



# CANOLA PATHOLOGY RESEARCH ACTIVITIES AT DAFWA

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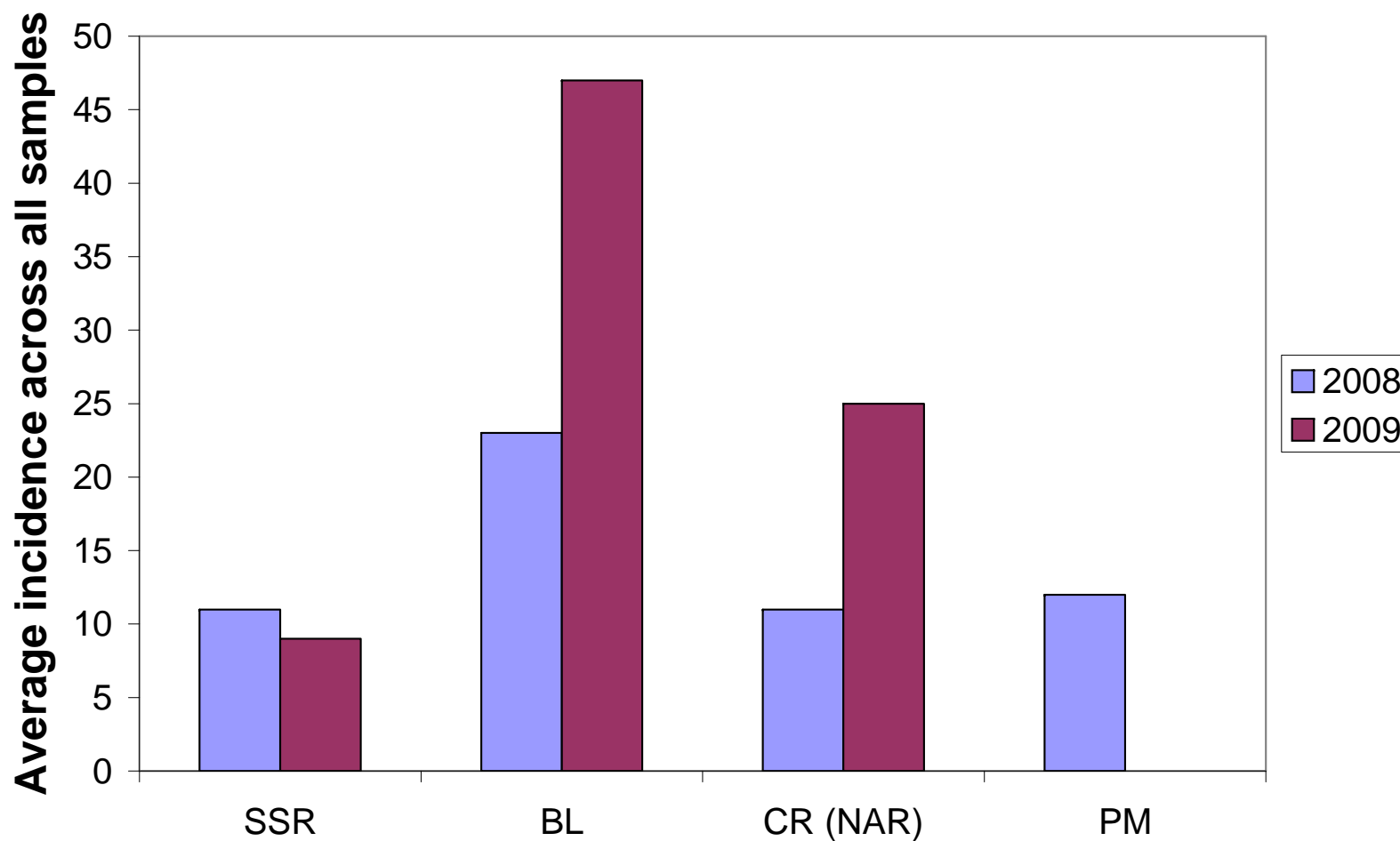
# 2009 canola blackleg research activities

- Canola disease survey
- Yield loss from blackleg
- Durability of blackleg resistance (in collaboration with Steve Marcroft)

