SELECTIVE CONTROL OF WEEDS IN NATIVE FOREST

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In a regeneration program being carried out by BHP at its Port Kembla (New South Wales) steelworks, weeds (mainly agricultural) growing among native plants present a major problem because of the competitive advantage they have for moisture and nutrients. Cost-effective control of weeds growing among native seedlings is difficult and very little research has been done on the use of herbicides to address the problem.

In this pot experiment (Toth and Meszaros 1993), pre- and post-emergent herbicides were tested.

METHODS

For per-emergent herbicides a sandy loam soil with a wick watering method (Toth *et al.* 1988) was used. Five herbicides at various rates were used pre-emergent on: *Acacia mearnsii*, *A. sophorae*, *Casuarina glauca*, *Eucalyptus botryoides*, *Hakea saligna* and *Kennedia rubicunda.*

Five herbicides and their combinations at various rates were used post-emergent on: *Acacia mearnsii*, *A. sophorae*, *Banksia integrifolia*, *Callistemon speciosus*, *Casuarina glauca*, *Eucalyptus maculata*, *Hardenbergia violaceae*, *Leptospermum laevigatum*, *Myoporum parvifolium* and *Westringia fruticosa.*

Herbicides used:

Pre-emergent

Dacthal® (chlorthal)
Devrinol® (napropamide)
Dual® (metolachlor)
Goal® (oxyfluorofen)
MON 13211 (Monsanto code number)

Post-emergent

Brush-off® (metsulfuron methyl)
Gesatop® (simazine)
Goal® (oxyfluorofen)
Roundup® (glyphosate)
MON 13211 (Monsanto code number)

RESULTS AND DISCUSSION

From the pre-emergent treatments the Dacthal® (chlorthal) was safe for five out of the six native species. The other herbicides were safe for at least two of the six species. Their use will depend on expected weed problems. MON 13211 is not suitable for pre-emergent use. *Casuarina glauca* was the only native plant species susceptible to all five herbicides.

Of the post-emergent herbicides, MON 13211 was found to be the safest. It could be safely combined, depending on the weeds present, with Gesatop® (simazine) and Goal® (oxyfluorofen).

REFERENCES

Toth, J. and Meszaros, I. (1993). Report for BHP on glasshouse experiments, 1992–93.

Toth, J., Nurthen, E.J. and Chan, K.Y. (1988). *Australian Journal of Experimental Agriculture* 28, 805-8.