



Update of mouse numbers from the Central Mallee of Victoria January 2002 - CSIRO Rodent Research Group



Regular monitoring of mouse populations is conducted in 5 regions in southern Australia. We have a good understanding of population dynamics for the Central Mallee wheatlands of Victoria because of a 19-year data set. The Grains Research and Development Corporation fund the monitoring and updates on population trajectories.

Abundance of mice

The abundance of mice is low for this time of year (Figure 1). The mice are in good body condition. There has been a marked decrease in abundance of mice over the spring of 2001 (blue line).

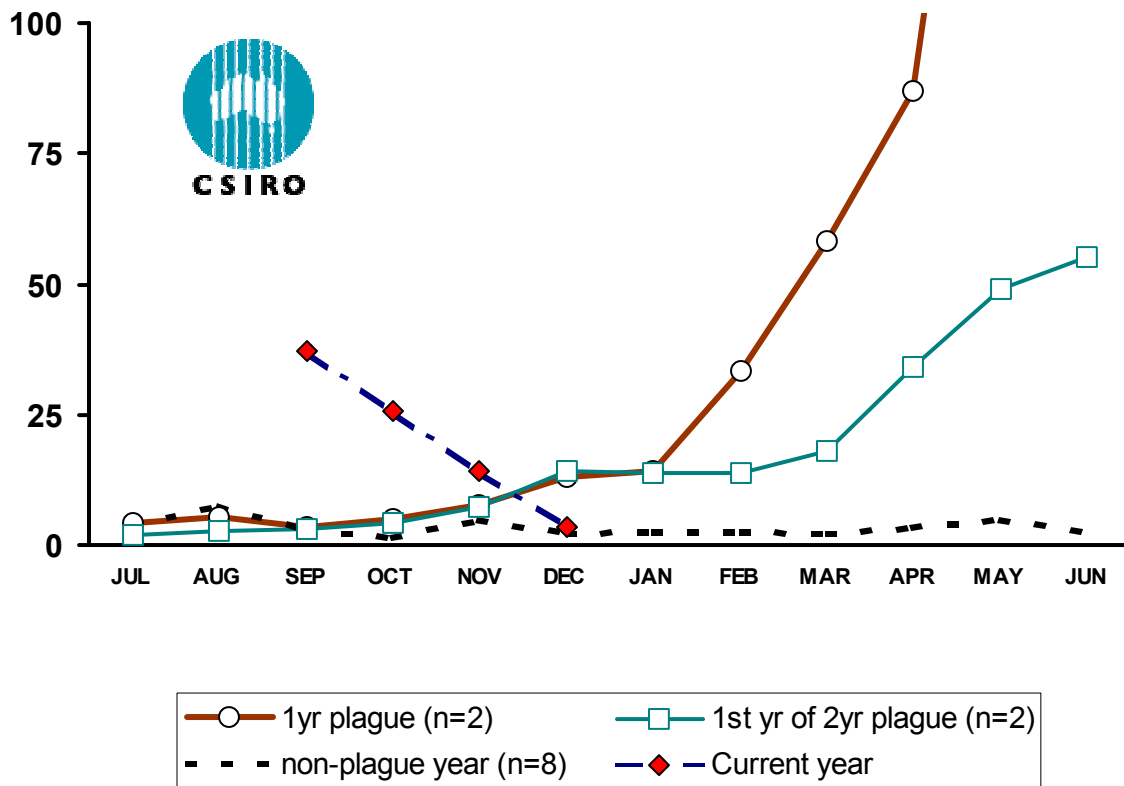


Figure 1. Historical and current trends in the abundance of house mice in the cereal production areas of the Victorian mallee. The index of abundance is adjusted trap success per 100 trap nights and recent data are shown for the period September to December 2001. For each sampling point 193 traps were set for 3 consecutive nights (581 trap nights). The historical data come from four plagues that have occurred in this area since 1983. On two occasions (1984 and 1997) the eruptions were restricted to one year ("1yr plague") and on two other occasions (1987-1988 and 1993-1994) the eruption was more pronounced in the second year ("1st year of a 2 year plague" is shown here).

Breeding of mice in the central Mallee

Breeding began in the central Mallee of Victoria (our long term sampling site) in the first or second week of October, 2001. This is a late start to the breeding season. Based on 18 years of data, breeding on average begins in mid-September.

Forecast for Autumn of 2002 for Central Mallee Wheatlands

The forecast model for this region is strongly influenced by April to October rainfall. The rainfall for this period in 2001 was within a narrow band where prediction is uncertain (Figure 2). The Pech-Hood model run in November predicted a steady decline in mouse numbers over summer. Subsequent monitoring of mouse populations in November and December confirm this prediction. Biologically, the decline was expected in November because of the relatively late start to breeding, not so the decline in December. It will be interesting to see whether the decline in numbers continues. Given the current situation the likelihood of high mouse numbers in autumn 2002 is low (less than 20%).

