

Glossary



vegetablesWA



abscission	The normal shedding of leaves, flowers or fruits from plants.
acid soil	Soil with a pH of less than 7.
adjuvant	A substance that enhances the performance of insecticides or fungicides.
Agral 600®	A brand of wetting agent.
Agran®	A brand of ammonium nitrate.
Agras No. 1™	A proprietary mixed fertiliser supplying nitrogen, phosphorus and sulphur.
algae	Tiny, non-flowering, stem-less water plants.
alkaline soil	Soil with a pH of more than 7.
allomones	Semiochemicals that induce a behavioural or physiological change in a member of another species that is of benefit to the producer, eg secretions that deter predators.
ameliorate	To improve (soil).
ammonium nitrate	An ammonium-based nitrogen fertiliser.
ammonium sulphate	An ammonium-based nitrogen fertiliser suitable for alkaline soils.
anhydrous	Without water.
anhydrous ammonia	A liquid ammonium-based nitrogen fertiliser.
anion	An ion with a negative charge.
aquifer	An underground layer of water-bearing porous stone, sand, or gravel.
auger	A tool (sometimes resembling a large corkscrew) used to collect soil samples for analysis.
APVMA	Australian Pesticide and Veterinary Medicines Authority.
Australian Soil Classification (ASC)	The system by which soil is classified in Australia.
B	Chemical symbol for boron.
banding	The process of applying fertiliser in bands along or under the soil surface.
bar	A standard unit of pressure (100 kPa).
beneficial	A predatory or parasitic insect that preys on insect pest species.
biopore	A void created by bioactivity in the soil, e.g. old root channels or earthworm tunnels.
biodegradable	A substance that breaks down quickly in the environment due to the action of microbes.
biuret	A contaminant formed in the manufacture of urea that can be toxic to plants especially in foliar sprays.
blossom end rot	A common, physiological disorder that occurs on the blossom end of tomatoes, capsicum, eggplant, and some melons.
bolus	A ball of moist soil which is kneaded to determine soil texture.
boomspray	Implement used to spray fertiliser or chemical in solution onto the soil or crop foliage.
brassica	Any cruciferous plant of the genus <i>Brassica</i> , – includes cabbage, broccoli, swede, brussel sprouts, mustard, rape, cauliflower, kohlrabi, calabrese, kale and turnip.
Bray test	A procedure to measure soil phosphorus concentration suitable for soils with a pH of less than 7.4.
broadcasting	The process of applying fertiliser uniformly across the soil surface.
broad spectrum insecticide	An insecticide in which the mode of action does not discriminate between pest and beneficial insects.
Ca	Chemical symbol for calcium.

CaCl₂	Calcium chloride.
CaCO₃	Calcium carbonate (the active ingredient in agricultural lime).
cadmium	A heavy metal element (chemical symbol Cd) that is a contaminant of phosphatic fertilisers. It can be taken up by plants and at high levels, can be toxic to animals.
calcareous	A soil containing significant amounts of naturally occurring calcium carbonate.
calcium ammonium nitrate ...	A fertiliser mixture of ammonium nitrate, calcium carbonate and/or dolomite.
calcium carbonate	The active component of agricultural lime.
calcium chloride	An ionic compound of calcium and chlorine.
calcium nitrate	A fertiliser that supplies both nitrogen and calcium, popular in hydroponics.
calibration	The act of adjusting equipment or machinery according to a standard.
calyx	A collective term for all of the sepals, outermost structural components, of a flower.
combine planter	A machine that combines planting and applying fertiliser in one operation.
canopy penetration	penetration of light or water through the canopy (foliage) of a crop.
capacitance probe	A type of soil moisture sensor.
carbon	A non-metallic element that occurs in all organic compounds and many inorganic compounds.
carbon dioxide	A colourless, odourless gas occurring naturally in the atmosphere, formed by respiration and used by plants during the process of photosynthesis.
cation exchange	The ability of a soil or other solid to exchange cations (positive ions such as calcium) with a liquid.
cation	An ion with a positive charge.
cement kiln dust	The fine-grained, solid, highly alkaline waste removed from cement kiln exhaust gas.
centibar	A measurement of pressure equalling 0.01 bar (1 kPa).
chelate	A ring structured organo-metallic compound that is easy for plants to absorb.
chemical resistance	The ability of a pest or disease population from which subsequent generations are able to survive higher and higher concentrations of chemicals designed to control them.
CID	Certified Irrigation Designer/s.
clay	A very fine textured soil that is plastic when moist and very hard when dry. Soil particles < 0.002 mm in diameter.
cm	Centimetre/s.
Coastal SuperTM	A proprietary phosphorus fertiliser of low water solubility.
coefficient of uniformity	An estimate of the uniformity of the sprinkler pattern based on the average of the entire area.
Colwell extraction	An analytical method to establish plant available phosphorus concentration in acid soils.
compaction	Compression of soil so that porosity is decreased.
compost	Aerobically decomposed plant and animal materials.
cover crop	A crop grown between normal plantings to prevent erosion, control weeds and improve soil quality.
crawler	Mobile, early life stage of scale and other pests.
crop factor	The proportion of daily evaporation that must be replaced by irrigation.

