



Glossary of Australian
**Agricultural
Terms**



Department of
Primary Industries

Introduction

This glossary was originally produced by Continuing Education, CB Alexander Agricultural College, 'Tocal.'

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aA

absorption

Movement or transport of dissolved compound or solution into cells.

ABV

[Australian breeding value.](#)

acidification

The process of making more acid. In soils, this is usually brought about by [pasture](#) improvement involving the use of [fertilisers](#) (especially nitrogen) and [legumes](#) over a long period of time.

acid rain

Rain which contains a relatively high concentration of sulfuric acid brought about by the discharge of sulfur products into the atmosphere. Acid rain can be damaging to plant growth and lower soil [pH](#) over the long term.

acid soil

A soil with a [pH](#) less than 7, but in practice, 6.6 or less. There are more hydrogen ions than hydroxyl ions in an acid soil. The growth of crop plants may be reduced in high acid soils.

acid sulfate soil

The common name given to naturally occurring soil and sediment containing iron sulfides, mainly the mineral iron pyrite. When sulfides are exposed to air, oxidation takes place and sulfuric acid is produced.

actinomycetes

A type of bacteria that gives soil an earthy smell.

acute toxicity

A rapid adverse effect caused by a substance taken or absorbed by a living organism.

adaptation

Modifying a place to suit a particular use; or, changing behaviour to meet certain changed conditions.

adhesive

Glue

ad lib

At will. In agriculture, the unrestricted intake of feed. Animals can eat at will.

adsorption

The way in which nutrient [cations](#) are attracted and attached to the surface of clay and organic particles in the soil.

ad valorem

Charges on documents or goods are sometimes calculated according to the value of the goods. For example, stamp duty on documents and customs duty on some goods.

(Origin: Latin - according to value)

aerobic

Soil or water conditions in which free oxygen is plentiful.

aesthetic

Relating to visual appearance rather than physical or technical aspects.

aged

Animals (usually sheep) that are past the most economic period of production.

aggregate

Groups of soil particles that are clumped together to form the structure of the soil

agistment

Leasing the grazing rights to a paddock.

agroforestry

Combining the operations of agriculture (cropping, grazing) with growing trees for sale or farm use.

agronomy

The study of land management involving a knowledge of crops and pastures, climate, soils and fertilisers.

AI

See [Artificial insemination](#)

algae

Various forms of primitive, microscopic water plants. Blue-green algae can multiply rapidly as nutrient levels rise, and can become toxic to animals and humans.

alkaline soil

A soil with a [pH](#) of greater than about 7.0, or a high sodium content, or both. The growth of crop plants may be reduced in highly alkaline soils.

allelopathic compounds

Chemicals synthesised by plants and microbial flora to inhibit growth of the same or other species growing in the vicinity.

alluvial soil

Soils formed from [sediments](#) deposited on land by streams.

amino acid

The basic chemical unit that composes protein.

ammonium

Negatively charged mineral form of [nitrogen](#).

anabranh

The branch of a river or stream that has become cut off from the main channel and may enter it again further on.

anaerobic

- Not requiring free or bound oxygen
- Occurring in the absence of free or bound oxygen.

angiosperm

A flowering plant.

anion

A negatively charged ion such as Carbonate which forms part of a salt.

annual

Plants that germinate, grow and set seed and then die, completing their life cycle in one year or less.

anoestrus

The state in a female animal when no [oestrus](#) occurs. The animal is not receptive to mating.

anoxic

Air lacking oxygen, also see [anaerobic](#).

anthelmintic

A medicine used to treat internal parasites or worms in stock. Mostly administered as a drench.

anther

The upper part of the [stamen](#) of a flower in which pollen is produced.

anthesis

The stage in reproduction when flowers open and pollen is shed.

appendix

A section, usually in the back, of a stud flock or herd book recording the grade of animals. There are usually four grades or appendices.

aquifer

Porous soil or rock layers which hold water between impermeable layers. This underground water may come to the surface as springs or be available in wells or [bores](#).

arid

Climatic regions that lack rainfall for crop production or sown pasture growth. Usually a climate with less than 250 mm of average annual rainfall (10 inches).

arthropod

Fauna with an external skeleton and jointed legs including insects, centipedes, millipedes, spiders, scorpions, mites, ticks and crustaceans.

artificial insemination

Semen collected from a male is artificially introduced into the females uterus with the intention of causing her to become pregnant.

asexual reproduction

The duplication of a whole plant from any cell, tissue or organ of that plant. This includes by cuttings, [grafting](#), [budding](#), division or [tissue culture](#).

ASS

[Acid sulphate soil](#)

auricle

A small lip at the base of a grass leaf.

Australian breeding value

A value based upon a cow or bull's ability to pass on superior genes for production or type to its offspring.

available nutrient

A plant nutrient that can be easily take up by plants from the soil solution.

available water

Soil moisture held between field capacity and wilting point. Soil water that can be used by plants.

awn

A bristle-like structure on some grass flowers and seeds (like barley).

b B

backcrossing

The mating of a [crossbred](#) animal with animals from one of its parent breeds.

bacteria

Microscopic single-celled organisms occurring everywhere in nature, but important because they can cause diseases in plants and animals. Many bacteria can also be beneficial (eg [Rhizobium](#) to fix [nitrogen](#) on [legumes](#)).

bacteriophage

A virus that is parasitic on a bacterium. Usually the virus infects the bacterium, takes over the bacterial cell processes to multiply itself, then destroys the bacterium to release many new viruses into the environment.

bail-head

An adjustable wooden or metal structure at the end of a [crush](#) for locking in a beast's neck. When locked, the bail-head confines the animal for inspection or veterinary work.

baling

- Pressing wool into large bags (bales) after shearing.
- Pressing hay or silage into square or round bales after cutting and drying the pasture material.

band seeding

Sowing seed and [fertiliser](#) in the one operation, but through separate outlets.

barley

A cereal grain plant grown for stock feeding or malting.

barren

A female animal that either is not, or cannot become pregnant.

barrow

Male pig castrated early in life.

batter

The face of a dam wall, cutting or embankment

basal area

Measure of the cross-sectional area of stem at breast height. The basal area of a forestry stand is the sum of the basal area of all trees in a stand.

BDH

[Diameter at breast height](#)

bedlog

A short length of timber buried just below ground level against a strainer post to help stabilise the post.

beetles

Insects with three body parts of varying shapes, colours and sizes for 0.4mm to 80mm long.

belly wire

Plain wire used to support netting in the middle.

biennial

Plants that usually require two years, or at least part of two growing seasons to complete their life cycle (e.g. Red Clover). Plants set seed each year, but die after the second year.

billabong

A waterhole in an [anabranch](#), usually on a floodplain, or pool in a river or creek that remains after the main flow stops.

bill of lading

A document giving details of goods shipped.

bio-availability

A substance with which living organisms can interact.

biochar

A type of charcoal manufactured from various organic sources such as poultry manure or tree prunings, under controlled conditions of temperature and low oxygen to produce a product which provides a wide range of useful characteristic for carbon sequestration, nutrient mineral content and soil conditioning.

biochemical

Process relating to the chemistry of biology.

Chemical compound synthesised by living organisms.

bio-control

A management practice in which various predatory or parasitic organisms are used to control pests and pathogens. They are usually part of an [integrated pest management](#) strategy for crops, especially vegetables.

biodiversity

Biological diversity. This refers to the total variety of life. It includes the range of plants and animals, the genetic variety within each species, populations and communities and the variety of habitats in which they live. A large biodiversity makes farmland more stable and more able to recover from extremes.

biodynamics

A holistic system of agriculture based on principles first advanced by Austrian philosopher, Rudolf Steiner. The system relies on organic principles, cosmic forces such as phases of the moon and various preparations to maintain fertility and production.

bio-filter

Organisms, usually bacteria, which clean up substances considered undesirable.

biogas

The gaseous products of decomposition of organic material. A large proportion of biogas is methane which, in some systems, can be harvested and put to use as an energy source.

biological control

The control of pests by means of managing other living organisms. Control of aphids by ladybird beetles is an example.

biological oxygen demand

One indicator of water quality. Measured in mg/L, a reading of 0–5 is considered good, while a figure of above 25 indicates a problem with water quality.

bio-mass

The total amount of living matter on and in an area concerned with production. It consists of everything that forms a base for growth or production. The amount of bio-mass determines the amount of food the land can produce, whether in the form of crops or stock. It includes the vegetation, fauna, soil life and root systems, crops and stock.

biosecurity

The protection of plants, animals, the natural environment and the economy from pests, disease and weeds.

biosolids

The solid proportion of organic waste, including human waste, which may be treated, dried, and used as an agricultural fertiliser.

biosphere

The regions of the earth inhabited by living organisms.

biosynthesis

Creation of a substance by biological processes of a living organism.

biota

The total of the living organisms in any particular area.

bioturbation

The mixing of the soil by living organisms such as worms.

bloat

Swelling of the first and second stomachs of cattle by the formation of a stable foam. Microbes in the [rumen](#) produce methane gas which can't escape. Occurs mainly in cattle grazing on [temperate legumes](#), particularly lucerne and white clover. May cause death.

blue-green algae

A commonly occurring type of algae that may build up to toxic levels in water sources when climatic nutrient levels are suitable.

blood-horse

A pedigree horse often associated with the Thoroughbred breed.

bloodline

Animals from a breeding unit that has consistently used sires from the same genetic source. The term is commonly used in the merino wool industry and the horse industry.

bloom

Condition of stock, indicating prime condition, [sappy](#), well-finished, alert and bright.

blue-green algae

A commonly occurring type of algae that may build up to toxic levels in water sources when climatic and nutrient levels are suitable.

See [algae](#).

boar

Male breeding pig.

board

The part of the shearing shed where sheep are shorn.

bobby calf

Small calf used for slaughter. Must be at least 10 days old (by law) and is usually 18–36 kg dressed weight.

bobtail

An animal whose tail has been partly or totally removed.

BOD

see [biological oxygen demand](#)

body

A term applied to wool when the staple appears full and bulky.

body strike

[Fly strike](#) affecting the body area of the animal (sheep).

bogey

A shearing [hand piece](#). Also a term for a blue-tongue lizard.

bole

The trunk or stem of a tree

booklice

Dull coloured insects up to 10mm long that look similar to aphids but have chewing mouthparts, long antenna and large heads with big eyes.

boomspray

An implement for spraying crops and pastures with [pesticides](#). Chemical is applied from a holding tank through individual nozzles attached to a boom.

boot stage

The stage of growth just before the emergence of grass flowers.

bore

A drilled hole lined with tubing (usually steel or PVC) which allows underground water to flow in and be used on the surface.

bore water

Water from a bore, brought to the surface by pump or under its own pressure. Bore water may be hot, and can be hard (high in mineral salts).

Bos indicus

Indian or Zebu cattle with characteristics which include loose skin on the throat and dewlap (area between the front legs), well developed sweat pores, a muscular hump over the neck and shoulders, and large drooping ears. The Brahman breed belongs to this species of cattle.

Bos taurus

Species of cattle that include British, Continental or European breeds as distinct from Tropical or [Bos indicus](#) breeds.

bovine

Belonging to the group of animals that includes cattle, oxen, buffalo.

box end assembly

A strainer [end assembly](#) in a fence, comprising two [strainer posts](#), a horizontal top bar and a brace wire, placed where the fence ends, or bends.

bracts

Small, pointed, modified leaves around many flowers that appear to be part of the flower.

branding

Permanent (by fire or freezing) or semi-permanent (usually by a dye on wool) marking to identify an animal. In NSW brands are allocated by the [Livestock Health & Pest Authority](#).

breast height

Standard height at which bole measurements are made. It is 1.3m above ground level on the uphill side.

breech

The tail area of the sheep that is susceptible to flystrike, and may require [crutching](#) or [mulesing](#).

breech birth

When giving birth, the [foetus](#) is presented backwards or with the hind quarters first.

breeding

Production system based on the mating and production of young livestock or plants.

breeding unit

The males and females used for breeding in a planned program. One breeding unit is approximately 30–45 cows to 1 bull, or 2.5 rams per 100 ewes.

breeding value

The 'true' genetic merit of an animal, which is passed on to its [progeny](#) through its [genes](#). It measures the average advantage (or disadvantage) expected in a large number of progeny.

brightness

A description of the colour and light-reflecting power of the finer types of wool.

bristletails

Wingless grey insects less than 20mm long. Similar to silverfish with tapered elongated body shape, long antennae and compound eyes.

broad

Wool that is on the strong side for its quality number, or for its type.

broadcast

Spreading [fertiliser](#) or sowing seeds, or both, on the soil surface, usually by a machine with a revolving spinner. May also be done by hand or by plane.

broiler

A chicken reared for meat production.

broken mouth

A sheep whose incisor teeth have fallen out or become badly worn or irregular, usually as a result of old age or hard grazing.

broken wool

A trade term applied to the best wool of the [skirting](#), having the characteristics of fleece wool.

brood (sow, mare)

A female kept for breeding.

browsing

Grazing of shrubs and trees (rather than pasture)

brumby

Wild horse bred away from captivity. A [feral](#) animal.

budding

Type of [grafting](#) in which a vegetative bud ([scion](#)) is placed in a stock plant (rootstock).

buffer capacity

The ability of a soil to withstand changes in [pH](#). Soils with high levels of clay or organic matter have high buffering capacity.

buffer strip

A strip of permanent vegetation in the form of grass, shrubs or trees along the sides of a waterway that help protect it from [erosion](#) and degradation.

bulk bin

A large container used in handling and storing grain, fresh fruits or vegetables. Some bins may be moved about by fork-lift.

bulk density

The mass of soil per unit volume, usually expressed as grams per cubic centimetre or millilitre.

bull

An [entire](#) male [bovine](#) animal used for breeding.

bulling

A [cow](#) or [heifer](#) shows the signs of being ready for mating with a [bull](#). This is the only time she will accept a bull and become pregnant and occurs every 21 days for a period of 12 to 24 hours.

bullock

[Castrated](#) male [bovine](#) (cattle species) over 30 months old.

burry wool

Wool containing certain seed pods, mainly of the *medicago* species.

bypass protein

That portion of protein in the feed which is not digested or broken down in the [rumen](#), but flows through the rumen to the abomasum (fourth stomach) and intestines, where it is absorbed.



