NUTRITIONAL MANAGEMENT OF THE EWE FLOCK

Pete Martens and Rodney Leech, PD 6 Animal Science Agents

Nutritional management of the ewe flock is simply using the most economic available feed that provides the needed nutrient requirements of the ewes. During the growing season, this is most likely met with standing forages. When grasses become short or go dormant, then harvested forage and feed are the main diet of our ewe flocks. Harvested hay is usually the most economic feed and provides the bulk of the flock's nutrition during the winter feeding period. Often grass hay will need to be supplemented to adequately meet the ewes nutritional needs, especially if the ewes are in late gestation or nursing lambs.

The first and perhaps the most important step of determining your flock's nutritional needs is to find out the nutritional value of your feed. If you are using a purchased bag feed, this information can be found on the feed tag. Most grains such as corn are very consistent in terms of nutritional value. Forages, however, will vary depending on stage of maturity when harvested, storage, and exposure to air or moisture. It is very important that forages are tested every time there is an expected change in quality or nutritional value.

Testing feeds for nutrient content gives sheep producers a management tool to help them maintain adequate and economic feeding programs. The results will enable producers to balance rations and reduce feed costs. The most accurate method for sampling hay is to use a "core sampler" which is available for loan at most Extension Offices. Silage and concentrates can be sampled by taking a well-mixed composite of the feed and sending it in an airtight plastic bag.

Sample small bales of hay from the end of the bale. Drill hay to the full depth of the "sampler" tube. Take samples from 10-15 different bales, preferably from the same harvest date and composite into one sample. Sample every fourth or fifth bale in a lot. Round bales should be core sampled from two locations in five different bales. If the outer layer of hay has weathered, pull away the outer 1 to 2 inches and sample below the weathered portion.

Package the forage sample and accompanying forms according to lab procedures and remember the 10 steps for submitting a sample.

1. Use a fresh sample.
2. Use proper sampling method.
3. Mix sample well.
4. Fill in Lab I.D. form completely.
5. Keep a record of what was submitted and when.
6. Submit the correct amount of sample.
7. Place in plastic bag, remove air, seal.
8. Attach Lab I.D. form.
10. Submit samples to Forage Testing Laboratory.

Now that you have received your hay forage analysis results the next step will be utilized these results in determining if the hay will meet the nutrient requirements of your ewe flock!

An example of a hay forage analysis is located on the following page (Sample Form A). Please note that the significant information needed by sheep producers to determine the nutrients contained in the hay are identified as follows:

\[ (A) = \text{Dry matter (DM)}, \quad B = \text{Crude Protein (CP)}, \quad \text{and} \quad C = \text{Total Digestible Nutrients (TDN which relates to feed energy levels).} \]

Since we figure nutrient value of feeds for sheep on a Dry Matter basis we then must figure the dry matter is one pound of hay.

Using the sample form the dry matter in one pound of hay is: \[ 1\# \times .8894 \text{ DM} = .8894\# \text{ DM/# of hay}. \]

Then we can determine the amount of Crude Protein and TDN per pound of dry matter as follows:

**Form A:** CP (Crude Protein) = 15.98\% \times .8894 \# (DM) = .14\# CP/# hay

**Form A:** TDN (Total Digestible Nutrients) = 66.36\% \times .6636 (TDN) \times .8894\# (DM) = .59\# TDN/# hay

Using the forage results along with the nutrient requirements of the ewe we can balance a ration.

Here are two examples utilizing the Sample Form A hay:

**EXAMPLE 1:**

155 pound ewe, in early gestation, nutrient requirements* are:
- DM Consumption = 3.1 pounds
- CP Requirements = .29 pounds
- TDN Requirements = 1.7 pounds

Using these requirements let’s see if our hay will meet the ewe’s needs:

The ewe consumes 3.1 pounds of the hay on a dry matter basis which provides the following:
- \[ 3.1\# \times .14\# \text{ (pounds of CP/# of DM hay)} = .43\# \text{ of CP consumed} \]
- \[ 3.1\# \times .59\# \text{ (pounds of TDN/# of DM hay)} = 1.83\# \text{ of TDN consumed} \]
Note that both the protein need of .29# and TDN need of 1.7# have been exceeded by the hay alone!

Now, let’s use this same hay in the late gestation and see whether or not the hay will meet the ewe requirements!

**EXAMPLE 2:**

155 pound ewe in late gestation nutrient requirements* are:

- DM Consumption = 4.0 pounds
- CP Requirement = .47 pounds
- TDN Requirement = 2.8 pounds

Using these ewe requirements will the hay alone meet the protein and TDN needs? Let’s see!

4.2# DM Consumption of the ewe
4.2# x .14# (pounds of CO/pound of hay) = .59# CP consumed
4.2# x .59# (pounds of TDN/pound of hay) = 2.5# TDN consumed

We can now see that 4 pounds of this high-quality grass hay would supply enough protein for this ewe (she needs .47 pounds, the hay supplies .56 pounds).

However, it does not supply enough TDN for the ewe (she needs 2.8 pounds, the hay supplies only 2.36 pounds!).

In order to meet the ewe’s TDN needs a ration including a grain supplement must be developed. Dr. Scott Greiner’s proceedings article on **Ewe Nutrition** provides further information on ewe requirements that will help producers provide and concentrate values their ewe flock with a balanced ration.

*Values adopted from National Research Council for Sheep, 6th Ed.*
Labno: 877
Date Received: 27-Oct-99
Date Mailed: 02-Nov-99
Sample Type: MH 15070

Virginia Tech Forage Testing Lab
320 Litton-Reaves Hall (0315)
Blacksburg, VA 24061
(540) 231-6870

Date Sampled: 27-Oct-99
Description: P3 Mixed Alf/Grass
Fax:

<table>
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<tr>
<th></th>
<th>Dry Basis</th>
<th>As Fed Basis</th>
<th>Index</th>
<th>High Quality</th>
<th>Average Quality</th>
<th>Low Quality</th>
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<tbody>
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<td><strong>A Dry Matter</strong></td>
<td>%</td>
<td>89.79</td>
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<tr>
<td><strong>B Crude Protein</strong></td>
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<td>Digestible Protein</td>
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<td>Acid Detergent Fiber (ADF)</td>
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<td>Neutral Detergent Fiber (NDF)</td>
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<td><strong>C TDN (Estimated)</strong></td>
<td>%</td>
<td>59.55</td>
<td>53.47</td>
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<td>ENE</td>
<td>T/100 lb.</td>
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<td>NE Maintenance</td>
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<td>NE Gain</td>
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Comments:

*Proper sampling technique and sample identification are critical to assure representative analytical results for your feedstuffs!*

*For more information, check the Forage Lab website at: [http://www.dasc.vt.edu/forage](http://www.dasc.vt.edu/forage)*

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