Foliar Fungicides to Manage Blackleg

Management decisions

Staying Ahead of Blackleg and Other Diseases

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GRAINS PATHOLOGY

Introduction

- Fungicide use has increased dramatically
- As canola intensity increases, reliance on fungicides also increases
- Many cereal / canola / cereal rotations are reliant on fungicides for blackleg control
- BUT there are no good methodologies for determining economic response to fungicide use

- **Many fungicide applications are done for insurance**

BUT

- **Foliar applications are expensive – where do they provide an economic return?**

Introduction

Fungicides for blackleg control

- Seed dressings
- Fertiliser amended
- Foliar
- Combinations

Aim to produce a model (decision support system) to determine the probability of an economic response to fungicides

Factors that effect yield response

- The blackleg resistance of the cultivar sown
- The effectiveness at a regional level of the blackleg resistance of the cultivar sown
- Climate
- Seasonal conditions
- Distance to previous year's canola residue
- Fungicide use
    - Seed dressing / fertiliser amended / foliar / combinations

Methodology

- Cultivars with a range of blackleg resistance (MS – R)
- Eight different environments across Australia each year
- Range of treatments
  - VIC – Jockey, Jockey + Prosaro
  - SA – Nil, Jockey, Jockey + Prosaro
  - WA – Nil, Jockey, Impact, Prosaro, Jockey+Prosaro
  - NSW – Nil, Jockey, Impact, Prosaro, Jockey+Impact, Jockey+Prosaro, Impact+Prosaro, Jockey Impact+Prosaro

Aim

Produce a decision support tool

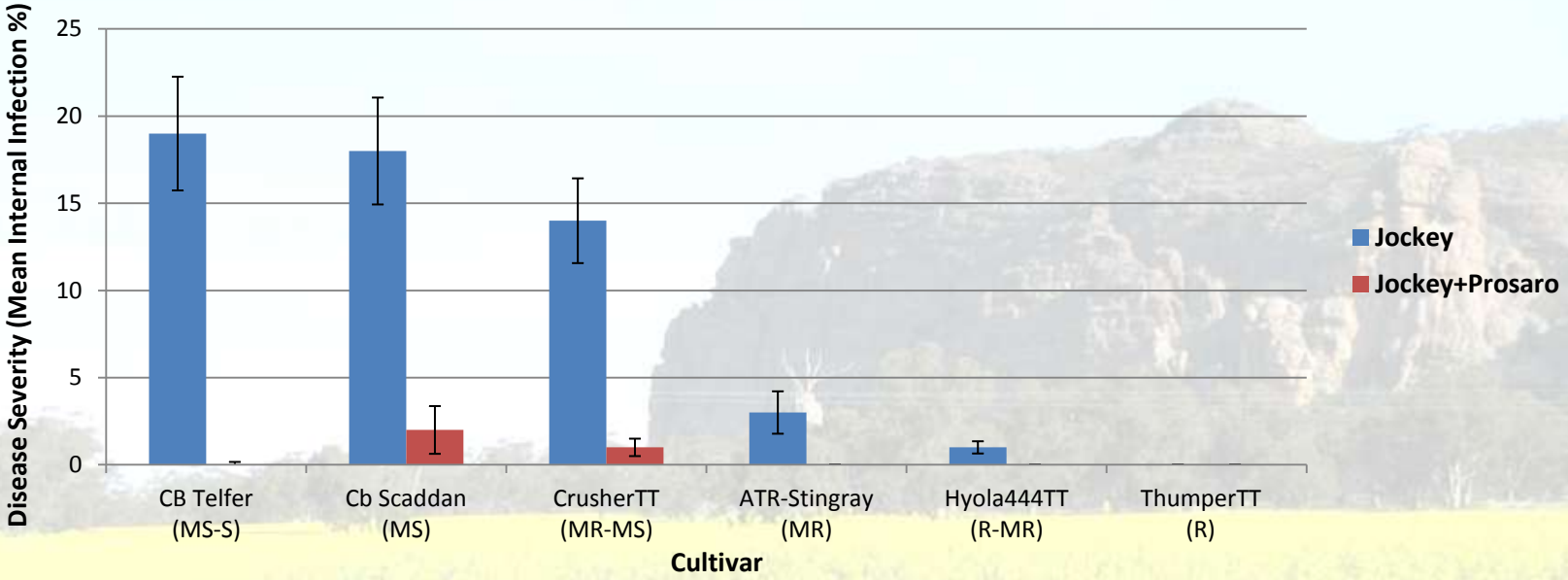
- Growers can enter their own farm data
- Post code
- Cultivar to be sown
- Cultivars grown within 500m over past 3 years.
- Proposed sowing date
- Expected price of grain
- Anticipated yield / oil%

