Monitoring mice in Australia – November 2022

Summary

- **Mouse numbers have declined in all regions to low numbers, but there are some sites with patchy low-moderate activity** (Figure 1). Mouse activity is masked by high yielding crops and persistent wet weather in many areas. Growers should remain vigilant. Low numbers of mice are not likely to cause significant crop damage.
- **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*.

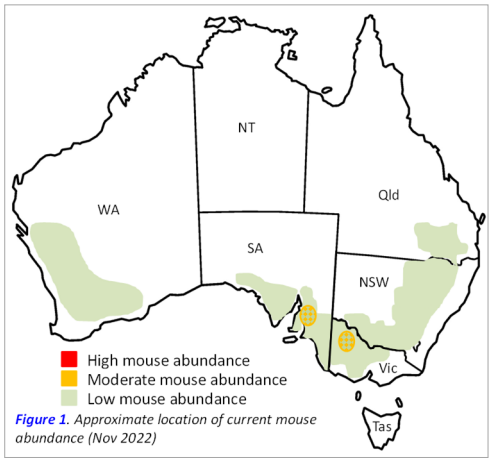


***Figure 1**. Approximate location of current mouse abundance (Nov 2022)*

Management Recommendations

Although mouse numbers and activity are generally low, there are patches of low-moderate activity. There has been excellent in-crop rainfall in many areas with high-yielding crops, which might mask mouse activity. We are uncertain of the impact of ongoing wet weather on mouse survival and breeding. Given abundant high-quality food, mouse activity could increase rapidly when conditions become favourable, which will be a concern for seeding in autumn 2023. It is therefore critical to harvest as cleanly as possible (avoid grain loss) to ensure there is no high-quality food available for mice. Low background food will increase the chance that mice will encounter rodenticide baits (if baiting is warranted). Monitoring in March 2023 will be important to track progress. 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, leading to higher mouse numbers at sowing next year. Use seed destructors if possible.
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, if so, 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

Mouse numbers are generally low in all areas, but there are localised areas of moderate activity in some regions (Adelaide Plains, Victorian Mallee and Wimmera). Mouse activity has declined in WA, and persistent wet weather in southern and eastern states has reduced mouse activity to generally low levels. 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 are likely to have head loss (particularly barley). Monitoring in March 2023 will be important to track progress (please report on *MouseAlert* www.mousealert.org.au).

- **South Australia: Mouse numbers are variable but generally low**. Eyre Peninsula: mice around but low activity. Yorke Peninsula: Nil activity on 3 sites, low activity on 1 site. Adelaide Plains: activity highly variable (nil activity on 2 sites, low activity on 1 site, moderate to high activity on 4 sites). 33 mice were caught on trap grids at Benchmark site at Adelaide Plains (= 8% trap success = low, Figure 2; densities 20-50 mice/ha).

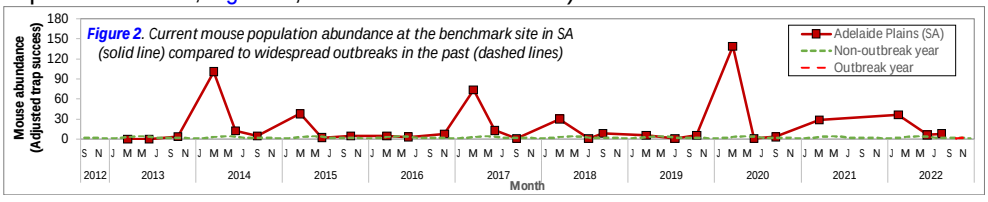
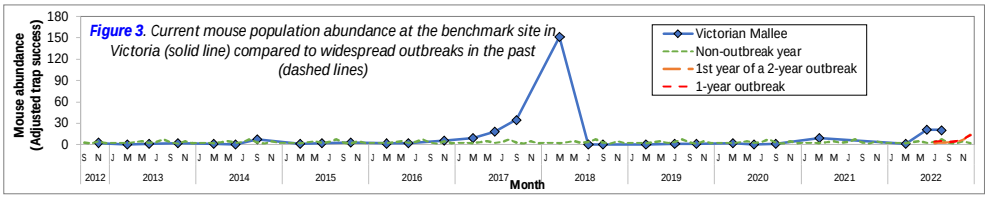


