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Agenda Topics

- Pregnancy Determination by blood sampling
 - 2 ml Serum or Plasma
- Bovine Virus Diarrhea
 - Persistent Infection (PI)
 - Tissue Sampling Unit (TSU)
 - Ear notch
- Genomic Testing
 - Tissue sample

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Bovine Early Stage Pregnancy Detection

- Neogen®
 - Certified satellite Laboratory of BioTracking
 - BioTracking manufactures BioPRYN
- Non-invasive
 - Alternative to palpation or ultrasound
 - Accurate and cost efficient / ~\$2.50 per sample
 - Uses a blood sample
 - Works in multiples species
 - Quick turnaround – 24 hours after receipt
- ELISA (enzyme-linked immunosorbent assay) of serum or plasma
- Accuracy
 - 99% accurate for calling OPEN
 - 95% accurate for calling PREGNANT

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What is measured?

- BioPRYN Test
 - ELISA (enzyme-linked immunosorbent assay)
- Testing Serum or Plasma
- Presence of pregnancy-specific protein B (PSPB)
- PSPB is only produced by the placenta of an animal with a growing fetus

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Sampling Timing

- Heifers
 - At least 25 days post breeding
- Cows
 - 28 days post breeding
 - 73 days post-calving
- Embryo transfers
 - 25 days post-implant of 7 day old embryo
 - 32 days post-heat

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Blood sampling supplies



- Blood Tubes
 - Red Top for serum
 - Purple Top for plasma
- Needle holder / Vacutainer Holder
- Double sided needle / Vacutainer Needle
- Sharps Container
- Alternately
 - 3 ml syringe with a needle

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Shipping Blood



- PSPB is stable in blood
- Samples can be shipped at ambient temperatures
- Transit times should not exceed 3 days
- Avoid freezing the samples

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Blood Collection – Tail Bleeding



<https://www.youtube.com/watch?v=ILgjMjCMfvI>

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Safe Sharps Disposal




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GENESEEEK OPERATIONS
402/435-0665 • 402/435-0664 (FAX)
4131 N. 48TH ST. • LINCOLN, NE 68504

5010 BioPRYN® PREGNANCY TEST CATTLE SUBMISSION FORM**

DATE: _____ CONTACT NAME: _____

NAME: _____ ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

EMAIL: _____ PHONE: _____ FAX: _____

Preferred Reporting Method: Email Fax Mail

LABEL TUBES* AS ILLUSTRATED		TEST AFTER MINIMUM DAYS POST BREEDING (DPB)	
Animal ID – 2cc or more of blood	Tube Number	Species	When to sample
1422	1	Cattle	25 DPB
		Hifers	30 DPB & 73 days post-calving
		Cows	25 days post-implant of 7 day old embryo, or 32 days post-heat
		Embryo Transfer	
		Goat/Sheep	30 DPB
		Bison	40 DPB

* Sample tubes and complete sampling kits (tubes, needles, needle holders) are available from GeneSeek. Please contact GeneSeek for pricing.

Species: _____ Total samples submitted: _____

SAMPLE INFORMATION					
TUBE #	ANIMAL ID	DAYS BRED	TUBE #	ANIMAL ID	DAYS BRED
1			17		
2			18		
3			19		

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Report Date	Animal Type	Number of Samples
Sep 6, 2019	Cattle	81

Percent Open	Percent Recheck	Percent Pregnant
13.6%	1.2%	85.2%

	Open	Recheck	Pregnant
	OD < 0.135	OD = 0.135 to 0.21	OD > 0.21

Tube Number	Animal ID	Response in Test, OD	PSPB Range	Days Post Breeding
1	8304F	0.394	Pregnant	All 110+
2	8308F	0.417	Pregnant	
3	8314F	0.046	Open	
4	8319F	0.319	Pregnant	
5	8320F	0.405	Pregnant	
6	8323F	0.394	Pregnant	
7	8327F	0.446	Pregnant	
8	8328F	0.384	Pregnant	
9	8330F	0.378	Pregnant	
10	8333F	0.371	Pregnant	
11	8339F	0.376	Pregnant	
12	8340F	0.046	Open	
13	8342F	0.451	Pregnant	
14	8345F	0.399	Pregnant	
15	8350F	0.471	Pregnant	
16	8353F	0.388	Pregnant	
17	8354F	0.376	Pregnant	

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Things to consider



- Cost
 - Neutral
- Skills required
 - Blood sampling vs palpation vs ultrasound
- Results Delayed
 - Delay processing (vaccination, parasite control)
 - Need to observe with product withdrawal times
 - Need to handle animals a second time

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Blood Serum Red Stopper 10 ml Tubes

by Covidien



Silicone coated tube indicates that the interior surface of the Monoject Blood Collection Tube has been coated with a water soluble silicone material. Sterilization applies to the tube and stopper interior only, and not to the outside of the tube or to the packaging. Tubes are sterilized by gamma radiation.