Model will have:

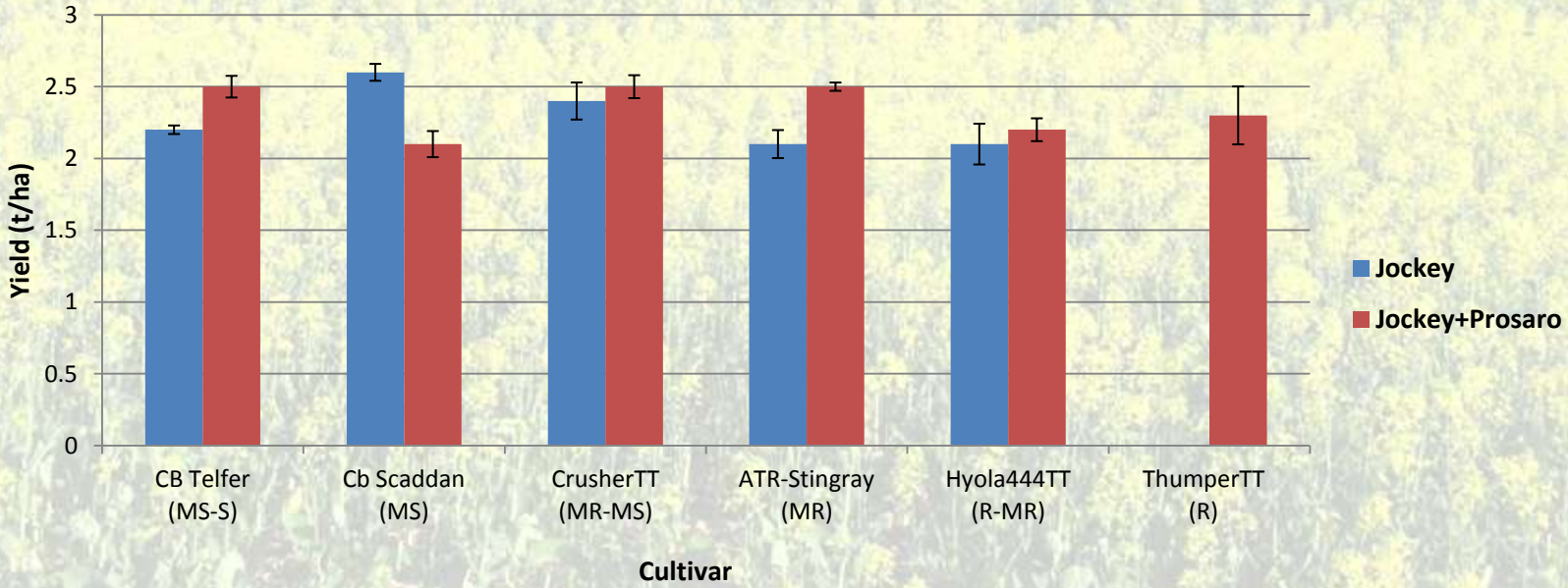
- Rainfall and temp data
- Sporacle spore release date
- All data from our experiments

The model can then provide a probability of break even return for each fungicide option and combinations

