

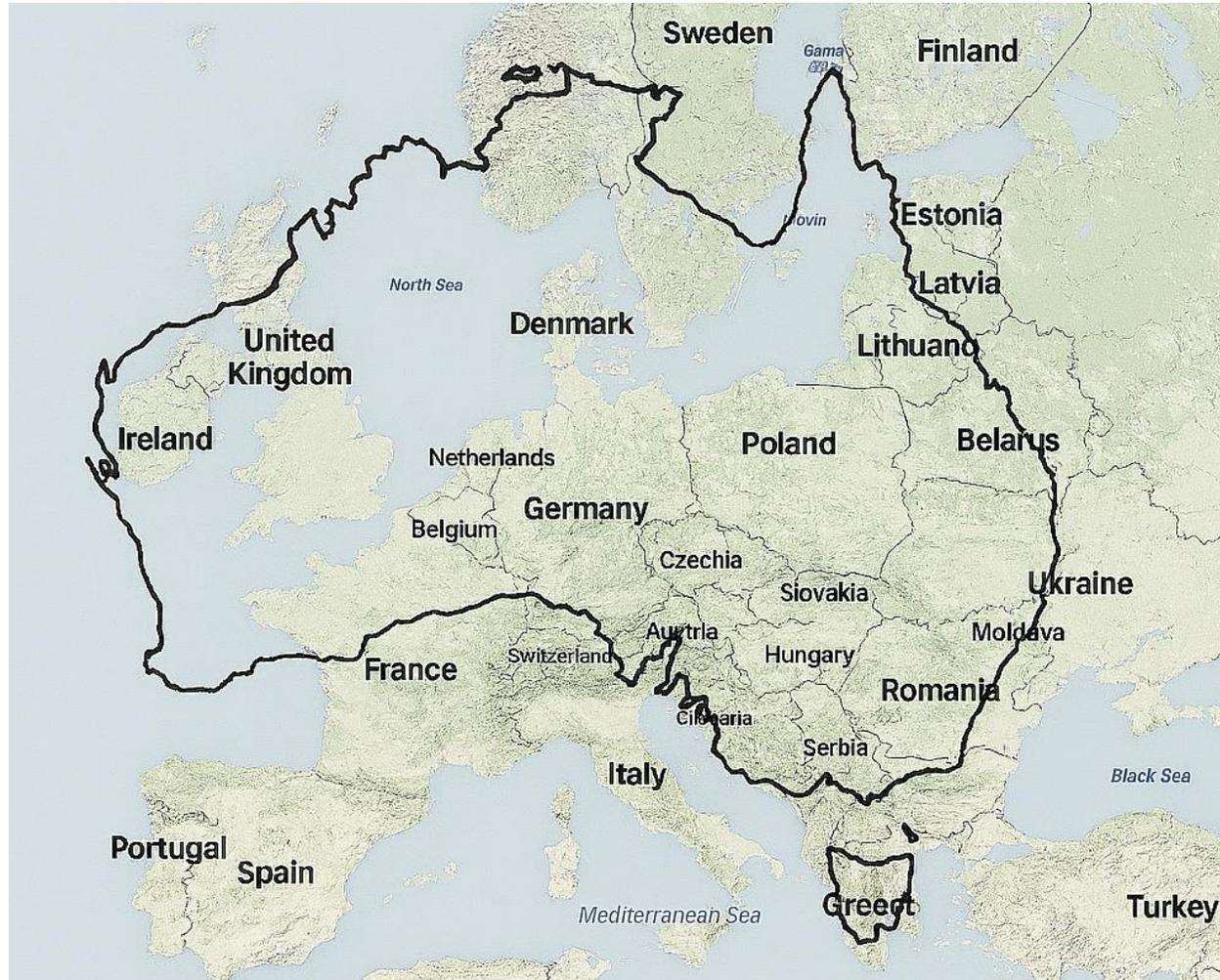
# Enabling Scalable Biocontrol in Australian Agriculture



