Department of Primary Industries
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NSW research results

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Tolerance of mungbean to broadleaf herbicides

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Key findings

Mungbeans in this trial tolerated a range of commonly used broadleaf herbicides.

Further trial work is required to test the impact of these herbicides over a broader range of growing conditions.

Introduction

Mungbeans are a useful opportunity crop that can be sown directly into cereal stubble in years of above average summer rainfall. Like most pulse crops the range of broadleaf herbicide options is limited. This trial aimed to investigate the potential use of presently unregistered herbicides in Mungbean crops in comparison to two currently registered products.

Site details

2011/12

Location:	**Mullaley**
Co-operator:	**Don Parish**
Variety:	**Crystal**(Φ)
Previous Crop:	**Grain sorghum**

Treatments

A total of nine herbicides were used, five unregistered group C, one unregistered group K, one unregistered group D and two unregistered group B were applied at rates sufficient to provide effective weed control. Spinnaker® at 40 g/ha and Stomp® (330 g/L) at 2.5/ha were also included.

All treatments except one were applied on the 23rd of December, 2011 prior to sowing. The crop was planted the following day with a disc planter. One group B herbicide was applied in crop on the 16th of January. Plots were maintained in a weed free state by hand chipping.

Results

The crop tolerated the treatments well and there were no statistically significant differences in yield (Figure 1 and Table 1). Weather conditions during the trial were typified by good rainfall and moderate temperatures which enabled the crop to recover from any setbacks caused by the herbicide applications.

The sowing operation threw treated soil away from the seed line further reducing the potential for damage.

Chemical No 5 applied in crop caused significant visual damage. The fact that this treatment still managed to yield relatively well is evidence of the favourable growing conditions.

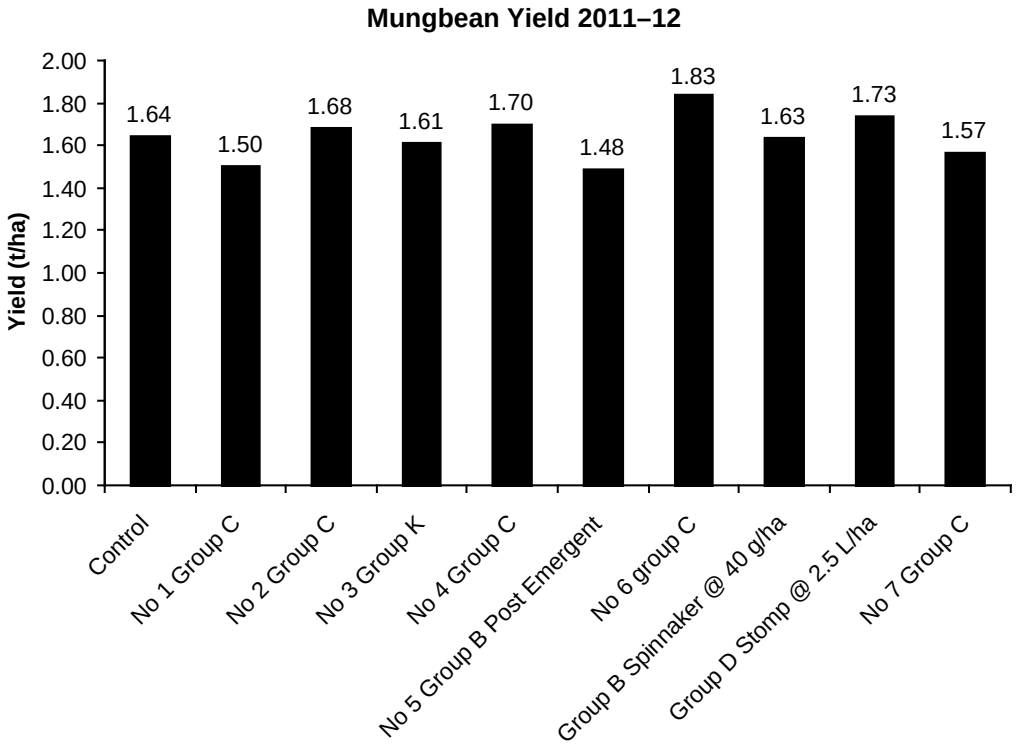

Figure 1: *Yield of mungbean following application of various herbicides 2011–12.*

Table 1: *Yield of mungbean following herbicide application*

Treatment	Yield t/ha	Significance
Control	1.64	a
No 1 Group C	1.50	a
No 2 Group C	1.68	a
No 3 Group K	1.61	a
No 4 Group C	1.70	a
No 5 Group B Post Emergent	1.48	a
No 6 group C	1.83	a
Group B Spinnaker @ 40 g/ha	1.63	a
Group D Stomp @ 2.5 L/ha	1.73	a
No 7 Group C	1.57	a
CV		12%
LSD	0.38 t/ha	

Summary

While mungbeans showed good tolerance to a range of herbicides in this trial further trials are necessary to determine the level of safety in a wider range of conditions prior to seeking any kind of permit to allow registered use of any of these products.

Acknowledgements

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