

Update of mouse numbers from the Central Mallee of Victoria February 2001 - CSIRO Rodent Research Group

Regular mouse trapping is conducted in the Central Mallee wheatlands of Victoria as part of a Grains Research and Development Corporation funded project. This is an update to the report sent out in January 2001 by Grant Singleton.

Abundance of mice

The abundance of mice is still relatively high for this time of year (Figure 1). There was a slight increase in abundance in late January/early February. The population trajectory is still above that from previous years for one-year plagues and for the first year of a two-year plague.

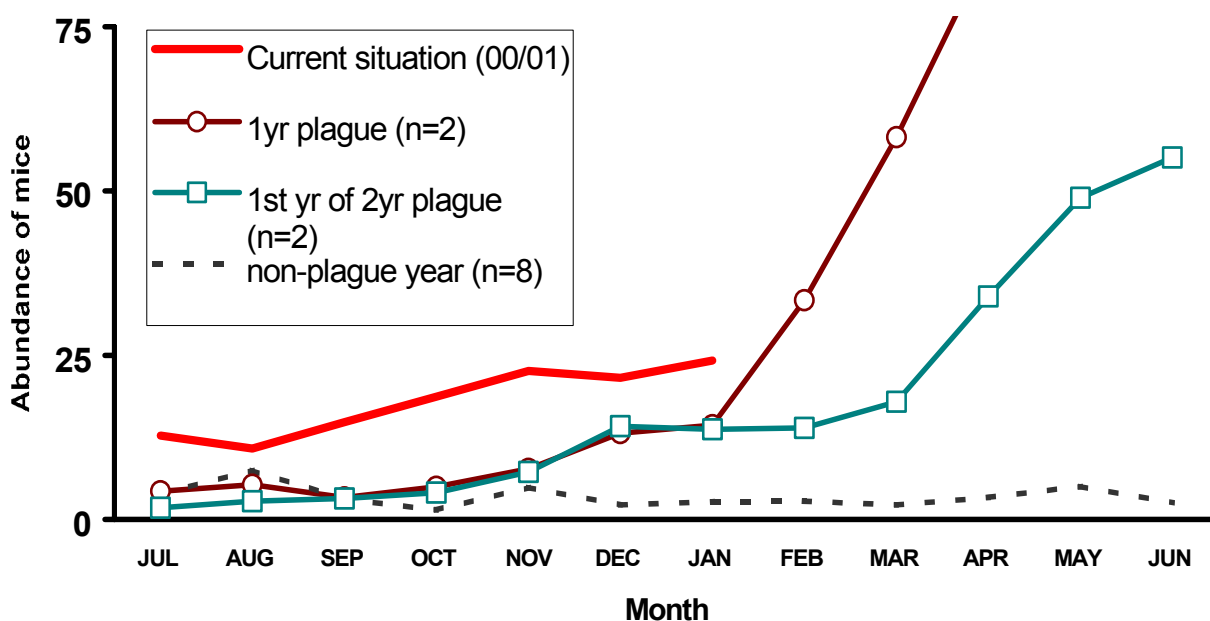


Figure 1. Forecast for 2001 Mouse Populations in Central Mallee Wheatlands, Victoria. Comparison of trends in trajectory of mouse populations since 1983. There have been 4 occasions when mouse numbers erupted. On two occasions (1984; 1997) the eruptions happened in one year (1yr plague). On two other occasions (1987/88; 1993/94) the eruption was more pronounced in the second year (first year of a two year outbreak shown here). The dotted line indicates the mean population trajectory in a non-plague year (n=8 years).

Breeding

Adult female mice are still in breeding condition (30% pregnant from kill samples). The average number of embryos was 4.5 (litter size is normally low over summer). The bulk of the females had pregnancies in the first trimester, which seems to be a result of good (ie the first) rainfall for many months. Therefore, mice have quickly taken advantage of the conditions.

General Comments

The situation in the central Mallee in Victoria remains cause for concern. The population numbers are high for February, the mice are in good body condition, adult female mice are breeding and there is plenty of high quality feed about.

For the central Victorian mallee there is a strong likelihood that mouse numbers will be substantially high in autumn 2001. We are still not clear on how high the population will climb. We can predict that there will be a widespread outbreak of mouse populations with densities of around 250-450 mice per ha in March/April. Whether the population will continue to climb beyond that into serious plague conditions we cannot tell at this stage. The trajectory of the mouse populations into late autumn and winter will depend on the breeding status of the mouse population in mid-March.

Although mouse densities were relatively high for November and December, there were few reports of significant (>5%) mouse damage to the winter cereals during the 2000 harvest. Yields were consistently high throughout the central mallee and quadrat samples of spilt grain taken in December indicate that there is plenty of food available to mice in the stubbles.

The situation in the Northern Mallee of Victoria has appeared to ease, as reported earlier. We will be conducting further trapping of mice in this and the other regions over the next few weeks. The next update is likely to be in mid March 2001.

The situation in the Southern Mallee of Victoria, Southern Mallee of South Australia and the Northern Mallee of South Australia is not of concern at the moment. The good crops in some of these regions has led to plenty of food for mice so it will be interesting to see how these populations respond over the next couple of months.

Recommendations for management

A research project funded by the Bureau of Rural Sciences and GRDC in the Central Mallee and Wimmera regions of Victoria (1995-1998) provided some recommendations for best farm management practices for mouse control. This was a collaborative project between the CSIRO Rodent Research Group and the Victorian Department of Natural Resources and Environment.

Given that mouse numbers are relatively high for this time of year, we would encourage farmers to put sheep on to graze their crop stubbles as much as possible. This will reduce the availability of high quality grain that was left on the ground after harvest and also prevent volunteer crops maturing. However, farmers need to make sure that there is sufficient cover to prevent erosion.

Farmers may also wish to consider protecting their crops at sowing to reduce the chance of damage. This can be achieved by cross harrowing, rolling or prickle chaining after sowing to ensure the seeds are well covered. Furthermore, the seeds should be sown as deep as agronomically possible and to an even depth. These actions are only necessary when moderate to high mouse numbers are likely at sowing (that is, this year).