THE CROP  
CAPSULES  
COMPANY

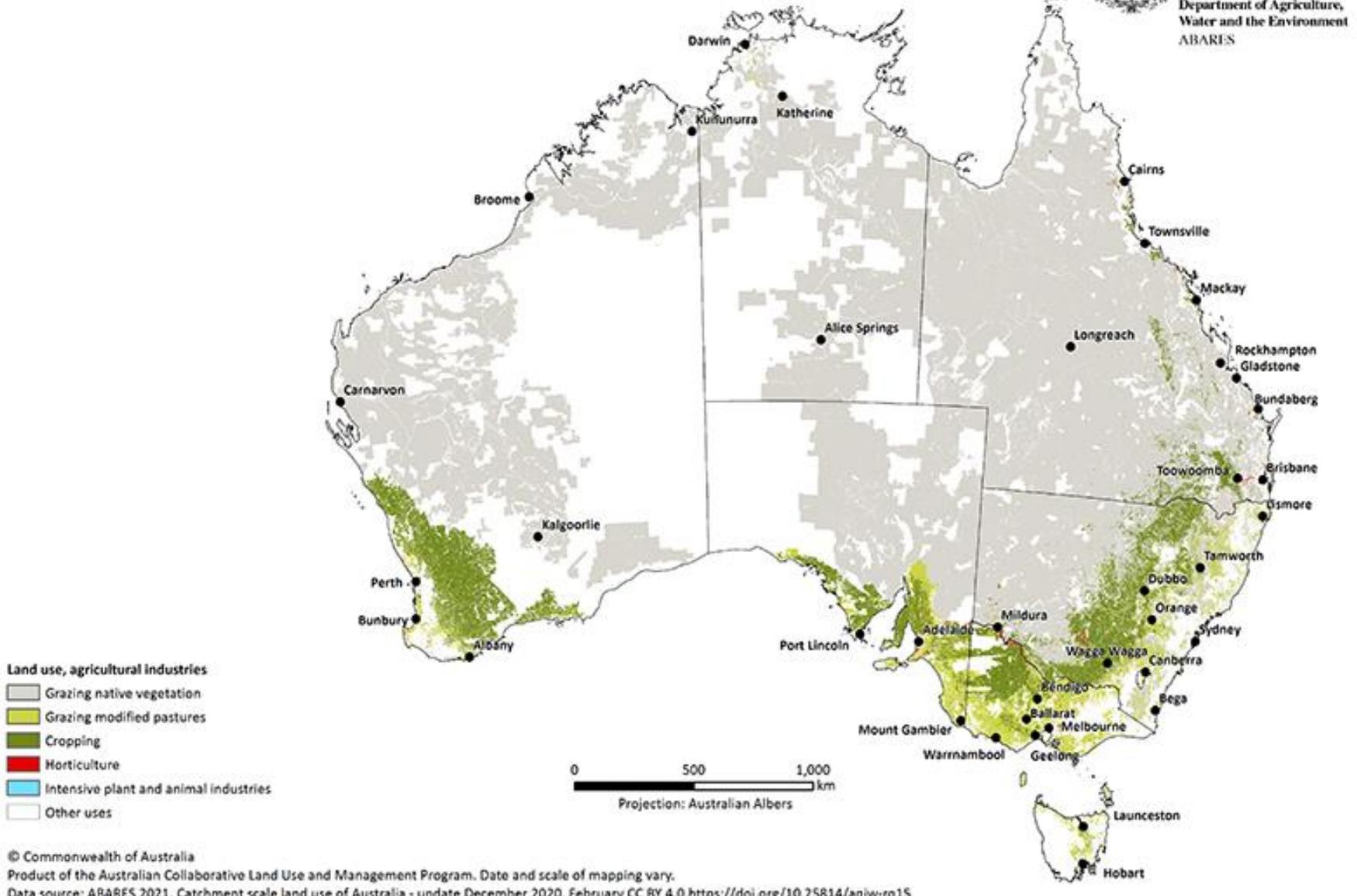


# Australian Agriculture



Map of Australia superimposed over Europe at the same scale.

