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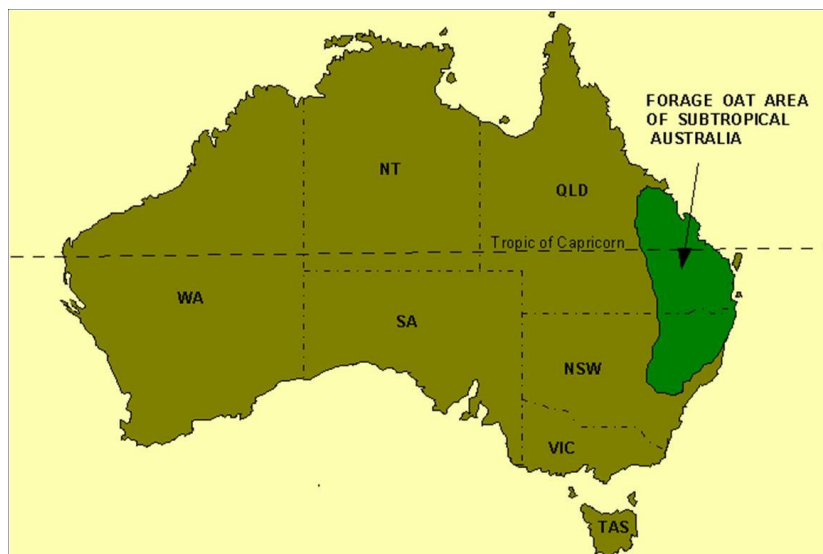
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# Forage oat in Australia

- Main winter forage crop (500,000 ha/annum)
- Reliable high quality animal feed
- Long production season (Mar - Nov)
- Beef, dairy and sheep industries



# Forage oat in Australia



# Control of crown rust

- Difficult disease environment
- Breeding is preferred option
  - Lack of major gene resistance
- Fungicides are low cost option
- No information on economic thresholds for forage yield
- Recommendations for growers on economic benefit of fungicide application → when to spray?



