

Glossary and abbreviations

Terms in this glossary are defined in the context of their use in this book. Other abbreviations are listed in Appendix 2, Conversion of units of measurement.

A

A\$. Australian dollar(s).

accrued. An estimate of revenue, expense or liability that will occur but is not supported by a statement or invoice at the time the accounts were prepared.

acid detergent fibre (ADF). The less digestible or indigestible parts of the fibre, i.e. 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.

adjustments. Adjustments are calculations made to derive management performance indicators from collected financial data. They account for those factors that affect farm earnings but are not reflected in cash transactions.

ad lib* or *ad libitum. Fed to appetite.

agistment. Grazing one's own stock on land controlled by another person, for payment of a fee in cash or in kind.

agribusiness. A business closely related to agricultural production activities.

AI. Artificial insemination.

amino acid. The building block of proteins; a cow requires 25 different amino acids for normal metabolic functioning.

analyse. Examine farm records to determine performance.

APHCA. Animal Production and Health Commission of 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 ones with minimal resources.

as-fed. Feed with its moisture still in it.

associative effects. Changes in utilisation of one feed type following supplementation with a second feed type, such as decreasing digestibility in forages with increasing

supplementation with concentrates. This means that assuming additive effects of supplements can overestimate milk responses.

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

Australian Friesian Sahiwal (AFS). A tropically adapted dairy breed developed in Australia based on Friesian and Sahiwal.

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

B

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

benchmark. Industry standard.

body condition. Energy stored in body reserves by cows, predominantly as fat.

Bt. Baht. Unit of Thai currency.

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

buffer. Body fluid (e.g. saliva) or feed additive that reduces the acidity in the rumen.

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

business health. The state of, and prospects for, profit, financial viability and growth of a business.

bypass protein. See undegradable dietary protein.

C

°C. Degrees Celsius.

capital. Item that contributes 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.

carbohydrates. The main source of energy in a cow's diet.

cash. An exact known amount you pay, or that is paid to you, in the form of currency, a cheque, transfer, credit card. It is not imputed, nor does it include depreciation of assets.

cash flow budget. A budget of the expected cash in (receipts) and cash out (payments) associated with a particular farm plan.

cash flow statement. A statement of cash inflows less cash outflows to indicate cash surplus or deficit.

cm. centimetre.

colony forming units (CFU). The measure of the level of bacterial contamination in raw milk when analysed for Total Plate Count (TPC).

comparative analysis. Comparing the performance of a particular farm with some 'standard' level of performance. The standard is usually the average performance of a group of broadly similar farmers. Also called benchmarking.

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

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

cost. The price of something.

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

cost price squeeze. The phenomenon of farmers' real costs for their inputs rising and prices they receive for their products being static, falling or rising at a slower rate than real costs are rising. It means that farmers have to increase their productivity to remain profitable.

COS. Cash operating surplus.

crude fibre (CF). A measure of fibre in the diet 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 ($\text{NPN} + \text{RDP} + \text{UDP}$); it assumes (incorrectly) that all the nitrogen in a feed comes from protein.

current v fixed asset. Cash or other assets expected to be utilised within 12 months v having a useful life of more than 12 months.

current v fixed liability. Amounts owed to others that should be paid within 12 months v those requiring payment after 12 months.

D

d. day.

dairy. The dairy enterprise only.

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.

developmental budget. A budget of cash flows used to assess expected profitability and financial feasibility when planning major farm system changes that will take some time to reach full capacity.

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.

diminishing marginal returns. What occurs when increases in variable inputs added to fixed inputs in a production process lead to smaller and smaller increases in total output.

direct cost. See 'variable cost'.

discounting. The process of adjusting the value of a benefit or cost to be received in the future to their equivalent value at the present time.

discount rate. The rate at which the future sum is reduced to estimate the present value.

drawings. Amounts taken by owner for personal use. Also called personal expenses.

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

E

earnings before interest and tax (EBIT). See net farm income.

East Asia (E Asia). The countries in this region of Asia, namely Afghanistan, Bangladesh, India, Pakistan and Sri Lanka.

economic farm surplus (EFS). Same as operating profit.

economic efficiency. Measured by percentage return to all the capital invested in the business.

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.

energy corrected milk (ECM). Milk corrected to the same milk fat and protein contents.

energy-dense. Having a large amount of metabolisable energy per kilogram of dry matter.

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

enzyme. A substance produced by the cow that helps digestion.

