Monitoring mice in Australia – April 2023

Summary

- **There are moderate to high numbers of mice in many areas, and could cause damage at seeding** (Figure 1)**. Mouse activity appears to be very patchy and could be related to paddock history (high yielding crops, lots of ground cover).** Growers should remain vigilant, as lots of ground cover can mask signs of mouse activity. Low numbers of mice are not likely to cause significant crop damage.
- **Growers should actively monitor mouse activity** (mouse chew cards and active burrow counts 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*.

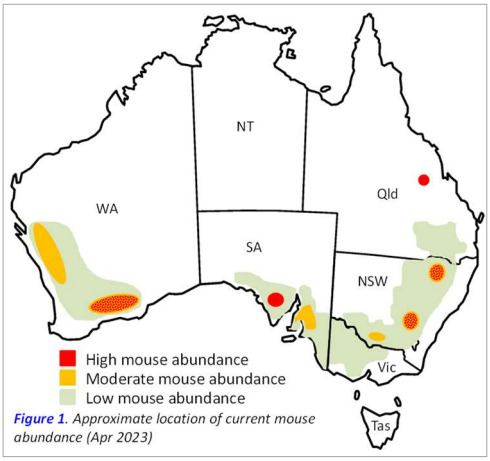

Figure 1. *Approximate location of current mouse abundance (Apr 2023)*

Management Recommendations

Mouse numbers are moderate to high in many areas (highly patchy). Given the excellent conditions across many areas, mice have been breeding through summer and autumn, with numbers peaking in April/May at the time of sowing winter crops. See GRDC Mouse Control website for more details about control options.

1. Actively gauge numbers by walking through paddocks.
2. If mice are present at sowing, bait off the back of the seeder to prevent damage to the freshly sown crop (*be aware of Emergency Permit requirements for the 50 g ZnP/kg bait*).
3. Baiting at sowing is most effective if no other food sources are available, so remove residual food.
4. **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

Moderate or high mouse numbers are a concern for this time of year (seeding of winter crops), when most economic damage can occur. Moderate to high numbers of mice are present in many areas across the grain belt affecting most states (WA, SA, NSW & Qld). Mice area still breeding in some areas. Mouse numbers are highly patchy and could be dependent on paddock history (late harvest, high yielding crop, storm affected crop, and lots of ground cover masking signs of mouse activity). 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). Please report on *MouseAlert* www.mousealert.org.au.

- **South Australia: Mouse numbers are high in parts of EP and moderate on Adelaide Plains, and generally low elsewhere.** Eyre Peninsula: mouse activity is high in parts of EP – growers need to be vigilant and protect crops. Adelaide Plains: activity highly variable, moderate mouse activity from active burrow counts ranged from 50-150 burrows/ha (5 sites) and high (1 site) with 644 burrows/ha. Adjusted trap success was 3-60% (6 sites, mean=25%) which is moderate (mice still breeding in April) (Figure 2); moderate-high densities (average=260 mice/ha; range=40-622 mice/ha). Yorke Peninsula: low activity.

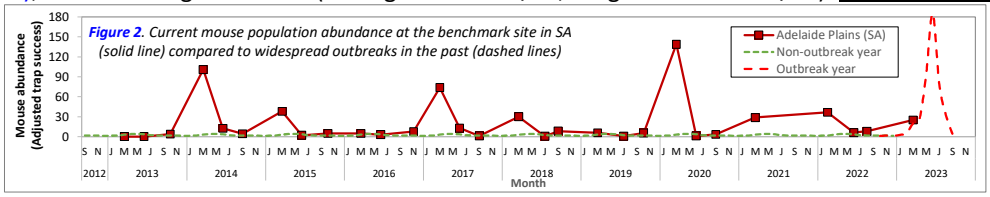

Figure 2. *Current mouse population abundance at the benchmark site in SA (solid line) compared to widespread outbreaks in the past (dashed lines)*

- **Victoria: Mouse abundance is low**. Mallee: low on 6 sites and nil on 6 sites. 9 mice caught on trap grids at Benchmark site at Walpeup (=3% trap success = low, Figure 3) with 25-50 mice/ha. Wimmera: low on 3 sites and nil on 7 sites.