# Catchment scale land use of Australia - update December 2020



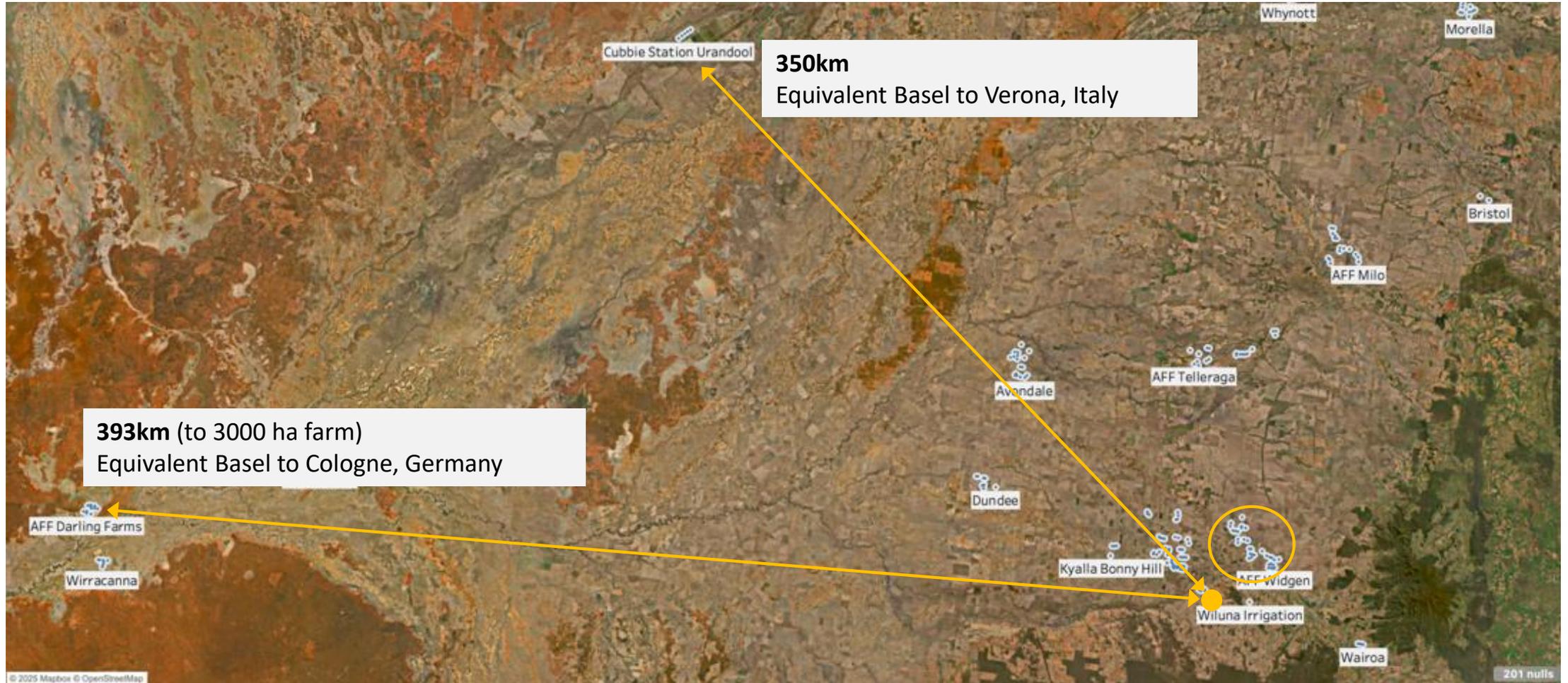
- Land use, agricultural industries
- Grazing native vegetation
  - Grazing modified pastures
  - Cropping
  - Horticulture
  - Intensive plant and animal industries
  - Other uses

© Commonwealth of Australia  
Product of the Australian Collaborative Land Use and Management Program. Date and scale of mapping vary.  
Data source: ABARES 2021, Catchment scale land use of Australia - update December 2020, February CC BY 4.0. <https://doi.org/10.25814/ajjw-rq15>

