***DNA Sample Collection Basics***

While DNA tests have advanced to a technology with endless capabilities, the entire process is dependent on a step that includes little, if any, science-a properly collected DNA sample. Although DNA technology and its associated DNA sample have become part of our general ‘know how’, it has been estimated that approximately 30% of samples don’t meet quality control standards. The two leading causes for a sample to fail quality control standards: Insufficient DNA to perform the requested test; or, sample contaminated with foreign material such as manure. Application of the below information will increase your ability to deliver quality DNA samples.

Hair Sample

* The useable DNA is located in the hair follicle (hair root).
* Collect hair sample from the middle of the animal’s tail switch (end of tail).
* Minimums of 20 to 30 follicles are needed per sample.
* Follicles on young calves contain reduced amounts of DNA; therefore, 40 to 50 follicles are needed per sample.
* Hair must be clean from manure, mud, etc. If necessary, wash foreign matter off the tail prior to collecting sample.
* Collected sample must be dry. Wet samples quickly deteriorate.
* Place hair sample into ‘hair card’ as soon as it’s collected. Don’t place in Ziploc bag chute-side.
* Keep collected sample out of direct sunlight and/or extreme temperatures.
* Hair samples can be shipped in a standard shipping box or padded envelope.
* Subject to $4 lab processing fee.

FTA Blood Card

* Ideal sample locations include the animal’s ear or the underside of the tail.
* Use a NEW needle or pricking device for each animal. DO NOT simply wash the needle/pricking device between each animal, as this does not prevent cross-contamination.
* Ensure that the location of the animal in which the sample will be collected is clean.
* Fill the entire pre-printed circle on the FTA card with blood, but don’t flood the card.
* Allow collected blood to dry, not in direct sunlight, prior to storing the sample.
* Don’t allow direct contact between collected FTA cards, as cross-contamination can occur.
* Keep collected sample out of direct sunlight and/or extreme temperatures.
* Blood samples can be shipped in a standard shipping box or padded envelope.

Tissue

* **ONLY** to be collected from the ear with an approved TSU (Tissue Sampling Unit) device(Allflex).
* Make sure the sample does not include an area of the ear that has been tattooed.
* Ensure that the TSU is sealed properly by noting the green ball is inside the tube.
* Check to see that there is liquid visible inside of the TSU, to preserve the sample.
* Ensure that there is a visible amount of tissue sample inside of the tube.
* Keep the TSU’s at room temperature before use and only freeze once the sample is collected and the TSU will be stored for more than 1 year.

Semen

* The greatest risk with semen is samples damaged during shipment to lab.
* Carefully package semen straw in a protected manner. The preferred method is inside an ink pen with the cartridge removed. Another optional method is between pieces of cardboard in a padded envelope or wrapped in bubble wrap.
* Place each individual packaged semen straw in a Ziploc bag. This prevents cross contamination in the case that a straw leaks.
* Semen samples do not need to be shipping in liquid nitrogen; however, it is good practice to keep the semen in a deep freezer until shipped.