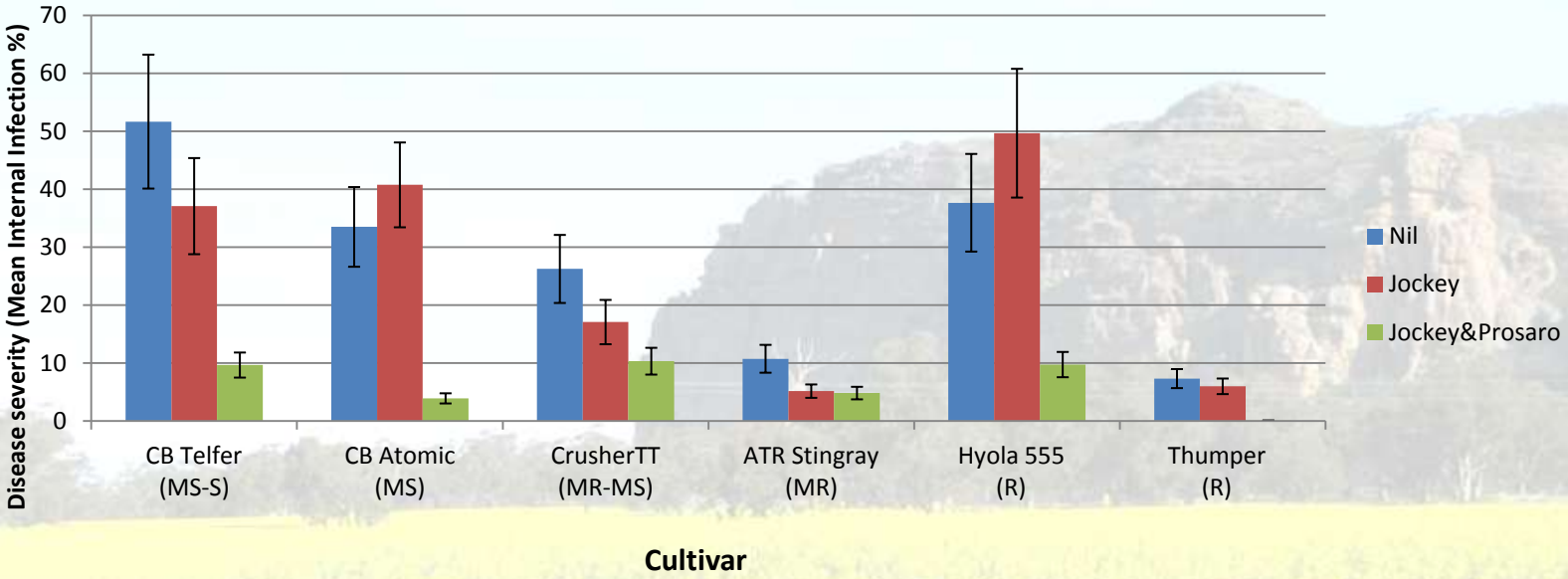
Blackleg severity (CSII) - VIC



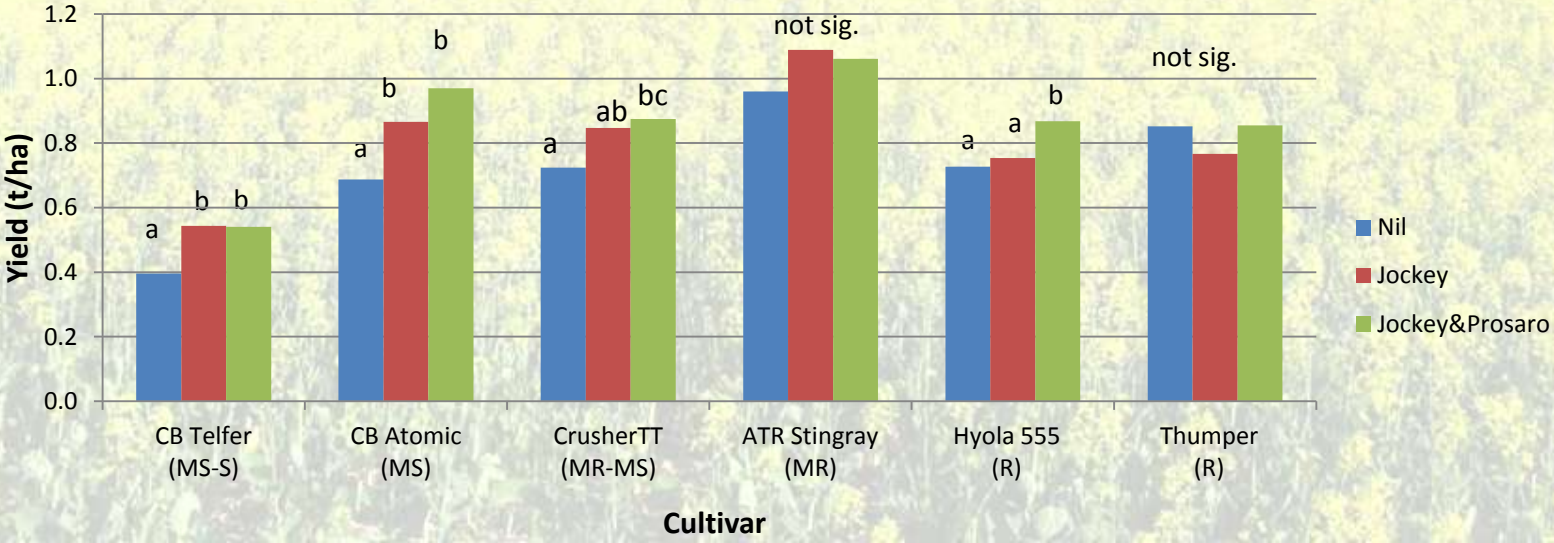
Yield - VIC