# Canola disease survey

- A total of 97 samples were collected across canola growing regions of WA.
- 100 plants were collected per sample with the roots intact.
- Plants assessed for the incidence of blackleg, Sclerotinia stem rot, club root and powdery mildew

# Average incidence of various canola diseases during 2008-2009





## Key points from the survey

- 1. Sclerotinia stem rot was widespread in the northern agricultural region in the 2009 growing season, however, average Sclerotinia incidence across all samples was down by 2% than that seen in 2008 survey.**
- 2. Severity of blackleg was very high in the southern areas. Averaged over all samples, both the incidence and severity of blackleg was up by 22 and 18% respectively in 2009.**
- 3. Mild infections of club root were detected from the northern region only, however, average incidence of club root in the northern region was doubled than that seen in last year's survey.**
- 4. No powdery mildew was detected in 2009.**
- 5. Survey results highlight that Sclerotinia and blackleg were the two predominant diseases affecting canola yields in 2009.**



Hi Ravjit,

These are some of the photos I took of the stem cross sections. Do you think that any of these pictures look like black leg could have limited the yield of this crop?

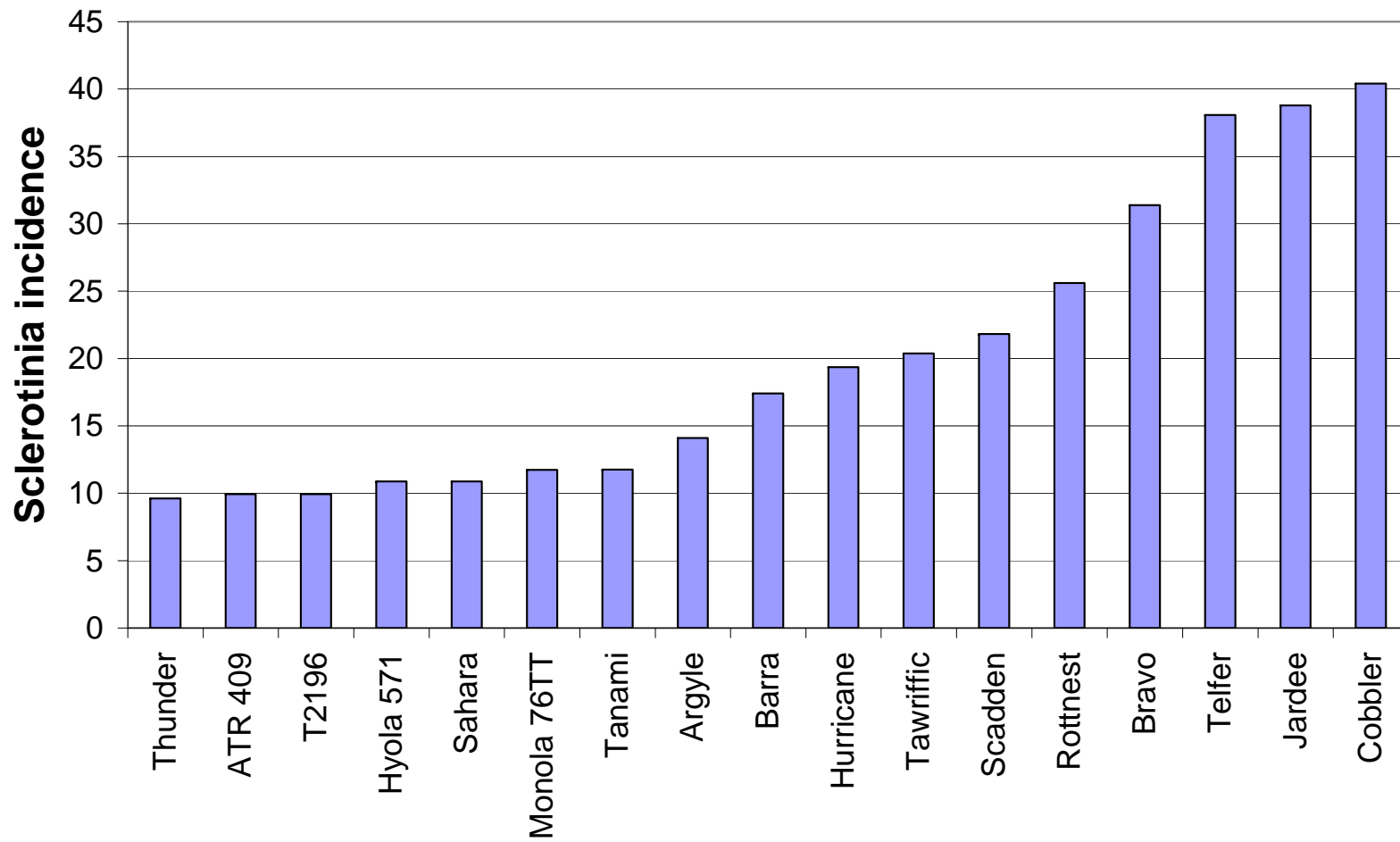
This farmer's yield was 500-600 kg/ha. His neighbour has crops yielding 1 - 1.2 t/ha of another variety. No up-front blackleg fungicide protection. The paddock next to this crop was in canola last year.

