

# LOST TIME ACCIDENTS IN FORESTRY - 1991 and 1992

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## INTRODUCTION

This report presents forestry accident information for 1991 and 1992. Logging accidents are summarised elsewhere, (Parker, 1993). Forestry is taken to include the following operations: nursery work, establishment, thinning to waste, pruning and a miscellaneous group of accidents associated with forest maintenance.

Only 44 lost time accidents were reported for 1991 and 1992. Surely many more accidents occurred in this period but were not reported. Under the new Health and Safety policy of the New Zealand Forest Owners' Association, whereby they accept the responsibility for reporting accidents, it is anticipated that a greater volume of information can be collated for use in reducing forest worker injuries.

There are four types of accident recorded by the scheme. Fatal accidents are when a person dies as a result of injuries received on the job. Lost time accidents are defined as those where an injury results in four hours or more time lost from work. A minor accident results in injury which needs first aid but the victim can stay at work for the remainder of the day. A near miss incident is when first aid is not required or when an event occurs which could have resulted in injury if circumstances were different (e.g. fall off pruning ladder, no injury, but could have landed on stump; cut protective chaps with chainsaw, but no injury

to leg). Property damage (with no personal injury) is included with near miss incidents.

<i>Accident Type</i>	<i>1991</i>	<i>1992</i>
<i>Fatal</i>	0	0
<i>Lost Time</i>	16	28
<i>Minor</i>	3	2
<i>Near Miss</i>	8	2

*Table 1 - Accidents recorded by the scheme*

## ACKNOWLEDGEMENTS

*LIRO acknowledges the co-operation of the workers, contractors and companies that supplied the data used for these analyses.*

## ANALYSIS

### Time of Accident Occurrence

There were considerable differences in the distribution of accidents throughout the year with a peak of accidents in March, April and May in 1991. This peak period was also reported for 1990 (Gaskin, 1991). However, the distribution of accidents was more equal throughout 1992. People moving into the relatively safer job of planting, from other forestry tasks, may account for the drop in accidents reported in June, July and August.

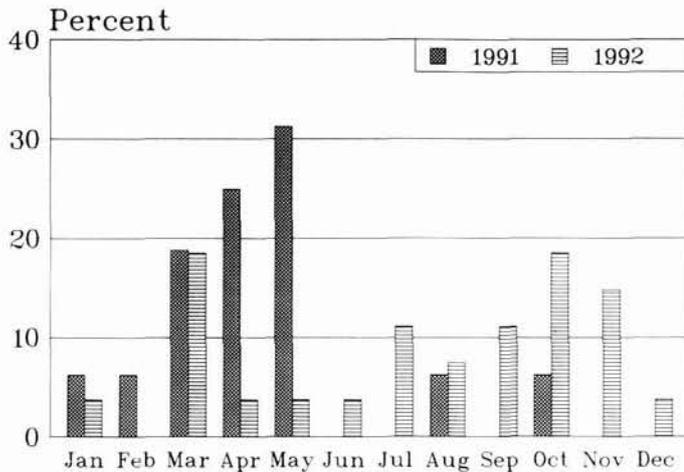


Figure 1 - Month of accident

The greatest proportion of accidents occurred on Mondays, Tuesdays and in the weekend with few accidents recorded mid-week. This was in contrast to the forestry accident summary for 1990 and the logging accident summaries where there was a cluster of accidents on Monday.

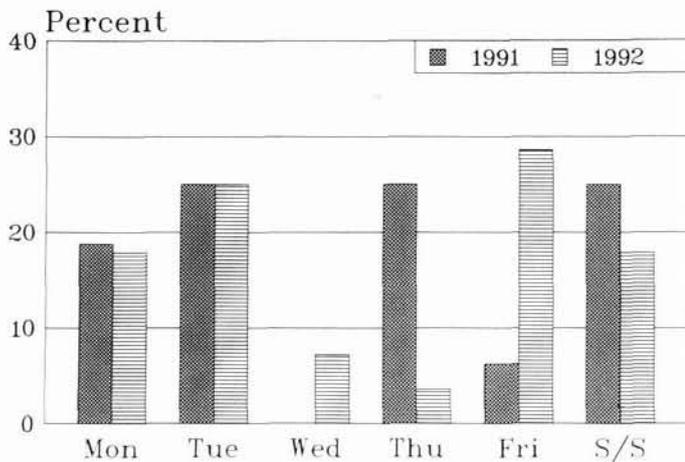


Figure 2 - Day of week of accident

The pattern of accident occurrence in 1991 was similar to that of forestry accidents in 1990 and that found for logging accidents. However, in 1992 more accidents were reported later in the day, between 9 and 10 am, 11 am and 12 noon and at the end of the day, 3 to 4 pm.

