



## SITE PREPARATION FOR REVEGETATION with TUBESTOCK

The aim of these notes is to provide practical help with ground preparation (weed control and cultivation) for revegetation projects where tubestock seedlings are to be used.

For help with organising tubestock plants, planting, plant protection and maintenance see: *notes for the tree planter* No's 1,3,4,5.

Trees grow naturally without our help and of the many seeds that germinate a few manage to survive and grow to maturity. When we purchase seedlings in a pot to plant out we expect that at least most will grow. If we take these seedlings into the paddock, dig a good hole, plant, fertilise, guard and fence them we usually find that by mid summer they have disappeared amongst the long grass. Sometimes the long grass appears to protect them from the wind and many may survive to grow on and become good trees.

However, often growth can be very slow and losses can be high when trees have to compete for water, nutrients and space. Plants also compete with each other through chemical 'warfare' (i.e releasing chemicals through roots / leaves to inhibit other plants). Many grasses are very good at suppressing other plants particularly young eucalypts.

Generally, the establishment of trees is faster and survival rates are much higher when they can grow without competition from other plants and when their roots can explore the soil with ease.

Therefore, good ground preparation (weed control and soil cultivation) will hasten tree growth and in many instances can make the difference between great failure and great success. The cost and effort put into ground preparation often turns out to be very economical. However, economics can be a fickle thing – at the other end of the spectrum is the strategy to spend virtually nothing on ground preparation and overplant to compensate for losses. In some cases, particularly in higher rainfall

areas and where fast establishment is not a priority, this strategy can pay off.

Therefore, the level of preparation required is site specific, it depends on such factors as:

- the existing vegetation
- the soil type
- the micro-climate
- the size of the project
- the potential risk of creating an erosion hazard
- the risk of creating new weed problems (removing grass to allow other weeds to establish)

Finally, it is your own expectations and your own attitude to land use methods that will determine the ground preparation strategy for your planting project.

The conventional method of ground preparation on pasture includes:

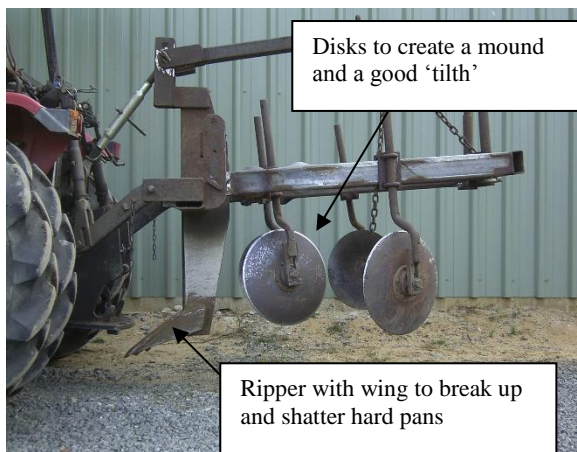
- pre cultivation weed control
- soil cultivation
- post cultivation weed control

**Pre cultivation weed control:** This involves controlling the existing vegetation. Conventionally this is done with a herbicide.

Note: Plan well ahead of time (see timetable below), select herbicides according to weeds present. Always read and follow the label instructions.

Before herbicides were invented cultivation alone was used to control weeds. This is still possible, a good mouldboard plough can turn a sod completely and so bury the existing vegetation and the soil seed bank.

**Soil Cultivation:** The aim is to create a good tilth (i.e loose / friable soil). The generally accepted ‘best’ method is mound ploughing or rip-mounding using a mound plough:



The ripper should go to a depth of 40 – 60 cm to break up any shallow hard pans. The disks create a mound of soil about 30 cm high over the rip-line.

Note: The soil must be dry or just moist for cultivation. Cultivating wet soils (particularly heavy soils) will destroy the soil structure and create glazed surfaces which will inhibit root growth.

The technique of mound ploughing can:

- create good tilth for roots to explore
- increase water penetration and storage

- concentrate nutrients into the rootzone
- ◆ keep plant roots out of saline and water logged zones during early establishment on problem sites
- ◆ help with weed control and
- ◆ will make planting easier and faster.

Several other implements can be used to improvise ground cultivation for tree planting.

A single tyne ripper and a grader blade used in succession can achieve a result similar to a mound plough. Agro ploughs and mouldboard ploughs can also be used to rip and mound for tree planting.

### **Post cultivation weed control:**

After cultivation new weeds will germinate in the prepared soil. These should be controlled prior to planting. A knock-down herbicide is conventionally used. A residual herbicide may be added at this stage to reduce further weed germination. Note: Herbicides must be selected according to weeds present, check with authorised supplier. Always read and follow the label instructions.

If your attitude to living on the land excludes the use of herbicides then further soil cultivation may be used to eliminate freshly germinated weeds.

### **Time Table**

A sample timetable for a ‘conventional’ ground preparation method for the 2018 (autumn or spring) planting season:

| Task:                          | Time:   |
|--------------------------------|---|
| Pre-cultivation weed control:  | generally best in late spring prior to the following planting season (6 to 10 months prior to planting). e.g. spray in November 2017 for an August 2018 planting season.              |
| Cultivation :                  | rip and mound the soil during the summer months while it is dry or just moist to create a good tilth. e.g. during January to April 2018 for a autumn or spring planting of that year. |
| Post cultivation weed control: | spray newly germinated weeds at least 3 – 4 weeks prior to planting, include a residual herbicide at this stage to control further weed growth  |

**Note:** Herbicides must be selected according to weeds present, check with an authorised supplier. Always read and follow the label instructions.