I have collected some more stems to post off to you today for you to look at and included some more details.

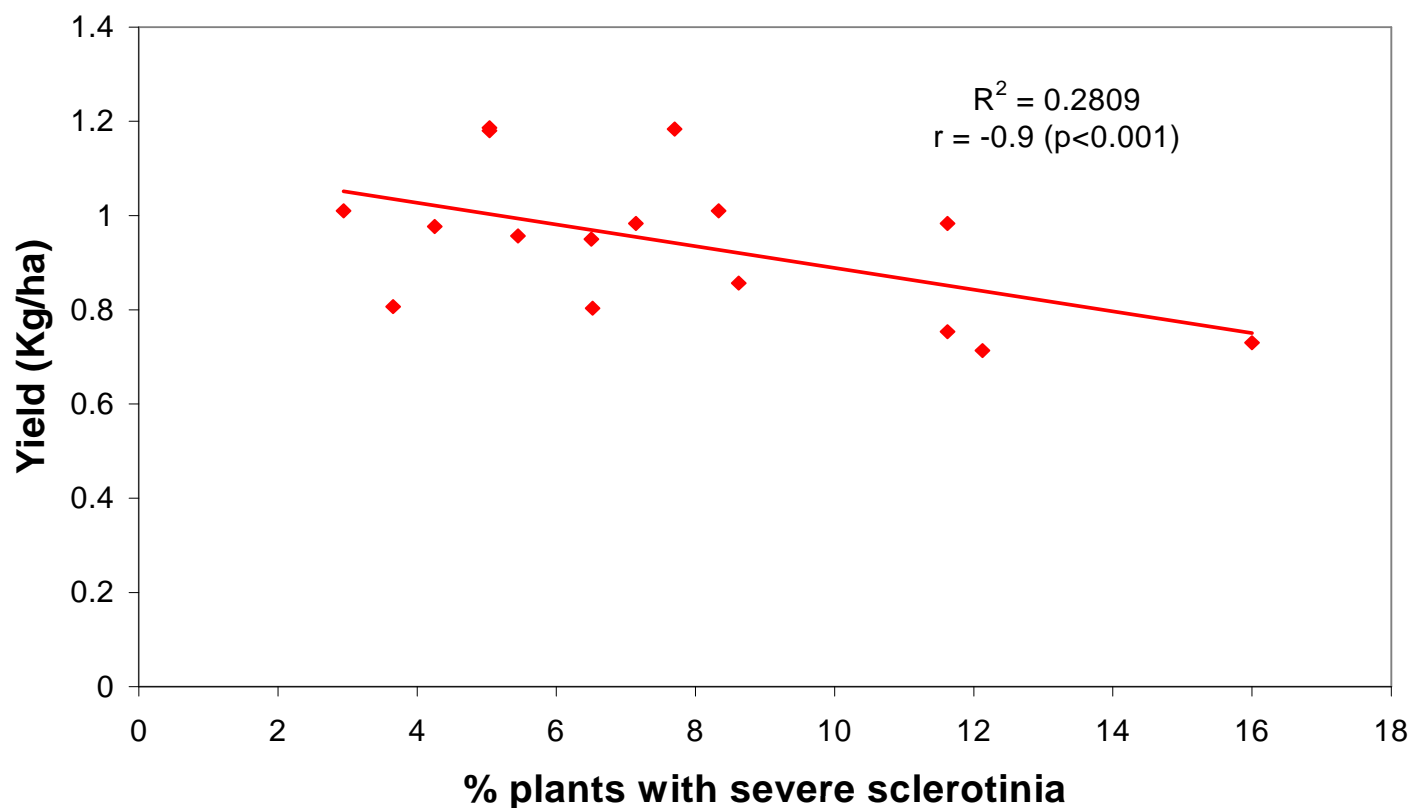
Thanks for your help.



