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://equianalytical.com/as-sampled-vs-dry-matter-results/


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