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.

F

FAPRI. Food and Agriculture Policy Research Institute.

Farm benefit cost analysis. The budgeting process of evaluating the benefits and the costs and net benefits of an investment to change a farm system.

FBM. Farm business management.

finance budget. A budget showing the flows of cash in and out, in nominal dollars.

Identifies borrowings that are needed as well as interest and principal repayments.

financial efficiency. This assesses how efficiently the value of the assets is being used and is measured by asset turnover ratio (revenue divided by assets).

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

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

fixed capital. Land, buildings, irrigation equipment and other farm assets that cannot be easily moved.

fixed cost. See overhead cost.

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.

G

g. gram(s).

gearing. Ratio of debt to equity which can influence debt servicing ability and growth in equity. Also called leverage and solvency.

GFI. Gross farm income.

GMO. Genetically modified organism.

gross income. The total value of a farm activity during the production period (usually 12 months), whether the product is old, consumed or stored.

gross margin. Gross income minus variable cost. This can be whole-farm gross margin, as in whole-farm budget, or enterprise gross margin.

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

H

hemicellulose. The most digestible part of fibre; included in NDF analyses but not in ADF or CF analyses.

hr. hour.

I

imputed. Same as unpaid or book value.

income statement. This is the only financial record that actually measures profitability. Cash flow is converted to business earnings to calculate business performance. Also known as profit and loss statement.

incurred. An expense is 'incurred' when the goods or services have been received or consumed, which may be prior to the issue of an invoice or statement creating the liability for payment.

inflation. An increase in the supply of money in relation to the supply of goods and services available and, consequently, a decline in the purchasing power or value of currency.

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

International Farm Comparison Network (IFCN). A worldwide network of farm economists who collect on-farm dairy production data, using the same methodology, hence allowing for country to country comparisons.

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

interest only loan. A loan where the borrowed capital is not intended to be repaid on a regular and gradual basis over the life of the loan and instead, annual interest is paid on the full amount of the borrowed capital for the life of the loan.

interpret. To compare farm performance against benchmarks.

internal rate of return. The discount rate at which the present value of future benefits from a project equals the present value of total costs of the project.

K

kg. kilogram(s).

kg DM. kilogram(s) of dry matter.

kg/d. kilogram(s) per day.

km. kilometre(s).

KPI. Key performance indicator.

Kt. Kilotonnes or million litres.

L

L. litre(s).

LCU. Local currency units.

L/d. litre(s) per day.

lease. Use of an asset not owned for a fixed period in return for payment by the lessee to the lessor.

leverage. This measures the extent to which equity has been multiplied by the use of debt, and is calculated as the ratio of debts to equity. It is also called financial structure.

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

lignin. An indigestible part of plant fibre.

liquidity. Cash or near cash reserves. The ease with which assets can be converted into cash. The ability of a business to meet financial obligations (pay the bills) due within 12 months without having to sell fixed assets or increase borrowings.

livestock inventory. An estimate of the annual contribution to gross income of the trading of animals by sales and purchases, births and deaths, and changes in number and value of livestock on hand. This uses closing number and value less opening number and value. It captures the effects of depreciation and appreciation, as well as natural increases.

loss. A negative profit.

LWG. Live weight gain.

LWT. Live weight.

local currency units (LCU). Units of currency used in different countries (see Appendix 3).

M

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.

marginal. The increase or decrease of one more unit of input or output.

marginal cost. The extra cost added to the total cost from using an extra unit of a variable input, or the extra cost incurred in producing an additional unit of product.

marginal returns (diminishing). The phenomenon that increases in variable inputs added to fixed inputs in a production process results in smaller and smaller increases in total input. The principle of diminishing returns indicates that variable input should be added to the production process only for as long as the extra return exceeds the extra cost. The maximum total profit is at the point where extra returns equals extra cost.

marginal revenue. The extra net income obtained from selling one additional unit of product.

marketing margin. The difference between the purchase price and resale price of a product between two levels in a marketing chain. Indicates the cost of adding services to products.

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. *See also* digestible energy.

mg. milligram(s).

milk gross margin (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.

MJ. megajoule(s), millions of joules.

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

mm. millimetre.

MR. Malaysian ringgits.

