



Pine plantations use a relatively small range of chemicals

Like most crops, tree plantations in the early and middle stages of development, can be severely damaged by weeds, insects and diseases.

Pesticides are often applied to plantations to control these problems and to improve growth rates. Similarly, as with agricultural crops, chemical fertilisers are sometimes required to correct nutritional deficiencies and promote growth.

However, only a relatively small range of agricultural chemicals are used in plantations and the total amount used is much less than in most crops.

For example, weed control is usually only required in the first two years of a 30 to 40 year crop, rather than annually, and fertilisers are only applied once or twice, if at all.

Integrated pest control methods, such as grazing to control weeds, are important in reducing chemical requirements for plantation forestry.

In many cases chemicals are applied as individual spots, or as strips along the planting line, which minimises the total quantity required.

The possible impacts of plantation chemicals on human health and the environment are reduced by strict codes of practice for pesticide handling and application, and by intensive training of operators.

The chemicals used in plantations are also widely used in agriculture, and are subject to the same testing

Table 1.
Common herbicides used in pine plantations

Active ingredient name	Some common trade names	Toxicity	Common Use
Triclopyr	Garlon	S6	Woody weeds
Metsulfuron	Brushoff	Un	Woody weeds
Atrazine	Gesaprim	S5	Herbaceous weeds
Glyphosate	Roundup	S5	Grass and woody weed
Hexazinone	Velpar	S6	Herbaceous weeds
Copper oxychloride	various	Un	Dothistroma control

Poisons Schedule (S) ratings:
Un - unscheduled
S5 - low toxicity
S6 - moderate to high toxicity
S7 - high to very high toxicity

and regulatory controls. Most are of low toxicity as shown in Table 1., which contains a list of the most commonly used chemicals in pine plantations, and their toxicity rating.

Aerial spraying

The use of aerial spray application techniques in forestry is necessary, particularly in older plantations where access is restricted.

People have concerns about aerial spraying and the environmental effects of the chemicals used if drift were to occur.

However in recent times there have been considerable advances in aerial application technology.

Improvements include precise droplet sizing and delivery systems, application by helicopter, and the use of Global Positioning Satellite (GPS) navigational aids to assist with flight-path accuracy and recording.

The use of granular herbicides and more environmentally

acceptable chemicals has also reduced the danger of chemical mishaps due to spillage (SPIS 1990).

These operations have a legal requirement for thorough planning and intensive supervision.

Further reading

- ▶ HADS (1990) Holbrook Afforestation Development Study, 'Implications of development plantations: Opportunities and areas for concern'. Report to Holbrook Shire, Margules Groome Poyry Pty Ltd.
- ▶ SPIS State Plantation Impact Study (1990), *Report and recommendations*. SPIS Steering Committee, Melbourne.

For further information contact FIC's Executive Officer on (02) 6947 0111.

FIC's web site is:
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