

Suitability of mungbean as an opportunistic summer crop for southern Australia

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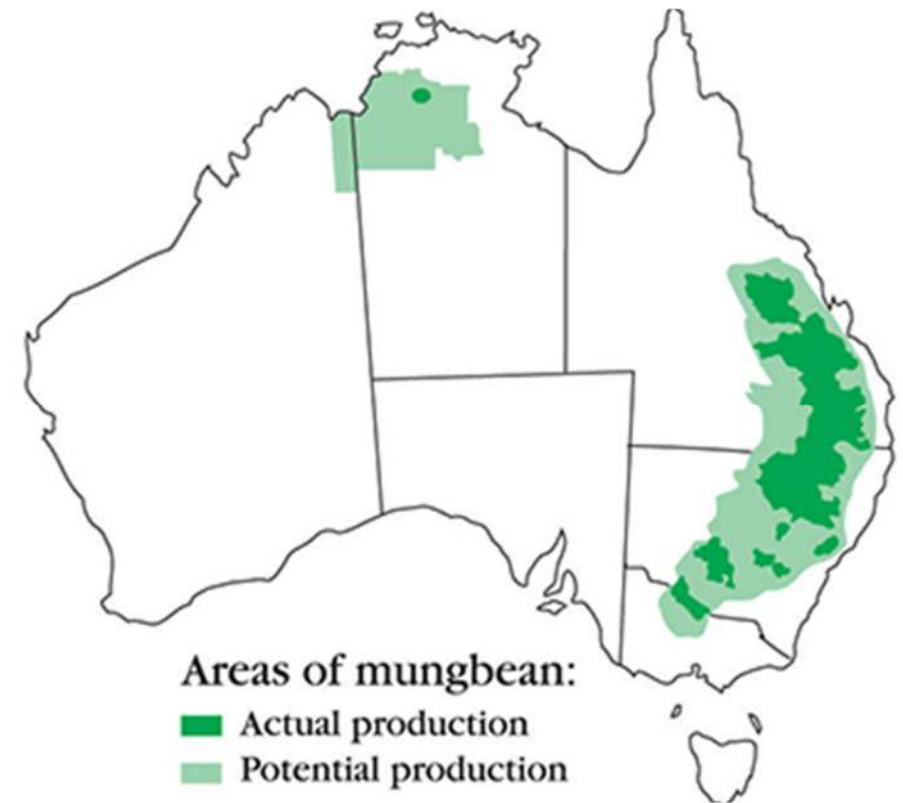


Australian
Grains
Genebank

Background

Mungbean

- Short duration (~100 days) - opportunity for double crop immediately after winter crop
- Grain legume production in southern Australia: predominantly during winter
- Opportunity to expand mungbean to southern Australia, as opportunistic summer crop



