

TXBPSCSOI - COMPOSITE SAMPLE GUIDE

Composite samples allow herd owners and managers a more cost-effective way to use the Parasitology Diagnostic Lab as a management tool. Each 'composite sample' can contain between (6 -10) and (20-30) individuals of the same age class depending on which of the two methods described (**below**) you use. The lab charge will be for one sample and will give you a good look at herd parasitism.

Materials:

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

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.
- **Invert** the zip-lock bag over your hand and collect a very small amount (tip of your fingers) of manure from each fresh pile of dung. Continue with same bag, and additional small amounts until you have collected between 6 and 10 animals in the same handful or bag.
- **A Different Way** to accomplish composites in fieldwork with mixed age classes and varied sample recovery opportunities, is to collect individual samples from each age class and combine them later.
 - Collect each sample and identify the age class on the bag.
 - After collecting at least 15% of each age class, take a small 10 gram (one heaping table spoon full) from each bag (of the same age class) and combine in a bag marked as such.
 - After combining a maximum of 30 to 40 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)

- **IMPORTANT: Suspect animals** that are showing clinical symptoms should be collected and tested as individuals separately from the composites. Be sure to request separate Coprocultures 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 $\frac{3}{4}$ 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 embryos.
- **Always** ship samples Monday thru 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.