

Background Tractors are associated with more fatalities than any other piece of machinery in agriculture, with rollovers historically being a frequent mechanism. The state of Victoria introduced mandatory retrofitting of rollover protection structures (ROPS) in 1998.

Aims examine the impact of mandatory ROPS retrofitting on tractors determine patterns and trends of fatal tractor related incidents

Methods Retrospective population cohort. Farm work-related fatalities among workers 15 years and over between 1985 and 2010 selected from the Victorian Workcover Authority database. Tractor related fatalities identified and coded according to type. Fatality rates with working hours of adult persons employed in agriculture, provided by the Australian Bureau of Statistics, as the denominator. Poisson regression modelling was used to examine trends in fatality rates.

Results 121 tractor fatalities occurred, of which 55 were rollovers. A significant decline in rollover fatalities of approximately 7% per annum (incidence rate ratio (IRR)=0.93, 95% CI 0.90 to 0.97) was observed, however there was no simple relationship between the introduction of the legislation and the fatality decrease. An increased trend in run over fatalities was found (IRR=1.04, 95% CI 1.00 to 1.09).

Significance Previous voluntary retrofitting initiatives, coupled with the existing requirement for ROPS on new tractors, may have increased ROPS fitment to a critical point prior to the mandatory retrofitting, diluting the effect over a number of years. While tractor rollover fatalities are now rare events, tractor run over fatalities have increased, suggesting the need for focused prevention programmes.