**Crown rust**

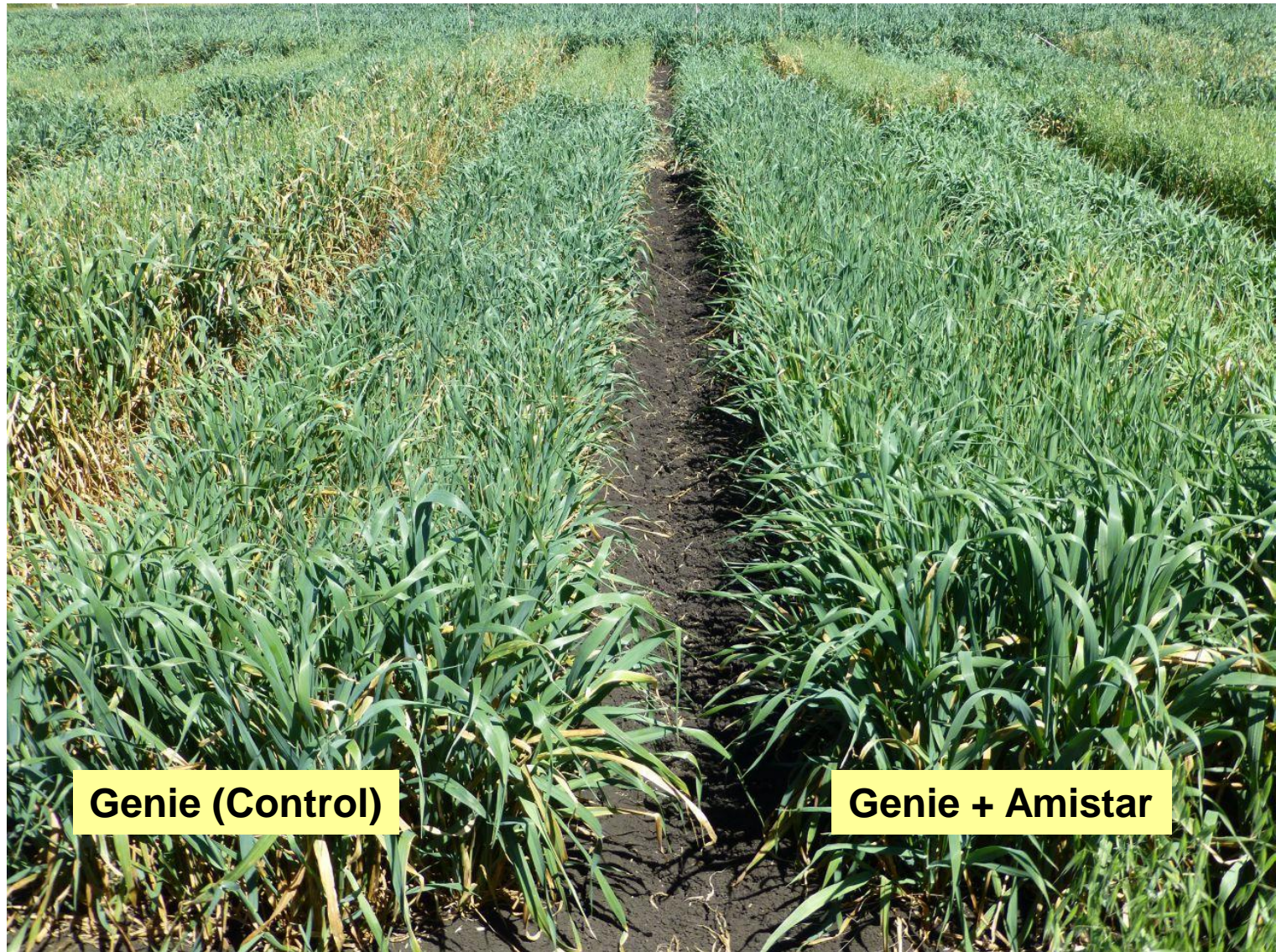
# Loss of forage yield



# Methods

- Forage cutting trials over two years at two sites
- Apply fungicide treatments, measure disease incidence and forage yield
- Fungicides:
  - Propiconazole (Tilt)
  - Tebuconazole (Folicur)
  - Azoxystrobin+Cyproconazole (Amistar)
- Cultivars: Genie, Coolabah, Taipan, Drover
- Economic model to estimate:
  - Cost of reduction in live weight gain due to rust infection
  - Economic benefit of fungicide application

