

Appendix 4. Glossary of terms

bulk density	weight of solid material in a unit volume of soil (as g/cc).
bulking	mixing of soil samples from a paddock or plot to reduce the number of samples for analysis.
crop lower limit	lower limit of water extraction for a particular crop in a particular soil.
depth or sampling interval	length of a section cut from a soil core to represent a defined soil layer (eg. 30-60cm layer).
drained upper limit	upper storage limit of a soil. It is the amount of water that a soil holds after drainage has practically ceased.
hand coring kit	tools needed to take a soil core with hand power — wooden driver, jack and coring tube.
hydraulic coring rig	a hydraulic-powered rig, usually mounted on the back of a road vehicle or tractor which is used to push in and withdraw soil coring tubes.
intensity of sampling	number of cores taken to represent the soil of a particular production area.
leaching	process where soluble nutrients (such as nitrogen) are carried by water down the soil profile.
nitrogen bulge	accumulation of a significant amount of nitrate nitrogen at depth in the soil profile.
parts per million	grams of a nutrient (e.g. N, Zn, P, K) per tonne of soil (equivalent to mg/kg).
plant available water capacity	maximum water available to a crop from a particular soil type. The difference between the upper storage limit of the soil and the lower extraction limit of a crop.
rooting depth	maximum soil depth at which the roots of a particular crop have been observed over a number of seasons.
sampling strategy	combination of sample number, bulking procedure, sampling depth interval and core location devised to obtain the best representation of the water and nutrients in a particular paddock.
saturation	maximum water held in the soil before drainage takes place.
soil chemical analysis	chemical analysis of soil for key plant nutrients (nitrogen, phosphorus, sulphur etc), pH and salinity.

Soil matters

soil characterisation (for PAWC)	field-based investigation of the amount of plant available water that a soil can accumulate (includes the measurement or calculation of drained upper limit, crop lower limit, saturation and bulk density).
soil core	cylindrical column of soil collected with a soil corer.
soil core suck-back	a problem that arises when soil water content is high. The bulge of the cutting end of the soil tube forms a seal against the wall of the coring hole. This results in negative air pressure, in the core hole below the tube, as it is withdrawn. The soil core is sucked back out of the soil tube to relieve the pressure difference.
soil corer	steel tube driven into the soil to obtain samples.
soil monitoring	routine soil sampling over the period of a crop or sequence of crops to generate a record of water and nutrient accumulation, uptake and loss.
soil sampling	taking samples using an auger or coring device to enable visual and tactile observation, measurement of water content and chemical analysis of the soil.
total porosity	percentage of the soil volume occupied by non-solid material (i.e. air and water).
