Monitoring mice in Australia – October 2021

Summary

- **Mouse numbers have declined in most areas, but remain moderate to high in parts of southern Queensland and northern NSW, and moderate in parts of SA** (Figure 1). **Urgent action is required to minimise damage and losses**. Moderate or high number of mice is a serious concern for this time of year. There is a short window of opportunity to act prior to harvest.
- **Mouse numbers are low but patchy in many areas** (Figure 1) but be vigilant. Low numbers of mice are not likely to cause significant damage to crops.
- **Growers should actively monitor mouse activity** (mouse chew cards are useful at this time of year). There is always a chance of isolated patches of higher mouse activity.
- Please report and map mouse activity using *MouseAlert* (www.mousealert.org.au) so other growers can see what mouse activity is being observed in their neighbourhood. Follow on twitter using *@MouseAlert*.

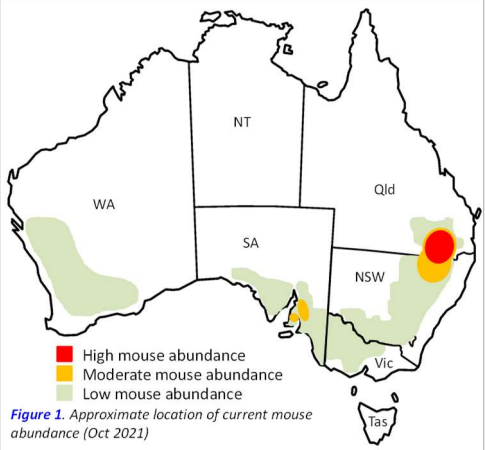


Figure 1. *Approximate location of current mouse abundance (Oct 2021)*

Management Recommendations

Mouse numbers are highly variable between different paddocks and locations. Breeding has commenced in early spring and so mouse numbers will increase through spring into summer to peak in abundance in autumn. Mouse populations have crashed in many areas where they were at very high densities. If numbers are high in maturing crops, they will cause some damage to crops (crops cannot compensate for damage immediately prior to harvest). It may not be possible to bait in crops because of restrictions with label conditions (14 day withholding period). See GRDC Mouse Control website for more details about control options.

1. **Harvest as cleanly as possible to reduce mouse food availability.** Food resources left in the paddock could sustain mouse breeding and lead to higher mouse numbers at sowing next year.
2. If mouse damage is evident to maturing crops **aerially apply zinc phosphide mouse bait** (adhere to label conditions and be aware of the 14-day withholding period before harvest). Once seeds have developed on heads, mice are reluctant to go for zinc phosphide baits, so if need be, bait well before seed set.
3. **Talk to bait suppliers** and ask for **50 g ZnP/kg bait** to ensure best chance of success. Be aware there are significant lead times in some locations so talk to your supplier.

Current situation

Because of COVID-19 travel restrictions, the CSIRO team have been unable to conduct their national in-paddock monitoring activities that usually take place this time of year. We have consulted our extensive grower network (~130 growers) to piece together the current mouse situation. We also consider reports in *MouseAlert* (Figure 2).

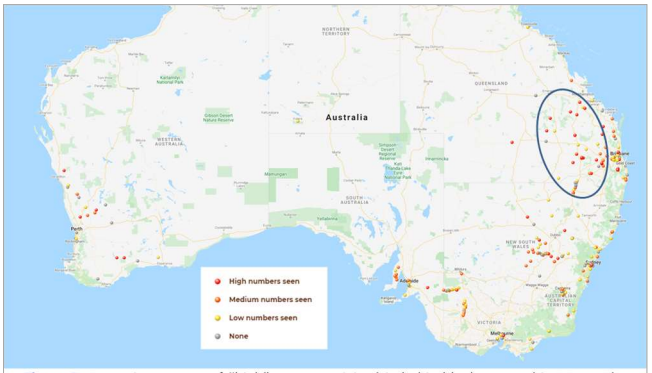


Figure 2. *Approximate area of "high" mouse activity (circled in blue) reported in MouseAlert from 1 Jul to 21 Oct 2021 (https://www.feralscan.org.au/mousealert/map.aspx)*

Mouse numbers have declined (crashed) in many regions through NSW, but pockets remain in northern NSW and in central and southern Queensland. Because of excellent conditions (good rainfall in many areas and bumper crops), mice started breeding in early spring and will now build from a low base. Growers should remain vigilant and act accordingly if mouse abundance is of concern. Because of patchy activity between paddocks, growers are advised to monitor across multiple paddocks to gauge mouse numbers to inform management decisions. Focus on paddocks that sustained grain loss last year (please report on *MouseAlert* www.mousealert.org.au).

- **South Australia: Mouse numbers are low in most areas**. Eyre Peninsula: low activity. Mid North: some patches of moderate activity; low elsewhere. Yorke Peninsula: mice damage observed to maturing crops around Minlaton (looked like frost damage); low elsewhere. Numbers are expected to increase in autumn next year. Ongoing vigilance is important. We thank PIRSA for monitoring.