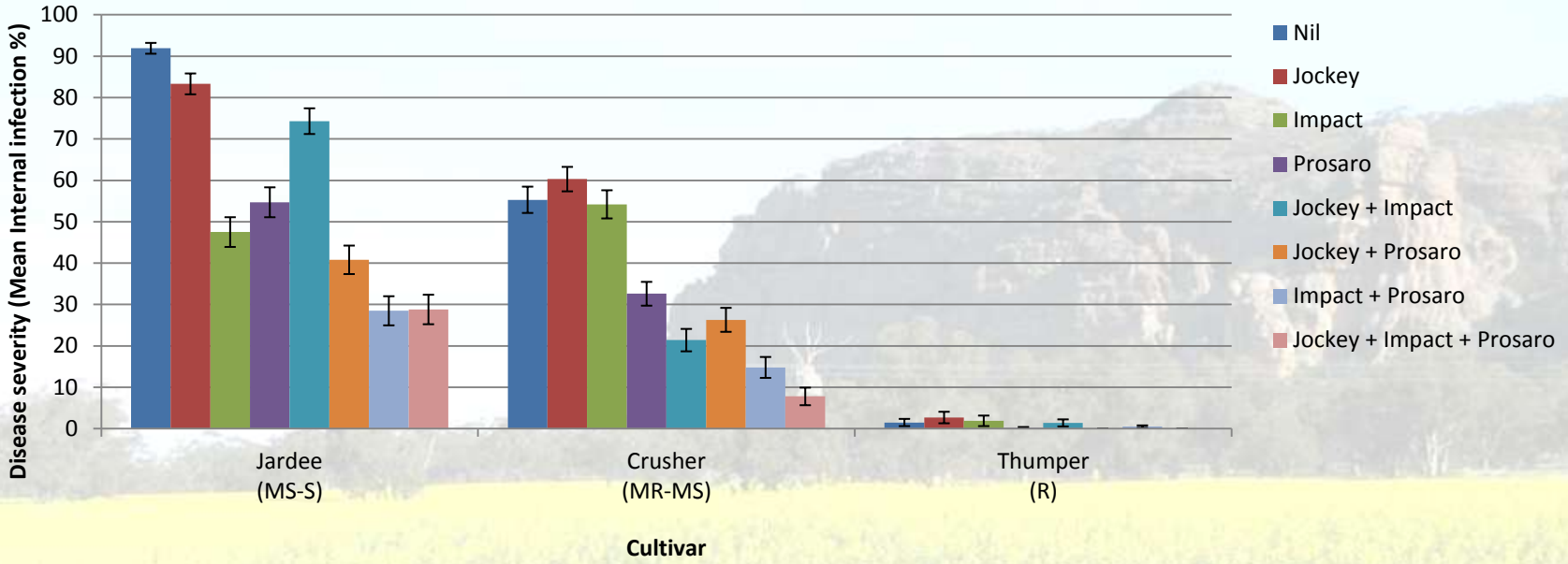
Blackleg severity (CSII) – SA



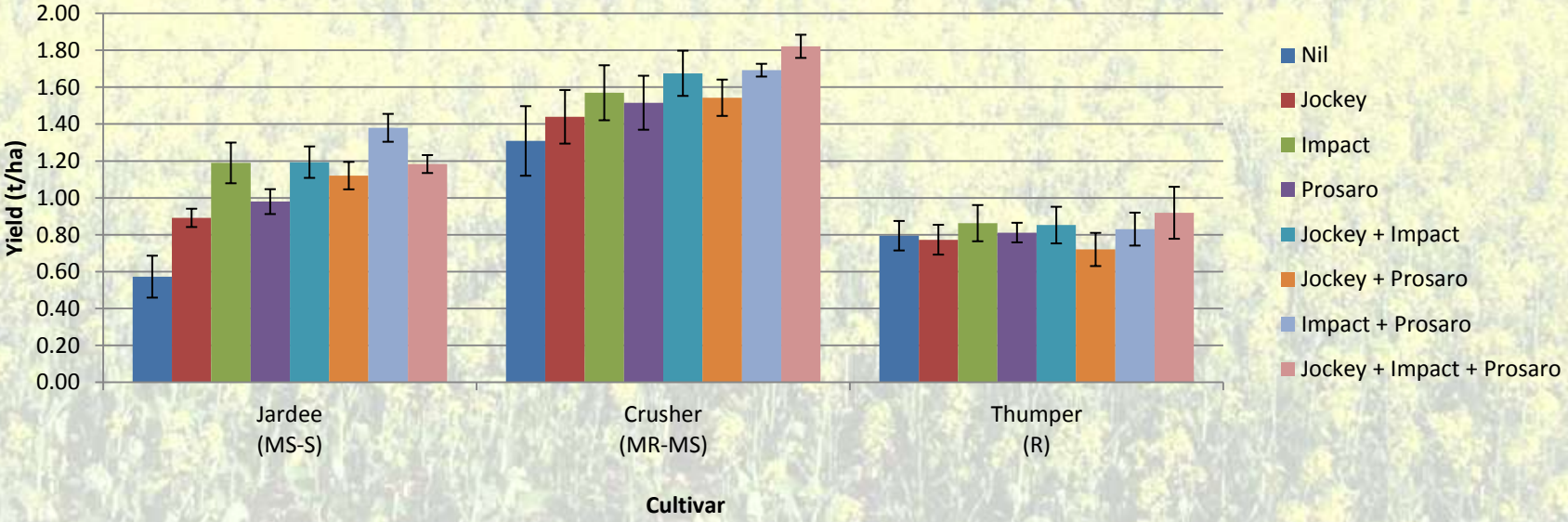
Yield - SA



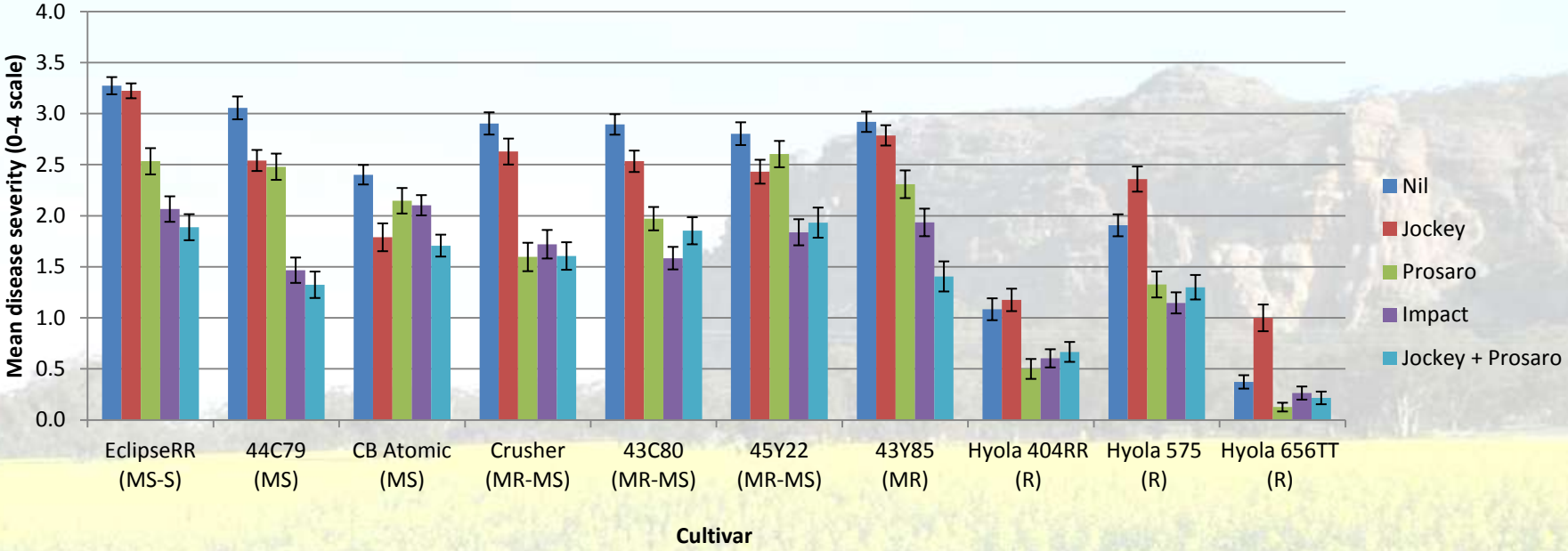
