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What is in feeds?

This chapter

Explains the important constituents of feed for dairy cows and how ration ingredients are sampled and analysed for chemical analyses.

The main points in this chapter:

- dry matter (DM) is the feed remaining after all the water has been removed – all other components of feed are expressed as a proportion of dry matter
- digestibility (expressed in %) is the proportion of a feed which is not excreted as manure, and is used to describe feed quality
- Metabolisable Energy (ME) is the energy available from feed used by the cow for maintenance, activity, milk production, pregnancy and weight gain
- Total Digestible Nutrients (TDN) is sometimes used to describe energy available in feeds
- Crude Protein (CP) includes both true protein (made up of amino acids) and Non-Protein Nitrogen (NPN) which rumen microbes can convert into protein
- Neutral Detergent Fibre (NDF) is the preferred measure of dietary fibre – it includes indigestible and digestible fibre
- Crude Fibre (CF) is used to describe dietary fibre in certain countries, because of its inclusion in TDN calculations
- it is important to obtain a representative sample of any feed to be analysed, ensuring minimum deterioration between sampling and its arrival at the testing laboratory.

4.1 Dry matter

Dry matter (DM) is that portion of the feed remaining after all the water has been removed. The dry matter part of a feed contains the nutrients: energy, protein, fibre, vitamins and minerals. Dry matter is measured by weighing samples of feed before and