C:N ratio

Carbon to nitrogen ratio. Indicates the value of organic matter or composted material. Material with a large ratio (20:1) will break down slowly, while a small ratio (8:1) will quickly break down and become available to plants. Crop [stubble](#) has a high C:N ratio and when incorporated into the soil may cause a temporary nitrogen deficiency.

calcarosol

Soil lacking strong texture contrast between A and B [horizons](#) and with calcium salts throughout the [profile](#) or below the A1 horizon.

calcium

An important nutrient that also stabilises soil structure. Excessive calcium may induce magnesium deficiency.

calf

A young [bovine](#) animal of either sex from birth till weaning. The term [bull](#) or [heifer](#) precedes the word calf to indicate the sex.

calf cradle

A small [crush](#) used to restrain a calf for various operations—usually [marking](#). The crush tips on its side to expose the animal to the operator.

CALM

Computer aided livestock marketing.

calving date

Normally in spring and autumn as nature intended, but can be all year round. 283 days after mating.

calving interval

Period of time between the birth of calves from the one cow.

calving percentage

An indicator of herd fertility. The percentage is usually calculated using number mated compared with number marked or weaned. It also applies to lambing. For cattle, the percentages are:

Natural service: 50–95 per cent

Average: 75–85 per cent

On good properties with A.I., average 70 per cent

cambium

The layer of cells in a plant from which growth of woody tissue and bark takes place.

canola

A broadleaf oil seed crop with a bright yellow flower

canopy

The branches and leaves of a tree.

See also: [crown](#)

capillary water

Water held in the soil by adhesion to soil particles and cohesion between other water molecules. Capillary water basically meets all the water needs of plants.

carbohydrates

Compounds of carbon, hydrogen and oxygen—including sugars, starches and cellulose—which form an important part of the structure of plants. Produced by [photosynthesis](#).

carbon dioxide

A colourless gas that is a natural part of the atmosphere. It is a greenhouse gas. It is also produced when fossil fuels are burnt.

carbon pool

A reservoir of carbon.

A system that has the capacity to accumulate or release carbon.

carbon sequestration

The process of trapping carbon dioxide so that it doesn't escape into the atmosphere.

carbon sink

An environment that can absorb and store more carbon than it releases.

carcinogenic

Cancer causing.

cast

An animal that falls or lies down and can't get up without help.

cast for age

An old sheep that is past its prime for wool and lamb production.

castrate

Remove the testicles of a male.

catchment

That part of the landscape that collects runoff and channels it to the lowest part (usually a water course).

cation

A positively charged ion. Examples are calcium Ca^{2+} , magnesium Mg^{2+} , hydrogen H^+ , sodium Na^+ .

cation exchange capacity

The ability of a soil to hold [cations](#), preventing them from being leached. It corresponds to the number of negatively charged sites on a soil. The cation exchange capacity is high for [clays](#) and [humus](#), and low for sand.

cattle grid

A gateway with a steel or concrete ribbed base instead of a gate. Also called a cattle ramp or stock ramp.

cattle ramp

See [cattle grid](#)

cell

Basic component of biological organisms. Cells contain various structures called organelles, such as mitochondria and nuclei, which undertake specialised biochemical or biological functions. Cell activities include breakdown of nutrients to generate energy and other components to construct new cellular materials to grow and reproduce more cells.

cell count

A laboratory test performed at the factory to make sure that milk received is satisfactory for health reasons. If the cell count is high it indicates disease such as mastitis in the herd and that the milk may be unusable for certain purposes.

cell grazing

A grazing system where a land area is divided into numerous (usually between eight and 30) paddocks and stock are rotated around these areas in a fairly rapid sequence to ensure adequate recovery time is given to plants.

cellulose

A chain of sugar molecules linked in such a way as to make it difficult for eukaryotic organisms to decompose, without assistance from microflora. Fungi and bacteria excrete a special enzyme called 'cellulase' to break the bonds between the sugar molecules which can then be absorbed by organisms as food.

centipedes

Centipedes are [macrofauna](#) up to 100 mm long and segmented. They are many legged with one pair of legs per segment, but the last pair may be used to hold food. They have fangs to poison prey, chewing mouthparts and can bite attackers.

certified seed

The [progeny](#) of registered seed stock. Certified seed is checked while growing, and is certified for purity and germination percentage.

CFA

[Cast for age](#)

chelation

Chemical bonding of inorganic substances with organic compounds by specialised soil organisms. The resultant compound generally becomes unavailable to biological changes. It often occurs with heavy metals making them less toxic to organisms.

chisel plough

An implement used for primary tillage. It has heavy duty tines and various types of points that are dragged through the soil.

chlorophyll

The green pigment in plants that absorbs the radiant energy from the sun in photosynthesis to produce plant sugars.

chlorosis

Deficiency of chlorophyll in a normally green part of a plant so that it appears yellow-green to white, as a result of mineral deficiency, poor light or infection.

chopper

Mature pig, generally slaughtered for smallgoods.

chromosol

Soil type which has distinct increase in clay at a lower layer. Various colours, red, brown, grey reflect various contents of iron and other minerals.

classed in

A [ewe](#) (or mob of ewes) kept for breeding.

classer

- person engaged in classing wool
- person engaged in assessing a breeding flock

classing

Annual culling of breeding rams and ewes.

See also [wool classing](#).

clay

Fine soil particles less than 0.002 mm in diameter. A soil that contains more clay than silt or sand.

claypan

An area of soil in which the light topsoil has been removed by erosion and the smooth clay subsoil has been exposed.

clearfelling

Felling and harvesting all trees in one operation.

clearing

The removal of trees and shrubs from land.

clearwood

Valuable wood without knots (defects from branches) produced in pruned logs, once the tree grows around the branch stub.

climate change

The long term change in the earth's climate, recently by an increase in surface temperature of the earth due to both natural and human factors.

climate variability

Variable seasonal climatic conditions affecting agricultural production. May result from various climatic patterns that influence rainfall and temperatures.

clod

A unit of soil formed by cultivation rather than occurring naturally. Contains groups of [aggregates](#).

clone

A plant [cultivar](#) or other organism produced from a single individual and propagated entirely by cell replication (usually [cuttings](#) in plants). In animals, a new individual is produced by replicating cells from a donor.

CO₂

Chemical symbol for [carbon dioxide](#)

cockroach

Insect in [macrofauna](#) group with flattened oval-shaped body, less than 2 mm and up to 70mm long, compound eyes, long antennae and two pairs of overlapping wings, the tougher front ones covering the other pair. Able to chew food, some having protozoa in their gut to digest wood.

colloid

An organic or inorganic particle in the soil that is extremely small to the human eye, but has a very large surface area. Soil colloids usually have a high [cation exchange capacity](#)

colostrum

Also called the 'first milk'. During the first 48 hours after birth the udder secretes antibodies in the milk that help to protect the calf from some diseases. Because the calf can only absorb these antibodies for a short time it is important that the calf suckle from its mother as soon as possible, or at least within the first 24 hours.

colt

A young male horse up to four years old.

comb

Bottom part of a shearing [hand piece](#) that moves through the wool during the shearing process.

combine

- a) A combine-harvester is an American term for a [header](#)—a machine for harvesting grain.
- b) A combine drill is a machine for cultivating soil and sowing seed and fertiliser in the one operation.

comeback

A type of crossbred sheep bred back to merino.

compaction

Physical degradation of the soil by compressing the soil or soil layer, usually with agricultural machinery. Soil may also compact because of slumping when saturated with water.

comparative analysis

Comparison of the performance of some aspects of a farm with some 'standard' level of performance. Usually the standard is the average performance of a group of similar farms.

compositional payments

A system of milk payment that is based upon quality factors such as fat and protein percentage.

concentrate

- a) A feed substance especially high in energy and usually a cereal grain.
- b) A form intended for dilution.

condition score

An assessment of an animal's condition based upon an estimate or measurement of the amount of fatty tissue under the skin on certain body parts.

conformation

The characteristic traits of an animal that combine to describe its shape or frame. These are distinct from production traits and should not be confused with general condition.

conservation

The processes of maintenance and repair so as to retain condition.

conservation farming

Various methods of farming that minimise soil damage by reducing cultivation, retaining stubble and substituting [herbicides](#) for machinery use.

contact herbicide

A [herbicide](#) that kills only the tissues it contacts.

contour

An imaginary line on the surface of the earth connecting points of the same height. From this comes contour bank, contour ditch, contour drain, contour farming, contour interval, contour ploughing.

controlled traffic

The restriction of all vehicular wheel compaction to permanently located traffic lanes in a cropped paddock. Designed to minimise soil [compaction](#) of the crop zone.

coppice

Regrowth from dormant buds under the bark of tree stumps after the tree has been felled. Poplars, willows and most eucalypts will coppice.

cotted wool

Wool that has become partly felted or matted while on the sheep.

cotton

A shrubby plant that is cultivated to produce cotton lint, seed and other residues.

cotyledon

a) First seedling leaves that serve as food-storing organs or may develop the ability to [photosynthesise](#) as the seed germinates.

b) Part of the [placenta](#) that supplies nutrients to the [foetus](#).

coulter

A sharp, usually rolling disc that cuts through vegetation and soil before it is inverted or disturbed by a following [tillage](#) implement.

coup

An area of forest felled in a single operation.

cover crop

A crop that is grown to reduce soil erosion, conserve nutrients, and provide organic matter. A cover crop may also be grown to 'nurse' or protect another tender species until it is established.

COW

Female [bovine](#) after her first calf or over 2 $\frac{1}{2}$ –3 years of age.

cracker cow

An old cow that has finished her milking or breeding life. Usually light in condition and sold to the meat works for processing.

crash grazing

Putting large numbers of stock on an area for a short period of time in order to quickly eat down the vegetation or overgrowth.

crimp

A natural wave formation visible in wool. In general, the closer the waves are together, the finer is the wool.

crossbreeding

The mating of animals (or plants) of different breeds, both of which are purebred, in order to combine the best characteristics of the two breeds. The [progeny](#), known as crossbreds, possess hybrid vigour. They are sometimes crossed with a male of a third breed to introduce further qualities.

cross-pollination

The transfer of pollen from an [anther](#) of one flower to the [stigma](#) of a second flower of a different [cultivar](#).

crown

- (a) The base of a [perennial](#) grass and some perennial [legumes](#) where new growth begins.
- (b) A tree's canopy or foliage.

crude protein

An approximate assessment of the protein content of animal food based on nitrogen content. The formula $CP = \%N \times (100/16)$ is used.

crush

A structure for confining cattle for inspection or veterinary treatment. A crush can vary in length, but is usually between 450mm and 600mm in width. A crush is usually fitted with a [bail-head](#).

crusting

The surface layer of the soil becomes hard and brittle when dry and can't be separated from the underlying soil. Usually caused by over cultivation.

crutching

The act of shearing wool from the [breach](#) area and hind legs.

cryptorchid

A male animal with one or both testicles retained in the abdomen. This may be natural, or brought about by, at [marking](#), pushing the testes into the abdomen and placing a rubber ring around the scrotum.

culling

The removal for sale or slaughter of animals from the herd that are no longer economically productive or valuable as breeding stock. See also [classing](#).

culm

An aerial stem of a grass or sedge, terminating in a flower.

cultivar

A plant bred from a cultivated variety that has originated and persisted under cultivation and is significant enough to be given a name.

cultivation

Working the soil with implements in order to prepare it for sowing of crops.

cultural significance

Used to describe sites, places, artifacts or memories that are meaningful to society or parts of society, for example, sites showing evidence of past Aboriginal occupation.

curfew

Time limit on delivering animals to saleyards. Animals usually must be withheld from feed and water for 12 hours before sale.

cut

To [castrate](#) an animal.

cut out

Completion of shearing all sheep.

cutter

The part of the shearing [hand piece](#) that moves rapidly back and forth across the [comb](#) to cut the wool from sheep.

cuttings

Sections of plants taken from a parent plant to 'take root' or 'strike'. Cuttings are generally identical to the parent. Cutting stock is planting stock grown from cuttings.

dD

dagging

Shearing or clipping the [dags](#) from sheep, especially to prevent fly strike.

dags

[Staples](#) or locks of wool on the [breech](#) area heavily coated with dung.

dairy

A commercial agricultural enterprise that harvests milk from cows.

dairy beef

[Progeny](#) resulting from the crossing of beef bulls and dairy cows.

dairy type

Physical characteristics of a cow that make her suitable for milk production.

dam

(a) Female parent

(b) Structure for storing water. The dam may be in the form of an earth tank, or a [gully control structure](#) with a wall constructed across a natural waterway.

DBH

See [diameter at breast height](#)

deciduous

A tree or shrub that usually loses its leaves in winter.

deciles

Divide a set of recorded rainfalls (monthly, seasonal or annual) into 10 groups. The lowest 10 per cent of rainfalls belong in decile range one, the next lowest is in decile range two and so on up to the highest 10 per cent of recorded falls, which belong in decile range 10. The value between decile range five and decile range six is the median. Decile ranges give a better indication of how dry or wet the period has been than change from the mean.

decomposition

Breakdown of substances, compounds and macromolecules and can occur due to physical, chemical or biological processes.

deferred grazing

Taking stock off a pasture, locking it up to allow growth to accumulate before grazing again.

dehorning

Removal of horns in cattle to prevent physical injury, to reduce bruising and to contain working and freight space. Dehorning must be done as young as possible (usually at [marking](#)).

