

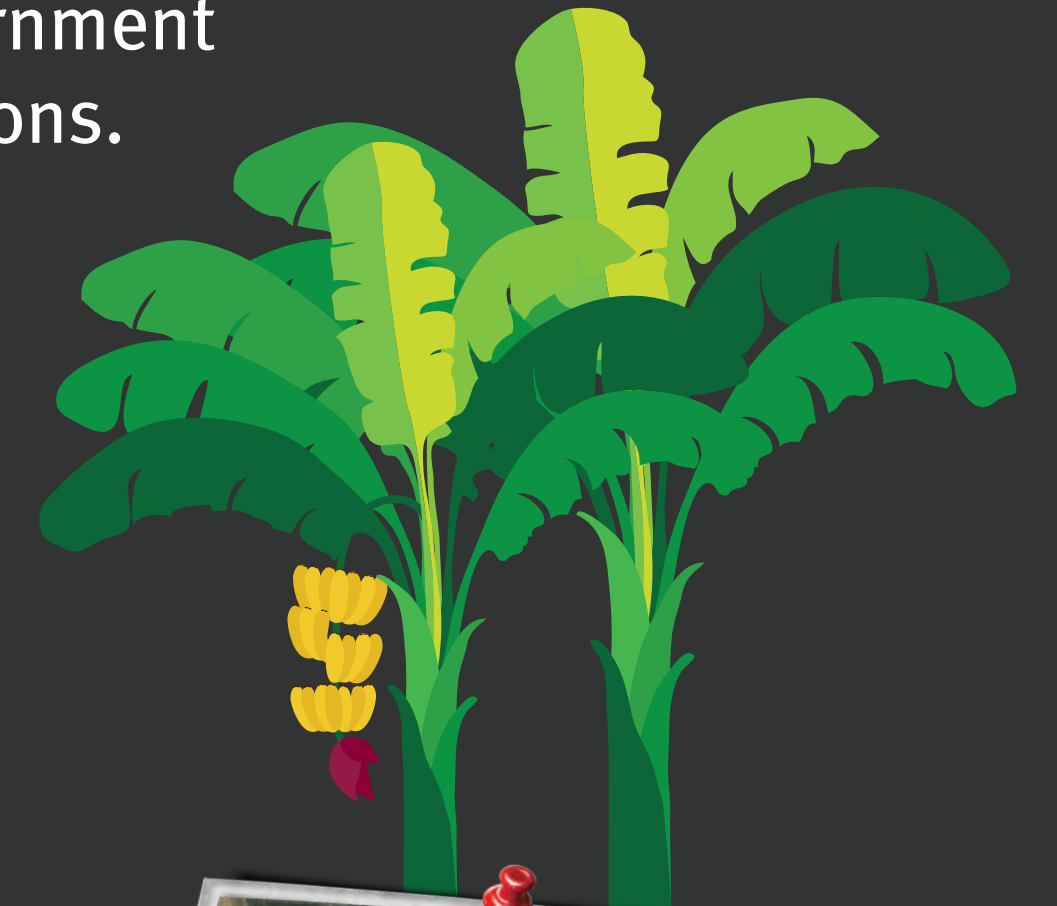
Improving profitability with Banana Best Management Practices

Abstract

This research evaluates the implications to farm profitability from adopting Best Management Practices (BMP) on three banana farms in North Queensland. This project is funded through the Department of Environment and Heritage Protection Reef Programs.

Economic evaluations were undertaken on a farm in Bartle Frere, Tully and South Johnstone. The BMP changes included laser levelling and contouring to prevent water collecting in the block, gravel stabilisation of roads to control erosion, reduced fertiliser rates, automated fertigation to reduce the risk of off-site nutrient losses, a two year canola fallow crop, improved inter-row management, and a sediment trap to prevent sediment from leaving the farm.

Alongside the environmental benefits from BMP adoption, the evaluations showed positive economic benefits for all farms. These benefits varied substantially and were dependent on the practices adopted, farm size, capital investment and production implications. The results demonstrate that the adoption of Banana BMP can help increase farm profitability and provide better environmental outcomes which are critical to meet community and government expectations.