crop rotation	The practice of planting a succession of different crops to prevent the build-up of pests and diseases that can occur when the same crop is grown repeatedly.
cruciferous	Of the family Cruciferae = brassicas; plants with flowers that have four petals arranged in a cross.
Crustex®	A proprietary crust forming polymer for soil stabilisation.
CU	See Coefficient of uniformity.
Cu	Chemical symbol for copper.
cultivar	A distinct variety of a plant that has been bred for particular, agricultural or culinary attributes.
cv	Abbreviation for cultivar.
DAFWA	Department of Agriculture and Food, Western Australia.
Dangerous Goods	Substances and articles that are potentially hazardous to people and property. They may be corrosive, flammable, explosive, oxidising or reactive with water.
DAP	Di-ammonium phosphate, an ammonium-based nitrogen and phosphorus fertiliser.
deficiency	A lack or shortage of an essential element.
defoliation	Causing the leaves of plants to fall off.
deionised water	Water that has been purified of most ions but may still contain other non-ionic types of impurities such as organic compounds.
denitrification	The process by which soil microbes convert soil nitrate to gases which are unavailable to plants.
dihydrate	A chemical compound containing two molecules of water.
disease	Any abnormal condition in a plant that interferes with its vital physiological processes, caused by pathogenic micro-organisms.
disorder	Any abnormal condition caused by parasites, unfavourable environmental, genetic, or nutritional factors, etc.
dispersion	Disintegration of soil aggregates into single soil particles upon wetting; the opposite of flocculation.
distilled water	Water that has virtually all of its impurities removed through distillation, boiling the water and re-condensing the steam into a clean container, leaving contaminants behind.
distribution uniformity (DU) ...	A measure of irrigation uniformity, the ratio of the average irrigation volume applied to the driest quarter of the field and the average volume applied across the whole field.
drip/trickle irrigation	Releases water onto the soil at very low rates (2 to 20 litres per hour) from small-diameter plastic pipes fitted with outlets called emitters or drippers.
dolomite	A sedimentary rock forming mineral, composed of calcium magnesium carbonate added to soils to lower their acidity.
dry-tissue analysis	Chemical analysis of dried plant tissue to determine nutrient concentrations.
dS	deciSiemen, the international unit of electrical conductivity.
dS/cm	deciSiemen per centimetre, a unit of soil conductivity.
µS/cm	microSiemen per centimetre, a unit of soil conductivity.
dS/m	deciSiemen per metre, a unit of soil conductivity.
DU	Distribution Uniformity.
EC	Electrical Conductivity.
EC_e	EC of a saturated paste extract from soil.
EC_i	EC of input water.
EC_{1:5}	EC of a 1:5 soil to water suspension.

economic threshold	The point at which the cost of an activity is compensated for by increased returns.
electrical conductivity	Measure of a solutions ability to conduct a current. Used to estimate the amount of soluble salts in soil or water.
electrode	A conductor through which electricity enters or leaves an electrolyte, gas, vacuum, etc.
electrolyte	A substance that conducts electricity when in solution.
endothermic	Absorbs heat when dissolved in water – causes the temperature of the solution to fall.
erosion	The wearing away of the soil surface by wind or rain.
Epan	The amount of water evaporated from a standard open pan of water.
evaporation	The process by which moisture is transformed into vapour.
evaporimeter	An open tank designed to measure evaporation.
exchangeable cations	The positively charged cations calcium, magnesium, potassium, sodium and aluminium.
Fe	Chemical symbol for iron.
fertility	The capacity of soil to support plant growth.
field capacity	The point at which soil cannot hold any more water.
flocculation	The clustering of clay particles; the opposite of dispersion.
fungicide	A fungus-destroying substance.
fungus	A non-photosynthetic organism that feeds on organic matter (eg moulds, yeasts, mushrooms and toadstools).
hygroscopic	Absorbs water from air.
fertigation	The application of fertilisers in irrigation water.
foliar application	The application (of fertilisers) to crop foliage.
g	Gram/s.
germination	The sprouting of a seedling from a seed.
Gluon[®]	A proprietary artificial soil stabiliser.
GM	Genetically modified.
GMO	Genetically modified organism.
gypsum	A hydrated form of calcium sulphate that occurs naturally and is used to amend clay soils or to supply calcium and sulphur.
ha	Hectare/s (1 ha = 10,000m ² or 2.47 acres).
Hazchem Code	A system developed by the British Fire Service for use on vehicles transporting dangerous substances in bulk to provide immediate action advice when attending an incident.
horticultural oils	Spray oils that are of sufficient quality to be used in horticulture for pest control.
infiltration rate	The rate at which water moves into a soil (usually measured in mm per hour).
inorganic fertiliser	Mineral or chemical fertiliser.
insect	Any animal of the class Insecta, comprising small, air-breathing arthropods having the body divided into three parts (head, thorax, and abdomen), and having three pairs of legs and usually two pairs of wings.
insecticide	A substance or preparation used for killing insects.
internode length	Distance between nodes on a plant stem.
ion	Atomic or molecular particle carrying an electrical charge.

