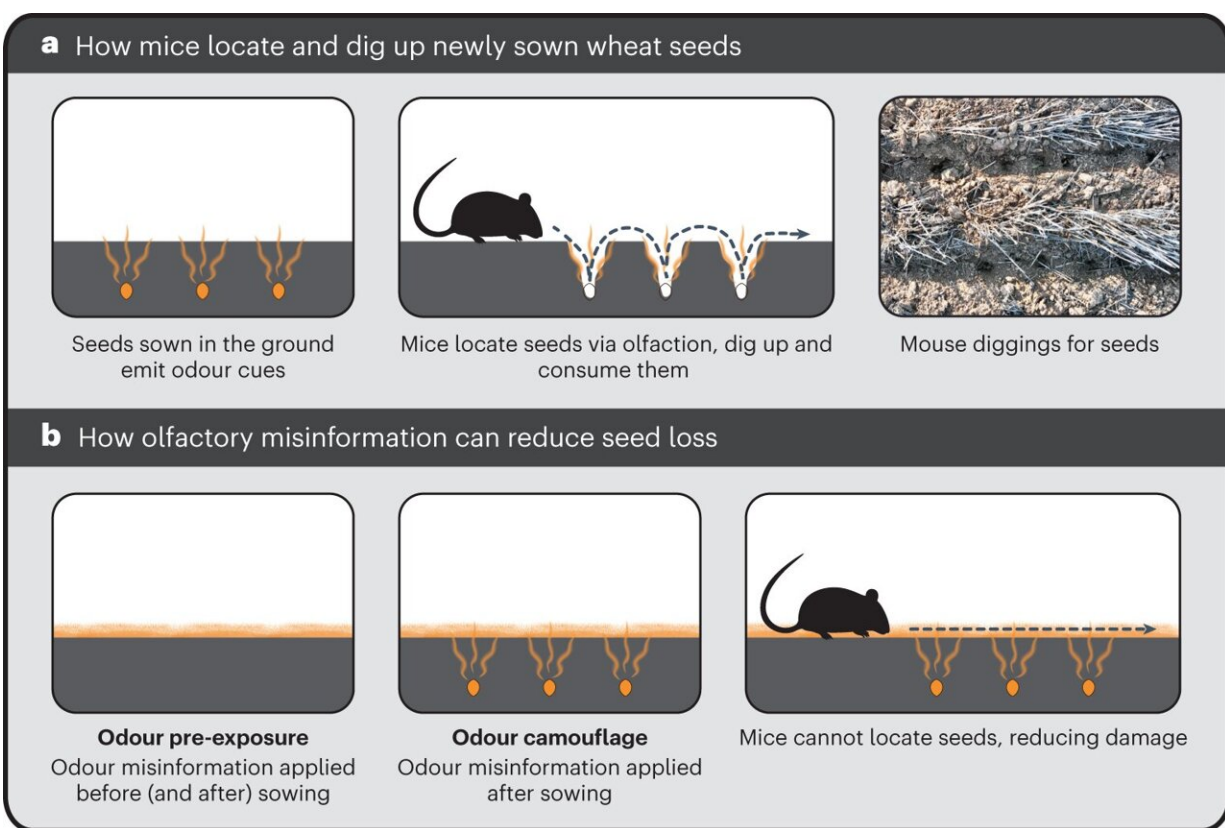


A new approach to warding off mice eating wheat seed using camouflage scents

May 23 2023, by Bob Yirka



How olfactory misinformation can undermine detection of seeds by mice. a, How mice use olfaction to locate newly sown wheat seeds, and an example of actual mouse damage on our study wheat crop. b, How odor pre-exposure and odor camouflage treatments can disrupt mouse foraging and reduce seed loss. Mouse silhouettes in a (middle) and b (right) created with Flaticon.com. Credit: *Nature Sustainability* (2023). DOI: 10.1038/s41893-023-01127-3

A team of life and environmental scientists from The University of Sydney has found that spraying wheat fields with wheat germ oil after seeding deters mice that feed on seeds. In their study, reported in journal *Nature Sustainability*, the group tested a technique first used in New Zealand to protect endangered birds.

Farmers have been attempting to outmaneuver [field mice](#) for centuries—[mice](#) like to eat grains, whether stored or in the ground in the form of seeds. Prior research has found that they consume approximately 70 million tons of maize, rice and wheat grains each year around the globe. Unfortunately, despite massive efforts to deter the rodents, [farmers](#) still must rely on poisons, and in some cases, cats. In this new effort, the researchers may have found a better option.

The researchers noted that colleagues in New Zealand had tried smearing the scents of endangered birds over areas where the birds would never visit. This led to predators growing suspicious of such scents, because when followed, there was no payoff. That led them to ignore the smell of the birds even when they were present.

To see if the approach might work with mice, the team treated 60 10x10 plots with wheat germ oil, which contains the scent of the wheat germ—the part of the wheat the mice want to eat. To gauge its effectiveness, the team sprayed it on plots before planting seeds and others after seeding. They also left a few plots untreated.

They were surprised to find that the oil did not serve as a false signal; the mice still ate the seeds where the plots had been pretreated. But they also found that the mice largely left alone the plots where treatment had occurred after planting. This, the researchers suggest, was likely because an overabundance of aroma had confused the mice, making it nearly impossible for them to find the seeds.

More information: Finn C. G. Parker et al, Olfactory misinformation reduces wheat seed loss caused by rodent pests, *Nature Sustainability* (2023). [DOI: 10.1038/s41893-023-01127-3](https://doi.org/10.1038/s41893-023-01127-3)

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