# Scale Requires Efficiency



# Current CottonCAP<sup>®</sup> service area



# Crop Capsules: Scale Requires Efficiency (CottonCAP<sup>®</sup>)



400Ha



4000Ha

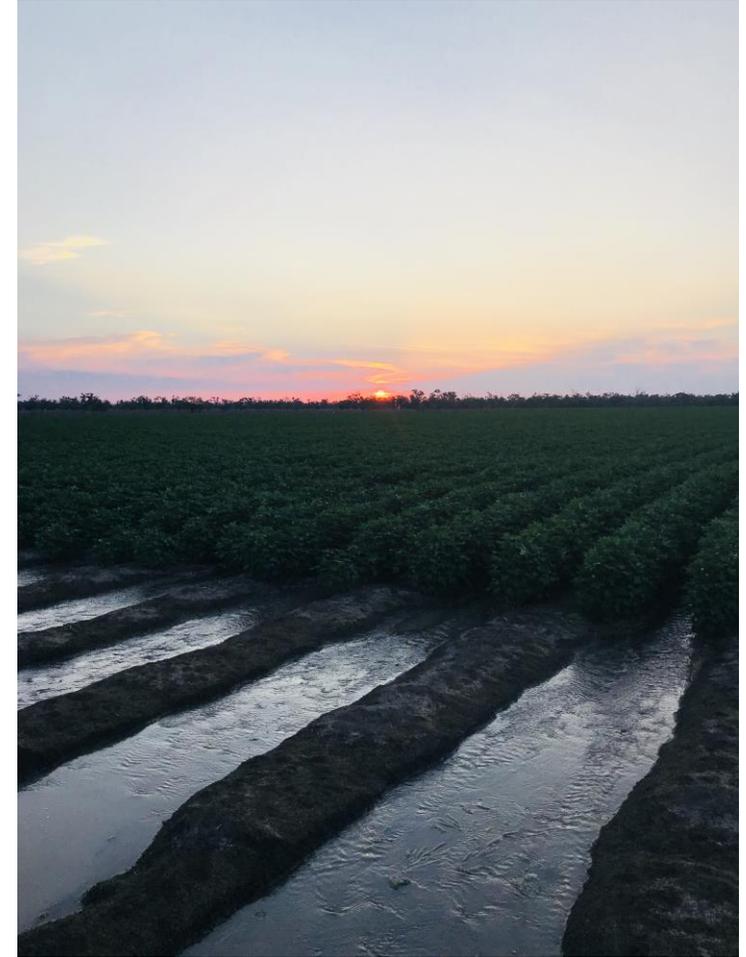


48000+Ha



# Capsule Benefits

- Floats
- Designed to land upright for wasp emergence
- Protection from predators
- Promotes wasp health, survival and mating
- Insulating – buffers extreme temperatures

