

NEW PACKAGES, NEW PRICES

Effective September 1, 1988, the Northeast DHIA Forage Lab will begin providing additional services along with new prices. The new services are a direct response to the needs of agribusinesses and dairy farmers in their continuing efforts to better balance feeding programs. The two most notable additions to our analysis line are outlined below.

Ration Balancer (service code 04) is an expanded version of the Basic plus Minerals (service code 02) package. This new package combines the most requested additional services including sulfur, NDF and soluble protein with the Basic plus Minerals. This is for those individuals who are interested in doing the most complete job of feed programming.

Guarantee Analysis provides the information required for feed tag and ingredient guarantees. This includes crude fat, crude fiber and crude protein. This analysis should be used to establish the nutrient specifications of newly formulated feeds and to routinely monitor the nutrient composition of ingredients and manufactured feeds.

The service codes for the majority of our packages have been changed. Please be sure to note these changes. Please review the new price sheet to familiarize yourself with the current prices. Package price adjustments were necessary in order to continue to provide top quality service and keep pace with rising labor, chemical and facilities costs.

FAT FACTS

- A. Fats contain 2.25X the energy of carbohydrates.
- B. Fats can help maintain or improve energy intake during times of depressed dry matter (DM) intake, e.g., during early lactation or hot summer weather.
- C. Cows can use dietary fat more efficiently than body fat.
- D. Fat can be fed as 5 to 6% of the total DM from natural and supplemental sources, or 1 to 3% of the DM from supplemental sources.
- E. Overfeeding fat can inhibit fiber digestion in the rumen.
- F. Fats properly fed can increase milk production.
- G. Feeding fat can depress butterfat test, especially unsaturated or vegetable fats.
- H. Feeding fat can alter the fatty acid composition of milk.
- I. Feeding fat may depress the protein content of milk, usually the casein fraction.
- J. Calcium and magnesium can react with unprotected fats in the rumen to form Ca and Mg soaps. Dietary levels of Ca and Mg should be increased to 0.9 - 1.0% and 0.3% of the DM, respectively.

- K. Overfeeding fat can depress DM intake.
- L. Several "protected" fats are now being marketed that escape breakdown in the rumen and avoid the problems associated with rumenal fat digestion.
- M. Fats aid in the blending of total mixed rations (TMR) by keeping the finer particles more uniformly blended with coarser particles.

THE PLACE OF FAT IN DAIRY RATIOMS

Taking the above points (and their implications) into consideration, there has been a steady rise in the inclusion of additional fat in lactating dairy cow rations. This has come in three forms: 1) Supplemental fat 2) Oil seeds (whole cotton seeds, whole soybeans, etc), and 3) Protected fats. The primary reason for this is to help increase the energy density of the ration during early lactation when cows are in negative energy balance. Cows that cannot meet their energy needs through the ration are forced to mobilize body fat to sustain high levels of production. Excessive weight loss can have a negative impact on persistency and reproductive efficiency.

In order to meet the high-energy demands of early lactation, concentrates are often fed at elevated rates (at the expense of roughages) and can lead to marginal or deficient fiber levels in the ration. These types of rations can lead to rumen acidosis, off feed and depressed butterfat tests.

Since the energy content of fat and fat containing products are higher than conventional concentrates, they usually can be incorporated into rations without sacrificing fiber. A recent trend in the Northeast has been the feeding of whole cottonseeds and roasted whole soybeans. Fats from these ingredients and other sources are becoming more prevalent in high producing herds.

Thus, as dairy farmers continue to search for ways to boost the energy density of their rations during periods of depressed DM intake, the capability to determine the fat levels of feedstuffs and total rations will become increasingly important.

FAT ANALYSIS AT DHI

Feed samples will be analyzed for crude fat using a Soxtec HT6 solvent extraction unit. Samples are immersed and boiled in anhydrous ether followed by an ether rinse phase. Fats, oils and some pigments are soluble in ether and are "washed" out of the sample by the ether. The ether is then evaporated off leaving the fats and oils behind. The residue is weighed and then divided into the original sample weight to determine the crude fat as a percentage of the dry matter. The term "crude" is used because the ether extract contains substances other than fat, but the major constituent is fat. Ether extract is currently recognized by the feed industry as an official measure of the fat content of feedstuffs.

