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(Reference Trial 1633A)

## FINAL REPORT

**Trial title:** To investigate the tolerance of Euca PP applied 4 weeks prior to planting *Leptospermum* and *Eucalyptus* species.

**PSC Trial Reference:** 1633A

**Date:** 21 April 2017

**Client:** Mark Francis, Macspred Australia,  
Wingfield, SA 5013

Trial Title	To investigate the tolerance of Euca PP applied 4 weeks prior to planting <i>Leptospermum</i> and <i>Eucalyptus</i> species.
Trial Location	Adelaide, SA
Client	Mark Frances, Macspred Australia
Research Agronomist	Dr Peter Boutsalis
Report Written By	Dr Peter Boutsalis
Trial Number	1633A
Report Submitted	21 April 2017

### ***Abstract***

An outdoor pot trial was established to investigate the tolerance of Euca PP on *Leptospermum* and *Eucalyptus* seedlings. Sufficient tolerance was observed.

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## **Aim**

To investigate the tolerance of Euca PP applied 4 weeks prior to planting *Leptospermum* and *Eucalyptus* species.

## **Methodology: Treatment List**

<b>Tmt</b>	<b>Treatment description</b>	<b>Product rate (kg/ha)</b>	<b>Product rate (g ai/ha)</b>	<b>Formulation</b>
<b>1</b>	Control	Untreated		Nil
<b>2</b>	EucaPP	0.5	220 + 10	Terbacil + sulfometuron-methyl
<b>3</b>	EucaPP	1.0	440 + 20	Terbacil + sulfometuron-methyl
<b>4</b>	EucaPP	2.0	880 + 40	Terbacil + sulfometuron-methyl

## **Products**

Trimac = EucaPP – a formulation containing 440g/kg terbacil + 20g/ha sulfometuron-methyl as supplied by Macspred Australia.

## Experimental Design

Study Design	Complete Randomised Block
Replications	4
Plot length	0.9L pots

## Site Details

Location	Outdoors over summer-autumn in a shade house (white colour, 50% light intensity reduction) at Adelaide, Waite Campus
Soil Description	Cocoa Peat potting soil

## Experimental Methods:

Forestry species	<i>Leptospermum scoparium (LS Inland)</i> <i>Leptospermum polygalifolium</i> <i>Leptospermum scoparium (LS Coastal)</i> <i>Eucalyptus polybractea</i>
Date seedlings transplanted	14 February 2017
Growth conditions	shadehouse
Seedling Sowing Density	1 seedling per pot
Date herbicide applied to soil	17 January 2017
Spray Time	9am
Temperature at application	16°C
Moisture	Watering supplemented rainfall for the duration (equivalent to 80mm per month).
Application equipment-1	Granules applied to soil surface and watered in by 10mm simulated rainfall.
Speed	4 km/hr
Pressure	2 bar
Spray Volume	100 L/ha
Nozzles	Tee-Jett 110-01
Number of Nozzles	2
Spacing	50 cm
Propellant	Compressed Air

## ***Assessment Data Scoring Systems***

### Percent Herbicide Damage

A subjective score was given based on the level of biomass reduction compared to the untreated pots. A score of 100% indicates complete control and a score of 0% indicates zero herbicide effect.

### Percent Survival

Survival was calculated by dividing the number of plants present before spraying with the plants surviving. Plants were scored as surviving by the presence of new shoots. A score of 100% indicates all plants surviving and a score of 0% indicates zero survival (complete control).

### ***Data Analysis-***

Means were calculated with standard error of the means showing variation in response.

## Results

### Assessment Data

**Table 1:** Percent survival (%) of forestry species to three Eucamix PP rates. Pots sprayed 4 weeks (17 Jan 2017) prior to planting. Seedlings transplanted 14 Feb 2017, 4 weeks after planting. Trial assessed 21 April 2017, 9 weeks after transplanting seedlings.

Tmt	Product rate (kg/ha)	<i>LP</i>	<i>LS Coastal</i>	<i>LS Inland</i>	<i>E. polybractea</i>
1	Untreated	100	100	100	100
2	0.5	100	100	100	100
3	1.0	100	100	100	100
4	2.0	100	100	100	100

**Table 2:** Mean percent biomass reduction (%) of forestry species to three Eucamix PP rates. Pots sprayed 4 weeks (17 Jan 2017) prior to planting. Seedlings transplanted 14 Feb 2017, 4 weeks after planting. Trial assessed 21 April 2017, 9 weeks after transplanting seedlings. Numbers in brackets represent the standard error of the mean. The raw data is presented in Appendix 1.

Tmt	Product rate (kg/ha)	<i>LP</i>	<i>LS Coastal</i>	<i>LS Inland</i>	<i>E. polybractea</i>
1	Untreated	0 (0)	0 (0)	0 (0)	0 (0)
2	0.5	0 (0)	30 (5.6)	0 (0)	0 (0)
3	1.0	10 (0)	28 (0.6)	0 (0)	0 (0)
4	2.0	10 (0)	30 (0)	9 (1.1)	0 (0)

## **Discussion**

A pot trial was conducted outdoors in a shadehouse between December 2017 to April 2017 to investigate the tolerance of EucaPP, a combination formulation containing 440g/kg terbacil + 20g/ha sulfometuron-methyl. Seedlings were planted into soil that had been treated with EucaPP, 4 weeks earlier. Two *Leptospermum scoparium* varieties (LS Inland & LS Coastal), *Leptospermum polygalifolium* (LP) and *Eucalyptus polybractea* were tested.

Strong tolerance and no discolouration with EucaPP in four species was observed. Out of the *Leptospermum* species, LP and LS Inland exhibited the greatest tolerance with slight biomass suppression (10%) at the higher rates. LS Coastal exhibited between 20-30% stunting at all three rates but no discolouration. No effect on and *Eucalyptus polybractea* was observed.

## **Conclusion**

The application of EucaPP to control weeds under young *Leptospermum* and *Eucalyptus* species is recommended due to the significant levels of tolerance observed.



## APPENDIX

**Appendix 1:** Percent biomass reduction (%) of individual surviving forestry plants to three Euca PP rates. Pots sprayed 4 weeks (17 Jan 2017) prior to planting. Seedlings transplanted 14 Feb 2017, 4 weeks after planting. Trial assessed 21 April 2017, 9 weeks after transplanting seedlings.

Tmt	Product rate (kg/ha)	<i>LP</i>	<i>LS Coastal</i>	<i>LS Inland</i>	<i>E. polybractea</i>
1	Untreated	0 x 5	0 x 5	0 x 5	0 x 5
2	0.5	0	20, 20, 30, 50	0 x 5	0 x 5
3	1.0	10, 10, 10, 10	20, 30, 30, 30	0 x 5	0 x 5
4	2.0	10, 10, 10, 10	30, 30, 30, 30	10, 10, 10, 5	0 x 5