

## Pasture Sampling Protocol: Determining the Nutrient Availability Per Acre

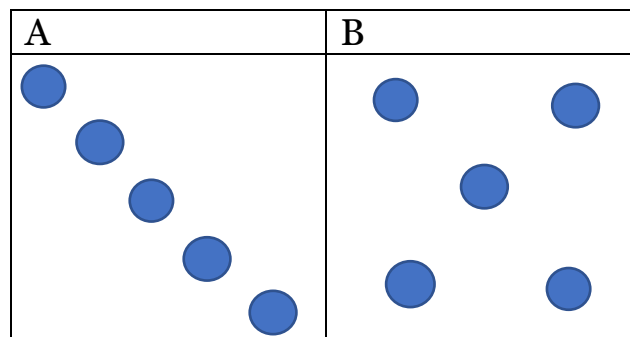
Sample once a year or once a grazing season, whichever is applicable.

Equipment:

1. Uniform, pre-weighed sampling bags
2. Markers to label the bags
3. 1 square foot, stable, frame
4. Clippers

Procedure:

1. Identify sampling pattern on site (i.e. A or B below). A minimum of 5 samples is necessary. If the site exceeds 50 acres, areas of similar vegetation should be identified, quantified, and a minimum of 5 samples should be taken from each of these areas. Samples should be taken from representative areas of the pasture.



2. Use frame to clip 1 square foot of pasture (every plant inside the frame needs to be included; avoid soil contamination)
3. Bag each sample in a separate bag and label the bag;
  - Date, name
  - Site and subsample number
4. Weigh each bag, subtract the empty bag weight and record the sample site and subsample number. Use the average weight to calculate **available forage per acre**
5. Mix one pooled sample out of each 5 subsamples for analysis in the lab

6. With results from the lab: Use analyzed sample DM to calculate **available DM per acre**
7. Use TDN to establish **available TDN per acre**
8. Calculate **available DM and TDN per animal**
9. **Compare** with NRC (2007) requirements

#### Glossary & Citations:

**TDN:** Total Digestible Nutrients.

The sum of the digestible fiber, protein, lipid and carbohydrate components of a feedstuff or diet. TDN is directly related to digestible energy.

<https://beef.unl.edu/learning/feedanalysis.shtml>

**DM:** Dry Matter.

The dry matter (DM) represents everything in the sample other than water including protein, fiber, fat, minerals, etc. This is as opposed to As Sampled Basis – nutrient results for a sample in its natural state including the water or As Fed. <https://equi-analytical.com/as-sampled-vs-dry-matter-results/>

**NRC (2007):** National Research Council. 2007.

*Nutrient Requirements of Small Ruminants: Sheep, Goats, Cervids and New World Camelids.* Washington, DC: The National Academies Press. <https://doi.org/10.17226/11654>.

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