IPM	Integrated Pest Management, a pest control strategy that relies on a range of decision tools. Usually incorporating farm hygiene, pest monitoring, economic spray thresholds, beneficial insects and other biological control measures to reduce reliance on chemical spray treatments.
K	Chemical symbol for potassium.
kg	Kilogram/s (thousand grams), a metric measure of mass.
kg/ha	Kilograms per hectare.
kL	Kilolitre/s (thousand litres), a metric measure of volume.
kPa	Kilopascal/s, a metric measure of pressure (1 kPa ~ 0.15 PSI).
L	Litre/s.
laterals	Irrigation pipe usually fitted with sprinklers branching from a major supply line.
leaching	Downward movement of dissolved materials.
L/ha	Litres per hectare.
lime	Calcium oxide, a white alkaline substance, obtained from limestone, used to raise the pH of acid soils.
limesand	Sand with a high calcium carbonate content.
limestone	An abundant rock of marine and fresh-water sediments, primarily composed of calcium carbonate.
loam	A friable fertile soil with a good balance of clay, silt and sand.
lysimeter	Apparatus used to collect samples of soil water solution.
M	Molar.
m	Metre/s, a metric measure of length.
m²	Square metre/s, a metric measure of area.
m³	Cubic metres, a metric measure of volume (1 m ³ = 1000 L)
macronutrients	Major elements such as nitrogen, phosphorus, potassium, magnesium, sulphur and calcium, essential for plants to live and grow – supplied by the soil or by fertilisers.
magnesium nitrate	Fertiliser supplying magnesium and nitrogen.
magnesium sulphate	Fertiliser supplying magnesium and sulphur. Commonly known as Epsom Salts.
manure	Organic matter used as fertiliser. Animal manure is often a mixture of feces and bedding straw.
MAP	Mono-ammonium phosphate a fertiliser supplying nitrogen and phosphorus.
Mg	Chemical symbol for magnesium.
mg	Milligram/s, a metric measure of mass.
mg/kg	Milligrams per kilogram, a metric measure of concentration (1 mg/kg = 1 ppm).
mg/L	Milligrams per litre.
micronutrients	Essential nutrients needed in small quantities (also known as trace elements).
milliSiemen	Measurement of electrical conductance equal to one thousandth of a siemen (symbol mS).
ML	Megalitre/s (million litres).
mL	Millilitre/s (thousandth of a litre).
ML/ha	Megalitres per hectare.
mm	Millimetre/s.
Mn	Chemical symbol for manganese.