Case Study 1



Farm size:
142
hectares

Location:
Bartle Frere
Queensland

BMPs implemented:

Laser levelling and contouring
Stabilised roadways
BMP fertiliser rates
Automated fertigation

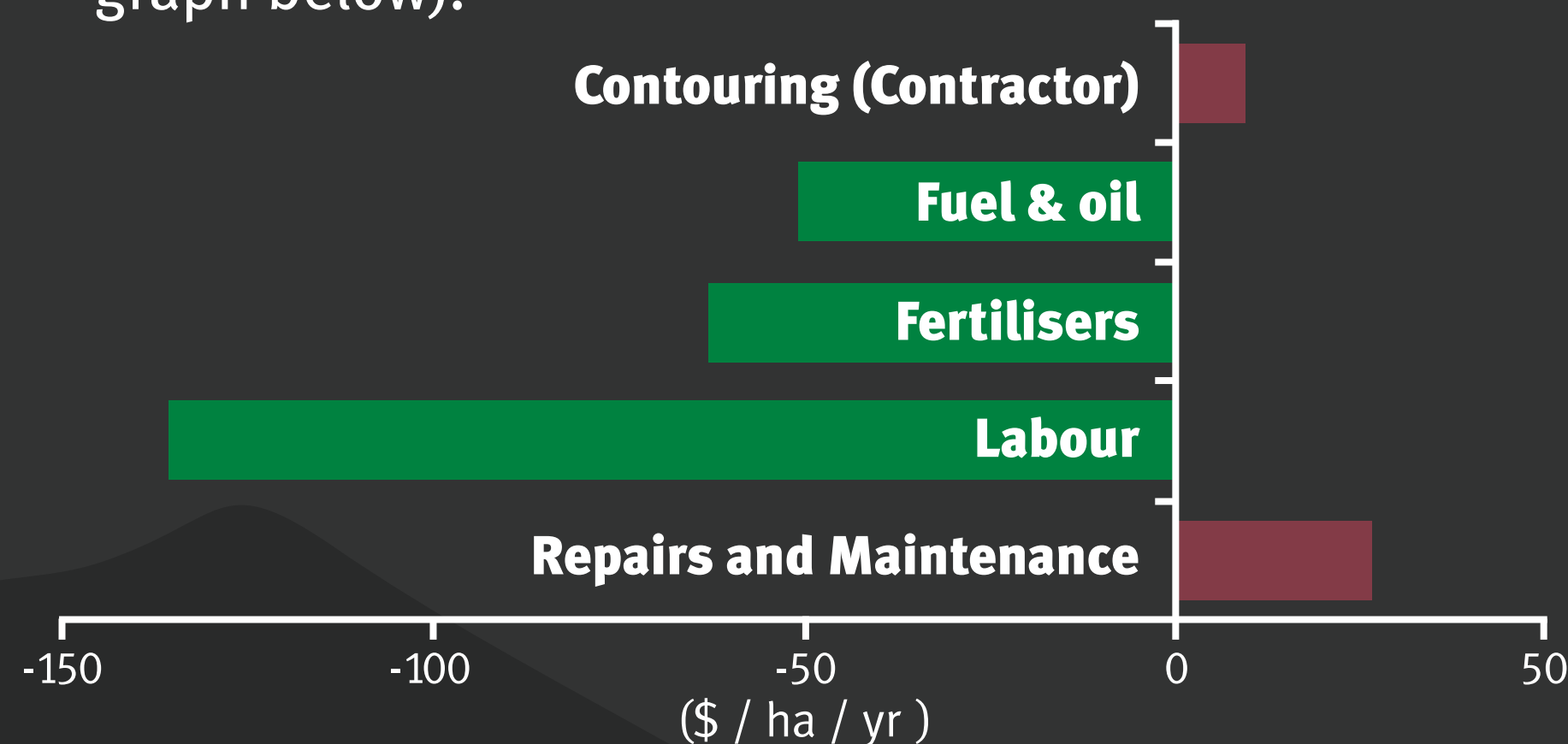
BMP capital costs:
\$196,018

Economic benefit:
\$52 per hectare
per year

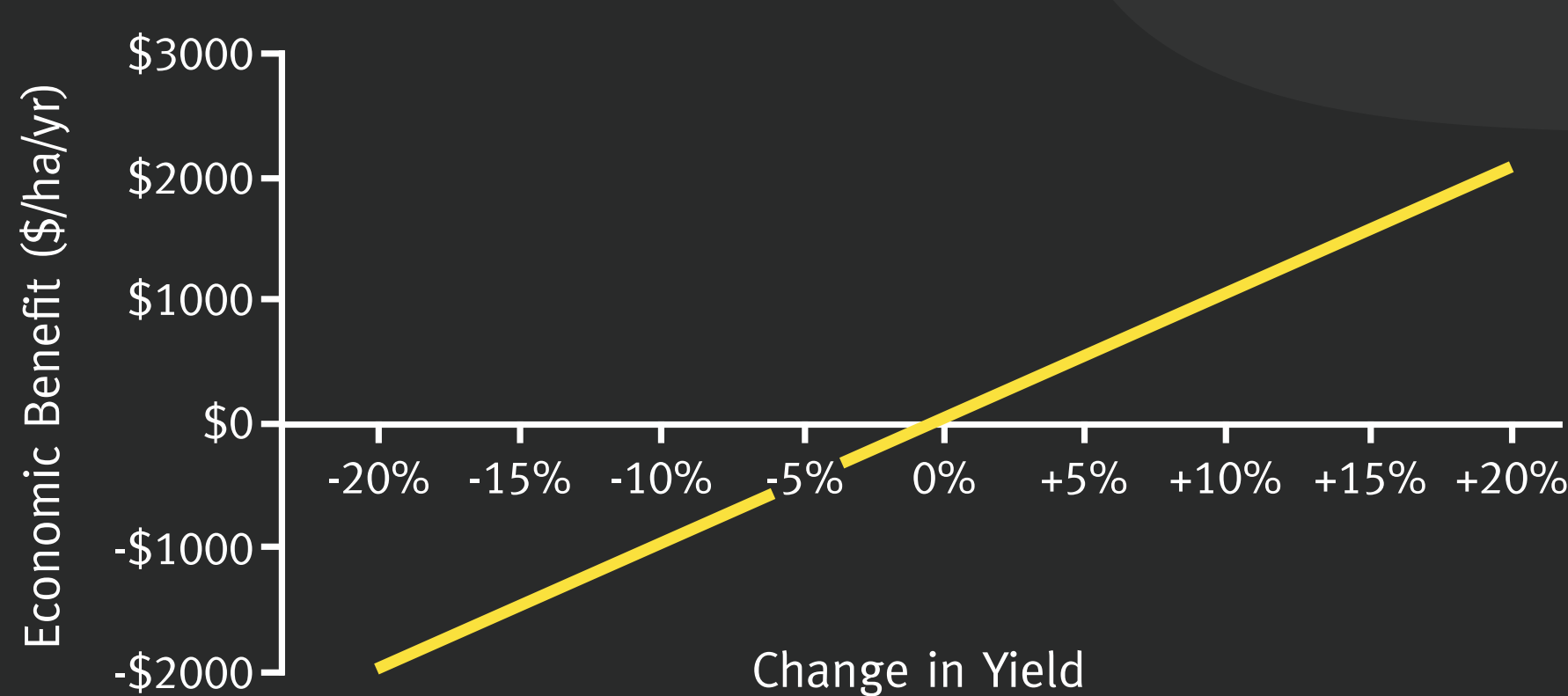
Discounted payback period: **6 years**

Summary: Farm **profitability has increased**, with a saving in labour and fertiliser costs and an economic benefit of **\$52/ha/yr.**

The green bars are the operating cost savings and the red bars are increases in operating costs (see graph below).



If yield was to decrease by less than 1% then the economic benefit of the investment would still break even (see graph below).