It is illegal to dehorn stock over the age of 12 months without the use of anesthetics.

demurrage

A charge made by a railway or shipping company for delays in loading or unloading goods beyond a specified time.

denitrification

The changing of nitrate or nitrite forms of nitrogen to the gaseous forms.

deregulation

The removal of many government controls over an industry. For example, deregulation of the milk industry allows the price to be set by the seller, rather than by the government.

dermosol

Soil type lacking strong [texture](#) contrast between the A and B [horizons](#) and with a structured B2 horizon.

destock

To remove stock from a grazing area for a period.

detritivore

Fauna which feed on detritus such as slaters, earthworms and maggots of some [arthropods](#).

detritus

Residues of plants and animals which are partly degraded and unrecognisable as to their origins.

development budget

A budget used to assess the profitability of a farm development program over time.

dewpoint

The temperature at which a mixture of air and water vapour will reach 100 per cent relative humidity or at which the mixture starts to condense.

diameter at breast height

The diameter of a tree at 1.3m above the ground. The diameter is measured in cm and is used to calculate the volume of timber in a stand.

dicotyledon

The class of plants with embryos that have two [cotyledons](#). For example, beans and clover.

dip

A means of applying chemicals to animals for the control of external parasites. The dip may be through a spraying or [jetting](#) mechanism, by total immersion of the animal (a 'plunge' dip), or by pouring chemical onto the animal. 'Dip' also refers to the chemical used, and 'dipping' is the operation involved.

direct drill

Sowing without cultivation. Usually involves specially-modified machinery.

See also [zero-till](#)

direct seeding

In sowing trees and shrubs, to sow directly into a prepared seedbed. It is generally a cheaper alternative to planting seedlings or [cuttings](#).

disbudding

The removal of vegetative or flower buds. Carried out mainly in flower growing to give a central single flower.

discharge area

Where the [water table](#) is close enough to the surface to evaporate and allow salts to accumulate (same as a [seepage area](#)).

disc plough

A primary tillage implement that relies on large concave discs to cut and invert the soil. Also disc cultivator, disc [drill](#), disc harrow.

dispersion

The separation of soil [aggregates](#) into individual particles in the presence of water. The soil will then run together and form a crust.

diurnal

Occurring during the day. The term is commonly applied to temperatures.

docking

Removal of an animal's tail (especially lambs).

doggy wool

Short, coarse, glossy merino wool of nondescript type, frequently found on old sheep.

dolomitic lime

Calcium carbonate with reasonable amounts of dolomite (calcium magnesium carbonate) present.

drafting

Separating animals into different groups. Drafting is often done using a [race](#).

drainage line

A feature of a landscape down which water naturally concentrates and flows during rainfall.

drenching

The application of liquid medications and vaccines to the animal's stomach via the mouth and throat.

dressing percentage

Carcase weight as a percentage of the liveweight at slaughter.

drill

A seed sowing machine that usually places seed and [fertiliser](#) into the soil through various types of soil openers. Also, to sow seed through a machine.

dropper

A post in a fence used to space wires, but not set in the ground. Made of light timber, steel or plastic.

drought

Meteorological drought is when rainfall is within the lowest 10 per cent of all totals for at least three months.

drought reserve

[Fodder](#) reserves for drought conditions.

dry

A female animal that has completed her lactation and is not producing milk.

dry sheep equivalent

The dry sheep equivalent (or DSE) is derived from the amount of feed needed to keep a 50 kg [wether](#) at maintenance condition. It is used as a means of calculating stocking rate, even when different categories of livestock are on the property.

dry matter

The various mineral and organic material (carbohydrate, protein, fats or oils, and vitamins) in feedstuffs. Measured by drying the material to be tested and expressing the weight as a percentage of the wet weight.

dry period

The length of time between the completion of one lactation and the start of the next lactation.

drying off

The last stage of lactation when milk production decreases and eventually stops. Cows are usually forced to dry off by the farmer after 300 days lactation.

DSE

See [dry sheep equivalent](#)

dual purpose breeds

- (a) breeds of cattle considered useful for both beef and milk production,
- (b) breeds of poultry considered good for egg laying and as table birds,
- (c) breeds of pigs, the females of which are kept for crossing with either bacon or pork type boars
- (d) breeds of sheep that have been bred and selected for production of wool and meat.

duplex soil

A soil that has a sharp change in [soil texture](#) between the A and B horizons.

dystocia

Calving difficulty. Abnormal labour or birth.

eE

ear mark

A registered mark cut into the ear of an animal to show ownership.

ear tag

A plastic or metal tag applied to animals for identification, usually for breeding records.

ear tattoo

Identification of animals, usually pigs, dairy and stud beef cattle, by means of a tattooed number in the ear.

earthworms

[Macrofauna](#) which have long cylindrical segmented bodies, with no head, eyes, antennae or legs.

earwigs

Macrofaunal insects with elongated, dark brown bodies, 5-50 mm long, ending in a pair of pincers used to hold food.

EBV

See [estimated breeding value](#)

EC

See [electrical conductivity](#)

ecology

The study of the relationship of living organisms with their surroundings.

ecospheres

The earth, all of the organisms living on it, and all of the environmental factors which act on the organisms. That is, the volume of area where biological matter can exist, slightly above, on or below ground level.

ecosystem

The interacting biological and environmental parts of a particular habitat.

ecosystem services

The environmental benefits obtained from processes occurring in the various sections of the natural world, such as clean water, food, oxygen production, and soil organic matter mineralisation to release soil nutrients.

ecotourism

A possible farm activity or enterprise which involves attracting tourists to experience and study the natural environment.

ectothermic

An ectothermic animal is one who cannot regulate its own body temperature, so its body temperature fluctuates according to its surroundings. Ectothermic animals, or ectotherms, are commonly referred to as "cold-blooded." [Reptiles](#) are ectothermic.

edaphic

Relating to soils

electrical conductivity

A measure of soil salinity. It measures the concentration of soluble salts in the soil solution, which plant roots absorb. Electrical conductivity (or EC) is expressed in units of decisiemens per metre (dS/m).

electrolyte

Salty solution. Electrolyte solutions are normally formed when a salt is placed into a solvent such as water and the individual components dissociate due to the thermodynamic interactions between solvent and solute molecules, in a process called solvation.

El niño

The name given to warming of coastal waters off Peru around Christmas. Occasionally, this warming is exceptionally strong. It is these occasional extremes (once every 5–9 years) that are called El niño episodes. This strong warming of the eastern Pacific is linked to negative phases of the [southern oscillation](#). Through this connection, episodes are generally periods of drought over eastern Australia.

(Origin: Spanish - the (Christ) child)

EM survey

Use of electromagnetic induction devices to estimate soil salinity.

embryo transfer

Animals bred by taking a fertilised embryo and placing it in another cow's uterus.

emergent vegetation

A plant or plants rising above the water level, as opposed to floating or submerged vegetation.

emulsifiable concentrate

A liquid formulation that mixes with water to form an emulsion but does not dissolve to form a solution.

empty

An animal that is not pregnant.

end assembly

A fence structure, usually at an opening or gate, from which the fence travels in one direction. Consists of a strainer and stay or a box assembly.

energy

The ability of an organism, food web or ecosystem to do work. Energy is generally measured in joules or fractions thereof.

enterprise

The production of a particular commodity, for example, wheat.

entire

A male animal that has not been castrated. Capable of breeding.

entomology

The study of insects.

enzyme

Protein catalyst which speeds up chemical reactions. Synthesised by all biota inside cells as part of cellular metabolism and remain active in soil after the organism's death or exudation from bacteria and fungi into soil.

ephemeral fever

Or three day sickness. A bovine virus spread by insects during the humid summer months of the year. Usually lasting only three days, the disease is most common on the east coast of Australia.

equine

A member of the horse family.

Matters relating to horses.

erosion

The wearing away of the soil by water or wind. This may be natural or induced by land management practices.

essential oils

Pure plant oils, such as eucalyptus oil.

estimated breeding value

An estimate of an animal's value as a parent for a particular production trait such as growth rate.

ET

[Embryo transfer](#)

evaporimeter

A shallow open pan that allows measurement of evaporation. This can then be related to [evapotranspiration](#) from crops or pastures.

evapotranspiration

Removal of moisture from soil by evaporation and by transpiration by plants growing in the soil.

ewe

Female sheep

exchangeable cations

[Cation](#)s that are held by electrical charge to negatively charged clay and humus surfaces. They can be exchanged with other cations in the soil solution.

exchangeable sodium percentage

Concentration of exchangeable sodium cations expressed as a percentage of the cation exchange capacity.

exotic species

A species that is not native to a region, especially one that does not originate in Australia.

exudate

A substance released by any living organism into the environment. Exudates can contain water, nutrients, waste materials, adhesives, hormones or mucus.

fF

F1 & F2

When animals of two different breeds or lines are mated, the first generation of [progeny](#), or first cross, is the F1 generation. If the F1 generation males and females are mated their progeny will be the F2 generation.

fabric

In cultural heritage, all the physical material of a place.

falling or felling

Cutting down trees.

fallow

A farming system in which land is left without a crop or weed growth for extended periods to accumulate soil moisture.

farm forestry

Commercial forest operations on farmland. Usually in the form of woodlots and timberbelts. See also [agroforestry](#).

fat

Traditionally used to describe an animal in prime condition. Fats are [finished](#) and ready for slaughter. The term is no longer in common use.

fat score

Indicates the depth of fat cover on the rump of animals. Ranges from 1 (lean) to 5 (fat).

fattening

Growing young animals to a larger size to meet market specifications.

fauna

Animals. Usually applied to wildlife, or native animals.

fecundity

Ability for regular reproduction in an animal (a measure of fertility).

feral

Wild, untamed or undomesticated animal.

ferrosol

Soil type with high free iron in the B2 [horizon](#) and that lacks strong [texture](#) contrast between horizons.

fertilisation

When a sperm cell and egg cell combine to form an embryo—the beginning of a new animal—fertilisation has occurred.

fertiliser

A substance that is added to the soil to supply essential nutrients for plant growth. Fertilisers may be natural or artificial (manufactured).

fertility

- a) The ability of an animal to reproduce.
- b) A way of describing a soil's ability to produce pastures or crops

field capacity

The amount of water remaining in the soil holds after gravitation has drained the free water. Also, the maximum amount of water that a soil can hold under free drainage conditions.

filly

A young female horse up to four years old.

filter strip

A filter strip is designed to remove soil particles, nutrients and other contaminants as water moves across it. See also [buffer strip](#)

fineness

The diameter of the individual wool fibre.

finished

An animal with the correct proportions of bone, muscle and fat; ready for market.

fire break

An area of land cleared to prevent fire entering an area. A firebreak may be constructed along property boundaries or along paddock fencelines.

first-calf heifer

A heifer after having borne its first calf, but before it has had a second calf, which is when it becomes a cow.

fixation

The process in which a nutrient is converted from a recalcitrant source into a form which is usable by organisms. The best known fixations are of (1) carbon dioxide in the atmosphere into sugars and starches by plants during photosynthesis, and (2) nitrogen gas from the atmosphere by specialist bacteria living in legumes into ammonium or nitrate, both salts which are available to plants.

flagella

Long fine 'hairs' attached singly or a few in a tuft on protozoan cells, which move in unison to propel the organism through water.

flaking

Structural condition of topsoils in which the surface layer, usually less than 10 mm thick, is hard and brittle when dry and can be readily separated from and lifted off the underlying soil (cf [crusting](#)).

flocculation

The process where very fine clay particles, suspended in water, come together in larger groups and then settle out of suspension.

flock ewe

The [ewe](#) that is retained for wool growing or lamb raising, but is not a stud animal.

flock ram

A purebred ram of not such a high standard as a stud ram, used for mating with flock ewes.

flora

Plants.

floriculture

The study of growing, marketing, and arranging flowers and foliage plants.

flume

A constructed chute or similar structure designed to move water to a lower level without causing erosion.

flushing

Increasing the level of nutrition for ewes before mating to encourage ovulation.

fly strike

Flies lay eggs on suitable moist sites on animals. In sheep, this is mainly the [breach](#), [pizzle](#) and body. The eggs hatch into maggots which burrow into the animal's skin, causing wounds, infection and wool contamination. An affected animal is described as 'fly-blown'.

fodder

Feed for livestock, usually coarsely chopped hay or straw

foetus

The developing offspring before birth.

food chain

Flow of nutrients and energy through a series of organisms by eating residues and wastes of each other, or are predatory or parasitic on one another.

footrot

A contagious disease in sheep that can cause serious economic losses in high rainfall areas. It is caused by an organism transmitted by carrier sheep. It can be controlled and eradicated from properties by a campaign which may involve vaccination, foot baths and [culling](#).

forb

A non-grasslike range [herb](#). Many broadleaf [weeds](#) are forbs.

form pruning

In [farm forestry](#), selective removal of branches or stems from a tree to ensure that the tree grows with a single, straight trunk.

foster cow

A cow suckling another cow's calf or calves.

fraternal twins

Results when two ova are produced and fertilised by two separate sperms. They may be quite dissimilar in genetic makeup and outward appearance. They may be the same or opposite sex.

freeboard

The distance between the top water level and the crest of a bank, dam or similar structure.

free martin

Female calf of twins of which the other twin is a male. A true martin is sterile (approximately 1 in 12 is fertile).

friable

A soil which crumbles easily or is easy to cultivate.

full mouth

A sheep that has all its permanent incisor teeth fully developed.

fungi

moulds, toadstools, mushrooms, arbuscular mycorrhizae (AM; some previously known as VAM – Vesicular Arbuscular Mycorrhiza). Fungi may become visible when fruiting above ground level, such as mushrooms and puffballs, releasing millions of spores to blow away. Nearly

12,000 species are described in Australia, with possibly another 40,000 undescribed. Several species from several different groups of soil borne fungal types are pathogens of plants, surviving in plant residues but usually needing live plants to reproduce.

fungicide

A chemical designed to kill fungus growth on plant or animal material.

gG

gametes

Male and female sex cells.

gelding

A castrated male horse.

genes

Basic units of hereditary material that govern the characteristics of individuals.

genetic diversity

The variety of genetic information contained in the total genes of individual plants, animals and micro-organisms which inhabit the earth.

genetic engineering

Manipulating genetic material in such a way as to change the natural course of development to give certain desirable outcomes, or prevent undesirable outcomes.

genotype

The genetic makeup of an individual, determined by the [genes](#) present. Inherited characteristics.

geographic indicator area

Registered growing area with defined characteristics unique to that location. Used as a marketing tool to define the produce of a particular location.

gestation period

Duration of pregnancy.