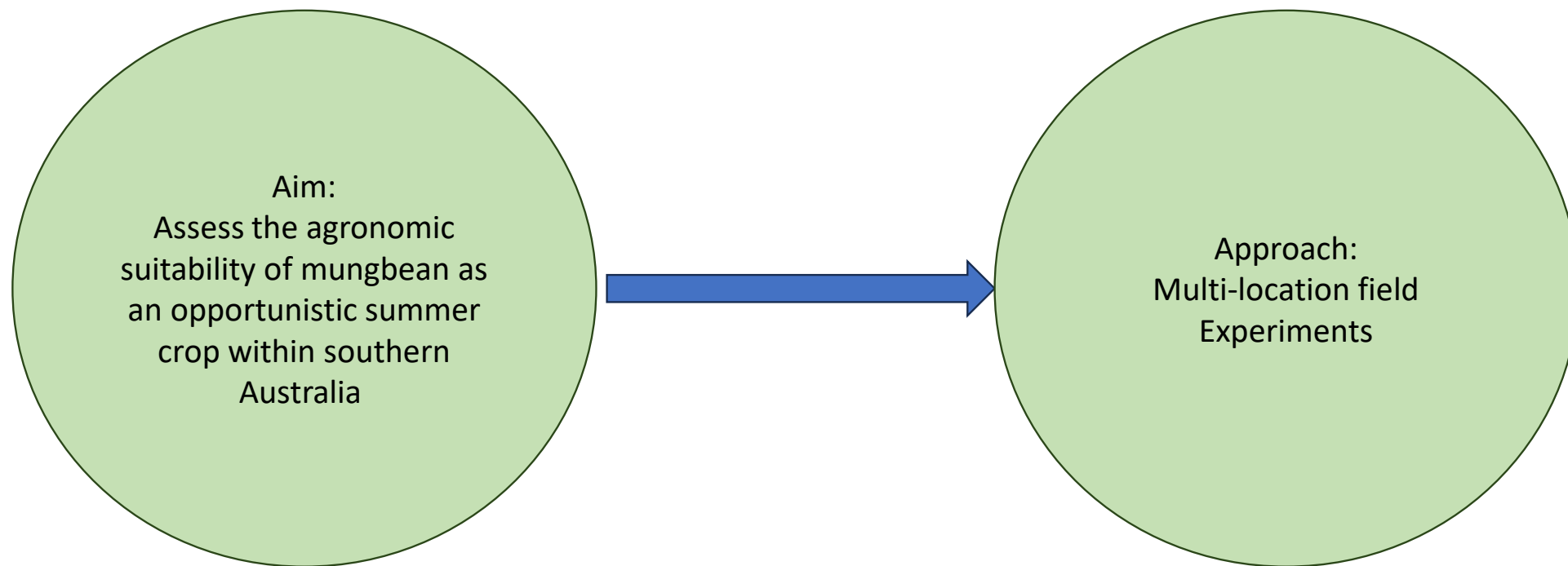
Map of mungbean production areas adapted from Australian Mungbean Association

Project aim

