

TXBPSCSOI - COMPOSITE SAMPLE GUIDE

Composite samples allow herd managers a more cost-effective way to use the Parasitology Diagnostic Lab as a management tool. Each 'Composite Sample' should contain **(no more than 25)** individuals of the same age class. The lab charge will be for one sample and will give you a good look at herd parasitism.

NOTE: 15% of the age-class is meaningful, but more is always better. Smaller herds should collect as many as possible to get a "Good Look".

Materials:

- 1-gallon zip-lock bags (with double seal)
- 5-gallon bucket
- Protective rubber gloves
- Insulated shipping box
- Cool packs
- Plastic disposable spoons

Method: Protective rubber gloves, like surgical gloves, are recommended when handling fecal samples to help prevent the possibility of zoonotic disease transmission.

- **Fecal Collection** is made easier if you feed the herd first and then watch for dropping dung. I have also had a lot of luck collecting in the late afternoon when they first get up from their nap.
- **Fieldwork Collection** with mixed age classes and varied sample recovery opportunities, collection is made easier by collecting individual samples from each age class and then combining them later.
 - Collect each individual sample and identify the age class on the bag.
 - This is made easier by pre-marking the bags.
 - After collecting at least 15% of each age class, take a small 10 gram (one full table spoon) from each bag (of the same age class) and combine in a bag marked accordingly.
 - **Important Note:** It is very important to combine equal amounts from each individual sample in order to ensure the accuracy of the composite sample.



- **Important Note:** When combining small numbers of individual samples (less than 5) double the amount taken from each individual (2 heaping spoons full) in order to have enough fecal material for Coproculture analysis.

- **HELPFUL HINT:** Use a different plastic spoon for each separate composite to prevent any residue with eggs ending up in the wrong completed composite sample. Use the zip lock bag from the first sample included to set your spoon on while handling the next individual sample.



- After combining a maximum of **(No More Than 25 Individuals)**, you should have approximately 1/3 full gallon Ziplock bag.



- Proceed with sample preparation as described below.
- **IMPORTANT:** When doing fieldwork with bison, take safety precautions in the herd like **(A)** having a spotter in place to watch for aggressive animals **(B)** Don't get too far from a safety escape **(C)** Listen for bison announcing aggressive intentions.
- **IMPORTANT:** In order to get an accurate cross-section-look at herd-parasitism, you (must) collect, combine, and identify each age class separately. (Adult/Adult) – (Yearlings/Yearlings) – (2-4yr/ 2-4yr) – (Nursing Calf/ Nursing Calf) – (Suspect Individuals)
- **IMPORTANT: Suspect Animals** that are showing clinical symptoms of disease should be collected and tested as individuals separately from the composites. Be sure to request separate Coproculture on these individuals as well.
- **Sample Care:** immediately after collection, the sample should be placed in a cooler containing cool packs to prevent egg hatching. Three things stimulate egg hatching **(1)** temperature **(2)** light **(3)** air. Time is also an agent so samples should be shipped within 3 days of collection. Refrigerate samples to maintain integrity and quality.
- **Sample Quality:** The fresher the better. Free-living nematodes that exist in the soil microbiology will find the dung in a short time after it is dropped and create analysis problems at the lab. Debris like hay, dirt, sand particles or other non-fecal matter can also cause problems.
- **Sample Shipment Preparation:** **(1)** Prepare a 5-gallon bucket ¾ full of water. **(2)** Smoosh the composite sample north/south and east/west to make sure that all samples are blended well. The lab will also perform smooshing **(3)** Organize the sample at the bottom of the bag and secure the zip-seal. **(4)** reopen one corner of the bag and push it into the water, compressing all air out – then reseal. **(5)** Place all, or as many that fit, samples that have been marked and vacuum-packed in a bag together and repeat step (4). The double bagging will help prevent freezing which will kill egg embryos and prevent Coproculture analysis.

- **Shipment:** Place samples in an insulated shipping container with cool packs and ship Fed Ex priority Overnight. **(Do not)** use dry ice or ice. Cool packs are readily available at veterinarians, feed stores, and many other types of businesses. Ice is messy, and dry ice kills the embryos.



Southeast Vocational Alliance
"The Value of the Individual"

SHIPMENT: HELPFUL HINTS

- **ALWAYS SHIP:** samples Monday through Wednesday to prevent any shipment issues degrading the samples from sitting over the weekend without refrigeration.
- **REMEMBER:** The **Southeast Vocational Alliance** has a small parcel service for TXBP Collaborators at reduced cost. Contact them and ask how to become part of it for significant savings on shipment costs.

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BISON PARASITOLOGY

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