Case Study 2



Farm size:
166
hectares

Location:
Tully
Queensland

BMPs implemented:

Two year fallow period with a canola crop rotation

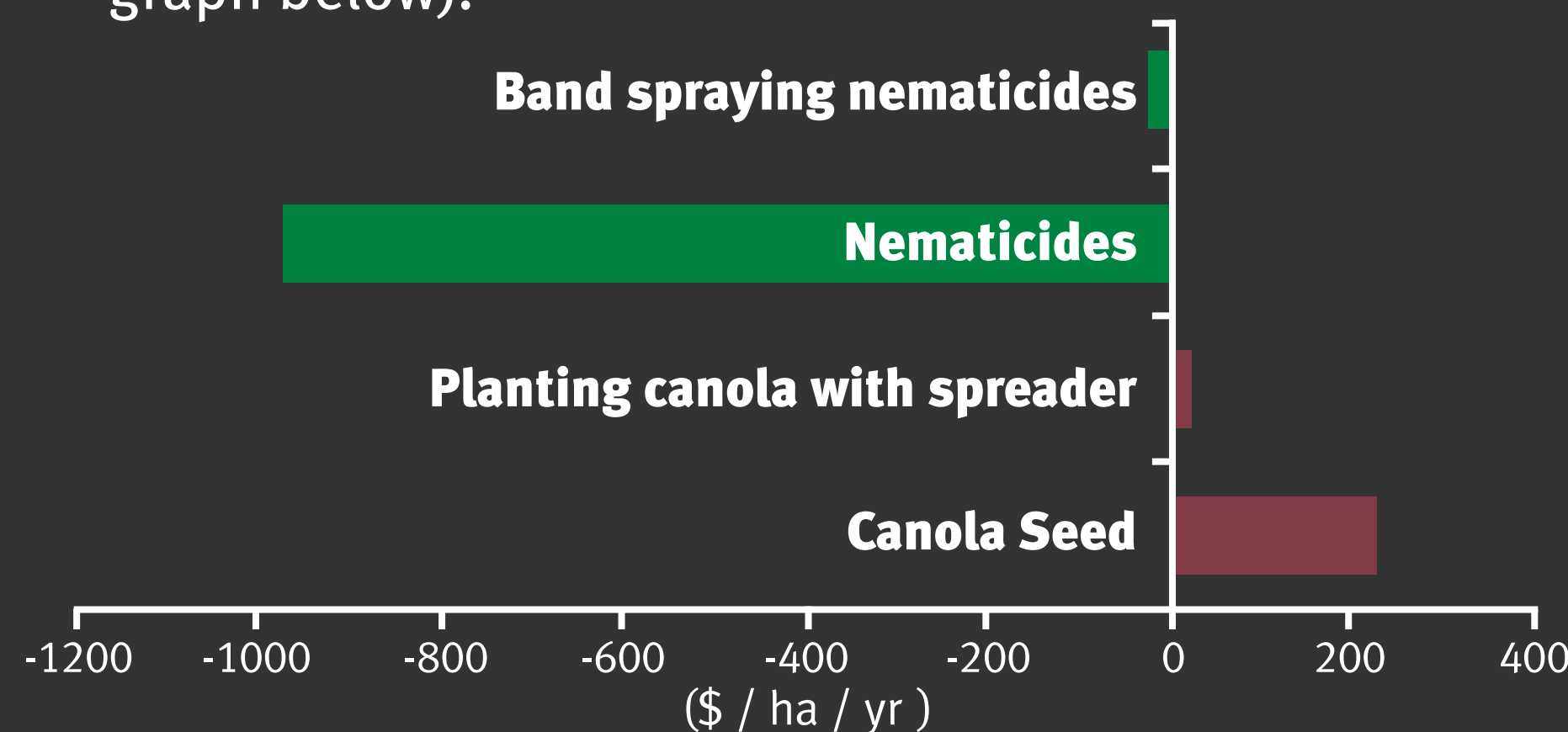
BMP capital costs:
\$2000

Economic benefit:
\$2793 per hectare
per year

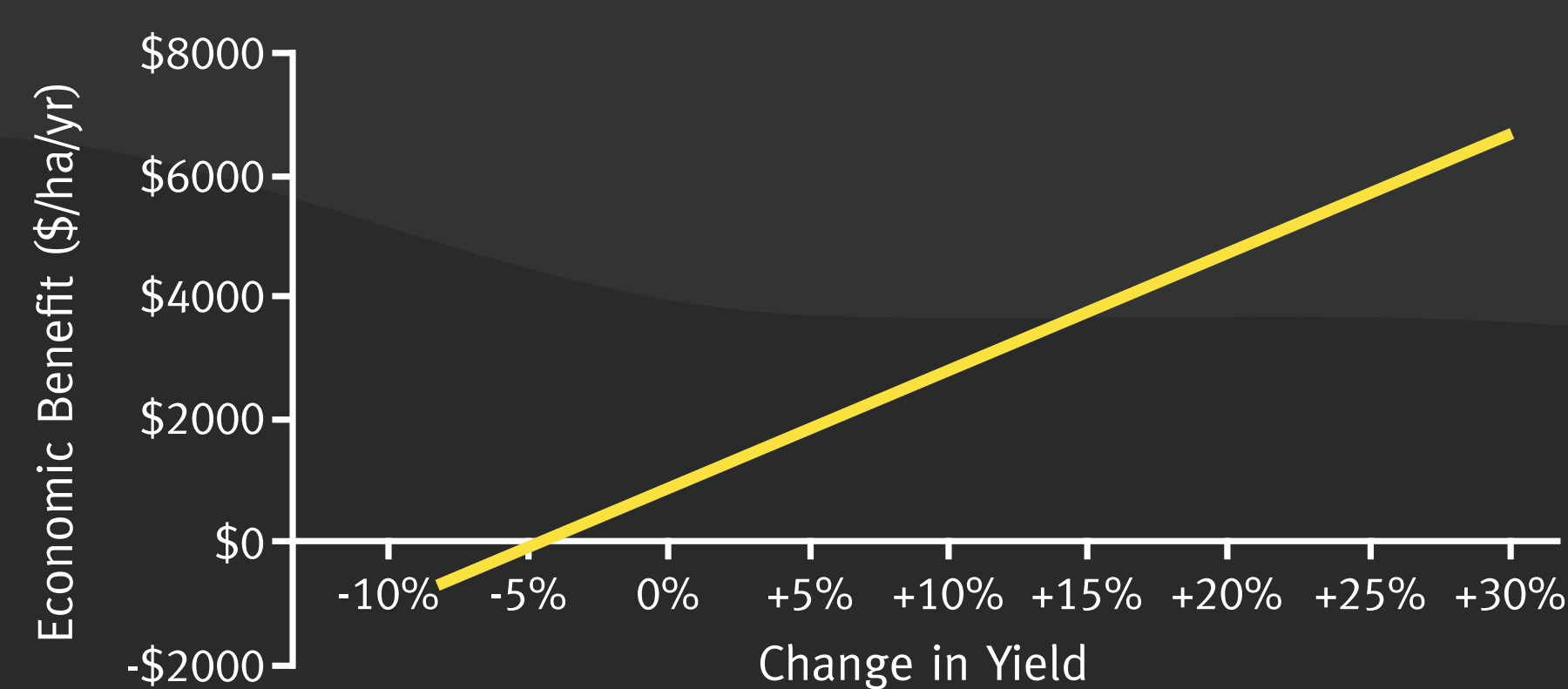
Discounted payback period: **Less than 1 year**

