

# Impact of farm management practices on house mouse populations and crops in an irrigated farming system

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**Abstract.** House mice cause serious damage to agricultural crops in Australia. A set of farm management practices was developed with farmers, extension officers and scientists for a complex farming system incorporating irrigated winter cereals, rice and summer crops. This paper reports on the effect of baiting and spraying margins of crops on damage to winter crops when mouse densities were low to moderate. Baiting with zinc phosphide reduced the consumption by mice of census cards by 86%, but there was a 35% reduction on unbaited sites. Populations declined further to low levels before harvest and there was no difference in damage to wheat crops before harvest. Spraying margins of winter cereal crops with herbicides to reduce weeds and grasses significantly reduced plant growth by 47% and abundance of mice on sprayed sites by up to 77%. Damage to crops was <5%, and there was no observed reduction in damage to wheat crops. These were two examples of a range of farm management practices. Further analyses are required to look at the impacts over the whole farm and through the combined effects of the recommended practices. A critical test of the recommended practices cannot take place until an outbreak occurs.