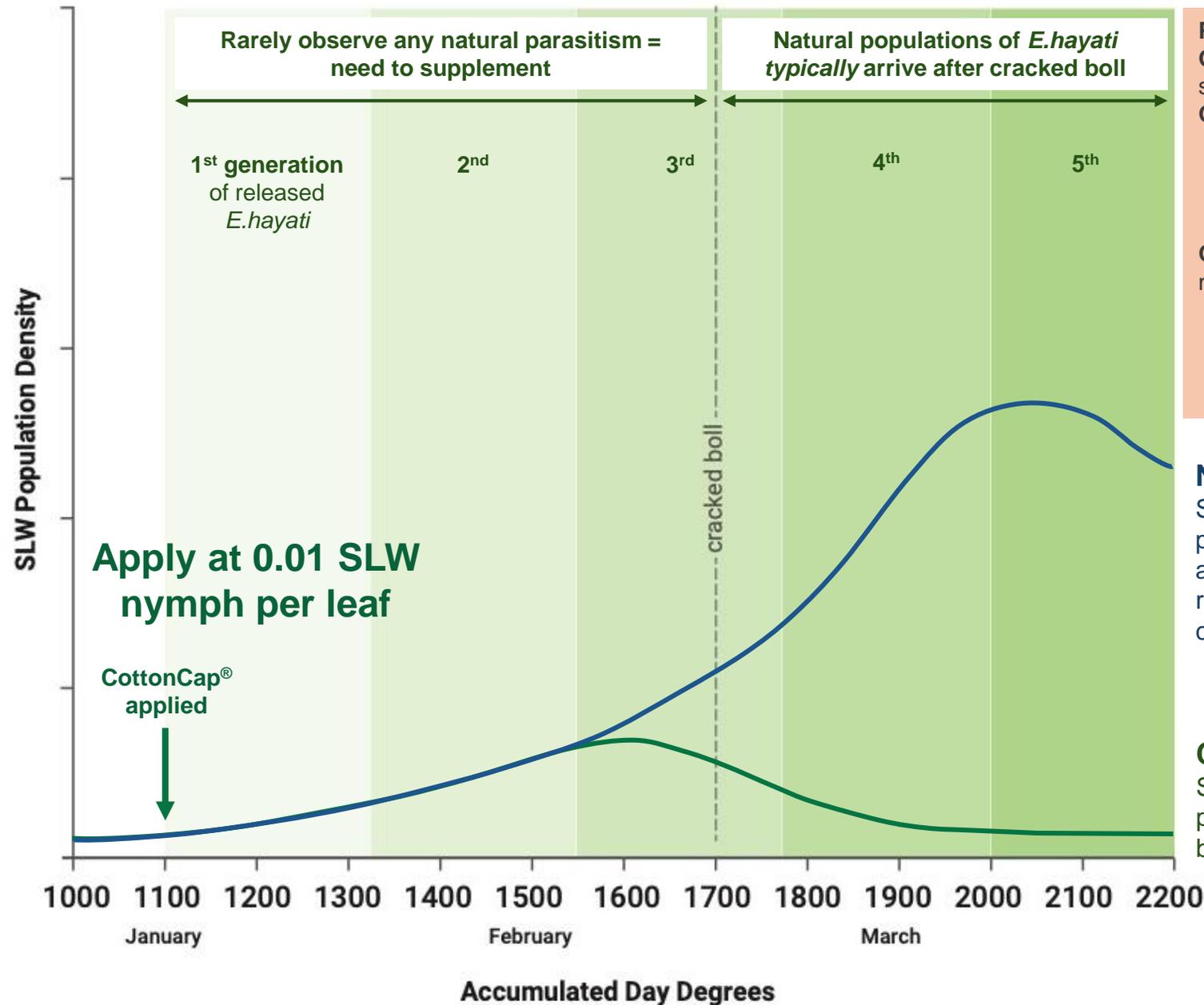


# Educating Agricultural Advisors: Key to expansion

- Built ordering and application systems that integrate with existing workflows
- Began with users who had previous experience with using *E.hayati*
- Expanded focus to agricultural advisors - decision makers
- Intensive data collection and ground truthing to refine models



# Conceptual Impact of Early *E.hayati* Releases on Silverleaf Whitefly Populations



## Potential application strategies

**Option 1:** Apply 2 caps/ha at early flowering/first sign of SLW adults

**Option 2:** 2 x 1 cap/ha, 2 wks apart:

- 1<sup>st</sup> cap = early flowering/first sign of SLW adults
- 2<sup>nd</sup> cap = less than 2 weeks (1 *E.hayati* generation) after 1<sup>st</sup> cap

**Option 3:** 2 x 1 cap/ha separated by non-disruptive mirid/stink bug spray:

- 1<sup>st</sup> cap = early flowering/first sign of SLW adults
- Non-disruptive mirid/stink bug spray
- 2<sup>nd</sup> cap = 7-10 days post-spray

