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WEED CONTROL

Why do weed control?

Weed Control is the single most important factor affecting the growth and survival of your planting. It is also entirely in your control.

Weeds growing close to the plant will compete for moisture, light, and nutrients from the soil. Some weeds (e.g. some grasses) will also release a chemical from their roots that restricts the growth of woody plants. Hence, you must eliminate all weeds from close to the plant for the first couple of years from planting. Do not think that you can get away with only mowing, weed-eating, or grazing around the plants.

How big an area should I control?

The **weed-free zone** should be no less than 1.25m x 1.25m in area. What looks like a large area very quickly looks smaller when tall weeds start leaning in. Tall weeds outside of the control zone can be beneficial as they will shelter the plant from desiccating winds, and hide it from the eyes of hares and rabbits.

How long do I need to control weeds?

Weeds need to be removed from the root zone of the plant for a period of 1 or more years depending on speed of growth and the type of root system. Plants with slow growth and / or shallow root systems will require weed suppression for 2 years or longer, as will plants on sites with very rapid weed re-growth. Weed control can cease when the plant is healthy, robust in the stem, and cannot be over-topped by surrounding vegetation.

Weed Control Techniques

Mulching

Mulch is a soil covering which potentially has benefits including weed suppression, moisture retention, soil temperature moderation, and soil improvement. Mulch will help to create the litter layer (organic A horizon) that occurs naturally in forests and native bush faster than other weed control techniques. It comes in many forms including pea straw, bark or wood shavings, rotted sawdust, recycled cardboard, old carpet, rolls of

coconut fibre or plastic matting etc. In an exposed area ensure that the mulch is well anchored to the ground. Also ensure that the mulch is NOT mounded around the stem of the plant as this can cause rotting of the stem. Disadvantages are that mulches are generally more expensive and time consuming compared to using herbicides although there will be savings down the line as the mulch will last for some time.

Mulch should be applied over bare moist soil, as it will slow the passage of water through to the plant roots. Bare soil is important, as the mulch will often struggle to suppress already established weeds. The best time to apply mulch is in early spring before the weeds emerge and while the soil is still moist from winter.

Cultivation

The advantages of cultivating the soil to control weeds are that no chemical herbicides need be applied. Note that a very big advantage of cultivating prior to planting is to create a friable loose soil that the plant roots can establish in quickly. Disadvantages are that cultivation can risk damage to the stem and root system of the plant, it is very energy intensive, the soil can be physically damaged by frequent cultivation and will also suffer gradual loss of organic matter.

Herbicides

Using herbicides is the most efficient and economical form of weed control if done correctly. It is also the most lethal on your plants if you don't do it right.

Tips to Using Herbicides

- * Care must be taken to avoid over-application, especially from backpack application. **Calibrate your sprayer before application**, and don't spray over the same ground more than once.
- * Many plants have been damaged because there was chemical left in the tank from the previous spray. Always clean out the spray tank after use, or if there is doubt as to the cleanliness of the tank, clean it out before use.
- * Don't spray under windy or wet conditions. A slight breeze and dry foliage are ideal.
- * Read the label and follow the instructions on it.

Terminology

Most herbicides are **knockdowns** in that they knock down, or remove, weeds that are present.

Some are **selective** in that they only kill (or don't kill) certain plants.

Non-selective herbicides (e.g. glyphosate / RoundupTM, Buster) basically kill everything so watch out if you are using them after planting.

Herbicides may be **residual** (e.g. Terbutylazine, Tag, Simazine) in that a residue is left on the soil surface that restricts establishment of plants or weeds for an extended period, or **non-residual** (e.g. Glyphosate / Roundup, Buster) in that no residue is left on the soil surface to inhibit re-growth. Being non-residual is an advantage when spraying pre-planting as there is no risk of inadvertently getting residual chemical down the planting hole.

A **translocated** herbicide (e.g. glyphosate / Roundup) will move through the plant, including to the roots, from the place where the spray hit i.e. move to a different location. This is useful for killing weeds that could come away again from the roots or base of the plant, but dangerous when spraying post-planting as one touch on a leaf could potentially kill your good plant.

A **contact (or non-translocated)** herbicide (e.g. Buster) is safer to use post-planting for this reason.

Do you spray prior to planting?

