

Glossary

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

acidosis (or grain poisoning) This occurs when rumen pH falls too low through overproduction of lactic acid (the end product of grain digestion) which reduces feed digestion and sometimes causes death.

ad lib or ad libitum Fed to appetite.

age at first calving (AFC) A good indicator of heifer management in year-round calving herds. In seasonal-calving herds it is usually predetermined at about 24 months of age.

Animal Production and Health

Commission for Asia and the Pacific (APHCA) The FAO's livestock program for Asia and the Pacific.

appropriate technology A term developed to describe practical solutions to problems that could be readily accepted, hence undertaken by farmers – particularly traditional farmers with minimal resources.

asset Anything controlled, owned or not, fixed or current, tangible or intangible that is of value to its possessor.

balance sheets Record of assets and liabilities to determine net worth of the business. Usually undertaken at beginning of each financial year to assess growth in net worth, or wealth creation.

Best Management Practice (BMP) A description of the most suitable

procedures for undertaking a set of tasks to develop a checklist for planning various activities on the farm. Basically, it is 'saying what you do, doing what you say, then recording what you have done'.

biosecurity A strategy of management practices to prevent introduction of disease and pathogens to the operation and to control spread within the operation.

body condition A subjective estimate of the amount of subcutaneous fat between the pin bones and the tail head, over the hip and covering the lumbar vertebrae.

budget A detailed statement of a future plan of action detailing the expected costs and benefits.

business The money-making activities of a single enterprise farm or a collection of enterprises on a mixed farm.

calf milk replacer (CMR) A powder constituted to substitute for whole milk when fed to young calves.

California Mastitis Test (CMT) The name given to the test for subclinical mastitis taken on freshly harvested milk.

calving interval The average time period between consecutive calvings in a dairy herd. The target is 12 months, although this is rarely achieved.

- calving to conception interval** The time period between when a cow has a calf and she next becomes pregnant. It is also called days open.
- capital** Items that contribute to production over at least a medium-term period, such as 12 months. Examples are tractor, land, fertiliser, farm structures and equipment. Capital investment is using funds to acquire capital assets.
- cash** An exact known amount you pay or is paid to you, in the form of currency, a cheque, transfer or credit card. It is not imputed, nor includes depreciation of assets.
- cash flow statement** A statement of cash inflows less cash outflows to indicate cash surplus or deficit.
- cash operating surplus (COS)** A measure of cash profit which quantifies the sum of all cash flows on the farm.
- colony forming units (CFU)** The measure of the level of bacterial contamination in raw milk when analysed for Total Plate Count (TPC).
- colostrum** The milk produced by cows for the first two milkings post-calving which contains high levels of nutrients and immunoglobulins for transferring immunity onto newborn calves.
- comfort zone** The range of air temperature when there is no measurable fluctuation in physiological processes of cattle.
- conception rate** The proportion of the total number of services or inseminations that result in pregnancy.
- contract heifer rearing** The term used when dairy producers develop formal agreements with other graziers to grow out their heifers, usually at a predetermined growth rate, until point of calving.
- cost of production (COP)** The summation of variable costs, cash overhead and imputed overhead costs for producing milk from the dairy enterprise.
- cow comfort** The general wellbeing of a cow that takes into account climatic stress, design of cow housing and stock facilities and the potential behavioural stress from herd mates and stock people. In other words, how much is she 'at peace' with her perception of the world?
- cow signals, cow talk** The various ways cows communicate with each other and with farm staff to indicate their wellbeing.
- crude protein** A crude measure of the total protein in a feed, calculated as the total nitrogen content multiplied by 6.25. It includes true protein, which provides the amino acids for animal use, and also non-protein nitrogen, such as urea.
- cubicle** A place for a single cow to stand or lie in, which is separated from other cubicles by walls or dividers. The cows are not tied in the cubicle and can enter and leave at will. It is also called a stall.
- Dairy Smallholder Innovative Program (DSIP)** The name given to a structured regional dairy development program in tropical Asia.

demand The amounts of a product or service that consumers wish to buy at a range of prices.