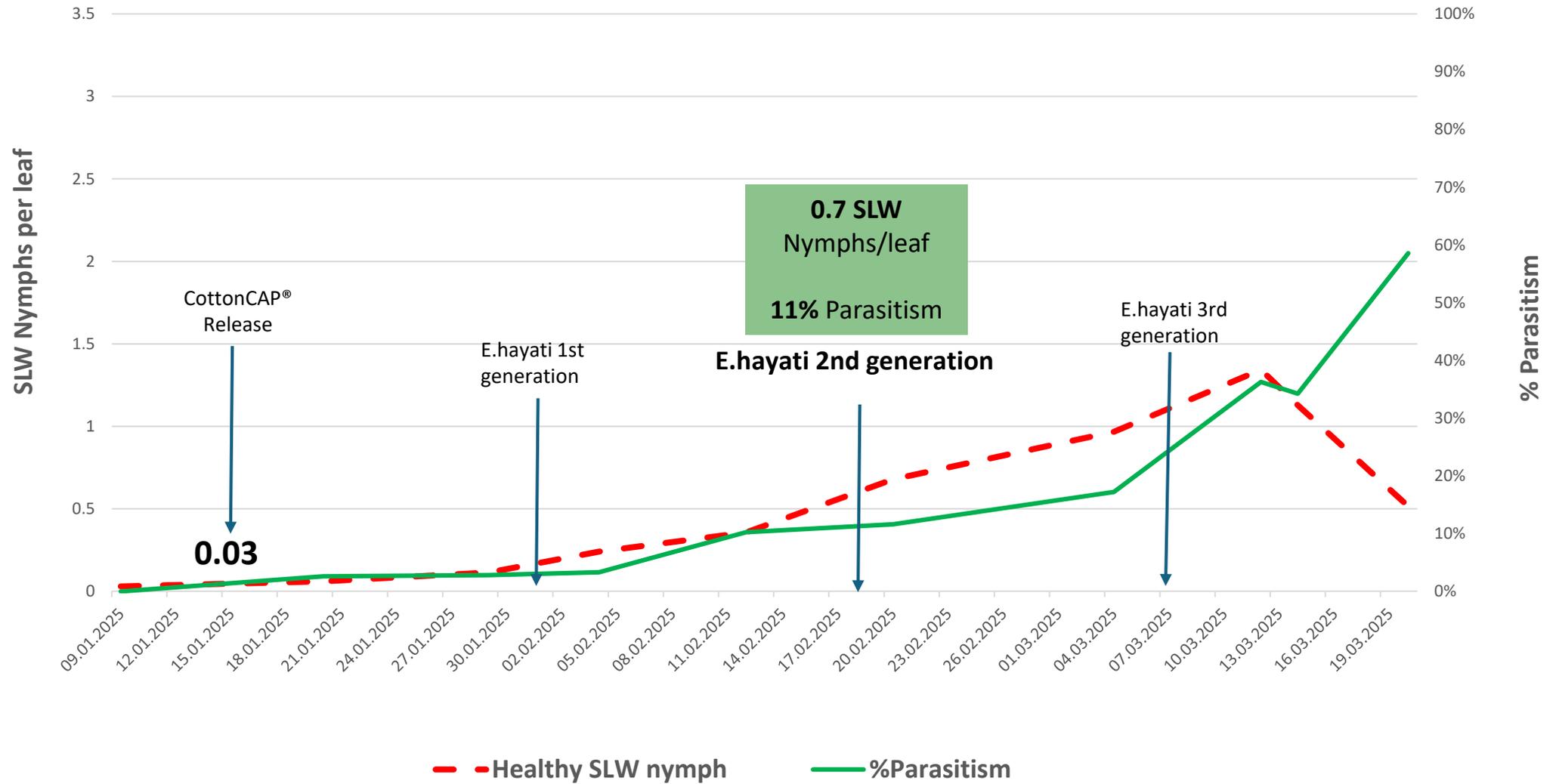
## Natural parasitism only:

SLW will eventually be suppressed by natural parasitism (depending on other chemical applications) but only after cracked boll. High risk of incurring some level of honeydew contamination