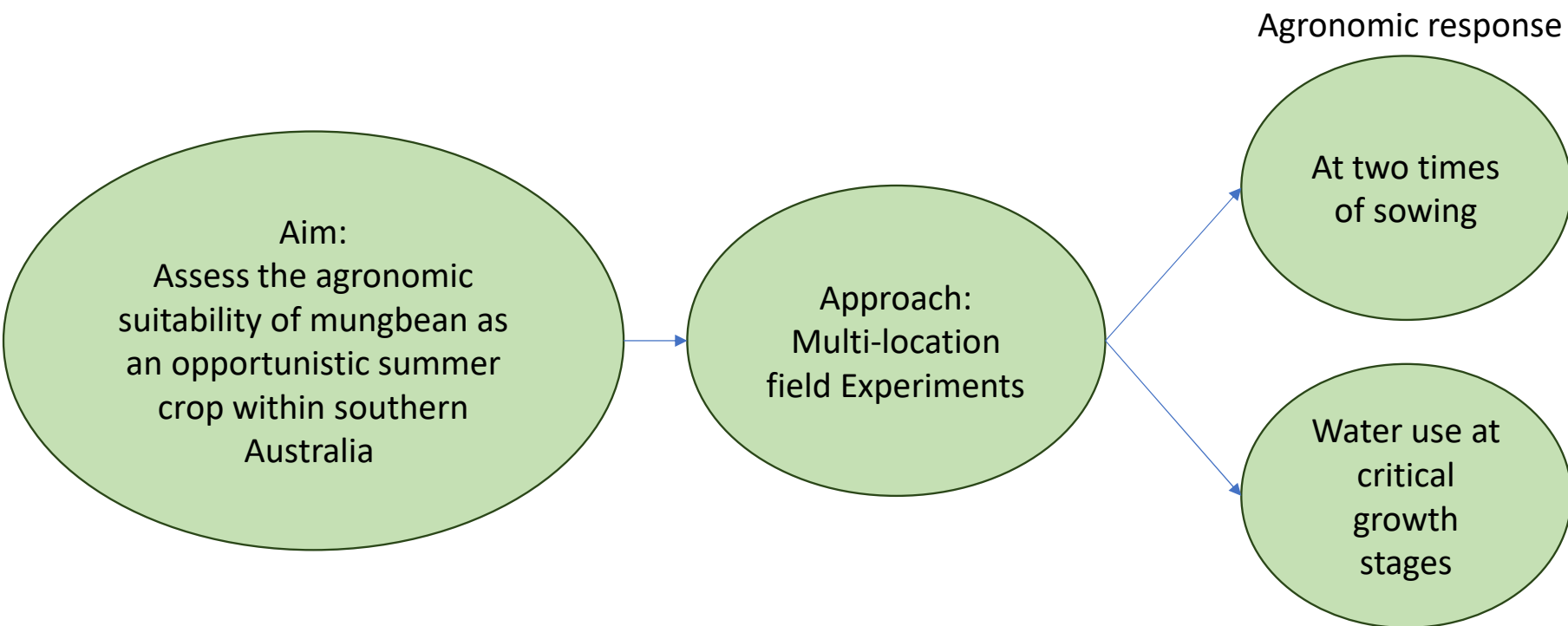
Aim:
Assess the agronomic suitability of mungbean
as an opportunistic summer crop within
southern Australia