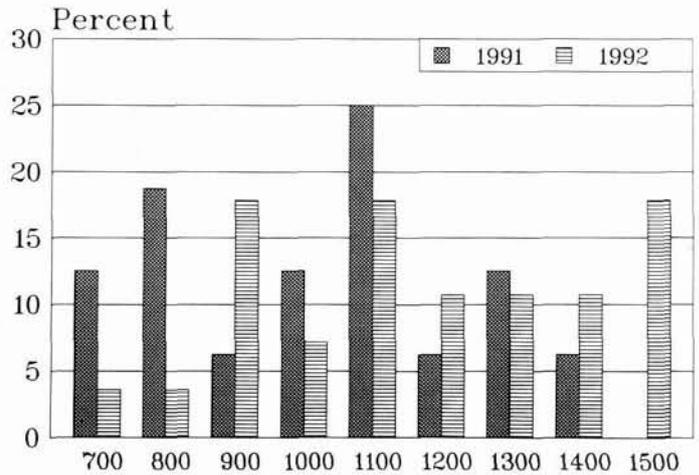


Figure 3 - Time of day of accident

### Type of Operation

Accident data for 1991 and 1992 have been combined and are presented together to simplify analysis in the following sections.

Thinning to waste and pruning accounted for the greatest proportion of lost time accidents (31% and 41% respectively). Among workers thinning to waste the most common cause of injury (54%), was chainsaw lacerations to the body. People thinning to waste were being cut in the head, legs and hands with no one part more affected than any other. This is different to logging, where the feet and lower legs are frequently injured with chainsaw lacerations.

Almost half (47%) of the pruning injuries were a result of striking some object (e.g. stump, pruning shears, ladder, chainsaw) after falling from the ladder or a branch which broke under the weight of the person pruning.

### Part of Body Injured and Type of Injury

The hands were the most frequently injured part of the body in both years, accounting for a total of 20% of all lost time injuries. All hand injuries (except one fracture) were lacerations inflicted by jacksaws, pruning shears, chainsaws and slashers. There were

two lost time injuries sustained sharpening pruners each resulting in 2 days off work.

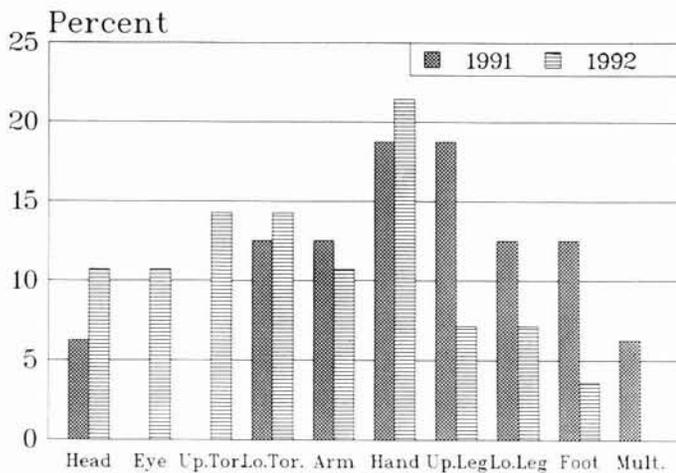


Figure 4 - Part of the body injured

The arms (11%), lower torso (14%) and upper legs (11%) were the next most frequently injured parts of the body. The most common injury to the arms were shoulder strains caused by grabbing for a branch while falling out of a tree or off a ladder. The strain injuries were serious, resulting in an average of 10 days off work. Lower torso injuries consisted of back strains caused by twisting and bruising as a result of falling down. Of the six lost time upper leg injuries, one was a strain caused by slipping over and the remaining five were lacerations inflicted by the chainsaw or slasher. One chainsaw laceration resulted in 35 days off work.