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 a feed remaining after being dried at 80 to 100°C for 24 hours or until a constant dry weight is achieved. The nutritive value and the livestock requirements of feeds are usually expressed on a dry matter, rather than a fresh weight basis.

E. coli Bacteria causing scours in calves.

EBIT Earnings Before Interest and Tax. Farm revenues less farm expenses before the payment of interest on loans and income tax.

Economic Farm Surplus (EFS) Also known as Net Farm Income or operating profit.

efficiency The ratio of the quantity of output to the quantity of input. Can be technical or economic.

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.

equity The value of an asset after liabilities have been accounted for. Also called net worth. What the business owes the owners.

expense Payment (in cash) plus imputed labour depreciation. Also called expenditure.

farm blindness This occurs when farmers think that what they see every day on their own farm is normal.

Farm business management (FBM)

This is the process by which farm costs and returns are calculated to derive farm profit.

feed conversion ratio (FCR) This is a measure of the efficiency of conversion of feed into milk.

feedlot The farming system in which stock are fed entirely in a shed with no access to pastures.

feedpad That part of the pasture-based farm that is used to supplement feeding of dairy stock on an area formed, surface or stocked at a rate that precludes vegetation.

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

financial statement An annual statement summarising a business's financial activities over the last 12 months.

Food and Agriculture Organization

(FAO) The organisation within the United Nations structure that documents agricultural statistics and facilitates development in agriculture, particularly in the poorer countries of the world.

foot and mouth disease (FMD) This is a highly contagious and often fatal disease affecting cattle.

free stalls Cubicles specifically designed for individual stock to rest in.

Golden Rules The name given to eight sets of best management practices for smallholder dairy farmers.

Gross Farm Income (GFI) The sum of total farm cash income plus changes in stock inventory.

growth Increase in net worth (wealth) over time. Measured as change in equity.

herringbone The name given to a type of milking parlour design where cows can be individually handled for milk harvesting.

hierarchy An ordered sequence of individuals or groups of individuals in a social system which is based upon some ability or characteristic, most often to act aggressively towards or displace group members or to have priority of access to some areas of the cowshed.

imputed Same as unpaid or book value.

input Any resource used in production, such as land, labour, capital or purchased goods or services.

interest A charge made for borrowing a sum of money or due on late payment of an account.

Key Performance Indicator (KPI) A numerical descriptor of some aspect of herd management or farm performance that can be used as a realistic target for future improved farm management programs.

lactation anoestrus This occurs when high genetic merit cows utilise excess levels of their body reserves to

maintain milk yields, hence will rapidly lose weight and upset the hormonal balances to allow them to regain their normal oestrous cycle soon after calving.

liability The amount of money borrowed from someone else. Also called borrowings and debt.

live weight at first calving (LWFC) An important measure of the success of young stock feeding and management.

loose housing A shed in which cows are not tied up.

maintenance requirement The energy needed for essential body functions, such as blood circulation, breathing, keeping warm or cool, digestion and tissue repair.

management The process of setting and achieving (profitable) goals, using land, labour, management and capital.

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 animal for its metabolic activities.

Methylene Blue Reductase Test (MBRT) The name of a test to quantify the bacterial contamination of raw milk post-harvesting.

milk gross income (MGM) Milk revenue less direct milk production expenses.

milk income less feed costs (MIFC) A measure of profitability calculated from the income from milk sales less the total cost of feed inputs. It is also called feeding profit.

net farm income (NFI) The gross farm income less variable and overhead costs. It is also called Operating Profit, Earnings Before Interest and Tax (EBIT) and Economic Farm Surplus.

net profit The operating profit less the financial costs.

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 (carbohydrates) is available in the rumen at the same time.

operating profit The financial profit derived from all the capital invested on the farm. Also called the Net Farm Income.

overhead cost An expense that cannot be directly attributed to the production and/or harvesting of produce for sale. Also defined as a cost that remains the same when the level of input or output changes, or one that must be met and is not affected by the amount of produced in a year. Also called fixed cost.

partial mixed ration (PMR) The supplement fed to grazing stock, usually prepared in a mixer wagon.

partitioning The metabolic division of energy intake (above the maintenance requirement) between live weight gain and milk production.

per In each or for each.

peri-urban farm Farms located on the outskirts of large towns and cities, benefiting from close proximity to consumers – hence markets – as well as being able to easily source forages in nearby rural areas and agro-industrial by-products from urban food processors.