Background



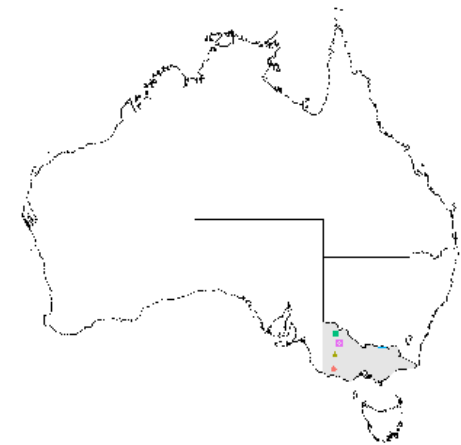
Background



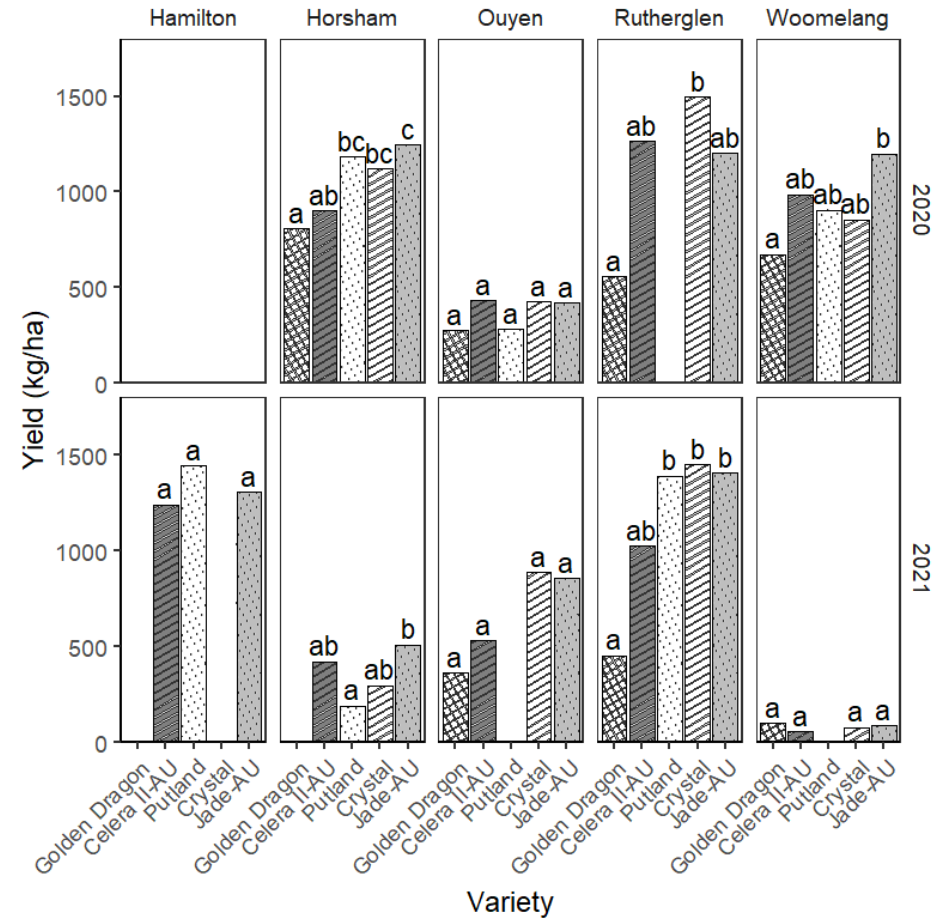
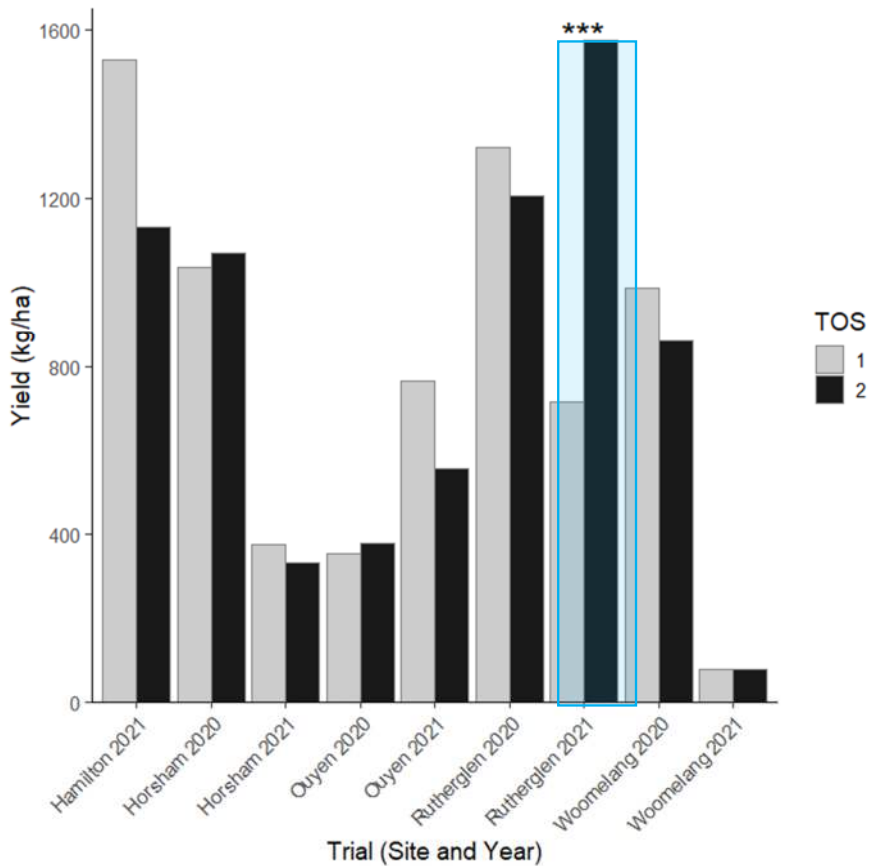
Site description and weather