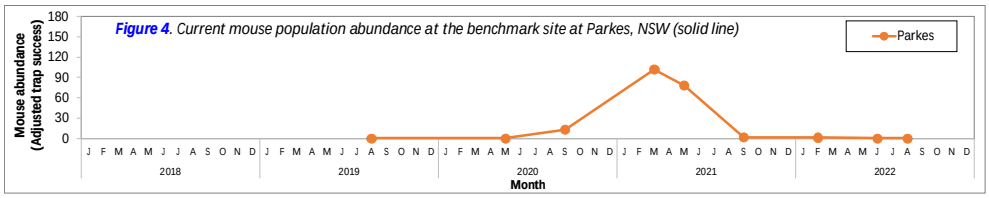
***Figure 2**. Current mouse population abundance at the benchmark site in SA (solid line) compared to widespread outbreaks in the past (dashed lines)*

- **Queensland: Mice are generally low but patchy.** Persistent rain is keeping mouse numbers low. Mouse activity on Darling Downs was low (nil activity on 4 sites, low on 8 sites and moderate on 1 site). Goondiwindi-Moonie monitoring will be conducted shortly.

- **Western Australia: Mouse activity has dropped to low levels throughout the grain belt.** Geraldton: early baiting at seeding has kept mouse numbers down. Ravensthorpe: mice are generally low. Other areas: mice present but in low numbers.
- **Victoria: Mouse abundance is generally low, but highly variable (patchy)**. Mouse activity is relatively high for this time of year. Mallee: high activity on 1 site, low on 2 sites and nil on 7 sites. 56 mice caught on trap grids at Benchmark site at Walpeup (=21% trap success = moderate, Figure 3) with 70-100 mice/ha, which is relatively high for this time of year. Wimmera: Highly variable, high on 2 sites, moderate on 2 sites, low on 2 sites and nil on 4 sites.



- **New South Wales (Northern, Central & Southern): Mice are generally low in all areas, but patchy (access to sites hampered by flooding).** Central West: nil on 3 sites. Parkes: nil on 5 sites. Nil mice caught at Benchmark site at Parkes (Figure 4). Northern Moree: low on 5 sites, nil on 3 sites. Gin Gin: moderate at 1 site, low on 3 site, nil on 6 sites. Coonamble: moderate on 1 sites, low on 2 sites. Southern: not surveyed. We thank North West Local Land Services, Central West Farming Systems and NSW DPI for mouse monitoring.



The 'Mouse Forecast'

Northwest Victoria: The probability of an outbreak in autumn 2023 is **0.45-0.55 (moderate to high)** (depending on Nov rainfall). Peak abundance will be **moderate-high** in autumn **(around 140-250 mice/ha)**. Walpeup has received very high in-crop rainfall (Apr-Oct), but we are not sure of the impact of prolonged wet weather on mouse survival/breeding. Monitoring in March 2023 will be important to track progress.

Adelaide Plains: The probability of an outbreak in autumn 2023 is **0.45-0.57 (moderate to high)** (depending on Nov rainfall). Mallala has received very high in-crop rainfall (Apr-Oct), but we are not sure of the impact of prolonged wet weather on mouse survival/breeding. Monitoring in March 2023 will be important to track progress.

Central Darling Downs: Assuming "low to moderate" mouse activity, the "Mid-term" model was "**moderate**" **(probability 0.5-0.6)** for an outbreak in May 2023; meaning further monitoring is warranted. Many areas are very wet.

Future activities

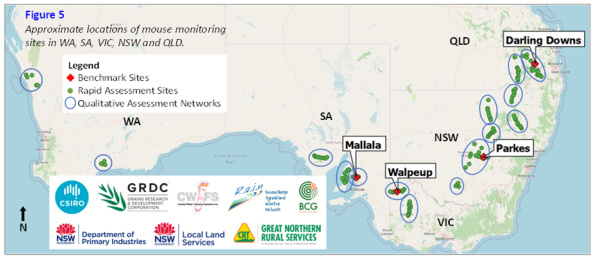
The next scheduled monitoring is set for Mar/Apr 2023 in all regions. Please continue to report mouse abundance on your farm (presence and absence!) using ***MouseAlert*** (*www.mousealert.org.au*). Download the ***MouseAlert*** App from iTunes app store or Google play (click on hyperlink to download). You can also follow progress on **Twitter** (*@MouseAlert*). Instructions on how to use ***MouseAlert*** here.

MouseAlert Smartphone app →
www.mousealert.org.au

Background

This is an update on mouse abundance and activity for Sept for all regions. Mouse populations were monitored in typical grains farming systems in WA, SA, Vic, NSW and Qld during spring 2022 (Figure 5). 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 2024) to monitor mouse populations and forecast the likelihood of mouse outbreaks.

- **Benchmark sites (◆)**: live trapping data collected for use in models in SA, Vic, Qld, and NSW.
- **Quantitative rapid-assessment sites (●)**: mouse chew cards & active mouse burrow counts (160 transects, 15 areas).
- **Qualitative monitoring networks (○)**: from farmers and agronomists in 15 local areas.



Further information & 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