# Fungicide use on forage oats



**Genie (Control)**

**Genie + Amistar**

# Fungicide use on forage oats



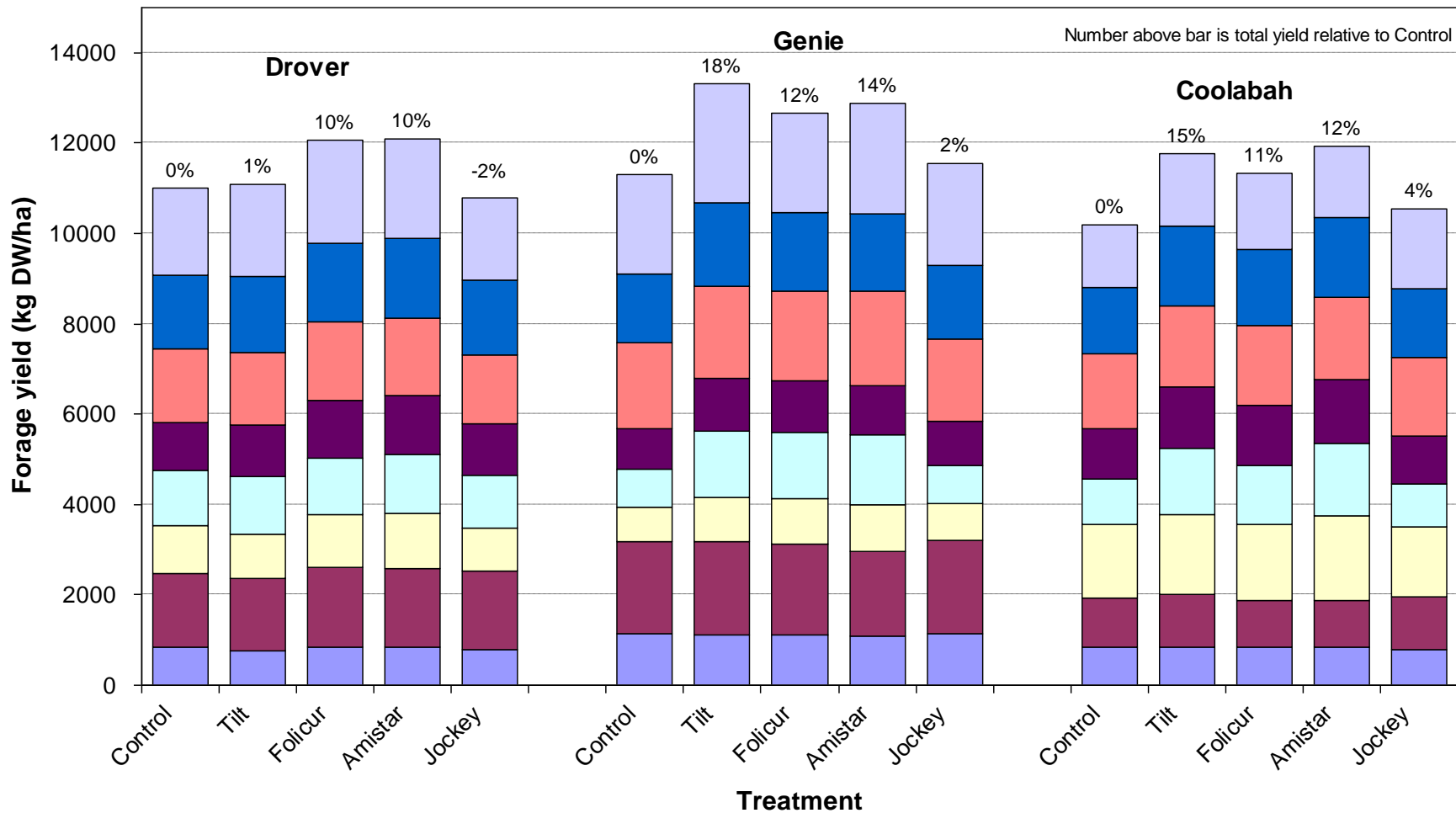
**Coolabah (Control)**

**Genie + Folicur**

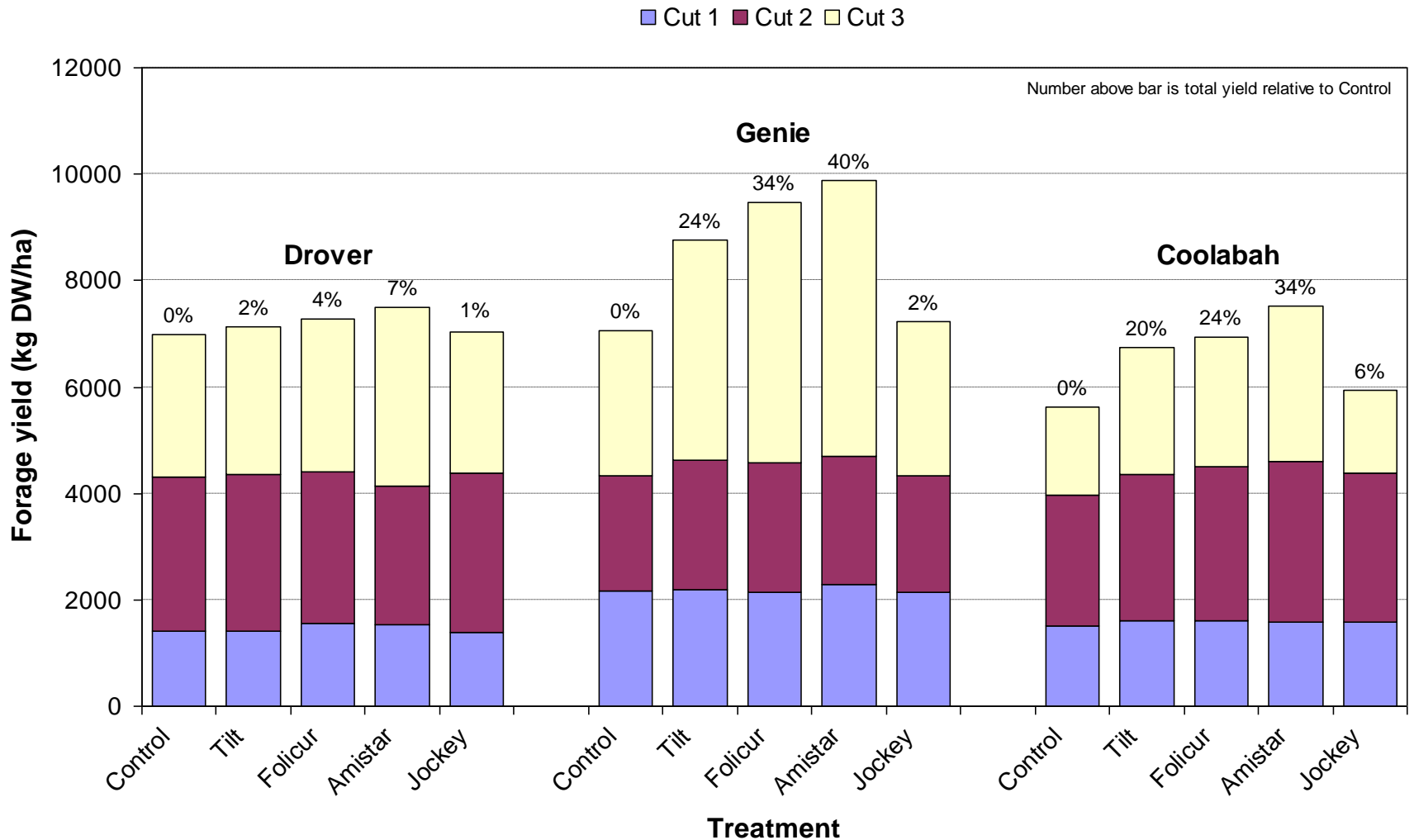


# Forage yield at irrigated site

■ Cut 1 ■ Cut 2 ■ Cut 3 ■ Cut 4 ■ Cut 5 ■ Cut 6 ■ Cut 7 ■ Cut 8



# Forage yield at rain-fed site



# Results

- Yield response to fungicide not significant when rust level low (<10% leaf area) & forage yield low
- Yield response to fungicide was significant when:
  - Infection levels moderate (>20% leaf area)
  - Forage yield is moderate to high
- Late maturity cultivars have higher forage yield
- Tilt and Folicur not significantly different, Amistar better in some cases
- Seed treatments not effective later in season
- Best application time 7-10 days after grazing

# Conclusions

- Do not spray when crown rust infection is low (<10% leaf area) or when forage yield is low
- Spraying is beneficial when crown rust infection is moderate to high (>20% leaf area) or forage yield is high (irrigation/high rainfall)
- Net benefit sensitive to forage yield
  - Threshold around 3 t DM/ha for low infection and 2.5 t DM/ha for moderate infection
- Cultivar selection important
- Common fungicides give satisfactory control



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