

Instrument: FP528

Nitrogen/Protein in Cereals and Cereal Products

LECO Corporation; Saint Joseph, Michigan USA

Accessories

502-186 Tin Foil Cups, 501-614 Spatula

Sample Weight

0.15 to 0.2 g

Calibration Standard

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

Furnace Temperature

950°C

Flow Profile

All High

Atmospheric Blank (N)

~0.04

Protein Factor

~5.7 (6.25 may be used for some types of cereals and cereal products)*

*Protein factors were 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 Porous Crucible)

Analysis Time

~160 seconds

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 at 0.2 g and drift correct (if using the PC option). *NOTE: Each method on PC 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 samples into a 502-186 Tin Foil Cup, seal tin foil to avoid trapping air, and analyze.
5. Analyze a standard at end of set to verify calibration.

Typical Results

Sample	Weight (g)	% Nitrogen	% Protein
Hard Wheat	0.1859	2.516	14.34
Flour	0.1648	2.508	14.30
	0.1862	2.498	14.24
	0.1726	2.496	14.23
	0.1750	2.505	14.28
	0.1838	2.520	14.36
		Average	= 14.29
		Std. Dev.	= 0.05

Sample	Weight (g)	% Nitrogen	% Protein
Soft Wheat	0.1917	1.560	8.89
Flour	0.1686	1.560	8.89
	0.1686	1.570	8.95
	0.1820	1.552	8.85
	0.1730	1.565	8.92
	0.1700	1.560	8.89
		Average	= 8.90
		Std. Dev.	= 0.03



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