

Glossary

Terms in this glossary are defined in the context of their use in this book.

acid detergent fibre (ADF): the less digestible or indigestible parts of the fibre; that is, the cellulose and lignin only.

acidosis: an excessive increase in rumen acid caused by feeding too much grain or other starchy feeds or by introducing them into the diet too quickly.

ad lib (or ad libitum): fed to appetite.

AI: artificial insemination.

AQIS: Australian Quarantine Inspection Service.

Australian Friesian Sahiwal (AFS): a tropically adapted dairy breed developed in Australia, based on a Friesian and Sahiwal cross.

Australian Milking Zebu (AMZ): a tropically adapted dairy breed developed in Australia based on a Jersey and Red Sindhi cross.

BMP: best management practice.

body condition: the energy stored in body reserves by cows, predominantly as fat.

cfu: colony forming unit.

CIP: cleaning in place.

CMT: California mastitis test.

colony farming: a term used in Indonesia to describe a system of dairy farming where many small holders house their stock in large sheds but still maintain independent feeding and herd management.

conception rate: the proportion of the total number of services or inseminations that result in pregnancy.

comfort zone: the range of air temperature when there is no measurable fluctuation in physiological processes of cattle.

condition score: an objective visual assessment of a cow's body condition on a scale of 1 (emaciated) to 8 (obese).

cost of production (COP): the summation of variable costs, cash overheads and imputed overhead costs for producing milk from the dairy enterprise.

crude fibre (CF): a measure of fibre in the diet that is now considered unacceptable as it does not always take into account all of the constituents that make up the fibre component of a feed; it measures only the alkali-soluble lignin and the cellulose.

crude protein (CP): a rough measure of all the protein in the diet (NPN + RDP + UDP); it assumes (incorrectly) that all the nitrogen in a feed comes from protein.

depreciation: the loss in value of capital items as they get used or become older.

digestibility: the proportion of the dry matter in a feed that gets digested; it is the difference between what is eaten and what comes out as manure.

dry matter (DM): the proportion of any feed remaining after all the water has been taken out.

energy: the part of a feed that is used as 'fuel' in carrying out the cow's bodily functions.

enterprise: a farming activity or the production of a particular commodity or group of related commodities.

fibre: the cell wall, or structural material, in a plant made up of (among other things) cellulose, hemicellulose and lignin.

genotype by environment interaction (G × E): the relative performance of different genotypes of cattle depend on the environment under which they are managed.

imputed: the same as unpaid or book value.

key performance indicators (KPIs): measures of dairy farm performance to provide realistic targets following improvements in feeding, herd and farm management.

metabolisable energy (ME): the amount of energy provided by a feed after deducting energy lost to faeces, urine, heat, and gas production; it is the energy available to be used by the cow for her metabolic activities.

methylene blue reductase test (MBRT): a laboratory test for quantifying levels of bacterial contamination in raw milk.

MJ ME/kg DM: megajoules of metabolisable energy per kilogram of dry matter.

multiple ovulation and embryo transfer (MOET): the practice of collecting embryos to fertilise *in vitro* then transport them to other regions for implanting into donor cattle.

N: nitrogen.

neutral detergent fibre (NDF): a measure of all the fibre (hemicellulose, lignin and cellulose) in a feed; it indicates how bulky the feed is.

non-protein nitrogen (NPN): not actually protein, but simple nitrogen; however, microbes can make protein from simple nitrogen if enough energy (as carbohydrates) is available in the rumen at the same time.

pH: a measure of acidity or alkalinity on a scale from 1 (extremely acid) to 14 (extremely alkaline).

protein: the material that makes up most of the cow's body (muscles, skin, organs, blood); it also is part of milk.

quality: in relation to feeds, it is an indication of the level of energy and digestibility. In relation to milk, it refers to the level of various contaminants in milk, such as bacterial, chemical or any other adulterations that can be detected.

retained foetal membrane (RFM): membranes from newly born calves still inside the cow following birth.

rolling herd average: the average milk yield of all the lactating cows in the milking herd

rumen degradable protein (RDP): the portion of protein in the diet that is digested and used by the microbes in the rumen to build themselves, if enough energy (carbohydrates) is available at the same time.

rumen undegradable protein: *see* undegradable dietary protein.

Rp: Indonesian rupiahs.

Rs: Sri Lankan rupees.

SHD: small holder dairy.

Solids-not-fat (SNF): an alternative measure of milk composition to milk protein. SNF contains milk protein, lactose and minerals, allowing the percentage of milk protein to be calculated as $(\text{SNF}\% - 5.4)$.

somatic cell count (SCC): a measure of number of white blood cells in milk used to quantify extent of mastitis.

specific gravity: a measure of weight relative to volume; for milk, this can vary from 1.024 to 1.032. When quantifying milk yields, Western dairy specialists tend to use volume (L/day) because this is measured by most milking machines. In contrast, Asian dairy specialists tend to use weight (kg/day) because this is measured by most hand milking operators. Interchanging the volume and weight of milk can then introduce an error of 2–3% in milk yields.

submission rate: the proportion of the herd inseminated at least once in a given period of time (e.g. the first 10, 21, 24 or 30 days of mating).

supplement: a feed or product added to the cow's diet to increase the intake of some dietary component, such as energy, protein, fibre, vitamins or minerals.

Temperature Humidity Index (THI): a system for quantifying heat stress based on temperature and humidity. The higher the index, the greater the discomfort, and this occurs at lower temperatures for higher humidities.

total digestible nutrients (TDN): a system of describing dietary energy based on proximate analyses (ash, nitrogen, ether extract and crude fibre). The formula uses crude protein, crude fibre, ether extract and nitrogen-free extract.

total plate count (TPC): a measure of bacterial contamination of raw milk in millions of bacterial colony forming units (cfu) per mL of milk.

total solids (TS) or total dissolved solids (TDS): a measure of milk composition expressed as a percentage of total milk solids (milk fat, milk protein, lactose and minerals).

undegradable dietary protein (UDP): any protein in the diet that passes through the rumen without breaking down and is digested in the abomasum and small intestine. Also known as bypass protein.