blood spotted on card - ensure the circle is filled and the blood is visible on both sides of the paper.
2. When spotting cards from stored blood, make sure to invert the tubes 4-5 times before spotting – blood settles/separates over time.
3. Do NOT speed-dry the card using a hair-dryer as heat may damage the DNA.

Whole blood
1. Wrong type of blood tubes are used. Use only purple-top EDTA tubes, these prevent clotting.
2. Store the blood in a refrigerator until shipped.
AllFlex Tags, Typifix Tags, and Tissue samples

1. No sample in tag
2. Sample is trapped in cap/does not enter tube – sample will not be preserved
3. AllFlex tags and Typifix tags should be kept at room temperature to prevent DNA degradation.
4. Long term storage
   a. AllFlex Tags are viable for 12 months after collection.
   b. Tissue samples should be stored in the freezer.
5. Unpreserved tissue samples should be shipped next-day and never over a weekend or holiday.

Semen

1. Store any semen samples at room temperature or a refrigerator.
2. Semen straws can easily be damaged in shipping. Proper packaging is especially important – an empty ball point pen tube is recommended packaging