Average gestation periods are:

Cattle - 9 months

Sheep - 5 months

Horses - 11 months

Pigs - 4 months

gilgai

Surface humps and hollows associated with soils that have clay subsoils. Also called 'coolamons' and 'melon-holes'.

gilt

A young sow that has not had a litter.

GIS

[Global information system](#)

global information system

Satellite technology that provides information about the physical features of a landscape

global positioning system

Satellite technology that allows a certain position on the ground to be accurately located.

GPS

[Global positioning system](#)

grade

The amount of slope in a constructed structure. Also, the amount of fall in a channel, bank or watercourse.

grading

Fruit and vegetables sorted into lots, according to colour, size and shape

Removing foreign material from cereal crop seed

grafting

The joining of two separate structures, such as a root and stem or two stems, so that by tissue growth they form a union and grow as one plant.

grain sorghum

A summer growing cereal grain plant.

grassed waterway

A water disposal area usually fed by natural drainage lines or grade banks. This may be natural or constructed, but is kept stable by permanent grass cover.

grazier

A landholder who mainly runs grazing animals.

grazier's alert

A warning to [graziers](#) signifying cold, wet and windy conditions which may put vulnerable stock at risk from exposure.

green manure crop

A crop grown mainly as a source of organic matter. It is usually incorporated into the soil and contributes nutrients and soil binding qualities.

greenhouse effect

The effect of the earth's atmosphere on the sun's radiation coming and going from the earth. Most of the sun's rays coming in pass readily through the atmosphere, but the heat waves that are reflected back from the earth are trapped by gases (such as methane, carbon dioxide) in the atmosphere. So the atmosphere acts like the glass in a greenhouse, because it traps the sun's energy.

groundwater

Water in the lower layers of the soil, usually draining into creeks and rivers, and carrying leached nutrients and dissolved salts.

grubbing

Removal of tree [suckers](#) or weeds.

gully

An erosion channel in the landscape, usually more than 30 cm deep.

gully control structure

A constructed wall or barrier designed to trap runoff in a [gully](#) or unstable drainage line. It usually forms a dam.

gummy mouth

Sheep that have passed the [broken mouth](#) stage, and have lost virtually all their teeth.

gun

A shearer who consistently shears two hundred or more sheep in a day.

gymnosperm

A plant that bears naked seeds without an ovary. Radiata pine trees and Australian cypress pines are examples. Not an [Angiosperm](#).

gypsum

Calcium sulfate; a compound that stabilises sodic [clay](#) soils by replacing sodium ions with calcium ions. Also used as a source of sulfur in fertilisers.

hH

hack

A horse used for riding at an ordinary gait over roads and trails. Over 15 hands.

halfbreed

The progeny of two distinct breeds.

hamstrung

A term applied to an animal in which the tendon above the hock has been severed.

hand

Unit of measuring horses (1 hand = 100 mm).

hand piece

The working end of a shearing machine. The hand piece consists of a [comb](#) and a reciprocating [cutter](#).

hardening off

The treatment of tender plants to enable them to survive a harsher environment.

hardpan

A compacted layer in a soil that restricts root growth as well as the movement of air and water. It may be natural, or caused by cultivation.

hard setting

A soil that compacts hard when dry. A hard setting soil can lead to erosion.

hardwood

Timber from broad-leaved, flowering trees with short fibred wood, irrespective of physical hardness.

hardwood cutting

A section of plant taken from woody material or older growth in order to propagate from it.

harrowing

Cultivation with a light tined or disc implement over the soil surface. Used to break down soil clods or remove weeds.

hay

Pasture or crop material that is dried to about 20% moisture content and baled and stacked for animal feed.

haylage

Pasture or crop material that is dried to about 50% moisture content and is preserved for feeding to animals.

head

The height (usually above sea level) of the surface of a column of water that can be supported by the static water pressure at a given point.

head ditch

In flood irrigation, water is syphoned or discharged into the furrows or bays from the head ditch.

header

- a) In Australia, a grain harvesting machine.
- b) In other countries, the cutting attachment on a grain harvesting machine.

headland

The area of land which is left uncultivated during the initial pass of the cultivating implement while it is turning. This area is usually 'cut out' or cultivated last.

heartwood

Non-conductive darker coloured wood in the centre of a tree. More durable than [sapwood](#).

heat

A cow or heifer is on heat when she is ovulating and ready to accept the bull (she is [bulling](#)). If a cow is to be [artificially inseminated](#) then it is best to wait some 18 hours after heat begins (since the semen can be placed further inside the uterus and sperm have less distance to travel to fertilise the egg). See [oestrus](#).

heifer

Female bovine, older than a calf, from 6 months old until she has her first calf. The term is dropped after about 2½ -3 years if the animal has not had a calf. Often refers to an animal until she has her second calf, for example: 'first-calf heifer'.

herb

A broadleaf plant with a non-woody stem. Sometimes with a scent or flavour.

herbicide

A material that will kill plants. Herbicides may kill virtually all plants (non-selective) or be quite [selective](#) in the way they work. They may be knockdown (short-lived) or residual in the soil.

Pre-emergent herbicide. A herbicide applied to the soil after the crop has been sown but before it emerges.

Pre-sowing herbicide. A herbicide applied to the soil to kill growing or germinating seeds before sowing the crop. Post-emergent herbicide. A herbicide applied after the crop has emerged.

herd recording

Recording a cow's production at regular intervals.

heritability

The degree to which a characteristic can be passed on genetically.

heritage

A selective record of the past, deemed to have cultural, social, aesthetic or scientific value.

herringbone

A milking shed design in which the cows are placed in angled rows with their rears to a central operating pit.

heterotrophs

Organisms which obtain energy and carbon for metabolism from the breakdown of organic sources such as sugar, protein and fat. Include most bacteria, and all [fungi](#), [protozoa](#), larger invertebrate and vertebrate [fauna](#).

heterozygous

Having contrasting [genes](#) of a gene pair in the same organism. This leads to the production of [hybrids](#).

HGP

[Hormone growth promotant](#).

high tensile

Wire of high strength and hardness. Thinner, stronger and more difficult to work than milder wire.

hobby farm

An agricultural enterprise, of any size, that is not the owner's main line of business.

hogget

A young sheep of either sex from about nine to ten months until it is two-tooth. The hogget stage follows the [weaner](#) stage.

holistic management

A system of management which attempts to take into account the complex interactions of biological, physical and human systems and apply them to management goals. This takes a broad approach to problem-solving, attempting to view the context of all issues.

homozygous

Having identical [genes](#) of a gene pair present in the same organism.

horizon

A distinctive layer of soil with detectable changes in texture, structure and/or colour compared with layers above or below it.

hormone

A chemical compound which stimulates changes to the growth and reproduction of an organism. Plant hormones include auxins and gibberellin.

hormone growth promotant

Cattle treated with hormones to produce faster growth rates but which cannot be sold on some export markets. HGP-free animals are sold with identifying pink tail-tags or ear tags.

horse stud

A farm used to breed pedigree horses.

horticulture

The intensive cultivation of plants.

(Origin: Latin - hortus (garden))

host

Organism which is subjected to parasitism, predation or disease by parasite, predator, pest or pathogen.

hot wire

A wire which carries a current in an electric fence.

humic acid

A natural acidic organic polymer that can be extracted as a major constituent of [humus](#); is less acidic than fulvic acid.

humification

Conversion of soil organic matter to humus, a stable complex organic compound of varying chemical composition depending on the original residues and the microbial and biochemical processes involved.

humus

A dark, well-decomposed, stable part of the breakdown of [organic matter](#) in the soil.

hybrid

The offspring of parents of different species, varieties or breeds of plants or animals. They may be fertile or sterile. The greater the difference between the [genotypes](#) of the parents, the

more likely is sterility. An example is the crossing of a horse and a donkey; the resulting mule is sterile.

hybrid vigour

Qualities in a [hybrid](#) not present in either parent, resulting from the crossing of two dissimilar parents. Examples are increased hardiness, improved growth rate.

hydrologic cycle

The constant cycling of water between the land, the sea and the air. The water moves through the air as water vapour until it condenses and falls. Plants transpire the water and evaporation occurs as part of the cycle.

hydrology

The study of groundwater systems.

hydrosol

A soil type that experiences prolonged seasonal saturation.

hygroscopic materials

Substances, such as salt, that attract water.



identical twins

Results from the splitting of a single fertilised ovum (egg), with each half being identical to the other. Identical twins are extremely important for research purposes; they are always the same sex.

IED

[Income equalisation deposits](#)

improved pasture

Pasture that has been fertilised, and usually had introduced species added.

inbreeding

This occurs when a female is mated with a male to which she is related. The more closely related the two are, the more intense the degree of inbreeding.

in calf

A pregnant cow.

incisors

Description usually given to an animal's permanent 'cutting' teeth, as opposed to milk (temporary) teeth.

Income Equalisation Deposits scheme

The Income Equalisation Deposits (IED) scheme is designed to reduce fluctuations in the income of primary producers. Deposits of income can be made during high income years and

that income withdrawn during low income years. Any IED is tax deductible for the purposes of assessing taxable income in the year in which the deposit is made.

indicator species

Plants which are characteristic of a particular landform or soil or climate type.

indigenous

Belonging to, or forming part of the natural biological diversity of a place.

infiltration rate

The rate at which soil will allow water to enter. Readily measured using a can with the bottom cut out, pressed into the soil surface, a litre of water added, and the rate of water entry timed. Soils with poor infiltration rates result in increased run-off and [erosion](#).

inflorescence

The arrangement of the flowers on the stem. A flower cluster.

in lamb

A pregnant ewe.

inoculation

Coating legume seed with rhizobia bacteria in order to have the bacteria infect the legume to produce nitrogen-fixing nodules on the plant.

inorganic

A chemical compound which does not contain carbon chains in its structure, for example, nitrate, phosphate, sulfate and carbonate.

insecticide

A chemical formulated to kill insects.

instar

A stage in the development of an immature insect, usually between changes in ectoskeleton.

integrated pest management

A system of pest control that uses a combination of most appropriate control measures including pesticides, cultural, mechanical and biological means. Monitoring of pest numbers is an important step in integrated management.

internode

The section of a plant stem without branches.

inventory

Stock or stores of raw materials, components or finished goods.

invertebrate

[Macrofauna](#) and [mesofauna](#) without backbones but have external skeletons, including, insects, spiders, worms and relatives of various kinds.

ion

Atoms and molecules which carry a positive (cation) or negative (anion) electrical charge (anion). Cations and anions combine to form salts.

IPM

[Integrated pest management](#)

jJ

Jackeroo

Male trainee farm worker. Jackeroos serve for 4 years (with annual increments) under the Pastoral Award before becoming a [Stationhand](#).

See also [Jilleroo](#).

jetting

Application of pesticide to treat external parasites in an animal by spraying the chemical under pressure to the body.

See also [dip](#).

Jilleroo

Female equivalent of a [Jackeroo](#).

joining

Placing male animals with female animals for mating.

kK

K

The chemical symbol for potassium.

(Origin: Latin - kalium).

kandosol

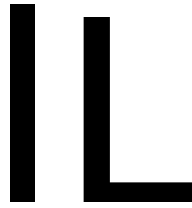
Soil type lacks strong [texture](#) contrast between the A and B [horizons](#) but with a massive B2 horizon.

killer

A sheep or calf kept for farm slaughter for rations.

kurosol

A soil type that shows strong texture contrast between the A and B horizons and has pH greater than 5.5 in the upper B horizon.



lactation period

The time an animal is in milk, usually 10 months for cows. The official testing period for dairy cattle is 300 days.

lagoon

A natural depression of reasonable size that is almost always filled with water

lamb

A young sheep still with its mother, or up to about five months of age.

lamb cradle

A dish-shaped holder in which lambs are placed for [marking](#).

land capability class

A system of classifying land according to its productivity for agricultural use. In New South Wales, this is an eight class system developed by the Soil Conservation Service. It gives a landholder a guide to the productive capability of the land and its vulnerability to erosion.

Landcare

A movement of group action, initiated by the Federal Government, to help improve the environment, both in rural and urban areas. The groups usually centre on a water catchment, and work together in a particular locality to tackle land and water management issues.

See <http://www.landcarens.org.au/>

land degradation

The decline in land quality caused by improper use of the land.

landslip

The movement of a mass of soil down the slope caused by a separation of soil layers.

La niña

The opposite of [El niño](#), when the waters in the eastern equatorial Pacific are abnormally cold. *La niña* episodes (positive phases of the [Southern Oscillation](#)) are characterised by more frequent and heavier rain periods, occasionally with severe flooding.

(Origin: Spanish - the little girl)

larva

Immature stage of insect growth such as grub or caterpillar.

layering

A vegetative way of producing plants by putting out roots before the new plant is cut from the parent plant.

LD50

Measure of toxicity of a chemical. The lethal dose that will kill 50% of test animals. The lower the LD50, the more toxic is the chemical.

leachate

A liquid that has percolated through or drained from contaminated material and which itself contains contaminants.

leaching

The downward movement of nutrients or salts through the soil profile in soil water. Leaching accounts for nutrient losses but can also have the benefit of ridding a soil of excess salts.

leader

The growing tip of a tree.

leaf sheaths

Parts of the leaf that wrap and mass together to give a stem-like appearance in grasses.

legume

A plant, such as clover, peas and beans, that are able to fix (capture) nitrogen from the air by means of nodules on its roots.

See also [nitrogen fixation](#).

let down

When a cow receives the appropriate stimulus a hormone is released that in turn causes her to release milk from her udder. This is called milk let-down.

levee

A bank, either natural or constructed, that forms along the edge of a watercourse, and is usually higher than the surrounding land.

ley pasture

A relatively short phase of two to five years in a mixed cropping rotation schedule in which pasture is established rather than an annual crop. Mixed or pure species pastures are used to build soil stability, soil organic matter and also soil nitrogen content if legumes are included.