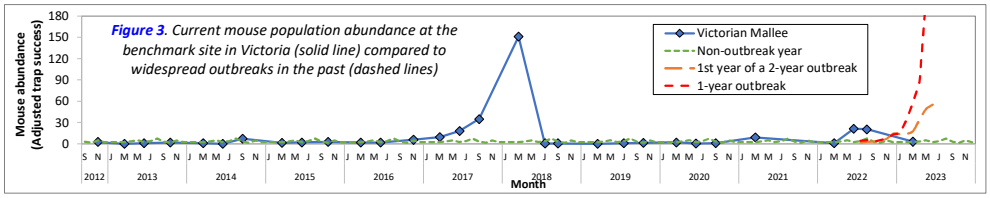

Figure 3. *Current mouse population abundance at the benchmark site in Victoria (solid line) compared to widespread outbreaks in the past (dashed lines)*

- **Queensland: Mice are generally low.** Darling Downs: low on 4 sites, nil activity on 8 sites. Goondiwindi-Moonie: nil activity on 7 sites. Some damage reported on developing cotton bolls near Emerald.
- **Western Australia: Moderate to high activity in southern parts of the grain belt (with many areas baited) and moderate mouse activity is evident in western parts of the grain belt.** Geraldton: farmers need to be vigilant as mouse activity is patchy. Ravensthorpe: many farmers are baiting. Other areas: mice present but in low numbers.
- **New South Wales (Northern, Central & Southern): Patches of moderate-high mouse activity, but low elsewhere.** Central West (Condobolin): nil on 6 sites. Parkes: moderate on 4 sites, nil on 6 sites. 13 mice caught at Benchmark site at Parkes (=4.4% trap success; density of 5 mice/ha) (Figure 4). Trangie: highly variable: nil chew card but 1 active burrow at one site & up to 50% card activity and 9 active burrows on another site (225 burrows/ha). Northern Moree: moderate on 1 site, low on 2 sites, nil on 6 sites. Gin Gin: moderate at 2 sites, low on 2 sites, nil on 6 sites. Liverpool Plains: moderate on 4 sites, nil on 6 sites. Coonamble: moderate on 1 site, low on 1 site, nil on 2 sites. Southern: high at 1 site, low on 1 site and nil on 1 site. We thank North West Local Land Services, Central West Farming Systems and NSW DPI for mouse monitoring.

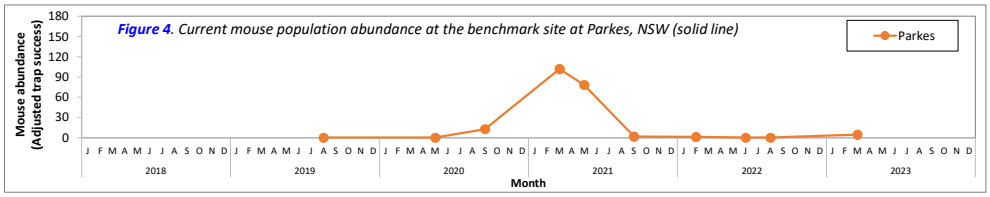

Figure 4. Current mouse population abundance at the benchmark site at Parkes, NSW (solid line)

The 'Mouse Forecast'

Northwest Victoria: The spring 2022 forecast was for a moderate to high probability (0.45-0.55) of an outbreak in autumn 2023. Based on monitoring (nil or low activity on sites) and reports, there is not likely to be an outbreak/plague in Victoria in autumn 2023.

Adelaide Plains: The spring 2022 forecast was for a moderate to high probability (0.45-0.57) of an outbreak in autumn 2023. Monitoring revealed some areas with 'moderate' numbers, which is on track. Based on monitoring and reports, there is not likely to be an outbreak/plague in Adelaide Plains in autumn 2023.

Central Darling Downs: Mouse activity was "low" across all sites (Darling Downs and Goondiwindi), so the expected density index for May will be "**low**".

MouseAlert Smartphone app →
www.mousealert.org.au

Future activities

The next scheduled monitoring is set for Jun/Jul 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.

Background

This is an update on mouse abundance and activity for March/April for all regions. Mouse populations were monitored in typical grains farming systems in WA, SA, Vic, NSW and Qld during autumn 2023 (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.

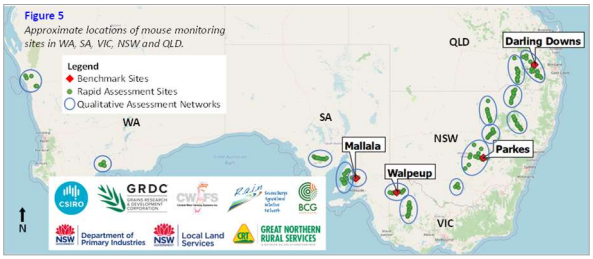

Figure 5
Approximate locations of mouse monitoring sites in WA, SA, VIC, NSW and QLD.

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
❹ CSIRO rodent management: https://research.csiro.au/rm/