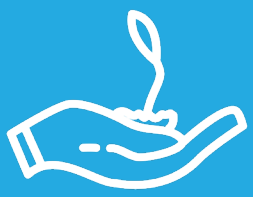
KIT 3.4

Develop and implement management options to minimise the cost of effectively and sustainably managing vertebrate and invertebrate pests.



Impact	**Growers have access to a diverse range of integrated management options to reduce the impact of priority pests in grain crops and stored grain.**
Summary	• Growers have access to options to effectively minimise the impact of pests on farming systems and profitability. • Growers utilise integrated management strategies to maintain the effectiveness of pest control options.

SCOPE	INVESTMENT OUTCOMES
Understanding of the distribution and impact of pests in crops and stored grain The current and potential distributions and impacts of pests are known and are used to determine future GRDC investment priorities.	3.4.1. Growers and researchers know the current and potential impacts of priority pests. 3.4.2. Growers use reliable, accurate tools and technologies to identify and quantify pests and to determine the spatial and temporal distributions of pests in farming systems. 3.4.3. Growers understand the impacts of pest contamination of grain.
Understanding of the biology and ecology of priority pests and their predators Knowledge of the life cycles of pests and their predators under current and future farming systems is improved to inform the development of optimum pest management tactics and strategies.	3.4.4. Growers and researchers understand the life cycles, host interactions, dispersal, survival and distribution of pests and their predators, to better inform pest management decisions. 3.4.5. Growers monitor and have knowledge of changes in pest impacts, host interactions, pesticide resistance and the influence of climate variability on pest dynamics.
Development of tools, tactics and technologies for strategic pest management Improved genetic, physical, cultural, chemical and biological tools and technologies for pest management are developed.	3.4.6. Growers accurately and rapidly detect pests in crops and stored grain. 3.4.7. Growers have access to diverse genetic, physical, cultural, chemical and biological approaches for pest management in crops and stored grain. 3.4.8. Growers have access to improved novel technologies and approaches for pest management, including solutions that impact at the paddock, farm and landscape level.
Integration of new tools, technologies and knowledge to make informed pest management decisions in the whole-of-farming-system context Pest management strategies are applied, on farm and across the landscape, to optimise growers' long-term profitability.	3.4.9. Growers understand pest and predator dynamics and incorporate surveillance, seasonal forecasting and knowledge of landscape impacts into their management decisions. 3.4.10. Growers make informed decisions using knowledge of the effects of rotations, pest thresholds and farming system changes. 3.4.11. Growers minimise the development of pesticide resistance by using diverse and practical pest management strategies.

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