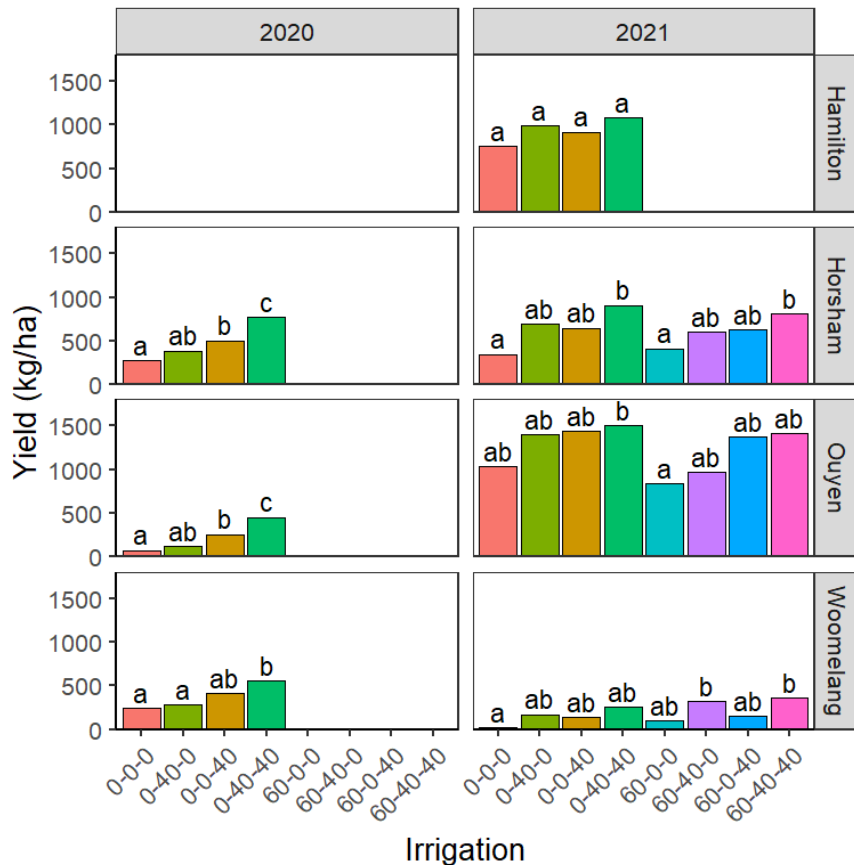
Ouyen & Woomelang: Calcarosol
Horsham: Vertosol
Hamilton & Rutherglen: Chromosol