LHPA

[Livestock Health and Pest Authority](#)

life cycle

Process by which an organism completes a single generation from embryo or spore, through growth in size to maturity, reproduction and death.

lignin

A complex chemical compound most commonly derived from wood, and an integral part of the secondary cell walls of plants and some algae.

lime

Ground limestone that is used to raise soil [pH](#). Limestone consists of calcium carbonate, with varying amounts of magnesium present.

linear programming

A mathematical technique used in farm management to maximise returns from a set of resources, often in a whole-farm context.

line breeding

Breeding from the same bloodline or within the same family, but not from close relations.

litter

Undecomposed but recognisable organic matter lying on soil surface, such as dead leaves and [stubble](#).

littoral

Referring to the zone near the shoreline of the sea or a lake.

livestock feed budget

A budget comparing feed requirements of livestock with the feed available.

Livestock Health and Pest Authority

The agency in NSW that has responsibilities for animal health, pest animal and insect control and travelling stock reserves. The [Livestock Health and Pest Authority](#) work with the [NSW Department of Primary Industries](#). The LHPA assists producers in ensuring they have correctly identified their livestock and that stock movements are carried out in accordance with requirements. They also assist with drought and natural disaster relief.

livestock month

A measurement to rank monthly energy needs of stock. A livestock month is the energy (in feed) required by an adult dry sheep (one [DSE](#)) in 30 days.

liveweight

Total weight of an animal including fleece, gut fill and contents of the uterus.

loam

The name of a [soil texture](#) class with moderate amounts of sand, silt and clay.

longevity

Length of life. In dairy production, it is a satisfactory level of milk and fat production over a long lifetime.

longtail

Sheep (mostly [wethers](#)) with tails intact to appeal to the Middle East live sheep market.

lousy

An animal infested with lice.

LW

[liveweight](#)

mM

macrofauna

[Fauna](#) large enough to be seen with the naked eye.

macroinvertebrates

Small (but not microscopic) [fauna](#) without backbones. For example, some insect species which spend at least some of their life-cycle in water.

macronutrient

An essential nutrient that is needed in relatively large amounts; for example, [nitrogen](#) and [phosphorus](#).

macrophyte

A plant that is able to be seen by the naked eye. This term is often used to describe aquatic plants.

macropore

A pore (hole) in the [soil profile](#) that includes channels created by cracking, old plant roots and soil [fauna](#) (for example, earthworms). Macropores indicate good [structure](#).

magnesium

An important plant nutrient that can aggravate soil dispersion problems if present in excessive amounts.

maiden

A [mare](#) or [ewe](#) that has never been mated.

maintenance

Feed needed by an animal to keep a constant body condition.

maize

A summer growing cereal grain plant (corn).

marbling

Fat deposited within muscle tissue.

mare

A female horse more than four years old.

marginal costs

Additional or extra costs needed to generate an additional unit of produce.

marginal land

Land that cannot regularly be used for any form of agriculture because it is limited by climatic, soil or slope conditions. This land needs careful management to protect it from degradation.

marginal return

Extra or additional return from adding an extra unit of produce.

marking

Involves castration, earmarking and branding of stock up to 6 months of age, but normally 1-3 months. Dehorning and vaccination are usually done at the same time.

market garden

A garden that grows vegetables, fruit or flowers on a small scale for local consumption.

maritime

Influenced by the sea. In climatic terms generally temperate with relatively limited seasonal extremes.

massive soil

[Soil structure](#) is massive if no [peds](#) are evident, soil particles are the same size and the soil particles are bonded together.

mass movement

A type of erosion in which gravity causes a land surface to slide down the slope. See also [landslip](#).

mastitis

A disease of the udder that affects milk production.

mating age

The age that it is appropriate for animals to begin breeding.

Heifers—over 275 kg live weight (normally 15 months and over. Gives calves at 24 months).
Bulls—in full work at 2 years. Maiden ewes—over 50 kg live weight (normally 18 months).
Rams—in full work at 15–24 months. Age of mating is closely related to the body weight of an animal rather than a set age.

mean

Average. The sum of all the values in a group, divided by the number in the group. Most often applied to rainfall. See also [median](#).

median

Median rainfall is calculated by ranking totals from highest to lowest. The middle figure is the median. Annual rainfall [means](#) and medians are usually close, but means are quite often higher than the median, especially in drier areas where the mean is distorted by rare heavy rainfall events.

merchantable timber

Timber suitable for processing into wood products for which a market exists.

Merino

A breed of sheep prized for its fine wool quality.

mesofauna

Intermediate-sized animals (those greater than 40 microns in length, which is about three times the thickness of a human hair). Nematodes, mites and springtails are typical members of the mesofauna. These animals may feed upon microorganisms, other soil animals, decaying plant or animal material, living plants, or fungi. By removing roots they open drainage and aeration channels in the soil.

metabolise

To undergo the chemical changes of metabolism.

metabolism

The process occurring inside living cells to generate energy for growth and movement, convert nutrients into cellular structures and undertake other chemical conversion which results in new cells and dispose of cell wastes such as [CO₂](#)

metamorphosis

Process during pupation by which an immature insect develops into a mature organism through rearrangement of its structure, such as a caterpillar to a butterfly.

methanogen

A specialised group of anaerobic bacteria which use hydrogen, organic acids and [CO₂](#) instead of oxygen, to generate energy from decomposition of organic matter. Methanogens create methane as their waste product, a greenhouse gas with 72 times the potential than [CO₂](#) to cause global warming over 20 years.

micro aggregate

Unit of soil with a diameter of less than 0.25mm consisting mainly of sand, silt and clay particles.

microarthropods

Very small fauna, often less than 1 mm in size with external skeletons and jointed legs, such as collembola (springtails) and mites.

microbes

A general term for microorganisms such as [bacteria](#), [fungi](#) and [protozoa](#) that cannot be seen with the naked eye.

microenvironment

A site in soil which functions at the microscopic particulate and molecular level, in which microbes are the inhabitants.

micronutrient

An essential nutrient that is needed in small amounts; also called a trace or minor element; for example, copper, molybdenum.

micro-organism

Microscopic [flora](#) and [fauna](#), for example, bacteria, fungi and algae.

micropollutant

Trace contaminants.

milk replacer

A milk substitute in powdered form that is mixed with water and fed to calves.

millipede

Many-segmented [macrofauna](#), with two pairs of legs per segment and mostly over 30 pairs per animal. Have antennae and chewing mouthparts.

mineralisation

Decomposition in soil of organic matter by micro-organisms, which releases the mineral elements as inorganic ions.

minimum tillage

A soil management system in which weeds are controlled mainly by chemicals instead of cultivation. Conservation farming and reduced tillage involve similar approaches.

mites

Beneficial and pest [mesofauna](#) and [macrofauna](#) related to spiders, scorpions and ticks.

mitosis

The process of asexual cell division in eukaryotes when the chromosomes in the nucleus separate and then recreate copies which results in two identical sets of genetic material. The cell itself splits so the two daughter cells contain identical genetic material which then grow to mature size.

mixed farming

Where several types of agricultural enterprises are conducted on the one farm.

mob

Group of animals, usually of similar age or class.

mob stocking

Putting large numbers of stock (often of mixed ages and sexes) on an area for a short period of time. See [Crash grazing](#).

moisture content

The amount of moisture in plant material, expressed as the percentage of the weight of oven dry material. The moisture content of most air-dry seeds and plants is about 10–12%.

molecule

The simplest unit of a chemical compound that can exist, consisting of two or more atoms held together by chemical bonds.

monocotyledon

A class of plants with embryos that have one [cotyledon](#), such as maize and wheat.

monoculture

A single species grown as a crop or pasture to the exclusion of other species.

morphology

The shape, form or structure of an object.

motile

Able to move independently of environmental forces such as water and wind. Motile bacteria and protozoa have cilia, while arthropods have legs and wings.

mottled

Soil that contains more than one colour in a horizon. It often indicates poor drainage, or periodic waterlogging.

mouldboard

A primary tillage implement designed to completely turn the furrow slice over. Mainly used in vegetable farming in deep soils; rarely in broadacre farming.

mouthing

Determining the approximate age of an animal by looking at its teeth.

mulch

A natural or artificial layer of material on the surface of the soil. Mulches are applied to conserve moisture, control weeds, and improve structure and prevent erosion.

mulesing

Removal of wrinkled strips of skin around the [breech](#) and tail of lambs to reduce the chances of flystrike. The resulting skin is tighter and remains more clean and dry than normal. Usually only carried out on merinos but rapidly losing favour as it is an animal welfare issue.

muster

To gather all stock from a paddock or property. Usually the [mob](#) is counted or brought to the [yards](#) for some purpose.

multicellular

Having or consisting of many cells or more than one cell to perform all vital functions. Examples include fungi, humans, insects and plants.

mutualism

A relationship between two or more organisms which results in benefits to all concerned.

mycelium

Hyphae of fungi that group together into networks, ropes, or fruiting bodies visible as mushrooms or toadstools.

mycoherbicide

A naturally-occurring disease (usually fungi or bacteria) that can be cultivated to produce a more environmentally-safe product than most chemical herbicides.

mycorrhizae

Fungi forming symbiotic relationships with plant roots, where the organism lives inside the roots enabling access to plant nutrients from sap and its hyphae grow out into soil to absorb nutrients which are transferred to sap. Endomycorrhizae have hyphae which lie between the plant cell wall and the inner cell membrane, while ectomycorrhizae have hyphae which grow between plant cells, but not against the inner cell membrane, and form a network on the outside of the roots.

nN

N tie-up

Temporary deficiency of plant available nitrogen. It is caused by free soil nitrogen being scavenged by microbes to enable decomposition of residues containing a high C/N ratio. The nitrogen is incorporated into microbial protein and is no longer available as inorganic N for plant uptake.

native vegetation

Pasture, trees and [understorey](#) species that grow naturally in a local area.

naturalised pasture

Pasture species that have been introduced from overseas and have spread and reproduced without human assistance.

natural resources

Parts of the environment that are useful to humans, including land, water, plants, animals, minerals and energy.

near side

Left-hand side of an animal. The side from which a horse is mounted. Compare with [off side](#).

negotiable quota scheme

It is no longer compulsory to hold equal milk quota entitlements for each four weekly period (quota period). Instead these may be bought or sold on the quota exchange. Therefore under the negotiable quota scheme all quota may be sold in any one period, or if qualified for, additional quota may be obtained.

nematode

eel-, thread- or round- worms of generally microscopic dimensions (0.5-1 mm long; microfauna), multicellular with organs for feeding, excretory and reproductive functions. Mouthparts vary: funnel-shaped for bacterial feeders, other extensions to tear plant material or other nematodes, stylets to suck juices, and others parasitise fauna.

neutral soil

Soil with pH 7.0.

nitrate

A form of mineral nitrogen that is readily available to plants.

nitrification

The formation of nitrates and nitrites from ammonia or ammonium compounds, mostly by soil [micro-organisms](#).

nitrogen fixation

The transformation of free nitrogen from the air into nitrogenous compounds by various bacteria in the soil. Certain bacteria (*Rhizobium* spp) living in the root [nodules](#) of [legumes](#) are able to stabilise nitrogen.

node

The joint on a plant stem where the leaf is attached.

nodule

A small lump on the roots of [legumes](#) in which [rhizobia](#) bacteria grow and fix nitrogen from the air.

non-commercial thinning

Removal of tree for management purposes that have a limited value and are usually left in the forest.

no till farming

A method of minimum tillage in which the crop is sown directly into soil that has not been cultivated. Weed control is achieved solely by using [herbicides](#). See also [direct drill](#).

not station mated

[Ewes](#) that have not been joined, and therefore not in lamb. This description is given to indemnify a [vendor](#) from the possibility that a stray ram may have got into the [mob](#) and mated with the ewes.

NSM

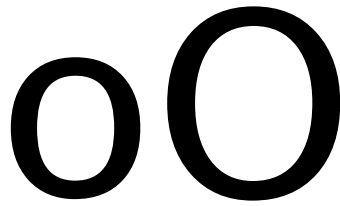
[Not station mated](#)

nurse crop

A fast-growing species planted with a slow growing species to encourage it to grow tall and straight or to protect it from grazing or adverse weather.

nutrients

Substances that provide nourishment to living organisms.



oats

A winter growing cereal grain plant that is sometimes grown for [fodder](#).

oestrus

In cattle, the period during which a cow or heifer is willing to receive a bull. Also known as [heat](#) or [bulling](#). Also applies to other animals.

off farm income

Income produced outside the farm business which provides cash flow.

off farm investment

Capital that is invested outside of the farm business.

off side

The right-hand side of an animal. Compare with [near side](#).

old growth forest

An ecologically mature forest where the effect of disturbance are now negligible, Harvesting of mapped old growth forest is not permitted.

opportunity cropping

A cropping system which takes advantage of soil moisture buildup to grow more than one crop in a year or to crop in an area that isn't normally suited to cropping.

orchard

A farm of perennial tree and shrub horticultural crops.

organic

A chemical compound which contains carbon formed in chains with other nutrients such as N, P, O, H and S, attached to form proteins, sugars, starches, genetic and energy storage molecules. Organic matter can be decomposed by most soil microflora to supply energy and nutrients for their growth, reproduction and activities.

organic acid

An acid which is composed of carbon chains, such as a fatty acid or acetic acid. Generally organic acids do not have pH values as low as inorganic acids such as sulphuric and hydrochloric acids.

organic matter

Carbon-based materials of either plant or animal origin, which occur in all stages of decomposition in soils.

organism

A living thing.

organic farming

A farming system based on the use of natural materials for supplying nutrients and protection to plants and animals. No chemicals such as artificial fertilisers, pesticides or herbicides are allowable for a farm which is certified organic.

over clearing

Removing trees and shrubs from land where they should be left. This may cause erosion or soil structural problems or salinity. Over clearing leaves little shade and shelter for animals.

overgrazing

Grazing pastures or rangeland too much. This causes the loss of valuable plants, soil erosion may result and weeds may become a problem.

ovulation

Shedding of an egg from the ovary.

ovule

The female sex cell in the ovary of a plant flower.

ovum

The female sex cell (egg). Plural: *ova*.

ox-bow

A curved depression that holds water and is separated from the main channel in a waterway.

oxidation

The combination of oxygen with a substance, or the removal of hydrogen from it.

pP

P

Chemical symbol for phosphorus.

pan

A hard, [compacted](#) layer in the [soil profile](#). This may be natural (a hardpan) or caused by mechanical compaction (a [plough pan](#)). It restricts root penetration and drainage.

parameter

A constant term in an algebraic equation, but used in farm management to show one of the factors influencing a budget (for example, the price or yield of wheat).

parametric budget

A table showing a range of budget returns showing what happens when there is a change in production or in price or cost factors.

parent material

The rock material from which soil develops. The type of parent material influences the fertility and other features of the soil.

partial budget

A budget that estimates the difference between the extra costs and extra returns from a change occurring in an enterprise.

parturition

Giving birth.

pasture

Grasses, legumes and other growing plant material suitable for grazing animals. The plants may be described as [annuals](#), [perennials](#), [native](#), [naturalised](#) or [improved](#).

pasture improved

See [Improved Pasture](#).

pasture topping

Applying [herbicide](#) to pasture to stop seed setting of undesirable species.

pathogen

An organism capable of causing disease symptoms in another organism.