Mo	Chemical symbol for molybdenum.
molar	Chemical measure of solution concentration (mole of solute per litre of solvent).
mole	The International unit used in chemistry for the amount of a particular substance.
morphology	The study of the forms of things, especially organisms.
mS	milliSiemens.
mS/m	milliSiemens/metre.
mulch	Material spread around or over plants to enrich and/or insulate the soil.
muriate of potash	Fertiliser supplying potassium (potassium chloride).
N	Chemical symbol for nitrogen.
NATA	National Association of Testing Authorities, Australia.
neutralising value (NV)	Standard basis for comparing the ability of materials to neutralise soil acidity.
nitrate	Any salt or ester of nitric acid containing the univalent radical NO ₃ .
nitrate-nitrogen	Form of nitrogen commonly found in the soil and available to plants for growth (NO ₃ -N).
nitric	Containing nitrogen.
nitric acid	A colourless, corrosive liquid containing nitrogen.
nitrification	The process by which soil microbes convert ammonium to plant available nitrate.
nitrogen	An element needed by plants to live and grow.
Nitrophoska Blue [®]	A brand of NPK fertiliser.
Nitrophoska Blue Special [®]	A brand of NPK fertiliser.
Nitrophoska Perfekt [®]	A brand of soluble NPK fertiliser.
node	Part of a plant stem where one or two leaves arise.
nozzle	The component of a sprinkler or boom spray from which water sprays.
NPK blue special [®]	A brand of NPK fertiliser.
NPK fertilisers	Fertilisers containing nitrogen, phosphorous and potassium.
nutrient	Any substance that provides essential nourishment for the maintenance of (plant) life.
NV	Abbreviation for neutralising value.
Olsen test	A method used to measure extractable phosphorus concentration of soils with a pH of 7.4 or greater.
organic fertiliser	A fertiliser that is derived from animal or vegetable matter.
organic matter	Living and dead plant and animal material.
P	Chemical symbol for phosphorous.
Pan evaporation	The measurement of the amount of water lost from open water, usually from an evaporimeter.
pathogen	An agent that causes disease.
percolation	Vertical movement or infiltration of water through soil.
permanent beds	A tillage system where the beds and the wheel tracks are left in the same place for a number of crops.
permanent wilting point	The point at which plants can no longer extract moisture from the soil.
permeability	The ability of a soil to transmit water and gases.
pesticide	A substance used to destroy insects or other organisms harmful to cultivated plants or to animals.
petiole	The slender stalk that joins a leaf to the stem.

pH	A measure of acidity or alkalinity, less than 7 is acid, the lower the number the more strongly acid.
pH_{ca}	Soil pH measured in calcium chloride – it gives a reading that is about 0.8 lower than pH measured in water.
pheromones	A semiochemical that triggers an innate behavioral response in another member of the same species. There are <i>alarm pheromones</i> , <i>food trail pheromones</i> , <i>sex pheromones</i> , and many others that affect behaviour or physiology.
phosphate rock	Rock or sediment often used as a source of phosphorus and in the production of fertilisers.
phosphoric acid	Acid used as a phosphorus fertiliser and to lower pH and provide phosphorus in hydroponics.
phosphorus	A naturally occurring non-metallic element essential for plant growth.
Phosphorous Retention Index (PRI)	
	A measure of a soil's capacity to retain phosphorus.
pH_w	Soil pH measured in water.
photosynthesis	The process in which the energy of sunlight is used by organisms, especially green plants, to synthesize carbohydrates from carbon dioxide and water.
phytotoxicity	The tendency of a compound to physically damage a plant.
pitot tube	A tube attached to a pressure gauge to enable it to be used to measure pressure at an irrigation outlet.
plant available water	Water held between field capacity and permanent wilting point.
pore	The air space between soil particles.
porosity	The degree to which soil is permeated with pores.
Polyfeed®	A proprietary mixed fertiliser.
Polyfeed® standard	A proprietary mixed fertiliser.
potash	Common term for potassium.
potassium	A mineral element essential for plant growth that occurs naturally in seawater and various minerals.
potassium chloride	A potassium fertiliser, also known as muriate of potash.
potassium nitrate	A fertiliser supplying potassium and nitrogen.
potassium sulphate	A fertiliser supplying potassium and sulphur.
Potato-E™	A proprietary NPK potato fertiliser.
ppm	Parts per million (mg/litre).
precipitate	The solid formed in a solution due to a chemical reaction or when the solution has been supersaturated by a compound.
PRI	Phosphorous Retention Index, a measurement of P sorption capacity of soils.
probe	Sensor inserted into soil or water to measure pH, EC, soil moisture or other properties.
proprietary	Produced by a private company under a brand name.
PSI	Pounds per square inch, an imperial measure of pressure (1 PSI ~ 6.9 kPa).
quick lime	Calcium oxide, a white alkaline substance obtained from limestone, used to raise the pH of acid soils. Highly caustic and reacts strongly with water.
Readily Available Water (RAW)	Water held between field capacity and refill point.
refill point	The water content of the soil where it becomes difficult for the plant to extract water.
root zone	The volume of soil containing a plants active roots.