N

N. Nitrogen.

net cash flow. The difference between the money received and the money spent in any one period.

net farm income (NFI). Gross income less variable and overhead costs. Also called operating profit or earnings before interest and tax (EBIT).

net present value (NPV). The difference between the present value of all benefits and the present value of all costs of an investment, with the present values of benefits and costs calculated using a particular discount rate.

net profit. Operating profit less finance costs.

net worth. The value of total assets owned by a farmer less his total liabilities. Also called equity.

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

NFI. Net farm income.

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.

NRM. Natural resources management.

O

operating costs. Variable plus overhead costs.

operating profit. See 'net farm income'.

opportunity cost. Amount of net benefit that is given up by choosing one alternative action rather than some other action.

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.

output. The goods or products which come from a production process.

P

partial budget. A budget drawn up to estimate the effect on profit of a proposed change affecting only part of the farm. It is used to estimate the extra return on extra capital invested.

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

payment in kind. Non-cash payment for a service received, such as labour.

per. In each or for each.

per cent. In or for each one hundred; for example, 5 per cent means 5 in (or for) each 100: if the interest rate on a loan is 5 per cent a year, you pay \$5 a year for each \$100 not yet repaid, or if the dry matter per kilogram is 5 per cent, then 50 grams in each kilogram (1000 grams) is dry matter.

percentage. The rate or proportion per hundred.

personal. Private, not applicable to the business.

peri-urban farms. 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) –14 (extremely alkaline).

PPP. Public private partnership(s).

principal. The amount of capital borrowed when a loan is taken out. Principal repayments are the amounts repaid to settle a debt.

principle of increasing risk. The more highly geared the business, the more rapidly equity grows when things go well, but equity declines at an even faster rate when things go badly.

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

profit and loss statement. See 'income statement'.

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.

Pro-poor. Development programs specifically aimed at poorly resourced, subsistence farmers.

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

Q

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 bacteria, chemicals or any other adulterations that can be detected.

R

R, D & E. Research, development and extension.

real terms. Currency values or interest rates that have no inflation component.

receipts. Money received by the farmer for either farm or non-farm sources.

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.

return on extra (marginal) capital. The extra 'profit' resulting from investing extra capital in the farm, expressed as a percentage.

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.

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 modifier. A product that changes the rumen conditions and/or microbes and thereby changes the fermentation process and the products of fermentation.

rumen undegradable protein. See undegradable dietary protein.

S

sensitivity analysis. Checking the effects on a planned outcome of a change in one or more of the factors that affects that outcome.

SHD. Smallholder dairying.

short v medium v long term. Less than three months v 3–12 months v more than 12 months.

SMP. Skim milk powder.

specific gravity of milk is a measure of its weight relative to its volume, and this can vary from 1.024–1.032. When quantifying milk yields, Western dairy specialists tend to use volume (L/d) as this is measured by most milking machines. In contrast, Asian dairy specialists tend to use weight (kg/d) as 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.

solids-not-fat (SNF). An alternative measure of milk composition to milk protein. SNF contains milk protein, lactose and minerals, allowing milk protein percentage to be calculated as (SNF% – 5.4).

solvent. A situation where assets exceed debts.

solvency. The ability to repay all borrowings when they are due, or if the business was sold. This indicates the borrowing capacity of the business and the financial risk the business is taking. Also referred to as gearing or leverage.

South-East Asia (SE Asia). The countries in this region of Asia, namely Cambodia, Indonesia, Laos, Malaysia, Myanmar (or Burma), Philippines, Thailand and Vietnam.

statement. Financial records recorded from the past.

strategic. Long term.

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).

substitution. The extent to which a supplement replaces forage in the diet.

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.

T

tactical. Short term.

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.

term loan. A loan that is to be repaid in equal annual instalments of principal, with interest charged on the reducing outstanding balance of the loan.

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 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 percentage of total milk solids (milk fat, milk protein, lactose and minerals).

U

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.

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 bypass protein.

US\$. United States dollar(s).

V

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

VND. Vietnam dong (unit of currency).

W

Whole-farm approach. The farm management economic method, which involves understanding and analysing the farm system, namely the human, technical, economic, financial, risk, institutional elements, as a whole system.

Whole-farm profit budget. Budget showing expected outcomes of a farm plan, in terms of the entire farm's profitability for the coming year.

WMP. Whole milk powder.

working capital. Capital needed for the day-to-day operations of a farm, usually the amount current assets exceed current liabilities. Usually funded by relatively short-term borrowings related to the length of the production cycle, by bank overdraft facility or bank bills.

Y

yr. Year.