ITEM	SIZE	PRICE
36980	100 ct	\$41.95

- Qty: 1 + ADD

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Beef Genomics - Tools



- Select, manage and market cattle
- Evaluate maternal performance and carcass traits
- Focus time, feed and resources on younger stock of verified merit
- Select replacements that improve stability and reproduction
- Target animals to your production and grazing systems
- Invest in genetics that will improve your bottom line

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Usage of Tissue Samples



- Parentage verification
- Genetic selection tool
- BVD diagnostics

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Parentage Verification



- Parentage verification
 - ID bulls siring the most/best calves
 - Find poor performing bulls
 - Confirm sires that produce dystocia or abnormal calves
 - ID bulls producing best carcasses
 - Evaluate bull battery strengths to ID needs when purchasing new bulls.
- Set up Bull Battery DNA
 - Multi-sire parentage
 - Can use TSU, semen, blood or hair follicles

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Genetic Selection



- Genetic selection tool
 - Select for more productive cows
 - Select for calf crops matching production, marketing and grazing goals
 - Select for grids, value added programs and retained ownership
 - Select commercial bulls for your breeding needs.

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BVD Diagnostics



- BVD diagnostics
 - High quality tissue samples

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Tissue Sampling Unit (TSU)



- Samples can be collected in seconds
- Simple head gate for restraint
- Sample is clean and uncontaminated in a specially designed preservative
- Can visualize for confirmation of sampling success
- Samples contain large quantity of high quality DNA leading to excellent lab results

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Tissue Sampling Technology



- Allflex system



Tissue Sampling Applicator



Tissue Sampling Units



Matched Pair Sets
(Visual ID and/or EID)
with Tissue Sampling Unit

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Taking a TSU Sample



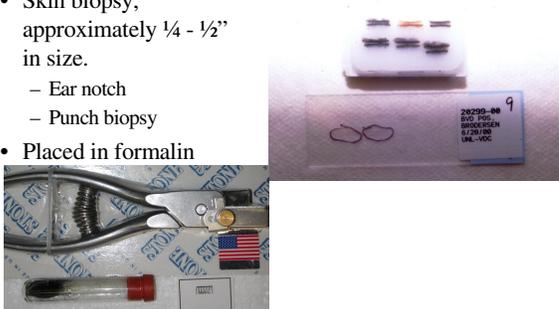
[http://www.allflexusa.com/assets/Videos/Allflex%20Tissue%20Sampling%20Tutorial%20NO%20AAA%20REF%20\(Updt%2001.2017\).mp4](http://www.allflexusa.com/assets/Videos/Allflex%20Tissue%20Sampling%20Tutorial%20NO%20AAA%20REF%20(Updt%2001.2017).mp4)

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Ear Notch as a tissue sample



- Skin biopsy, approximately 1/4 - 1/2" in size.
 - Ear notch
 - Punch biopsy
- Placed in formalin



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Step 1: Prepare a rigid outer package that will contain the secondary packaging. Use a cold pack if specimen must remain at a refrigerated temperature.

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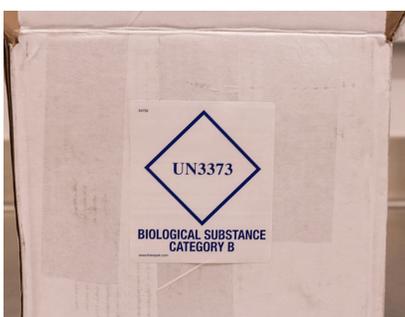
Step 2: To prevent damage to specimens in transit, ensure blood tubes have adequate cushioning and are bagged to prevent leakage. Add a layer of filler between the cold packs and specimen. Package paperwork in its own bag.

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Step 3: Add additional filler to decrease empty space within the secondary packaging. Secure the entire package with tape.

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Step 4: Label the package in accordance to the specimen's classification.

UN3373
BIOLOGICAL SUBSTANCE
CATEGORY B

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