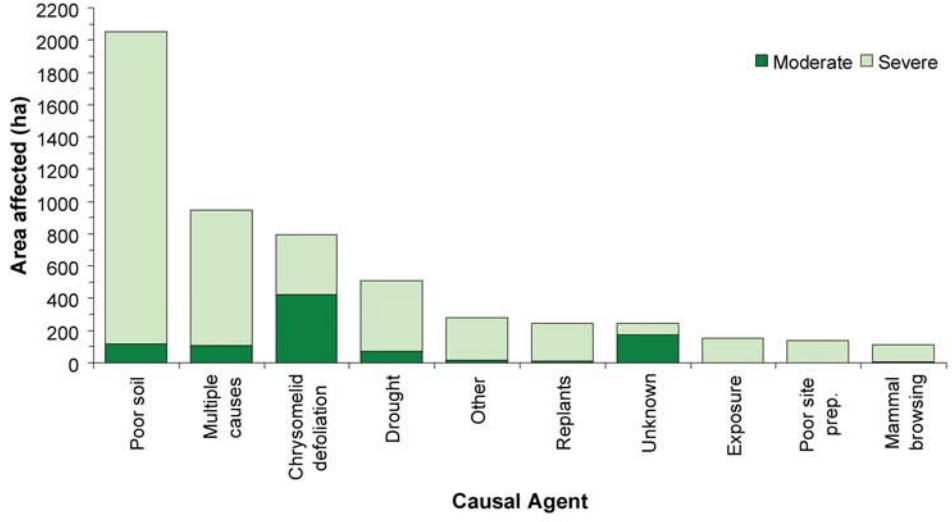
Forest health surveillance

Forestry Tasmania's Forest Health Surveillance (FHS) supports its overall forest health management program, particularly of the plantation estate. The primary objective of FHS is detecting the symptoms of injury and damage caused by pests, diseases, nutritional problems and weather events. FHS is particularly important for detecting health problems that can cause severe damage but are uncommon or unpredictable in their occurrence. FHS inspections are done using a combination of aerial and roadside surveys. This combination has been shown through research to be effective in detecting symptoms, above which unacceptable financial losses will occur.

Figure 21. Main causal agents associated with moderate or severe reductions in performance of eucalypt plantations in state forests in 2007/08



Formal health surveillance was done over 135,145 hectares of pine and eucalypt plantation during 2007/08, an increase of 16 per cent over the previous year. The following summary relates to health problems encountered in eucalypt plantations in state forests during the past year.

Drought conditions experienced across the State during the past year were a major influence on the health of the plantations. This is reflected in sharp increases in the area of plantation showing moderate or severe reductions in performance associated with poor soil conditions as well as direct losses from drought deaths (Figure 21). Performance issues associated with poor soil conditions were primarily on the drier sites in the northeast and infertile sites in the northwest, while drought deaths were concentrated in the southeast and central north. Symptoms of copper deficiency continue to appear in many of the drier sites in the northeast and on the infertile soils in the northwest.

Chrysomelid leaf beetles (primarily *Paropsisterna bimaculata*) were very active during the past year. A total of 7213 hectares of plantations monitored for leaf beetle populations were found to be over-threshold. A total of 6612 hectares of the over-threshold plantations were aerially sprayed with insecticide. The majority of this area (6299 hectares) was sprayed with alpha-cypermethrin (93 per cent) and 313 hectares with Spinosad® which is the more environmentally friendly alternative. This was a result of the requirement to use alpha-cypermethrin for spray operations undertaken on lease plantations.

The ongoing issue of defoliation caused by late-season feeding by adult leaf beetles is reflected in an increase in the area of plantation suffering moderate or severe defoliation (Figure 23). Research, through the CRC for Forestry, is continuing to find a more effective way of protecting plantations from this late-season feeding damage.

The area of plantation suffering moderate or severe damage from mammal browsing declined from 379 hectares in 2006/07 to 113 hectares in 2007/08. This improved result was achieved despite the adverse seasonal drought conditions that retarded growth and extended the time taken for the transplants to reach a height that was safe from browsers.

Following the end of 1080 use in state forests as from 31 December 2005, Forestry Tasmania has been using a number of alternative methods (particularly trapping and shooting) to control browsing animals in newly established plantations and native forest.

Table 9. Non-chemical browsing control summary

Treatment Type	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Number of shooting operations (no. of established areas)	196	359	261	248	356
Length of fencing (km)	22.5	23.3	0	3.7	14
Seedlings treated with repellent (ha)	17.7	5	10	0	14
Big seedlings (ha)	1	4	0	2	0
Tree guards (ha)	2	4	3	5	706

Figure 22. Area treated with alpha-cypermethrin and spinosad

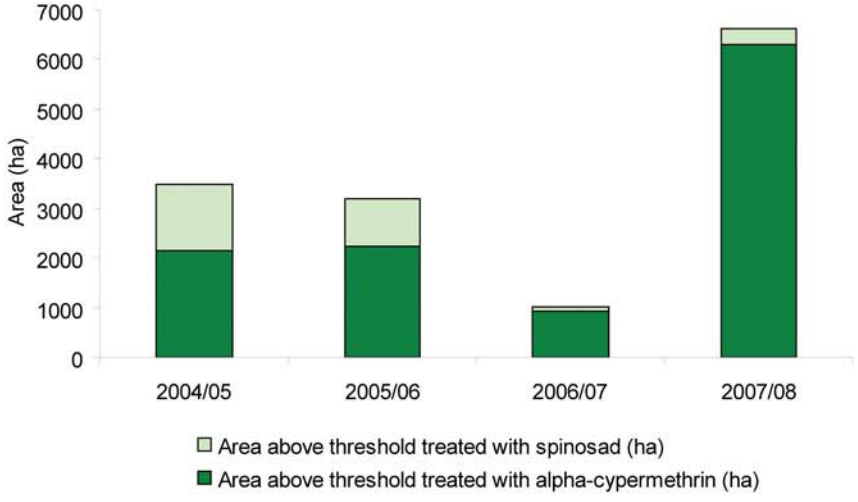


Figure 23. Annual summary for the past five years of the area of eucalypt in state forests that suffered moderate (25-50% crown loss) or severe (>50% crown loss) late-season defoliation by chrysomelid leaf beetles (primarily *Paropsisterna bimaculata*).