PAWC

[Plant available water capacity](#)

ped

A single natural soil [aggregate](#).

peduncle

The short stem of the flower cluster.

peeler logs

Logs of top quality. They must be straight, round, fairly large and have few defects so they can be 'peeled' for [veneer](#) timber.

percolate

To drain or seep through a porous substance. Water percolates through sand.

perennials

Plants that do not die after flowering but live from year to year.

permaculture

A term for 'permanent agriculture' coined to describe a system of planting, growing and harvesting in harmony with nature. Permaculture designs use land, plants and animals in the diverse and balanced ways in which they would occur in natural systems.

permanent beds

A tillage system where the beds and wheel tracks are left in the same place for a number of crops.

permanent wilting point

The amount of water still held in the soil when plants wilt to the extent that they won't recover even if water is added. Soils differ in the amount of water still held at permanent wilting point.

persistency

A cow's ability to produce milk and butterfat over a long lactation (10 months). The word 'low' or 'high' precedes the term.

permeable

Material that allows substances (usually water) to pass through them.

pessary

A large capsule or tablet of medication placed in the cow's vagina in order to assist in the prevention or cure of infectious disease, especially after calving.

pesticide

A general term for chemicals which will kill weeds, fungi, insects or other pests of plants, animals or products.

petiole

The leaf stalk of a plant.

pH

Potential Hydrogen. The measure of acidity. A pH lower than 7 is acid, higher is alkaline.

pH buffering capacity

The ability of a soil to absorb acid or lime with little or no change to [pH](#).

phenotype

Physical characteristics of an animal, which are not inherited (in contrast to [genotype](#)).

pheromone

A sex-attractant hormone or scent produced by animals or insects.

phloem

The soft portion of the stem of plants which transports water and nutrients such as sugars and amino acids.

photoautotroph

Bacteria which can use light as sources of energy to drive cell metabolism. They mostly fix [CO₂](#).

photoperiod

Number of daylight hours in a day.

photosensitisation

A sensitivity to sunlight in the skin of animals. It can be caused by animals eating certain sensitive plants or mouldy feeds. The condition is a sunburn with blistering and skin sloughing.

photosynthate

The compounds such as sugars and starches synthesised by plants from carbon dioxide gas using energy from light.

photosynthesis

The process of plants converting carbon dioxide into [carbohydrates](#) by [chlorophyll](#) using the energy of sunlight.

phototropic

Attracted towards light.

phytate

An organic compound rich in phosphorus which is synthesised by some legumes and cereals. Soil organisms can access the phosphorus during decomposition of litter from these plants.

piezometer

An instrument used to measure the [groundwater](#) pressure of [aquifers](#). A piezometer is a PVC pipe that is slotted at a certain depth and allows water only from that depth to enter.

piggery

A place where domestic pigs are kept.

pizzle

The penis of male animals.

pizzle dropping

Cutting the tissues between the sheep's belly and the sheath enclosing the penis or [pizzle](#) in [wethers](#) to prevent wool stain and fly strike in the pizzle area.

pizzle rot

An infection and ulceration in wethers and rams around the pizzle area caused mainly by a high protein pasture diet. Also known as 'sheath rot'.

PL

[Plastic limit](#)

placenta

Membranous tissue uniting an unborn mammal to its mother's womb and acting as a site of nutrient exchange between the blood systems of the mother and developing offspring.

plant available water capacity

Amount of water in a soil that can be readily absorbed by unrestricted plant roots.

plant succession

A gradual change in the number of individuals of each plant species of a community and the establishment of new species populations over time.

plantation

A planted forest or woody crop.

plastic limit

The water content at which soil can only be just rolled into 3 mm diameter rods. At water contents lower than the plastic limit, the soil is brittle.

plough

An implement for cultivating soil, usually as a primary, or first operation. Examples are mouldboard, disc or chisel ploughs, or a rotary hoe.

plough pan

A hard layer in the soil caused by ploughing at the same depth a number of times. Plough pans can hinder water infiltration and root growth through the soil.

plums

[Finished](#), [prime](#) or fat cattle.

PMP

Property management planning, see [whole farm planning](#).

poddy

Artificially reared animal, bucket or teat fed on milk or milk replacer.

podosol

Soil type which shows marked textural and colour changes down its profile due to leaching of organic matter and nutrients. Usually has granite parent material in New England region of NSW. Also known as podzols.

point source

A source of pollution that can be identified. In agriculture, sewerage effluent, waste from processing industries and intensive animal industries such as feedlots, dairies and piggeries are potential point sources of pollution. The other type of pollution is diffuse source. This comes indirectly from nutrients in the landscape.

pollarding

The process of cutting a tree of above stock grazing height. In fruit trees, it is the removal of all but the main branches.

polled

Animals that are naturally without horns.

pollination

The transfer of pollen from the [anther](#) to the [stigma](#) either within the same flower or between different flowers.

pome

Type of fruit such as pear, apple and quince. Compared with *stone fruit* such as peach, cherry and plums.

pony

Horse of any breed up to 14 [hands](#).

pore space

The openings in a soil not filled with solid particles. Pore spaces are filled with varying proportions of air and water.

porosity

The ability of a soil to allow water to move through it. This depends on the quantity and nature of the [pore spaces](#).

poultry

Domesticated fowls used to produce eggs, meat or feathers.

pregnancy tested in calf

A term used to describe the condition of cows and heifers to indicate their reproductive condition, particularly when they are offered for sale.

presser

A person who operates a wool press.

primary tillage

The first working of the soil by implements for cropping or pasture. Also refer to [Secondary tillage](#).

prime cattle

Cattle with carcase type that satisfy specified market requirements.

prime lambs

An agricultural enterprise that supports sheep meat production. Usually based on good climate and pasture conditions.

private irrigation district

A typically localised irrigation scheme with privately funded and managed development and operation. Water is supplied to farmers on a contractual basis.

probability

Probability of an event happening can be expressed as a percentage. A probability of 70 per cent means there are 70 chances in 100 (or seven in 10) of the event occurring. A probability of 50 per cent is only as good as tossing a coin.

progeny

The offspring of the sire and dam.

progeny testing

Assessing the performance of an animal's [progeny](#) to assess the animal's value as a parent (its breeding value). Mainly used to assess [sires](#).

property management planning

See [whole farm planning](#).

pro rata

In proportion.

protein

An essential source of [nitrogen](#) in many feeds, consisting of complex amino acids and other elements. The higher the nitrogen level, the higher the protein level, and the higher the nutrient value of a feed source.

protozoa

Single celled eukaryotes without cell walls, microscopic organisms which vary in shape. They are colourless, and most are beneficial scavengers that live on small particulate matter and bacteria; a few are human and animal parasites, causing diseases such as malaria.

provenance

The geographical site or origin of a plant (usually trees). Trees from different provenances can show different features, for example, frost or salt tolerance.

pruning

Removal of plant parts to keep a better form or to control the direction and amount of growth.

PTIC

[Pregnancy tested in calf.](#)

pugging

A condition of the soil in which the structure is damaged by animals or machinery during wet weather.

pulplogs

Logs that are processed into wood chips or pulp for wood-based panels, paper and paper products.

pure breeding

See [straightbreeding](#).

pulse crops

Annual [legume](#) crops that produce grains, including chickpeas, lupins and lentils.

q Q

quality assurance

Standards are set for a product or process that ensures that the end-product is of a predictable quality to improve its marketability.

Queensland gate

A homemade, temporary or permanent gate made by slinging wire or netting in an opening and fixing it with battens and various hitches. Also called a 'Bogan gate', a 'running gate', a 'machinery gate' or 'cocky's gate'.

Queensland hitch

A method of tying rails to posts in fence or yard construction. The wire is doubled in a hair-pin style, then twisted around the timber. This provides a simple, but very strong means of fastening.

quota

Dairy farmer's share of the premium-priced liquid milk market.

quota exchange

Where quota can be traded (bought or sold) as 4-weekly lots of which there are thirteen in the year.

rR

race

Part of animal handling yards. Animals are forced down a tapering laneway (the race) so they are in single file. They can then be individually handled, [drafted](#) or given veterinary treatment.

raddle

A type of crayon used for marking sheep during culling. May also be used in identifying rams' activity during mating.

rainfall intensity

The rate of rainfall in a given time. Expressed in millimetres per hour (mm/h)

rainfall probability

The likelihood of rainfall to occur within a certain time. For example, "a 60% chance of 40 mm of rain to fall in a month." This means it is expected that 40 mm of rain will fall that month in 6 out of 10 years.

raking

One operation associated with haymaking, in which the pasture is raked into a windrow for drying and baling.

ramp

- a) Elevated race for loading stock onto transport.
- b) See Cattle grid.

rangeland

Land used for grazing sheep or cattle at low stocking rates over large areas. Rangeland usually has native pasture with seasonal growth in drier areas of Australia.

rank

Pasture that is tall and spindly with dead leaves at the base. Low quality.

rapid mastitis test

A simple test to detect a form of [mastitis](#) not visible to the eye (subclinical).

RAW

[Readily available water](#)

readily available water

The proportion of water in the soil that can be readily removed by a plant.

rebate

A discount or allowance made in price paid for goods or services. For example, a rebate on superphosphate made by supplying firms.

recalcitrant

Resistant to degradation.

recharge area

An area into which water flows and adds to the [groundwater](#) accumulating in the [aquifer](#).

red-eye

A large western merino [wether](#).

regulated water supply

A source of water that is managed to control water flows and access for irrigation in accordance with defined water sharing rules. Typically involves water released for a water storage area or [dam](#).

rehabilitation

The treatment of degraded or disturbed land to make it more stable and sustainable. Areas that are mined or [overcleared](#) may be rehabilitated.

relative humidity

The amount of water vapour in the air, shown as a percentage of the maximum water vapour that the air could hold at the same temperature and pressure.

remediate

Repair the damage to landscape or soil caused by past management strategies.

remnant vegetation

A patch of substantial native vegetation around which most or all of the original vegetation has been removed.

reptile

Reptiles have scales, are [ectothermic](#) and reproduce by either laying eggs or giving birth to live young. Snakes and lizards living in burrows are considered as [macrofauna](#).

residual herbicide

A herbicide that is usually applied to the soil where it persists for some time, killing weed seedlings as they germinate and emerge.

resilience

The ability of a system or organism to remain viable under stressful conditions and return to normal function within a reasonable period of time after these conditions are removed.

respiration

The use of organic compounds by aerobic organisms to provide energy for cellular processes, releasing carbon dioxide as waste gas;

Breathing in air for its oxygen content and breathing out air with increased carbon dioxide component;

Estimate of soil biological activity by the measurement of carbon dioxide from a unit of soil during a fixed time.

restocker

An animal in the market suitable for restocking a property. See also '[Store](#)'.

rhizobium

A bacteria that can infect [legumes](#) in a beneficial way. The bacteria feed on the plant, but also take nitrogen from the air and change it into a form that the plant can use. Thus legumes have a high [protein](#) content.

rhizomes

Horizontal stems that grow partly or entirely underground. They are often thickened and serve as storage organs.

rhizoplane

The surface of the root.

rhizosphere

The chemical zone of influence of plant roots in soil.

rill erosion

As sheet erosion advances across the soil, small channels—*rills*—form and start to concentrate the water. Gullies may form from rills.

rig

A male animal not properly [castrated](#). Frequently the testicle can't be removed because it remains in the abdominal cavity.

ringbark

Cutting around the trunk of a tree to remove the bark and so disrupt the flow of nutrients and water from the [cambium](#) and [phloem](#) layers. Death of the tree results.

ringer

- a) The fastest shearer in the shed. The one who has shorn the most sheep at any one shearing.
- b) A stockperson, or drover, especially of cattle.

ringing

Shearing or clipping the wool in a small area around the [breach](#) in sheep.

riparian

The area close to a waterway, stream or river. Riparian vegetation grows along watercourses.

ripping

Tillage with a tined implement that loosens the soil without turning it over.

