Collecting According to Purpose

You will probably collecting fecal samples for nutritional monitoring; making decisions for a whole herd or for individual animals based on the results from NIRS equations for CP and DOM. In most cases, monthly sample collections allow you to monitor animals status and make timely management decisions. Others may collect fecal samples for research purposes which might require some modifications to the standard protocol for sample collection, number of animals collected, composite sampling or to frequency of sampling are usually the modifications made.

Nutritional Monitoring Protocol

**Monitoring a group of animals (Standard Protocol)** – When making nutritional decisions for an animal herd, a composite sample is usually most effective. A composite sample is actually several sub-samples from individual manure piles combined into one sample. This single sample can be used to represent the forage quality available to the entire group (same species) at that point in time.

**Steps**
1. Gather materials needed to collect and transport fecal material. (plastic bags, sample information sheet, pen, etc.)
2. Find the herd to sample (or in less than perfect conditions an area where they have been in the last 24 hours) and select 5 to 10 manure piles. If feasible, gather subsamples from about 10% of the animals (same species).
   *Important point – The objective is to capture the average diet for the herd. Thus a large enough section of the population should be sub-sampled so that the odd or abnormal grazing behavior of an insignificant portion of the herd does not bias/skew the results.*
   *Example: Less than 25 head, collect more than 10% of the herd.*
3. In a clean plastic bag, collect samples that are as fresh as possible, free of pests and debris such as urine, rocks, sand, bird tracks, etc.
   *Avoid taking samples from the following:*
   - nursing lambs, kids, calves, etc.
   - females that have just given birth
   - males in rut
   - females in standing estrus
   - other animals that are behaving abnormally.
4. Store sample in a cool dry place until it can be frozen or processed (no more than a few hours).
5. If sample cannot be dried according to lab protocol immediately, freezing of the sample is necessary.
6. Arrange for sample to be processed for NIRS analysis.

**Monitoring a single animal** – Occasionally there is a need to monitor a single animal. Examples of such a need may be to assess the nutrition of an animal that
is performing below average or is sick or to capture the effects of atypical grazing behavior on the animals nutritional status. The standard protocol should be followed but omit step #2 as it describes compositing sample.

**Feeding Trial for NIRS calibration** – Feeding trials are conducted to gather fecal samples and corresponding data for the development of new NIRS calibrations and equations. Each new research project may require its own protocol for collecting the fecal samples and may vary greatly from the Standard Sampling Protocol.