

Parkland Labs Feed Testing Methods

Below are the references applicable to the wet chemistry methods employed by Parkland Laboratories in testing forage and other animal feeds. Exact procedure for some of the tests may be slight adaptations or modifications of the references cited.

1. Moisture

AOAC Method 930.15. Helrich, K. ed., Official Methods of Analysis 15th Edition, 1990, Association of Official Analytical Chemists.

2. Protein

AOAC Method 981.10. Helrich, K. ed., Official Methods of Analysis 15th Edition, 1990, Association of Official Analytical Chemists.
(Kjeldahl with N-determination by boric acid titration and/or colorimetrically). (See also AAFRD SCDC Method F004.A. Automated Determination of Protein, Calcium and Phosphorus by Colorimetry.)

3. Acid Detergent Fiber

ANKOM Technology Method 8.

Based on AOAC Method 973.18. Helrich, K. ed., Official Methods of Analysis 15th Edition, 1990, Association of Official Analytical Chemists. (See also Van Soest, P.J. and H.K. Goering, Forage Fibre Analyses, Agriculture Handbook 379, U.S. Department of Agriculture. 1970.)

4. Neutral Detergent Fiber

ANKOM Technology Method 9.

Based on Van Soest, P.J., J. B. Robertson, and B. A. Lewis. 1991. Journal Dairy Science 74:3583-3597. (See also Van Soest, P.J. and H.K. Goering, Forage Fibre Analyses, Agriculture Handbook 379, U.S. Department of Agriculture. 1970.)

5. Calcium, Sodium, Potassium and Magnesium

Atomic Absorption.

Employing a sulphuric acid/hydrogen peroxide digest and a Perkin Elmer 5000 atomic absorption spectrophotometer, calcium and magnesium measured by absorption, and sodium and potassium by emission. (re calcium, adaptation of ASBC Beer-20, C. Calcium by Atomic Absorption Spectrophotometry)

6. Calcium (alternate method)

Employing a sulphuric acid/hydrogen peroxide digest, calcium alternately measured by EDTA titration using calcein as an indicator (adaptation of ASBC Beer-20, B. Calcein Indicator Method).

7. Phosphorous

Ammonium molybdate/ammonium metavanadate colorimetric method. Manual Adaptation of AAFRD SCDC Automated Method F004.A.