RMT

[Rapid mastitis test](#)

rod weeder

A light, secondary tillage implement (usually attached behind another implement) that consists of a long rod that revolves just below the soil surface, loosening or flicking weeds out of the soil.

root exudates

Water soluble compounds such as amino acids, sugars, vitamins, organic acids, carbohydrates and proteins that roots release in the [rhizosphere](#). Exudates act as messengers, supply food for soil organisms, and influence soil moisture in the rhizosphere.

rootstock

The lower part of a plant graft. See [grafting](#).

rotational grazing

A grazing system where stock are moved from paddock to paddock or from strips of pasture. The animals heavily graze an area and then are moved on, allowing the pasture to recover.

roughage

Bulky feed that is high in fibre and varies in protein, depending on the source.

rouseabout

A farm worker generally associated with (shearing) shed and yard work at shearing or crutching times.

royalty

Compensation, usually in the form of a portion of revenue, that goes to the Crown for (in forestry) the use of a timber harvesting right.

rudosol

A soil type that shows no evident [soil horizons](#).

rumen

The name applied to the first stomach of [ruminants](#). The rumen contains large numbers of microbes which help break down fibrous, low quality feed.

ruminant

An animal that chews its cud. It has four stomachs. Examples are sheep, cattle, goats, elephants.

run

The amount of time (2 hours each; four per day) a shearer works between rest periods in a full day.

runoff

Rainfall that is not immediately absorbed into the soil. Water flows across the soil surface and, depending on the soil condition, the runoff may pick up soil particles and cause [erosion](#).

runt

Small stunted pig, or other animal.

rye

A winter growing cereal grain plant that may also be grown for fodder.

SS

saline soil

A soil containing enough soluble salts to harm its productivity for plants.

salinity

An accumulation of salts, usually sodium chloride in soil and water to levels that impact on human and natural assets such as, plants, animals, aquatic ecosystems, water supplies agriculture or infrastructure.

salting

The accumulation of harmful salts in the soil. There are two types: dryland salinity and irrigation salinity. In both cases, the [watertable](#) comes close to the surface, the water evaporates and the salts remain. Dryland salinity may be natural, but more usually, like irrigation salinity, it is caused by land management practices. [Overclearing](#) of native vegetation can cause dryland salinity.

salvage value

Used in a development budget as an estimate of the value of the capital investment at the end of the planning period.

sapling

A young tree less than 100mm [DBH](#).

sappy

Prime condition in an animal. Good health and growth. Similar to [bloom](#).

saprophytic

Organisms, such as earthworms, which live on already dead organic materials.

sapwood

The generally lighter coloured band of wood under the bark that conducts water from the roots.

saturation

When the soil root zone has all the [pore spaces](#) filled with water, it is saturated or [waterlogged](#).

saturation point

Soil condition where all the large pores in the soil are filled with water.

sawlog

A log of suitable dimensions or value to warrant milling into sawn products

scald

A process in which topsoil is removed to expose the underlying [clay](#). The soil may be [sodic](#) or eroded.

scarification

The chemical or physical treatment given to some hard coated seeds to break or weaken the seed coat enough for germination to occur. The seed coat may often be too hard to allow water or air to enter.

scarifier

Secondary tillage implement intended for shallow working to break [clods](#) and kill weeds.

scion

The upper part of the join in a [graft](#).

scorpion

[Macrofauna](#) related to spiders with four pairs of legs, a pair of pincers on pedipalps, six to twelve eyes and a long flexible tail containing sting.

scouring

Erosion of a bank or channel. In some cases, scouring may be beneficial in removing a build up of silt or sand in a channel.

scours

A disease causing diarrhoea, especially of lambs and calves. In young animals it can be fatal and usually requires prompt treatment.

sea surface temperature

Sea surface temperatures in the Pacific and Indian Oceans may have an important effect on Australian climate. Measurements are made and related to rainfall. In some areas, SST appear to have more influence on rainfall than [SOI](#).

second cross

[Progeny](#) resulting from the mating of true half-breds and a distinct breed.

secondary tillage

Tillage operations carried out after [primary tillage](#). It is used for weed control and to prepare the seedbed for sowing.

sediment

Material (usually soil and organic matter) that has been moved from one site to another by the action of wind, water or gravity.

seepage area

Where the [watertable](#) is close enough to the surface to evaporate and allow salts to accumulate. Same as [discharge area](#).

selection

Choosing stock to keep for breeding or growing out. The opposite to [culling](#).

selective herbicide

A herbicide that kills only certain groups of plants. For example, 2,4-D kills broadleaf plants, but not grasses.

self mulching

Topsoil that, on drying, breaks down into a good [tilth](#), with well-formed [aggregates](#). This usually occurs in cracking clay soils.

self-pollination

Pollen is transferred from an [anther](#) to a [stigma](#) of the same flower.

semen

A liquid containing sperm that is produced by the reproductive organs of a male animal.

senescence

Changes in plants caused by unfavourable growing conditions leading to a halt in growth, and nutrients moving out of the leaves. Growth may begin again if favourable conditions return.

SEP

[Sire evaluation plan](#)

sequestration

The process of removal or separation. An example is the removal of carbon dioxide from the atmosphere where it acts as a greenhouse gas, and converting it to plant biomass via photosynthesis.

service

The insemination of a female animal, either by joining with a male or by [artificial insemination](#).

set stocking

Continuous grazing of an area for long periods by the same stock.

sexual reproduction

Multiplication of an organism where there is introduction of new genetic material so daughter organisms have a mixed genetic composition reflecting that of both parents.

shank

See [tine](#).

sheet erosion

Water moving over the soil surface in a thin sheet erodes or picks up soil particles and removes them from the paddock. Sheet erosion can go undetected until large amounts of valuable topsoil are removed.

shelterbelt

An area of living trees and shrubs that are used to protect grazing animals from severe climatic conditions. Stock are usually put into shelterbelts for protection, or they may be used as [windbreaks](#).

shrink/swell

A feature of some soils that tends to make the clays within them expand when wet and shrink (and crack) when they dry.

sibling

An animal's 'brother' or 'sister'.

side-dressing

Placement of fertiliser alongside the rootzone of a growing crop.

side winder

A bull that has been rendered incapable of joining by severing the penis support muscle. Used to detect cows on heat in an [artificial insemination](#) program.

silage

A feed that consists of forage crops or pasture that is harvested and preserved at about 20–40% dry matter (60–80% water content) by allowing it to ferment in the absence of air. Air is excluded by burying and pressing the material in pits or silos, or by wrapping or covering in plastic.

silt

Soil particle finer than sand, but not as fine as clay. Between 0.002mm and 0.02mm in diameter. Silt is silky to the feel.

siltation

A buildup of sediment (not necessarily only silt) in a waterway.

silviculture

The theory and practice of managing stands of trees for establishment, quality and growth.

sire

Male parent.

sire evaluation plan

A service that makes the semen of young, unproven bulls available for [artificial insemination](#) and offered at discount rates. There is an advantage to the industry in using these bulls early since it allows more rapid identification of the very best for future breeding.

skirting

Removal of portions of wool from the fleece because they are of inferior quality and value. This is done on the wool table. The wool removed is the skirting.

slabbing

Production of large [clods](#) with smeared faces when using tined implements in solid wetter than the [plastic limit](#).

slaking

Breakdown of soil [aggregates](#) in water into smaller groups, or micro-aggregates.

slashing

Cutting pasture or grass with a machine to remove excess material or weeds from a paddock.

slaters

Also known as pill bugs or woodlice oval body up to 15 mm long ([macrofauna](#)) with antennae, seven segments and seven pairs of legs, related to crustaceans. Pill bugs roll up if disturbed.

slickenside

Large diagonal shear plane in the subsoil of cracking clays caused by shrinking and swelling.

slow-release fertiliser

A fertiliser that is coated with a fairly insoluble material to provide a slow, predictable release of nutrients.

smearing

Remoulding of soil in a thin layer which produces hard shiny surfaces on drying.

smoko

Period of rest. Commonly morning and afternoon tea.

snigging

Removal of logs from a site after felling, by dragging.

SOC

Soil organic carbon

sodic soil

Soil with a relatively high proportion of exchangeable sodium. This can cause soil structural problems.

sodicity

The proportion of exchange sites in a soil or soil layer occupied by sodium ions, expressed as the exchangeable sodium percentage (ESP). Soil with an ESP exceeding 5 is referred to as being sodic and tends to disperse in water.

sodosol

Soil type which has a distinctive increase of clay in lower layers and also contains a high sodium content, which may lead to soil [dispersion](#).

softwood

Timber of coniferous trees (for example, pines and cypresses) which have long fibred wood, irrespective of physical hardness.

softwood cuttings

Cuttings taken from soft, succulent, new growth of woody plants for propagation.

soil aeration

A process of encouraging more air to enter the soil, usually by using some type of implement. Aeration is associated with the number and size of [pore spaces](#) in the soil.

soil conditioner

Material used to improve the chemical or physical quality of the soil. Lime and gypsum are common soil conditioners.

soil degradation

Soil in which the [structure](#) has been damaged, [compaction](#) or erosion has occurred. It may also refer to soil [acidity](#) and [salinity](#) and the loss of nutrients from a soil.

soil erodibility

The likelihood of a soil to erode. See [erosion](#).

soil fauna

Animal life in the soil, for example nematodes, dung beetles, mites and springtails.

soil flora

Plant life in the soil, for example [algae](#), [fungi](#) and [bacteria](#).

soil horizon

A layer of soil that makes up the [soil profile](#) from the surface to the bedrock.

soil microbial biomass

Amount of soil [bacteria](#) and [fungi](#) in given volume, area or mass of soil.

soil organic carbon

The carbon fraction associated with [soil organic matter](#), [soil microbial biomass](#), [humus](#) and charcoal. Soil organic carbon excludes undecayed plant and animal residues greater than 2 mm in size and inorganic forms, such as lime or carbonates.

soil organic matter

The fraction of the soil made up of anything that once lived, including plant and animal remains, cells and tissues, plant roots and soil microbes, which are in various stages of decomposition. Soil organic matter does not technically include fresh organic materials, such as stubble and fallen leaves, which form undecomposed litter.

soil plasticity

The capacity of soil to be deformed moulded, or shaped, but not ruptured. The shape of the deformed soil remains after the soil is dried.

soil pit

A hole, usually dug by a back-hoe, in which the various layers of the soil (the [soil horizons](#)) are exposed for examination.

soil profile

Description of each of the layers ([soil horizons](#)) in the soil. Examination of the profile is made to determine depth, drainage, texture, structure and other attributes that classify it as soil.

soil solution

The water in the soil contains nutrients and other soluble substances.

soil strength

The resistance that occurs in soil when subject to shear or penetrating forces. It can be a measurement also of the force needed to break a soil block apart. It is an important characteristic for seedling establishment and later root growth.

soil structure

The size, shape and arrangement or groupings of soil aggregates and voids. Structural form refers to the 'soil architecture'; structural stability is the ability of a soil to retain its form when immersed in water or compacted, and 'structural resilience' is the ability of a soil to regain structural form by natural processes, such as shrinking and swelling.

soil texture

A measure of the proportions of different sized soil particles. The relative amounts of sand, silt and clay in a soil.

soil type

A general term used to describe the features of particular soils in terms of fertility, colour, texture and [parent material](#).

solids not fat

A component of milk that consists of dissolved or suspended solids other than butterfat. It includes protein (casein), minerals and lactose.

solubilise

To make a compound become available for reaction in a solvent, such as cell membrane complexes which are not usually water soluble.

sound

Used to describe an animal with no structural faults, such as lameness.

sound mouth

An animal with all adult teeth intact and firm.

southern oscillation

The major air pressure shift between Asia and the eastern Pacific regions. Related changes occur in the trade winds, in cloud patterns and in rainfall across the Tropical Pacific. The Southern Oscillation Index measures the pressure difference between Tahiti and Darwin. When the index is positive, the trade winds blow strongly across the Pacific, feeding moisture into the monsoons of Asia and Australia. When the index is negative, trade winds are weak or even reversed. Rainfall is likely to be much below average over the Australian/Asian region. See also [El Niño](#) and [La Niña](#).

spey

To remove the ovaries from a female animal to prevent breeding.

spelling

Temporary removal of stock from a grazing area to allow regrowth of vegetation. The length of time can vary considerably.

spillway

A channel or pipe used to carry excess or overflow water from a dam or similar structure.

spores

One or few-celled structures involved in [asexual reproduction](#) of, for example, ferns and fungi.

spray-graze

A technique of using low rates of [herbicide](#) on weeds which encourages animals to selectively graze them.

spray and seed

A way of pasture establishment by direct drilling in which weed competition is eliminated by spraying with a [herbicide](#) prior to sowing.

spray-topping

The use of herbicides to control the seed set of plants to discourage their reproduction in a pasture or crop.

springer

A female bovine of any age that is carrying a calf late in pregnancy. Classified as a forward or backward springer according to the nearness to the point of calving.

springtails

Small [mesofauna](#) (1-3 mm long) with six legs, related to insects. They are soft-bodied, wingless with simple eyes and antennae.

SST

[Sea surface temperature](#)

stag

An adult male animal [castrated](#) when mature.

stallion

A male horse.

stamen

Male part of a flower.

stand

a) The place in a shearing shed where the wool harvesting operation is carried out. Also refers to the number of shearing machines.

b) A woodlot or group of trees, usually being grown for harvesting.

staple

Wool fibres that naturally form themselves into clusters or locks.

starch

Polymer of two different simple sugars which is a storage compound in plants.

stationhand

A person employed under the federal Pastoral Industry Award, including cooks. A stationhand is the next step beyond [Jackeroo](#) or [Jilleroo](#).

stay

A brace post in a fence, usually attached to a [strainer post](#), where the fence ends or bends.

steer

A castrated male [bovine](#) over one year of age.

stigma and style

Female parts of a flower.

stock ramp

See [cattle grid](#)

stocking rate

The number (per hectare) of stock being run on a property.