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

position description (PD) The description of a particular staff position, usually on a large dairy farm.

profit A general term indicating some kind of surplus from the year's farming operations.

profitability The ratio of the value of goods produced against the value of the resources used in their production. Profitability is different from profit. Profit is an amount of money; profitability is that amount compared to the resource used to produce that profit.

Profitable Dairy Systems (PDS) The international dairy farm consulting business owned by the senior author.

pros and cons The arguments in favour of and against.

public private partnership (PPP) The combination of government (public) and commercial (private) agreements in a dairy development project.

quality assurance (QA) A structured set of best management practices.

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.
- resource** A factor of production, commonly classified under labour, land, capital or raw materials.
- Return On Assets (ROA)** Profit before interest, as a percentage of the value of the total farm assets.
- Return On Equity (ROE)** Profit, after interest expenses, compared to equity.
- revenue** Receipts (cash) plus imputed gain in asset value.
- risk** A situation with uncertain outcomes, but a case where some probabilities can be formed about the outcome. This is in contrast to uncertainty where no probabilities can be formed about uncertain events happening.
- Rp** Rupiah, the Indonesian unit of money.
- service providers** The farmer's network of people who provide services, equipment and 'good ideas' to improve their farm performance, profits, and hence long-term sustainability.
- SHD** Smallholder dairy.
- slatted floor** A combination of solid parts (slats), which would support the lower surface of the claw of the cow, and gaps (slots) which would allow manure and other liquids to pass through. (Also called slotted floor.)
- Smallholder Dairy Development Program (SDDP)** The name given to an FAO dairy development program in Thailand, Bangladesh and Myanmar.
- SNF** Solids-not-fat.
- solid floor** A continuous flat surface which might be made of various materials and which allows full contact with and support to the lower surface of the claw of the cow.
- solids-not-fat (SNF)** An alternative measure of milk composition to milk protein. SNF contains milk protein, lactose and minerals, allowing milk protein % to be calculated as (SNF% - 5.4).
- somatic cell count (SCC)** A measure of the bacterial contamination in raw milk pre harvesting.
- South East (SE)** That portion of Asia to which this book mainly relates.
- Standard Operating Procedures (SOP)** A set of instructions for any activity or set of tasks undertaken on the farm.
- strategic** Long term.
- stress** An environmental effect on an individual that over-taxes its control systems and reduces its performance and survivability or has the potential to do so.
- 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 animal's diet to increase the intake of some dietary component, such as energy, protein, fibre, vitamins or minerals.
- SWOT** An assessment of an activity in terms of its strengths, weaknesses, opportunity and threats.
- 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.

tie stalls A stock housing system in which stock are continually tied up.

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

total mixed ration (TMR) A complete ration for livestock thoroughly mixed then delivered to stock from a wagon.

total plate count (TPC) A measure of bacterial contamination of raw milk in millions of bacterial colony-forming units per ml of milk.

total solids (TS) or total dissolved solids (TDS) A measure of milk composition expressed in % of total milk solids (milk fat, milk protein, lactose and minerals).

tunnel ventilation barn An enclosed shed in which rapid air movement

results from the negative pressure resulting from a wall full of large extractor fans pushing the air away from the shed.

UHT Ultra high temperature treated milk.

uncertainty A situation with uncertain outcomes where no probabilities can be formed about uncertain events happening. Chances are that the actual result will be different to the planned result. Volatility increases uncertainty, hence risk.

variable costs Costs that change directly according to the amount of output of the activity. Also known as direct cost, such as fuel, seed, fodder.

wastage rate A measure of losses in replacement heifers between birth and second calving.

withholding period The number of days following drug administration before milk or meat can be sold from treated animals.