

Application Note



Instrument: FP528

Nitrogen/Protein in Animal Feeds

LECO Corporation; Saint Joseph, Michigan USA

Accessories 502-186 Tin Foil Cups, 501-614 Spatula

Sample Weight 0.2 to 0.35 g

Calibration Standard

502-092 EDTA, 502-211 Glycine, or other suitable standard

Furnace Temperature 950°C

Flow Profile All High

A. Blank (N) 0.04

Protein Factor 6.25*

**Protein factor was obtained from the United States Department of Agriculture, Circular No. 183. The choice of protein factor to be used for determining protein content in different materials is the subject of some debate. As a result, if being used for commerce, the value of this conversion factor should be part of the contractual agreement between buyer and seller.*

Crucible Changing Interval 200 to 300 analyses using 614-961-110 Crucible

Analysis Time ~170 seconds

AOAC Method #990.03 Crude Protein in Animal Feed

Procedure

1. Prepare the instrument by following the procedure as outlined in the operator's instruction manual (i.e. check gas supplies, perform any required maintenance, perform leak checks, etc.).
2. Analyze blanks (gas) until a plateau is reached. Analyze three to five additional blanks and set blank using these data.
3. Analyze five EDTA standards (using the 502-186 Tin Foil Cups) at 0.2 g and drift correct (if using the PC option). *NOTE: Each method requires prior calibration with multiple weights of EDTA (0.035 to 0.4 g). If PC is not installed, analyze five EDTA standards and calibrate using the DSP screen menu.*
4. Weigh animal feed samples into a 502-186 Tin Foil Cup, seal tin foil to avoid trapping air, and analyze.
5. Analyze a standard at the end of the set to verify calibration.

Typical Results

Sample	Weight (g)	% Nitrogen	% Protein
Feed #1	0.3145	3.48	21.72
	0.3003	3.44	21.50
	0.2999	3.45	21.58
	Mean	= 3.45	21.60
	Std. Dev.	= 0.021	0.11
Feed #2	0.2582	6.92	43.25
	0.2662	6.92	43.18
	0.2548	6.93	43.31
	Mean	= 6.92	43.25
	Std. Dev.	= 0.006	0.07

Sample	Weight (g)	% Nitrogen	% Protein
Feed #3	0.2507	3.02	18.87
	0.2254	3.00	18.63
	0.2485	3.00	18.72
	Mean	= 3.01	18.74
	Std. Dev.	= 0.012	0.12



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