See also [dry sheet equivalent](#).

stockman

A general term used to describe an employee working with stock. Also a person employed by a livestock agent as a livestock salesperson.

stolon

The above-ground stem that lies on the ground and may form roots as it comes in contact with the ground. Kikuyu spreads from stolons.

store

An animal that is not in prime marketable condition. See [Restocker](#).

straightbreeding

The mating of males and females of the same breed (or strain or bloodline). See [Purebreeding](#).

strain

a) A general term used for animals that have similar and distinct characteristics within a breed; for example, the finewool strain in Merino sheep.

b) To tighten the wire in a fence, using a tool called a strainer.

strainer post

A fence post, usually at the end of a line, from which the wire is strained.

strip cropping

A conservation farming method of growing crops in a series of strips at right angles to the natural water flow across the land, or on the contour. Each strip is of a width designed to cater for cropping machinery, and each strip is treated differently to the strip beside it. A strip may be under fallow, summer crop or winter crop.

strip grazing

A grazing system in which stock are allowed access to a limited area of fresh pasture up to twice daily by means of a movable electric fence. This method limits damage by trampling and fouling.

stripping out

The complete removal of milk from the udder using either machine or hand milking.

structure

see Soil Structure.

stubble

The dead plant material remaining after a crop has been harvested.

stubble incorporation

A [conservation farming](#) method in which [stubble](#) is incorporated into the soil by cultivation, so that it gradually breaks down and adds [organic matter](#) and provides some protection to the soil.

stubble mulching

A [conservation farming](#) method in which stubble is kept on the soil surface to protect the soil, but is gradually broken down using appropriate machinery.

stubble retention

A conservation farming method in which stubble is kept on the soil surface to protect the soil for as long as possible. It is not incorporated into the soil at all.

stud

A superior type of purebred, registered animal used for breeding. Or a farm on which stud animals are bred.

stumpage

The price paid for standing trees in a forestry operation, usually expressed as \$/cubic metre. This price does not include harvesting and growing costs or income tax.

subsoil

Soil in the lower horizons of the soil profile. The nature and depth of the subsoil is important for drainage and the growth of deep-growing plant roots.

succession

The natural changes over time where one community of organisms is replaced by another. (see also [Plant succession](#))

sucker

A shoot, especially of eucalypts, which arises from the base or root of a plant which has been previously cut down or bulldozed.

sucker lamb

A lamb that is suckling its mother and has grown sufficiently heavy for slaughtering.

suckling pig

A piglet still suckling (drinking milk from) its mother.

superphosphate

Also called 'super'. An artificial phosphorus fertiliser common in [pasture improvement](#) programs. Single super contains about 8.8% phosphorus, and is manufactured from phosphate rock treated with sulfuric acid.

supplementary feed

Feed given to animals to supplement pasture usually to maintain or improve production. It may consist of hay, silage, concentrates.

suppressed crown

A forest condition in which a tree cannot sufficiently extend its crown into the overstorey to receive any direct sunlight. Over topped trees that lack shade tolerance lose vigour and die.

surplus milk

Excess milk production over and above the allocated [quota](#). Paid at a lower price.

suspension fence

Fence with longer spans between posts. [High tensile](#) wire is used in suspension fences.

sustainability

In agriculture, sustainable practices are those which are, and will continue to be, profitable for farmers; that will conserve soil, vegetation and water resources and protect the environment; and that will assure adequate and safe food supplies into the future.

sustainable yield

For wood products, this is the maximum level of commercial timber that can be maintained.

swale

A natural or constructed depression. Where formed by wind, a swale is usually between two sand dunes.

sward

A community of pasture plants.

symbiosis

The act of two different organisms living together for mutual benefit. An example is Rhizobium bacteria living within leguminous plants and fixing nitrogen from air into plant available nitrogen, which is made available to host via sap in exchange for nutrients such as sugar and minerals.

syntrophy

Species which live together by using each others waste as resources. If a waste is not generated, for example because one of the species is eliminated from the population, then the user organisms will be starved out of the soil food web.

tT

table drain

The side drain of a road running parallel to the shoulder of the road. It is constructed to take runoff from the road safely.

tail drain

A ditch at the lower end of a flood irrigation system that collects the excess water as it flows from the field or irrigation bay.

tail tagging

Identification of cattle for sale. Landholders must purchase tail-tags from their [Livestock Health & Pest Authority](#) (or equivalent in your State). The tags have the owner's identification number, and are coloured pink to indicate HGP-free status, or orange if they have been hormone treated or their status is unknown.

tally

The number of sheep shorn daily by a shearer.

tank

An earth [dam](#) in western districts.

tariff

A tax or charge on imports that is designed to protect local or national industries from competition.

TCM

See [Total catchment management](#)

teaser

[Stallion](#) or [rig](#) used to determine if a mare is in [heat](#) and ready to be served.

temperament

The individual character of an animal, shown by the way it behaves.

temperate

Plant species that grow best in cool climates, or during the cooler months of the year; (as opposed to tropical plants, which grow in warmer climates).

tender

Wool fibres that have a weakness at a certain point of the staple, and if tension is applied, the [staple](#) will break;

A written offer to perform certain work or to supply goods or buy land at a specified price, or on certain terms.

tenolsol

A soil type that shows little development of [soil horizons](#).

termites

White to brownish insects placed into both [mesofaunal](#) and [macrofaunal](#) groups, which do not have a waist between thorax and abdomen and are blind and without wings except when breeding.

terms of trade

The ratio of the index of export prices to the index of import prices.

terrestrial

Referring to the soil as an environment

tetraploid

Description of a plant that has double the normal (diploid) set of chromosomes. These plants (such as some rye grasses) are bred for high production.

texture

See [Soil texture](#).

thinning

The process of removing trees from a timbered area to reduce competition for water, nutrients and sunshine.

thoroughbred

A horse breed most often used for racing.

threatened species

Any species, populations or ecological communities specified in Schedules 1 and 2 of the [Threatened Species Conservation Act, 1995](#). Plants and animals may be declared 'threatened' if their habitat, populations or ecological communities are threatened by outside processes such as [clearing](#).

three day sickness

See [ephemeral fever](#).

threshing

A harvesting operation in which the seed is mechanically removed from the head and stalk of the plant.

tillage

Cultivation. Primary tillage is the initial breaking of the soil. Secondary tillage is follow-up operations that are shallower, and are carried out to prepare a seedbed or kill weeds.

tiller

The side growth (stems) emerging from the base of a grass plant with its own leaves and roots.

tilth

The physical condition of a soil when considered for planting. Ideal tilth is different for each kind of crop, and for different soils.

time controlled grazing

see [cell grazing](#).

tine (*also tyne*)

The part of a tillage implement that comes from the frame to engage the soil. Various 'boots' or tools are attached to the tine, depending on the extent and type of soil disturbance needed.

tipping

Shearing the wool from young lambs to remove the curly tip of wool so the next shearing will have an even [staple](#).

tissue culture

The growing of cells in a special growth solution or medium. It is used for the rapid [asexual](#) multiplication of plants.

toe

The lowest part of a slope, bank wall or stream bank where it stops or becomes level.

top dressing

Fertiliser applied to a crop after it has emerged from the ground.

topographic map

A map showing the horizontal and vertical features of a landscape. Vertical features are shown by [contour](#) lines, while horizontal features are related to the map scale.

topography

A study of the ground surface, such as hills, mountains, or plains. It also refers to the slope of the land.

topsoil

The part of the soil profile that contains the most fertile portion of the soil. It is usually darker than the [subsoil](#), because it contains most [organic matter](#). The topsoil is the most important part of the soil for agriculture, and must be protected by wise management.

total catchment management (TCM)

The management of land, water and vegetation on a catchment basis. It is usually carried out by various government agencies and landholder groups to ensure the protection and [sustainability](#) of the natural resources.

toxicity

The potential or ability of a material to cause adverse affects in an organism.

trace element

Essential plant nutrients such as iron, copper, zinc, manganese, boron, molybdenum, chlorine that are required in only very small quantities compared with the major elements.

trait

A characteristic (or 'character') of an animal. Generally this can be measured, scored or assessed. Livestock industries use traits to define the direction to breed towards for particular markets.

transect

A measurement across land in which observations or records are kept of vegetation, soil surveys and other features.

traveller

A travelling irrigator which is propelled or winched across the land.

tree lot

A group of trees retained or planted for shade, shelter, beautification or wind erosion control.

trickle irrigation

The application of small quantities of water directly to the root zone through various types of nozzles or drippers.

triticale

A hybrid winter growing cereal grain plant derived from wheat and rye.

trophic

A level of consumption in a food chain of linked organisms. Examples are primary producers, primary and secondary consumers, predators in a soil food web.

tuber

Enlarged underground stem that serves as storage of starch and related materials. Potatoes are a good example.

tunneling

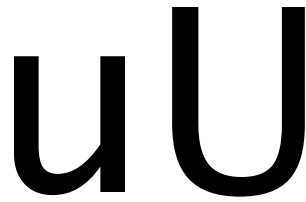
A particular type of soil [erosion](#) that involves removal of less stable [subsoil](#) while the more stable surface soil remains intact. Tunnels may eventually collapse to form [gully](#) erosion.

tupping

An English and New Zealand term to describe [joining](#) or mating of animals.

turbidity

A measure of the clarity of water. The amount of suspended matter in a water sample or water supply.



undercutting

Removal of soil from the base of a slope or streambank by water or wind. This makes the slope steep or produces an overhang which may eventually slump or collapse.

undersown

A pasture sown with a crop. The crop is harvested and the pasture encouraged to take over the paddock.

understorey

The shrubs, herbs, grasses and groundcover plants that grow under taller trees.

unicellular

An organism consisting of only one cell in which all life functions are carried out.

urease

An enzyme synthesized by some soil bacteria and some plants which splits urea into carbon dioxide and ammonium molecules and makes the nitrogen available for nitrification to nitrate or direct uptake by plants.



vaccinate

To inoculate an animal with a preparation containing dead or living (but weakened) antigens (bacteria or viruses) so that the animal produces antibodies. This gives resistance to the disease.

VAM

[Vesicular-arbuscular mycorrhizae](#)

variable costs

Costs which vary as the size of an enterprise varies. They include costs of pasture, crops and stock; examples are shearing, [drenching](#), [mulesing](#).

vealer

Older and heavier than a [bobby calf](#); 100–160 kg carcass weight; 6–10 months old; sold off the dam in good condition. The term is also applied to prime, well-conditioned cattle to 18 months.

vendor

A seller of goods, land, animals or other articles.

vener logs

High quality logs that can be sliced or peeled to produce veneer for ply wood and other products.

vermicast

Nutrient rich excreta from earthworms. It contains chewed and digested decayed organic matter and is valued as a plant food.

vermiculture

The breeding and management of earthworms.

vertosol

Soil types that shrink and crack on drying, and swell on rehydration due to clay minerals.

vesicular-arbuscular mycorrhizae

Beneficial fungi that develop on many trees, crops and other plants and contribute to nutrient uptake by infecting the plant roots and extending into the soil. Now known more simply as arbuscular [mycorrhizae](#).

vineyard

A farm that grows grapes.

virgin soil

A soil that has not been disturbed significantly or been cultivated.

virus

An infectious, sub-microscopic particle. Causes plant and animal disease.

viscosity

The 'thickness' of a liquid, which can be termed its 'resistance to flow'.

visual appraisal

see [visual assessment](#).

visual assessment

Judging the merit of animals for various [traits](#), using visual or other subjective means.

viticulture

The cultivation of grapes.

volatilisation

The conversion of a chemical from a liquid or solid to a gas or vapour.



walk in walk out

The market value of total resources of the enterprise. Includes goodwill, plant and equipment and stock

watercourse

A defined channel along which water flows either permanently or intermittently. It includes rivers, creeks and streams.

water table

The upper edge of free water in the soil or rock. If a hole is dug, water will fill the hole to the level of the water table.

water-holding capacity

The ability of soil to hold water. The moisture-holding capacity of sandy soils is usually low, while that of clay soils is high.

waterlogged

Soil which is saturated with water and where most of the soil air in the pores has been replaced by water. Most plant growth will be restricted in waterlogged soil.

watershed

The dividing ridge between two catchments.

waterway

Land where water concentrates and runs. The waterway may be natural or constructed, and includes gullies, streams, creeks, and rivers. Grassed waterways are constructed and managed to convey water safely over the landscape when runoff occurs.

weaner

A young animal that has been recently weaned from its mother. Cattle are usually weaned at 6–9 months of age.

weathering

Rocks and minerals decomposing by the action of weather and organic agents.

web spinners

Small insects included as [macrofauna](#), 4-15 mm in length, with cylindrical bodies, short legs and spin silk from glands on the front legs.

weed

A plant growing where it is not wanted.

wet ewe

A ewe that is rearing a lamb, or one producing milk.

wether

A male sheep that has been [castrated](#) as a lamb.

wheat

A winter growing cereal grain plant.

whole farm planning

A process that assists landholders to analyse the farm operation from the ecological, economic and social perspectives, and integrates these in redesigning farm layout and management in order to ensure more sustainable production. Also called Property Management Planning.

wigging

Shearing the face-wool from sheep to prevent wool-blindness.

wilt point

Soil moisture content at which a plant starts to wilt. This varies with [soil texture](#).

windbreak

A barrier of living trees and/or shrubs or artificial materials that reduces the speed and force of the wind giving protection to the soil, crops, pastures and animals.

windrow

Pasture or crop that is raked into a row before [baling](#) or [threshing](#). The term also applies to scrub that has been cleared and stacked in windrows for burning.

windthrow

A tree which has fallen over due to the action of the wind.

winter cropping

Sowing and growing suitable crops during the cooler winter season

withholding period

The period of time during which produce cannot be harvested or consumed, or livestock slaughtered, after being treated with chemicals.

WIWO

[Walk in walk out](#)

woodlot

A small plantation or block of trees, normally at least 30 metres wide and less than 40 hectares.

wool

The coat of a sheep, goat, alpaca or other fleeced animal.

wool blind

A sheep that can't see because the wool has grown over its eyes. See [Wigging](#).

wool classing

An on-farm operation in which wool is taken from the [skirting](#) table, put into various quality categories by a 'classer', and each category is then baled separately.

wool harvesting

Shearing.

xX

xylem

Support tissue for plant cells. In trees, xylem cells make up the wood fibres and transports water and minerals from the roots.

y Y

yak

Slang term for [Bos indicus](#) cattle.

yards

Stockyards designed for working stock—[drafting](#) etc.

yearling

An animal between 1 and 2 years of age.

yeast

A microscopic, single-celled fungus which can grow with or without oxygen. Yeasts can ferment sugars to produce acid and alcohol if growing without oxygen.

zZ

Zero-till

Sowing a crop without any [primary tillage](#). Chemicals, grazing or both are used to reduce weed growth, and seed is sown into an unprepared seedbed.