Summary: Farm **profitability has increased**, with a saving on nematicides, resulting in an economic benefit of **\$2793/ha/yr.**

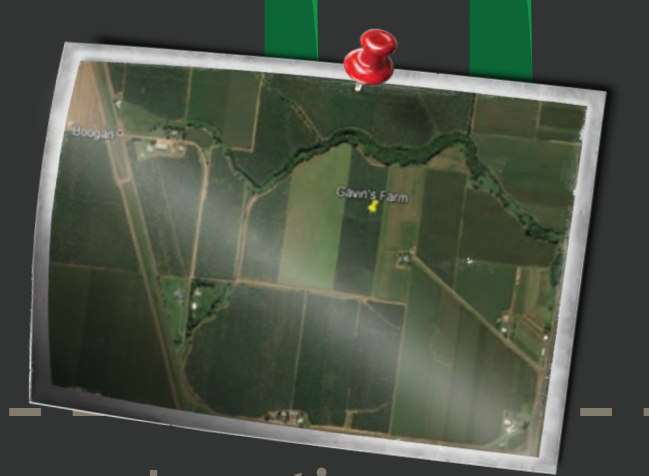
The green bars are the operating cost savings and the red bars are increases in operating costs (see graph below).



If yield was to decrease by less than 4.7% then the economic benefit of the investment would still break even (see graph below).