FORAGE ANALYSIS PACKAGES

01 Forage NIR Complete — Fast analysis for common legume, grass, mixed grass-legume hays and haylages, corn silage (without added NPN), shelled corn, and ear corn (does not include ryegrass, sorghum-sudan or total mixed rations.) Results include dry matter, crude protein, unavailable protein (ADFN, haylages, only), acid detergent fiber, neutral detergent fiber, TDN, NE_l, NE_m, NE_g, calcium, phosphorus, magnesium, and potassium. Results typically mailed in 24 hours. **\$12.00**

02 Forage Basic Plus Minerals — Traditionally our most popular analysis. Combines NIR and “wet chemistry” basic analysis with ICP Spectrometer minerals. Includes dry matter, crude protein, unavailable protein (ADFN, haylages only), acid detergent fiber, TDN, NE_l, NE_m, NE_g, calcium, phosphorus, magnesium, potassium, sodium, iron, zinc, copper, manganese, and molybdenum. Results typically mailed in 48 hours. **\$21.00**

03 Forage “Wet Chemistry” — Utilizes only traditional “wet chemical” procedures to determine dry matter, crude protein, ADFN (haylages only), ADF, TDN, NE_l, NE_m, NE_g, calcium, phosphorus, magnesium, potassium, sodium, iron, zinc, copper, manganese, and molybdenum. **\$24.50**

04 Ration Balancer — Provides nutrient analysis necessary for doing a complete job of ration balancing. Includes sulfur, NDF and soluble protein in addition to dry matter, crude protein, ADFN (haylages only), ADF, TDN, NE_l, NE_m, NE_g, calcium, phosphorus, magnesium, potassium, sodium, iron, zinc, copper, manganese, and molybdenum. Commercial concentrates, by-products, and ingredients are not covered by this package. **\$29.00**

05 Commercial Concentrate, By-Product and Ingredient Analysis — Most accurate analysis available. Crude protein by Kjeldahl and minerals done in duplicate. Results include dry matter, crude protein, ADF, TDN, NE_l, NE_m, NE_g, (no energies on some miscellaneous feeds) calcium, phosphorus, magnesium, potassium, sodium, iron, zinc, copper, manganese, and molybdenum. **\$29.00**

06 Guarantee Analysis — Provides information for feed tag and ingredient guarantees. Results include dry matter, crude protein, crude fiber, and crude fat (ether extract). **\$18.00**

FORAGE LAB FEE SCHEDULE (effective September 1, 1988)		
01	NIR Complete	\$12.00
02	Basic Plus Minerals	\$21.00
03	Forage Wet Chemistry	\$24.50
04	Ration Balancer = 02 + sulfur + NDF + soluble protein	\$29.00
05	Commercial Concentrate	\$29.00
06	Guarantee Analysis — DM, crude protein, crude fiber, fat	\$18.00
07	Minerals Only	\$18.50
08	Forage Crude Protein & DM	\$10.00
09	Commercial Concentrate CP, DM	\$12.00
10	Forage Basic — DM, CP, ADF, NDF, energies	\$16.50
11	Commercial Concentrate Basic — DM, CP, ADF, NDF, energies	\$18.00
12	Crude Fat (Ether Extract)	\$9.00
13	Available Protein	\$5.00
14	Soluble Protein	\$5.00
15	NDF	\$4.00
16	Crude Fiber	\$5.00
17	Sulfur	\$3.00
18	Nitrates	\$8.00
19	Urea	\$5.00
20	Ammonia	\$5.00
21	pH	\$2.50
22	Chloride Ion	\$8.00
23	Ash	\$3.00
24	Water	\$12.50
25	Pre-paid Postage Mailer	\$1.00
	Records Service	\$35.00/hr.