Blackleg severity (CSII) – NSW



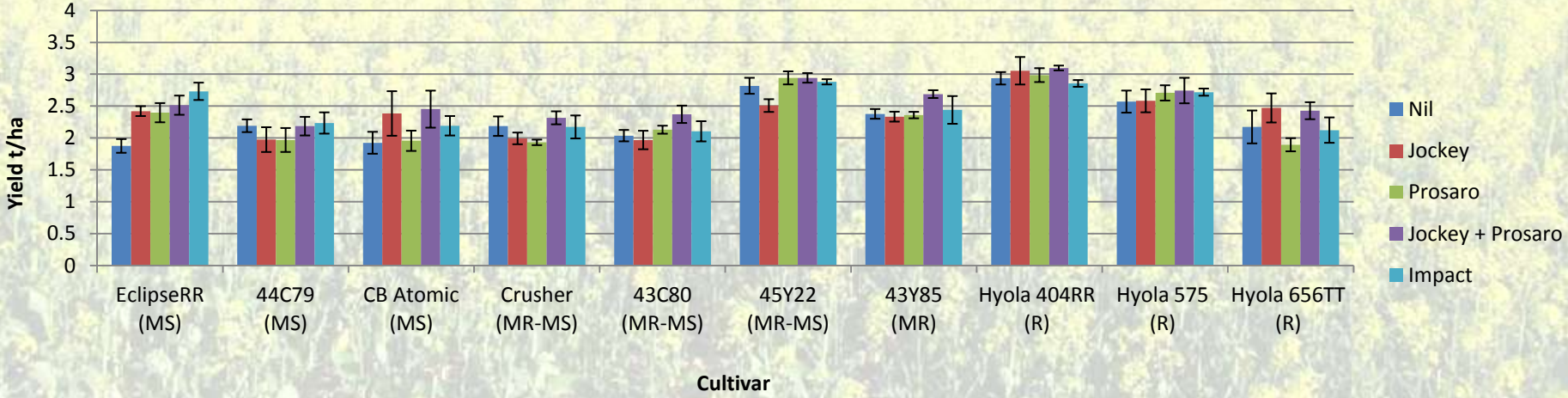
Yield - NSW



Blackleg Severity – WA (0-4 Scale)



Yield - WA



Future

- Produce the model
- Test /verify the model in coming years
- Identify missing data

- Release decision support tool