- **Western Australia: Mouse activity has declined around Geraldton and Ravensthorpe**: Geraldton: serious damage occurred to maturing winter crops and extensive baiting occurred. Mouse activity has recently declined in all areas. Ravensthorpe: there was a surge in numbers late August with a lot of canola and lupins were baited then numbers dropped off, low at moment, but strong wind in last 2 weeks has put a bit of grain on ground (harvesting underway).
- **Victoria: Mouse abundance is low to moderate (but patchy)**. Mouse activity is highly variable. Mallee: very patchy: low to moderate, but one site (barley) high activity (chewing into lower nodes). Wimmera: Highly variable, some sites with high activity, some with low or nil. We thank BCG for monitoring.
- **New South Wales (Northern, Central & Southern): Mice are very patchy (moderate to high) in areas of northern NSW, but have declined to low levels through central and southern areas.** Central West: nil activity from all 8 sites. Parkes: low activity on all 9 sites (3 mice caught = 2% trap success = very low). Northern: very low activity on all 9 sites near Moree. Many areas were baited through September because of serious damage, which stopped most damage. Southern: mouse numbers have declined and are low. Ongoing vigilance is important. We thank North West Local Land Services, Central West Farming Systems and NSW DPI for mouse monitoring.
- **Queensland: Mouse abundance and activity was highly variable (moderate to high) on sites across the Darling Downs.** Mouse activity variable: 1 moderate, 4 low and 7 nil activity. Some spilled sorghum grain remained on the ground on some sites. Some reports of patchy numbers from Rockhampton and Emerald. Ongoing vigilance is important.

The 'Mouse Forecast'

Northwest Victoria: The probability of an outbreak in autumn 2022 ranges from **0.25 (low) to 0.41 (moderate)** depending on rainfall in November (Qualitiative model). Peak abundance at Walpeup is predicted to be **low-moderate** in autumn (around 50 mice/ha). Mouse abundance in other regions of NW Victoria could be higher and could cause damage as crops mature.
Adelaide Plains: The probability of an outbreak in autumn 2022 ranges from **0.36 (moderate) to 0.53 (high)** depending on rainfall in November (Qualitiative model). Numbers are likely to increase through spring and summer and could to be a problem at sowing in autumn 2022.
Central Darling Downs: Since we were unable to conduct trapping at benchmark sites, we ran some scenarios for the "Mid-term" model (ongoing monitoring will be important).

- Assuming mouse activity was "low", the model indicated that mouse densities in May 2022 would most likely be **Moderate** (probability = **0.6**) or **Low** (probability = **0.3**).
- Assuming mouse activity was "moderate", the model indicated that mouse densities in May 2022 would most likely be **Moderate** (probability = **0.6**) or **High** (probability of **0.4**).

Future activities

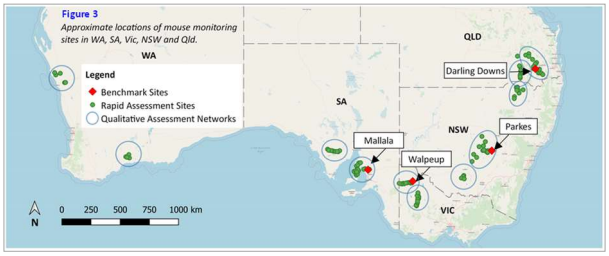
MouseAlert Smartphone app →
www.mousealert.org.au

The next scheduled monitoring is set for March 2022 in all regions. Please continue to report mouse abundance on your farm (presence and absence!) using ***MouseAlert*** (*www.mousealert.org.au*) on your smart phone, tablet or computer and to check what other mouse activity is being reported locally and regionally (now >2,600 records). We welcome any information at any time. You can also follow progress on **Twitter** (*@MouseAlert*). Instructions on how to use ***MouseAlert*** here. Download the ***MouseAlert*** App from iTunes app store or Google play (click on hyperlink to download).

Background

This is an update on mouse abundance and activity for September for all regions. Mouse populations were monitored in typical grains farming systems in WA, SA, Vic, NSW and Qld during spring 2020 (Figure 3). The monitoring provides data on the size (abundance) of mouse populations, breeding status and overall activity. This information is used in models that have been developed over the last 20-30 years to predict mouse outbreaks. This project is funded by the GRDC (until Dec 2021) to monitor mouse populations and forecast the likelihood of mouse outbreaks (the project is likely to be extended for an additional 3 years; to Dec 2024).

- **Benchmark sites (◆)**: live trapping data collected for use in models in Mallala (SA), Walpeup (Vic), Darling Downs (Qld), and Parkes (NSW).
- **Quantitative rapid-assessment sites (●)**: mouse chew cards & active mouse burrows (130 transects, 11 areas).
- **Qualitative monitoring networks (○)**: from farmers and agronomists in 11 local areas.



Further information and Handy resources

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❶ GRDC Mouse Control website: https://grdc.com.au/resources-and-publications/resources/mouse-management
❷ *MouseAlert* (hosted by FeralScan): https://www.feralscan.org.au/mousealert/
❸ Department of Ag., Water and the Env. (DAWE): https://www.awe.gov.au/agriculture-land/farm-food-drought/mouse-infestation