Case Study 3



Farm size:
81
hectares

Location:
South Johnstone
Queensland

BMPs implemented:

Improved inter-row management
Stabilised roadways
Laser levelling
Sediment traps

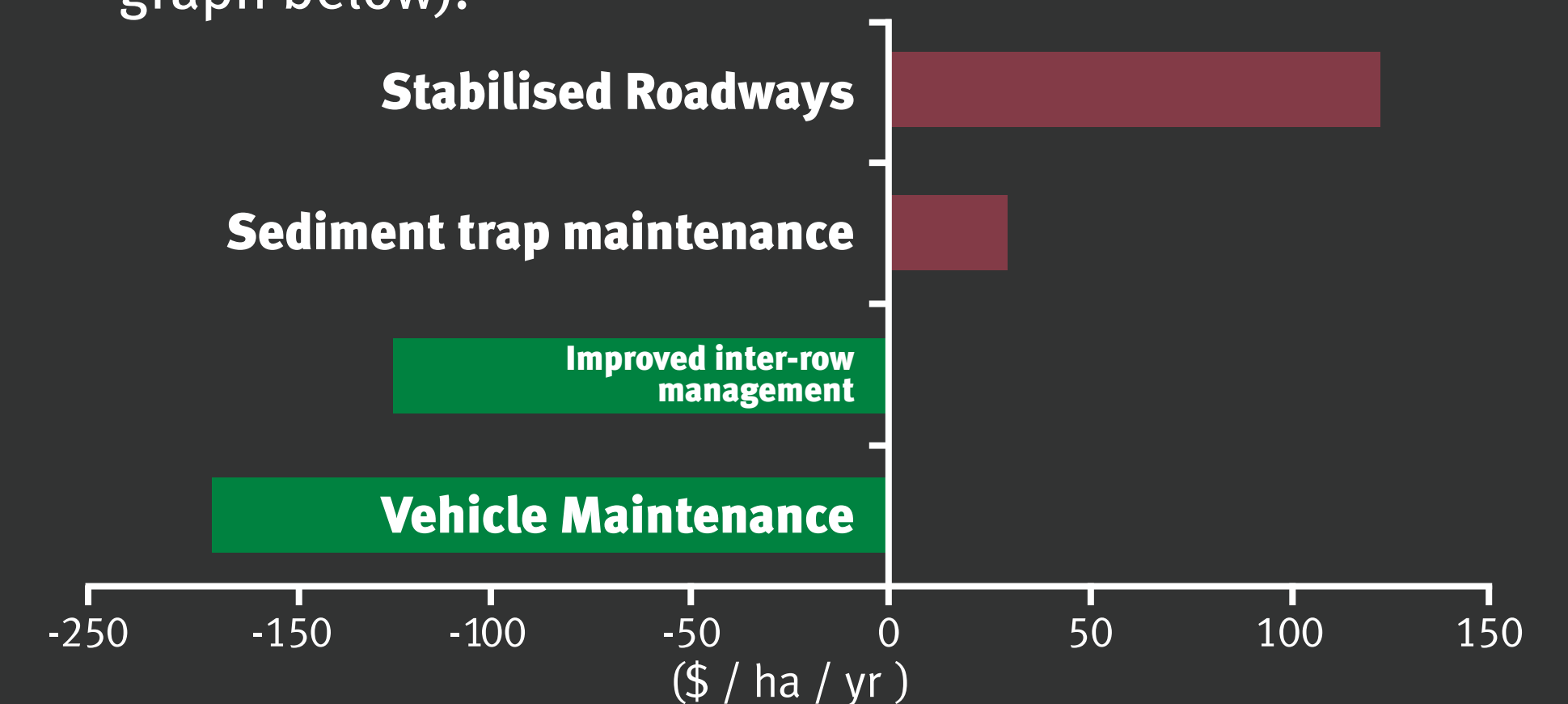
BMP capital costs:
\$79,690

Economic benefit:
\$62 per hectare
per year

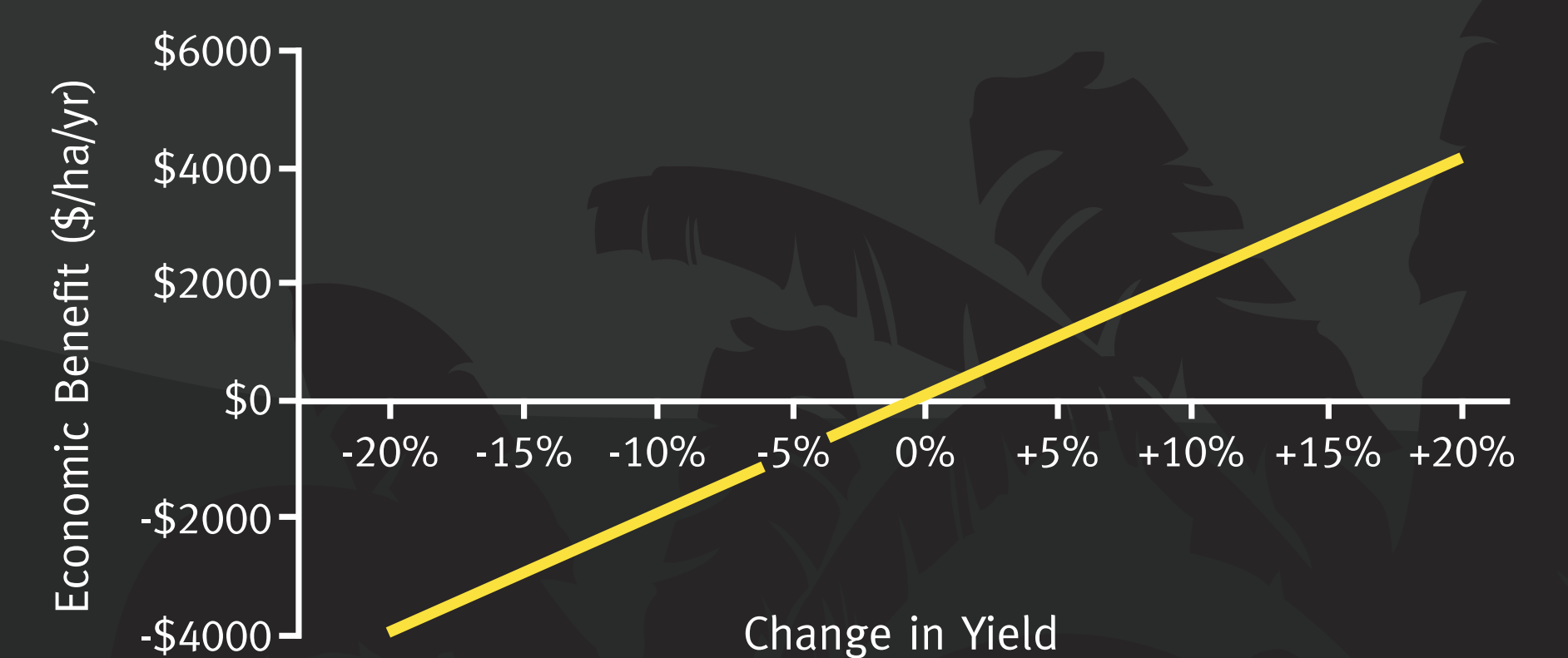
Discounted payback period: **7 years**

Summary: Farm **profitability has increased**, with savings on vehicle maintenance, resulting in an economic benefit of **\$62/ha/yr.**

The green bars are the operating cost savings and the red bars are increases in operating costs (see graph below).



If yield was to decrease by less than 1% then the economic benefit of the investment would still break even (see graph below).



References

Cook, S., Kukulies, T., Rattray, D. (2016), The economic impact of Banana Best Management Practice adoption for growers in the Wet Tropics: RP14oB Case Study One, Department of Agriculture and Fisheries (DAF), Queensland.
Cook, S., Kukulies, T., (2017), The economic impact of Banana Best Management Practice adoption for growers in the Wet Tropics: RP14oB Case Study Two, Department of Agriculture and Fisheries (DAF), Queensland.
Cook, S., Kukulies, T., (2017), The economic impact of Banana Best Management Practice adoption for growers in the Wet Tropics: RP14oB Case Study Three, Department of Agriculture and Fisheries (DAF), Queensland.
DAF Banana Economics Project publication database: <https://publications.qld.gov.au/dataset/best-management-practices-for-bananas>