The head, upper torso and lower legs were each injured in 9% of lost time accidents. The most frequent causes of injury were falling off the pruning ladder or tripping on undergrowth and subsequently landing on the slasher, pruning shears or chainsaw.

The feet were injured in only 7% of forestry accidents which is in contrast to results from

the Logging Accident Reporting Scheme (Logging ARS) where the feet were injured in 16% of lost time accidents. The lower foot injury for forestry workers is because of the fewer number of forestry workers using chainsaws and the different type of work being done with them (i.e. no delimiting).

Overall, laceration was the most common cause of injury (48%). Bruising and strains/sprains accounted for 21% and 18% of injuries respectively and only 5% of injuries were fractures.

#### Age and Experience of Accident Victims

Only 18 accident victims had their age recorded. Of those, 16% were under the age of 20 years, 39% were 20 to 24 years old, 22% were 25 to 29 years old and the remaining 23%, 30 years or older. Injured pruners were younger (22.4 years) than injured thinnings workers (26.5 years).

On average, pruners and thinnings workers had the same amount of experience (in that job) when injured (2.6 years and 3.0 years respectively).

#### Lost Time per Accident

The average time lost per accident was 5.8 days for the 44 lost time accidents recorded for 1991 and 1992. Days lost ranged from 1 to 35. Thinning to waste injuries were the most serious resulting in an average of 8.5 days lost, pruning injuries averaged 4.7 days lost. Injuries sustained during establishment (all were lacerations while clearing undergrowth with a slasher or chainsaw) averaged 3.7 days lost. Due to the small sample size, differences between lost time averages are not statistically significant.

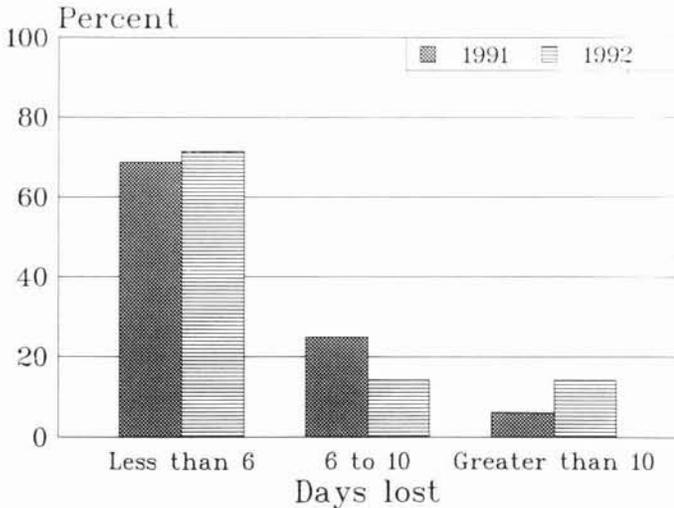


Figure 5 - Time lost per accident

## DISCUSSION AND CONCLUSIONS

Most injuries reported, resulted in less than six days off work and therefore would not be recorded by the Accident Compensation Corporation Integrated Information System (for earnings related compensation). The Health Information Service only records injuries resulting in hospital treatment so do not record many less serious forestry injuries. The Forestry Accident Reporting Scheme (Forestry ARS) is the most comprehensive record of New Zealand forestry accidents and near miss incidents available and the accident reports are made by people who have a technical knowledge of forestry.

Almost half the near miss incidents (4 of 9) are reports of protective legwear preventing chainsaw lacerations. Near miss reports are valuable information for protective equipment manufacturers. Improvements in protective equipment can only be made after feedback from the users of the equipment.

Support of the Forestry ARS is essential so that trends in injury type can be recognised

and measures taken to improve the safety of the forestry workforce. For example the Logging ARS identified slipping from the log as a major contributing factor in injury. A study of spiked boots was done by LIRO which proved to industry the value of spiked boots and stimulated the manufacturers to develop improved ones (Kirk & Parker, 1992). The Logging ARS is being used to monitor changes in the proportion of injuries sustained in "slipping" accidents due to poor traction.

The Forestry ARS has identified falls from pruning ladders as the single greatest cause of injury in forestry work. This information can be used to focus effort on the problem area (pruning ladders and the methods used to prune above 2m), to design better, less dangerous work practices.

## REFERENCES

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