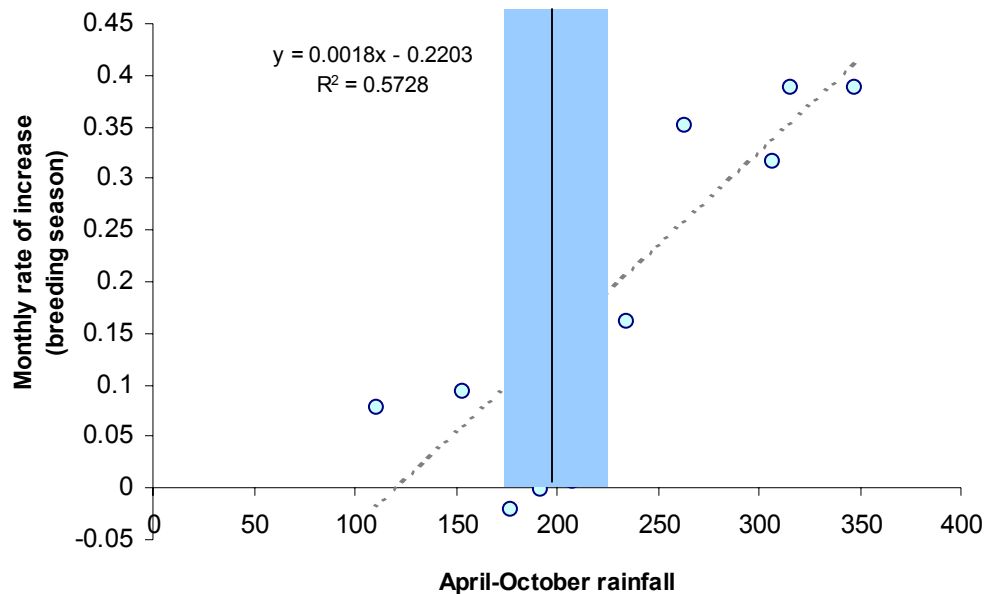


Figure 2. Regression line for predicting mouse plagues based on rates of increase of mouse populations and April to October rainfall. April to October rainfall in 2001 was 194 mm (shown as vertical line). The long-term record of mouse abundance at Symes suggests that predicting whether mice will increase or decrease is very difficult when rainfall lies in the range 175 to 225 mm (blue shading).

Monitoring of mouse numbers at other sites

Mouse numbers are very low in the southern Mallee and the northern Mallee of Victoria.

Mouse numbers in the eastern Mallee and Riverland of South Australia are slightly higher than in Victoria but at this stage they do not present too much cause for concern.

Southern Australia Mouse Monitoring

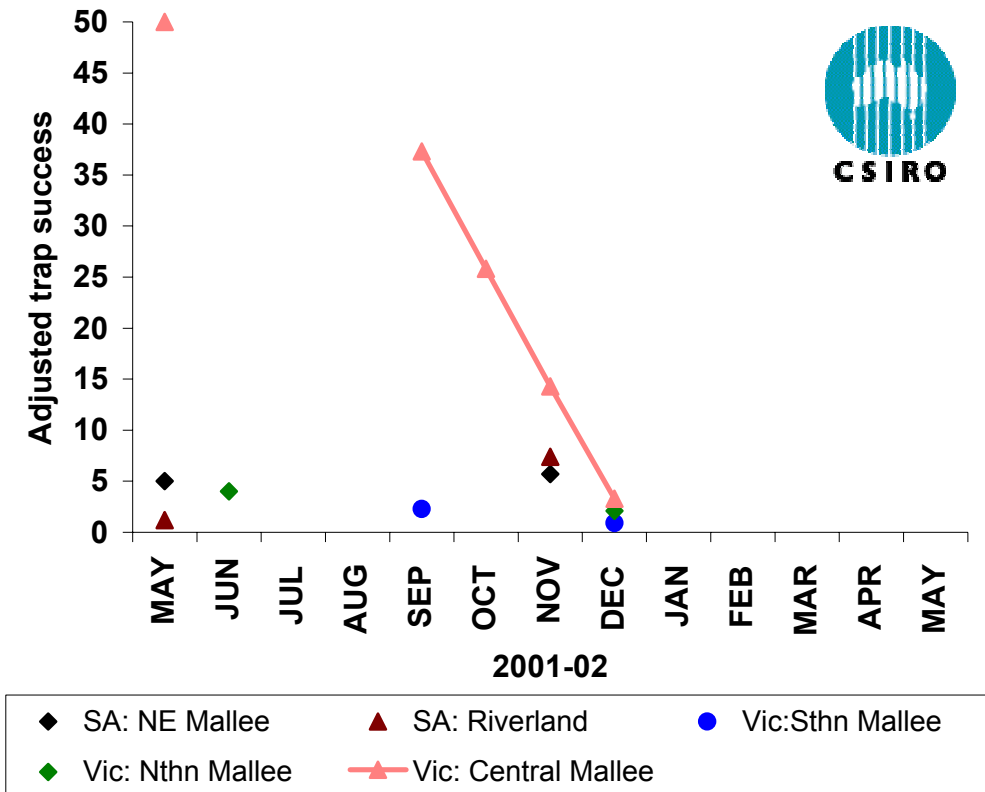


Figure 3. Relative trap success of mice at 5 sites in the wheatlands of Victoria and South Australia. On average, 193 traps were set for 3 consecutive nights (581 trap nights) at each site for each sampling period.

General Comments

The above data indicate that we do not expect significant mouse problems at sowing (autumn) in the Mallee region of Victoria. The likelihood of significant mouse problems in the regions monitored in South Australia is slightly higher but not of major concern at this stage.