Oil Mallee Association of WA Inc.

Best Practice Fact
Sheet No. 4

Mallee Code of Practice
WEED CONTROL

INTRODUCTION

Weed control is the most crucial element to establishing any tree crop, including mallees. The competition between weeds and young trees for valuable moisture and nutrients is very high, particularly during the prolonged dry months of late Spring, Summer and early Autumn. It is essential trees have minimal, but preferably no competition, to encourage rapid early growth and to maintain growth rates and become a valuable commercial resource. Failure to control weeds will affect the survival and growth of your mallee crop

This fact sheet covers the alternatives available to achieve the best possible weed control within your mallee plantings and includes the following:

- Methods of weed control – chemical and mechanical
- Timing of weed control – pre-season, establishment and post establishment
- Best Practice Guidelines for the safe and efficient weed control

METHODS OF WEED CONTROL

Chemical

Chemical application is a very common method of controlling weeds on tree crop sites. It is usual to use a mixture of knockdown and residual herbicides using a boom sprayer prior to planting. However the exact mix of chemical and the timing of its application is highly dependent on which weeds are present. There is no single spray mix which will remove every weed and it may take several applications depending on germination levels and timing to achieve the best possible result.

Mechanical

Mechanical removal and control of weeds is effective in the establishment year of the mallee planting. Methods include cultivation, scalping and grazing.

Cultivation (or ploughing) will kill most weeds from the initial germination, depending on the timing and frequency of its application. It can reduce the amount of chemical required in order to effect a total kill of weeds and also assists in aeration of the soil. In cases of heavy seed build up or weed burden, ploughing may encourage additional germination of weeds so will need to be carried out at least twice or require the need for chemical application.

Scalping is carried out using a mechanical tree planter or grader blade. By scalping, a strip of topsoil containing weed seeds (between 50 – 100mm) is removed leaving a weed free furrow into which a tree is planted. Additional benefits include removal of non-wetting soil, water harvesting, a reduction in the requirement for chemicals and the ability to carry out ripping, weed control and planting as a single pass operation thus reducing the amount of compaction due to traffic. Scalping IS NOT suitable on all soil types and conditions. It should be viewed with caution in the following situations:

- Where it may expose clay or shallow rock and thus cause waterlogging issues.
- Sites prone to exposure to water and wind erosion.
- Where there is the presence of deep rooted weeds such as couch and dock.
- On sandy soils which are easily blown and may return scalped off seeds to furrowlines.

Grazing alone WILL NOT control weeds but may reduce the amount of weeds present on a site and the amount of chemical, particularly knockdown, required to kill the germinated weed burden. Caution should be shown when using this method amongst newly established trees and is not recommended within the first 18 months after planting.

TIMING OF WEED CONTROL

Pre-season

Weeds controlled in the year or growing season prior to tree establishment can significantly reduce the amount of chemical, cost and effort required immediately prior to planting. Methods used at this time include cultivation, spray topping and grazing. Implementing weed control measures pre season depends on the use of the area proposed for tree planting at the time of weed control ie. cropping, grazing, fallow etc, and it may not always be practical to do so. However for persistent weeds such as couch, pre-season application will be essential.

Establishment or pre-plant

This is the most common time to control weeds and usually occurs at or immediately after the break of season when the first weeds have had a chance to germinate. Weeds are sprayed along the areas intended for planting, ideally as a separate operation to broadacre spraying operations due to chemicals being incompatible between trees, crops and pastures eg. Simazine in certain crops, Treflan in trees due to prolonged period before incorporation and because agricultural rates are not high enough for tree planting.

The most common combination of chemicals used for control of weeds prior to planting is a combination of Knockdown and Residual herbicide eg. Glyphosate (usually between 1-3l/ha, depending on weed burden) and Flowable Simazine (up to 5l/ha, however 2-3l/ha is usually adequate) in combination with sulfate of ammonia or equivalent and a wetting agent. Other selective herbicides ie. grass or broadleaved selectives may be substituted for those mentioned previously, however this should be viewed with caution as certain chemicals will have an adverse affect on tree growth and may affect survival. The addition of such chemicals also increases the cost of establishment.

The use of Knockdown (ie. Glyphosate) on its own is insufficient as it has no residual properties able to control later germinating weeds.

Post Establishment & Second Year weed Control

Additional weed control may be required in the year of planting if pre-establishment weed control is unsuccessful and additional germination is experienced in Spring. Grass selective chemicals pose no problems to seedlings, however overuse may build up chemical resistance in ryegrass. Broadleaf weed control is limited, however the use of Lontrel at low rates up to 0.8l/ha has been used without problems on some weeds.

Carrying out weed control in May or June of the year following planting is a very beneficial operation to perform. Knockdown chemical use is limited and not recommended as it may result in the death of young and under performing trees. Use of Simazine (up to 5l/ha) as a pre-emergent residual chemical is an efficient and cost effective means of weed control provided weeds have not germinated. If this has occurred, use of grass selectives and broad selective Lontrel, are the most effective means of achieving the best results, however this will result in higher chemical costs. IN ALL CASES, DO NOT APPLY CHEMICAL TO YOUNG SEEDLINGS WHEN THE TEMPERATURE EXCEEDS 25°C.

BEST PRACTICE GUIDELINES FOR SAFE AND EFFICIENT WEED CONTROL

The following measures should be implemented and considered in carrying out weed control:

- Always follow manufacturers instructions.
- Chemical should not be applied to defined watercourses and drainage lines.
- Weed control method should be selected based on soil type, topography, type and amount of weed presence. One method does not suit all circumstances.
- Mechanical means should follow the contour to avoid erosion.
- Avoid drift of herbicide onto neighbouring crops in integrated planting systems.
- Consider Integrated Weed Management to reduce the amounts of herbicide requirements.
- Avoid introducing stock to newly planted seedlings for the first 18 months after planting.
- Always plan for effective weed control – DO NOT carry out on an ad hoc basis.

The use of chemicals quoted in this Fact Sheet is a guide only – ALL chemical use should be in accordance with the prescribed uses and rates listed on the label. In all cases, the use and recommendation of chemicals for insect control is strictly controlled by law. It is illegal to use chemicals for purposes other than those on the label at the rates specified. When using chemicals it is essential to read and follow instructions as per the label, particularly in regard to Health and Safety issues, prescribed rates and uses.

For more information contact the Oil Mallee Association on 1800 625 511 or email info@oilmallee.org.au