No Pre-plant spray. With this method competing vegetation is either hard grazed, crushed, buried, mown, or slashed, the ground is ripped, or the trees are planted. Herbicide is used to control re-establishing weeds preferably before the weeds get over 10cm tall. It may be residual or non-residual, selective or non-selective but must have knockdown capability. Most suitable technique for herbicide-tolerant forestry and shelter species such as pines, Leyland cypress etc in which case a residual with some knockdown ability (e.g. Terbutylazine) is applied shortly after planting and prior to the spring flush of growth.

Pre-plant spray. This method is appropriate where a lot of weeds, large weeds, or potentially invasive weeds are present on the site, and where you are planting plants that may be sensitive to spraying after planting. A knockdown herbicide (e.g. glyphosate or Buster for most weeds, or something stronger for hard-to-kill woody weeds) is applied prior to planting to eliminate weeds. It may also be residual, or a residual chemical may be mixed with it. Generally when using residuals (e.g. Terbutylazine, Tag, Foresite, Surflan, Simazine) pre-plant, you should skim off the soil surface over the planting hole and discard it. This reduces the risk of inadvertently getting residual chemical around the plant roots at planting.

Post-plant spray. After planting you could apply mulch, or a knockdown herbicide to control re-establishing weeds. A residual chemical may still be added at this stage. Read the spray advise below on what you can spray on what plant.

Choice of Herbicide

Terbuthylazine (Terb 500, Gardoprim™)

Used widely around and over many tree species for long-term residual control of germinating grass and broadleaf seedlings. If you in doubt as to whether it is safe over the plant then only apply it to the ground around base of the plant only and/or reduce the application rate.

Terbuthylazine will only knock down weed seedlings less than 100mm tall therefore it is important to apply it before weed growth gets away in spring. The target time is late August to late September when the soil is moist and the weeds are short. It will not work when soil conditions are dry. It can be mixed with Gallant or Versatill for a dual knockdown and residual affect on weeds over 100mm tall. Add penetrate such as Pulse or Boost when applying alone or with Versatill to existing weeds. Add the penetrant last to a near full tank. DO NOT add other chemicals such as Amitrole or oil.

Backpack Application Rate 40ml per 1 litre of water (treats 20 trees if spraying
1 m² per tree)

Spotgun Application Rate 60ml per 1 litre of water (treats 40 trees if spraying
1 m² per tree)

TREE TOLERANCE TO SPRAYING OVER THE TREE POST-PLANTING

IMPORTANT: This is a guide only, and is based largely on practical experience. The user bears the risk for applications on tree species not specified on the product label. Many other tree species will be tolerant so if in doubt contact the manufacturer and / or conduct a small trial.

This guide applies only to trees NOT in an active growth phase i.e. when dormant in winter.

NO means no, Y means Yes, and blank means we don't know.

VARIETY	CLOPYRALID (e.g. Versatill)	HALOXYFOP (e.g. Gallant)	TERBUTHYLAZINE (e.g. Gardoprim)
PINES e.g. Pinus radiata	Y	Y	Y
DOUGLAS FIR Pseudotsuga menziesii	Y	Y	Y
MACROCARPA Cupressus macrocarpa	Y	Y	Y
CYPRESS e.g. Cupressus lusitanica, C. arizonica	Y	Y	Y
LEYLAND CYPRESS	Y	Y	Y
EUCALYPTUS / GUMS	Y	Y	Y – at half rates
ALDER, ITALIAN Alnus cordata	NO	Y	Y –after 1st year/ half rates
ALDER Alnus glutinosa, Al. Rubra excl. A. cordata	NO	Y	Y –after 1st year/ half rates
SHE-OAK Casuarina cunninghamiana, C. glauca	Y	Y	Y
JAPANESE CEDAR Cryptomeria japonica	Y	Y	Y
BLACK WALNUT Juglans nigra		Y	Y
WESTERN RED CEDAR Thuja plicata	Y	Y	Y
ACACIA / WATTLES	NO	Y	NO
BIRCH	Y	Y	
OAK	Y	Y	
POPLAR	Y	Y	Y –after 1st year/ half rates
WILLOW	Y	Y	Y –after 1st year/ half rates
PITTOSPORUM Pit. eugenioides, P. crassifolium	NO	Y	NO
PITTOSPORUM Pit. tenuifolium		Y	Y – at half rates
GRASSES - all	Y	NO	
REDWOODS – Seq. Sempervirens, Seq. giganteum	Y	Y	Y
ORNAMENTAL TREES /SHRUBS - general	MOST	Y	MOST at half rates when established
OLEARIA SPECIES	NO	Y	
FLAX		Y	Y – at half rates
TREE LUCERNE	NO	Y	NO