4.5.01

AOAC Official Method 920.39
Fat (Crude) or Ether Extract in Animal Feed

First Action 1920
Final Action

Use method **A** or **C** for feed ingredients and mixed feeds other than (*1*) baked and/or expanded, (*2*) dried milk products, (*3*) containing urea, or (*4*) mixed feeds that have at least 20% of crude fat derived from baked and/or expanded, or dried milk products.

A. Indirect Method

Determine moisture as in 934.01 (*see* 4.1.03) or 920.36 (*see* 4.1.05); then extract dried substance as in **C**, and dry again. Report loss in weight as ether extract.

Direct Method

B. Reagent

Anhydrous ether.—Wash commercial ether with 2 or 3 portions H_2O, add solid NaOH or KOH, and let stand until most of H_2O is abstracted from the ether. Decant into dry bottle, add small pieces of carefully cleaned metallic Na, and let stand until H_2 evolution ceases. Keep ether, thus dehydrated, over metallic Na in loosely stoppered bottles. (*Caution: See* Appendix B, safety notes on sodium metal and diethyl ether.)

C. Determination

(Large amounts H_2O-soluble components such as carbohydrates, urea, lactic acid, glycerol, and others may interfere with extraction of fat; if present, extract 2 g test portion on small paper in funnel with five 20 mL portions H_2O prior to drying for ether extraction.)

Extract ca 2 g test portion, dried as in 934.01 (*see* 4.1.03) or 920.36 (*see* 4.1.05), with anhydrous ether. Use thimble with porosity permitting rapid passage of ether. Extraction period may vary from 4 h at condensation rate of 5–6 drops/s to 16 h at 2–3 drops/s. Dry extract 30 min at 100°C, cool, and weigh.

References: *JAOAC* **64,** 351(1981); **65,** 289(1982).
ISO 6492:1999(E).