Fat (Crude)

References:
Ether Extraction – AOAC 2003.05. Crude Fat in Feeds, Cereal Grains, and Forages.

Principle

The Randall modification of the standard Soxhlet extraction submerges the test portion in boiling solvent, reducing the time needed for extraction. The solvent dissolves fats, oils, pigments, and other soluble substances, collectively termed "crude fat."
A dried, ground test portion is extracted by a 2-step process: In the first step, the thimble containing the test portion is immersed into the boiling solvent. The intermixing of matrix with hot solvent ensures rapid solubilization of extractables. The thimble is then raised above the solvent and the test portion is further extracted by a continuous flow of condensed solvent. The solvent is evaporated and recovered by condensation. The resulting crude fat residue is determined gravimetrically after drying.
The solubility characteristics of different solvents may result in slight differences in crude fat results. For this reason, the report should reflect the solvent used. Example: % Crude Fat, Ether Extraction; % Crude Fat, Hexanes Extraction.

Extraction by Soxtec HT6 System using anhydrous diethyl ether. Crude fat residue determined gravimetrically after drying.