Mungbean yield

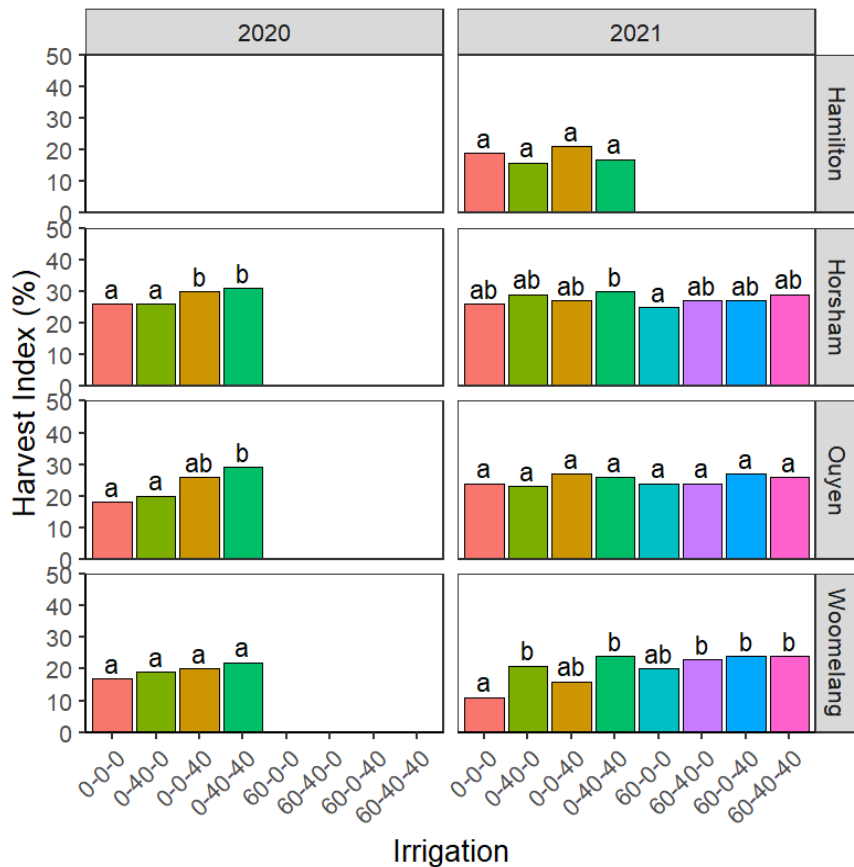


Mungbean yield response to water availability



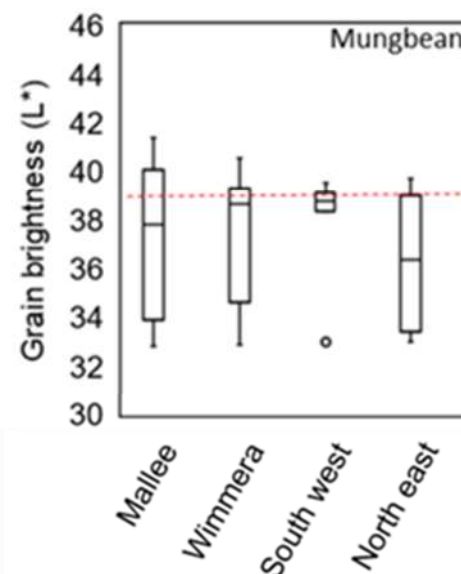
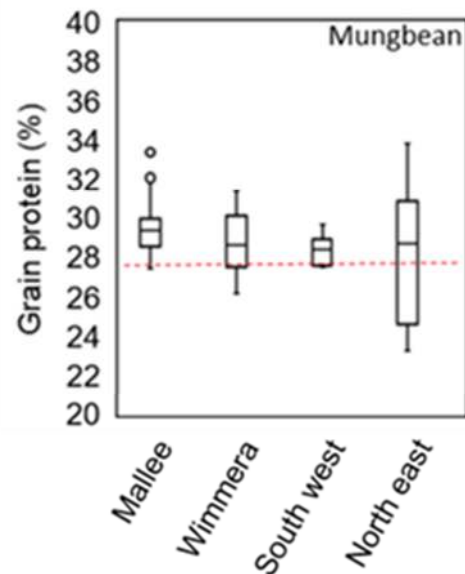
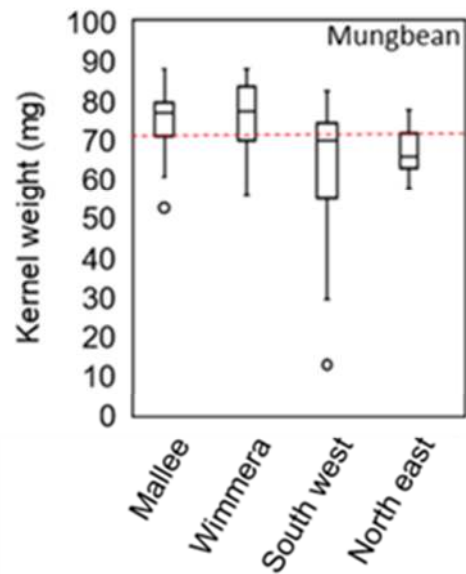
- Water availability at reproductive stage has a significant effect to rainfed at Ouyen 2020 and Horsham 2020.
- Supplementary irrigation at both vegetative and reproductive stage has highest biomass and grain yield.
- Mean WUE:
 - Celera II-AU = 2.9 kg/ha/mm
 - Jade-AU = 3.8 kg/ha/mm

Mungbean harvest index (HI)



- Supplementary irrigation at both vegetative and reproductive stage has highest HI across the trials.

Mungbean grain quality (cv. Jade)



Conclusion

- Potential to include mungbean as an opportunistic summer crop across Victoria, particularly in northeast Victoria (Rutherglen).
- November and December sowing times are not significantly different in terms of yield potential.
- Further testing of a broader range of mungbean germplasm across each environment will identify stronger varieties and more opportunities for summer cropping.



Acknowledgements

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Thank you