row closure	When the crop the crop canopy covers the area between crop rows.
row crop planter	Implement designed to plant crops in rows.
run-off	The topographic flow of water from precipitation. Occurs when the infiltration rate of an area of soil has been exceeded.
\$	(Australian) Dollar/s.
\$/t	(Australian) Dollars per tonne.
S	Chemical symbol for sulphur.
saline	Containing salt or salts.
salinity	Concentration of dissolved mineral salts, indicated by electrical conductivity.
sand	A loose, granular soil that results from the weathering of rocks, found on the seashore, river-beds, deserts, etc.
sand tensiometer	A type of soil moisture sensor developed for sandy soils.
sap analysis	Indicates the amount of mobile nutrients in a plant's system, providing a view of nutritional status that may differ from that of traditional dry-tissue analysis.
SAR	Sodium absorption ratio. Measure of the proportion of exchangeable sodium relative to potassium and magnesium in soil.
saturated soil	Soil which is so wet that it contains no air.
SCC	Swan Catchment Council.
scheduling	The decision process to determine the application of water or nutrient.
semiochemical	Chemicals produced by organisms that carry messages either within or between species.
senescence	The process of aging in a leaf.
sidedressing	The additional application of fertiliser, post planting.
Siemens	The standard international unit of electrical conductivity.
sodic	Relating to or containing sodium.
sodicity	Level of sodium ions in a soil which affect its stability.
sodium chloride	A salt (NaCl) used as table salt.
sodium molybdate	A molybdenum fertiliser.
sodium nitrate	A nitrogen fertiliser.
soil conditioner	An substance used to improve the pH, texture or structure of a soil.
soil structure	The size shape and stability of soil particles.
soil texture	Physical nature of a soil according to the proportion of clay, silt and sand.
soil water	Water stored in, or in transit through, the soil.
spiracle	The external opening of the breathing tube of an insect.
spray drift	When spray application of chemical or fertilisers drifts beyond the targeted area.
spreader	A machine designed to spread fertiliser or compost; a surfactant spray adjuvant.
sprinkler	A device for distributing water over an area, often sprayed over the crop canopy.
stable fly	(<i>Stomoxys calcitrans</i>) or dog fly is a blood-sucking pest of livestock.
strip trial	Where different treatments are applied to a crop in strips or rows.
subsoil	Soil between the depths of 30-120 cm.
subsurface soil	Soil between the depths of 10-30 cm.
sulphate	A salt or ester of sulphuric acid.
sulphate of ammonia	A nitrogen fertiliser, also containing sulphur.
sulphate of potash	A potassium fertiliser.

Summit Pasture [™] A proprietary mixed fertiliser.
Summit Topyield [™] A proprietary mixed fertiliser.
superphosphate	..... A phosphorus fertiliser.
superphosphate – double	..... Superphosphate containing 17.5% P.
superphosphate – single	..... Superphosphate containing 9.1% P.
superphosphate – triple	..... Superphosphate containing 20% P.
Super-Spud [™] A proprietary potato fertiliser.
supplement	..... Added to enrich.
t	..... Tonne/s.
tasselling	..... The appearance of male flowers in sweet corn.
TDR	..... Time-domain reflectometry, used to measure soil moisture.
TDR probe	..... A type of soil moisture sensor.
TDS	..... Total dissolved solids.
t/ha	..... Tonnes per hectare.
tip burn	..... A physiological disorder resulting in the desiccation (burning) of growing tips and/or leaf margins.
tillage	..... Cultivation of soil.
top-dressing	..... The process of applying compost, manure or fertiliser to the soil surface.
topographic	..... Showing the surface features of a site.
topsoil	..... The top layer of soil to a depth of 10 cm.
toxicity	..... A measure of the degree to which something is toxic or poisonous.
trace elements	..... Micronutrients; chemical elements such as molybdenum, copper, zinc, manganese, boron, iron and chlorine essential in minute quantities for plant growth.
TSS	..... Total Suspended Solids.
μ	..... Micro, denoting a factor of one millionth.
μm	..... Micron/s (millionth/s of a metre).
UN Number	..... Four-digit numbers that identify dangerous goods hazardous substances and articles.
unavailable water	..... Water held tightly between soil particles that cannot be extracted by plants.
uniformity	..... (Of irrigation) refers to the distribution uniformity (DU) or coefficient of uniformity (CU) of irrigation water applied.
urea	..... An organic, crystalline, soluble, compound used as a nitrogen fertiliser (46% N).
volatilisation	..... The process whereby (volatile) compounds are lost to the atmosphere.
wash in	..... Incorporate using irrigation.
wash-off	..... Chemical or fertiliser washed from the surface of leaves by irrigation or rain water.
waterlogging	..... Saturation of soil due to excessive amounts of water and/or poor drainage.
watertable	..... Upper surface of groundwater.
weed	..... A plant growing where it is not wanted.
wetting agent	..... Agent that lowers the surface tension of a liquid, allowing easier spreading and lowers the interfacial tension between two liquids.
zinc	..... An essential trace element.
zinc sulphate	..... A zinc fertiliser.
Zn	..... Chemical symbol for zinc.