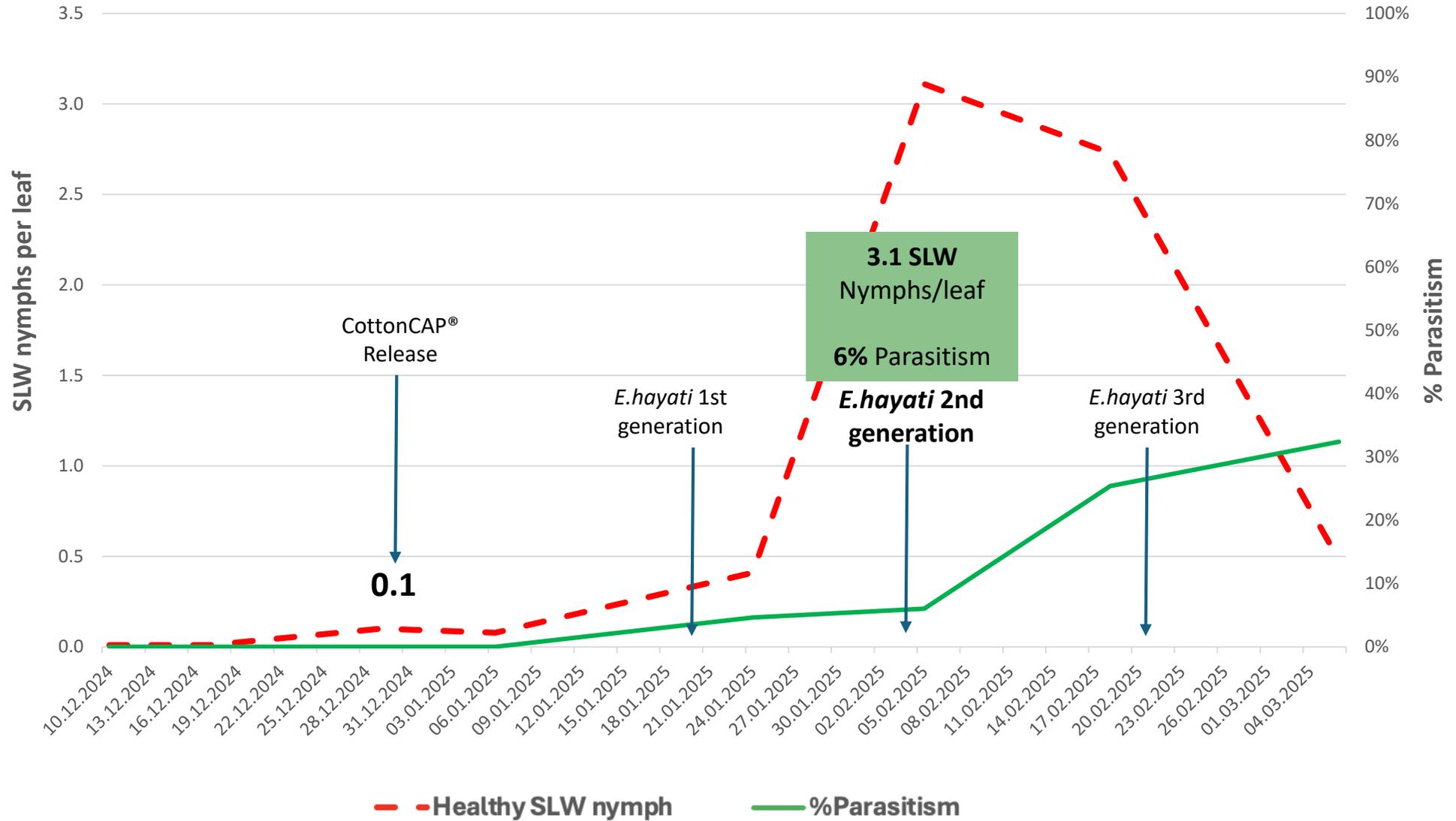
## CottonCap®:

SLW suppressed by supplementary AND natural parasitism. Minimal honeydew contamination because SLW suppressed before cracked boll

# CottonCAP® Field Data – Namoi Valley



# CottonCAP Field Data- Macintyre Valley



# Increasing the uptake of Biocontrol in Australia

- Evaluate unaccounted for ROI not just pest control
- Education of decision makers
- Target innovative farmers
- Biologicals to enhance current systems
- Data collection is important for product growth



# Born on the farm, built for farmers.



THE CROP  
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**Steve & Anna Madden**  
*Farmers & Agronomists*

# CottonCAP<sup>®</sup> Release Guide