# Sclerotinia incidence – Oilseeds WA trial

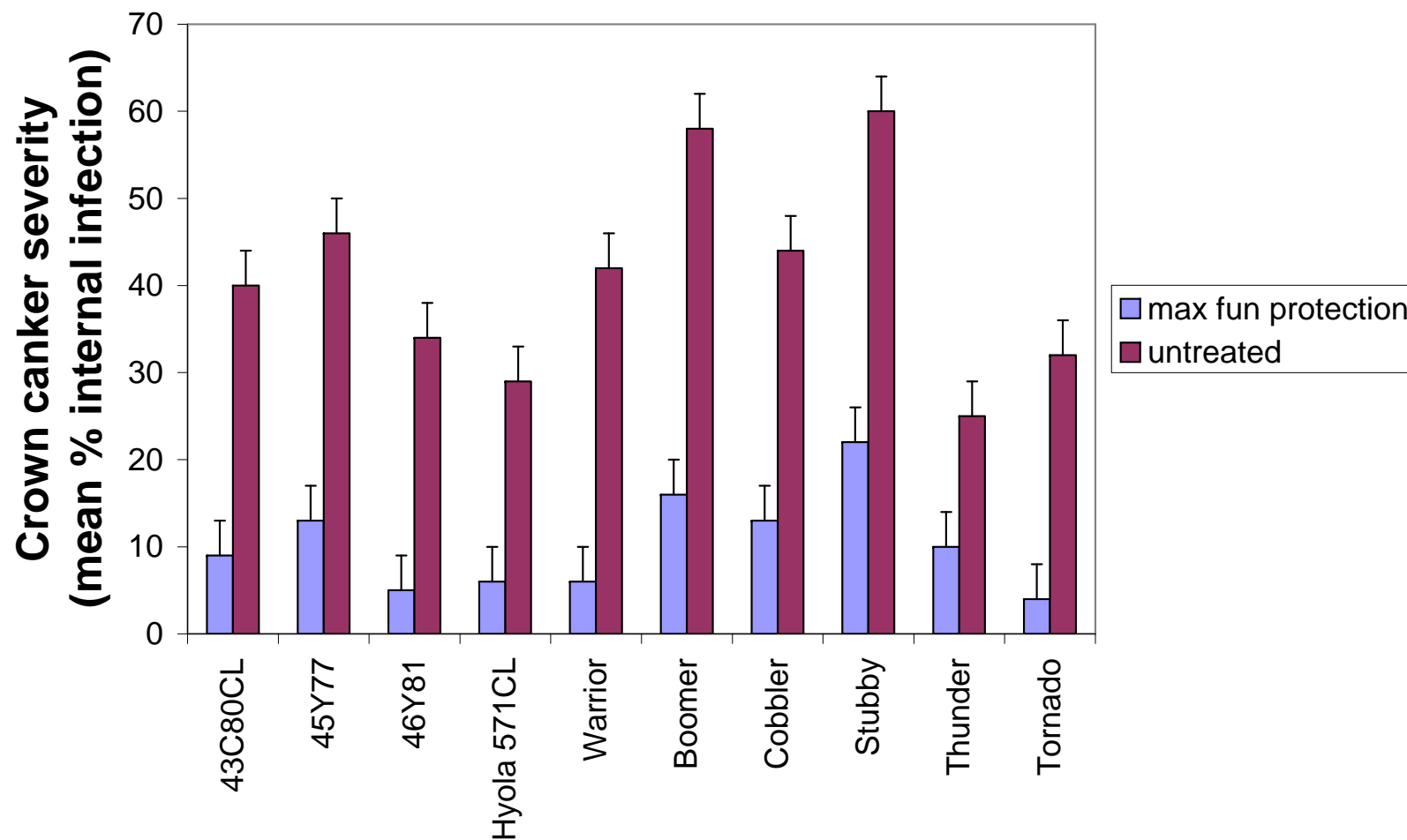


# Oilseed WA trial – relationship between incidence of severe sclerotinia and yield

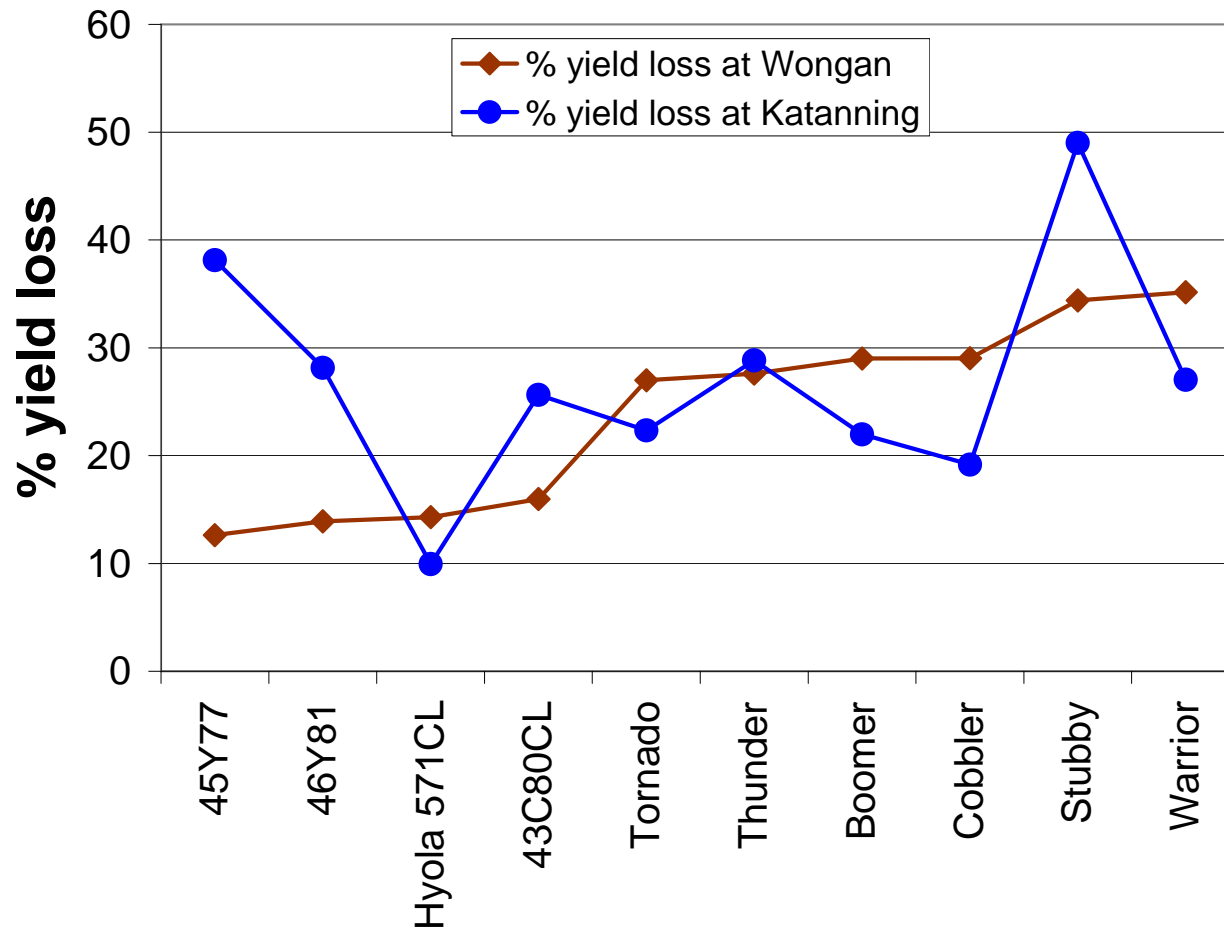




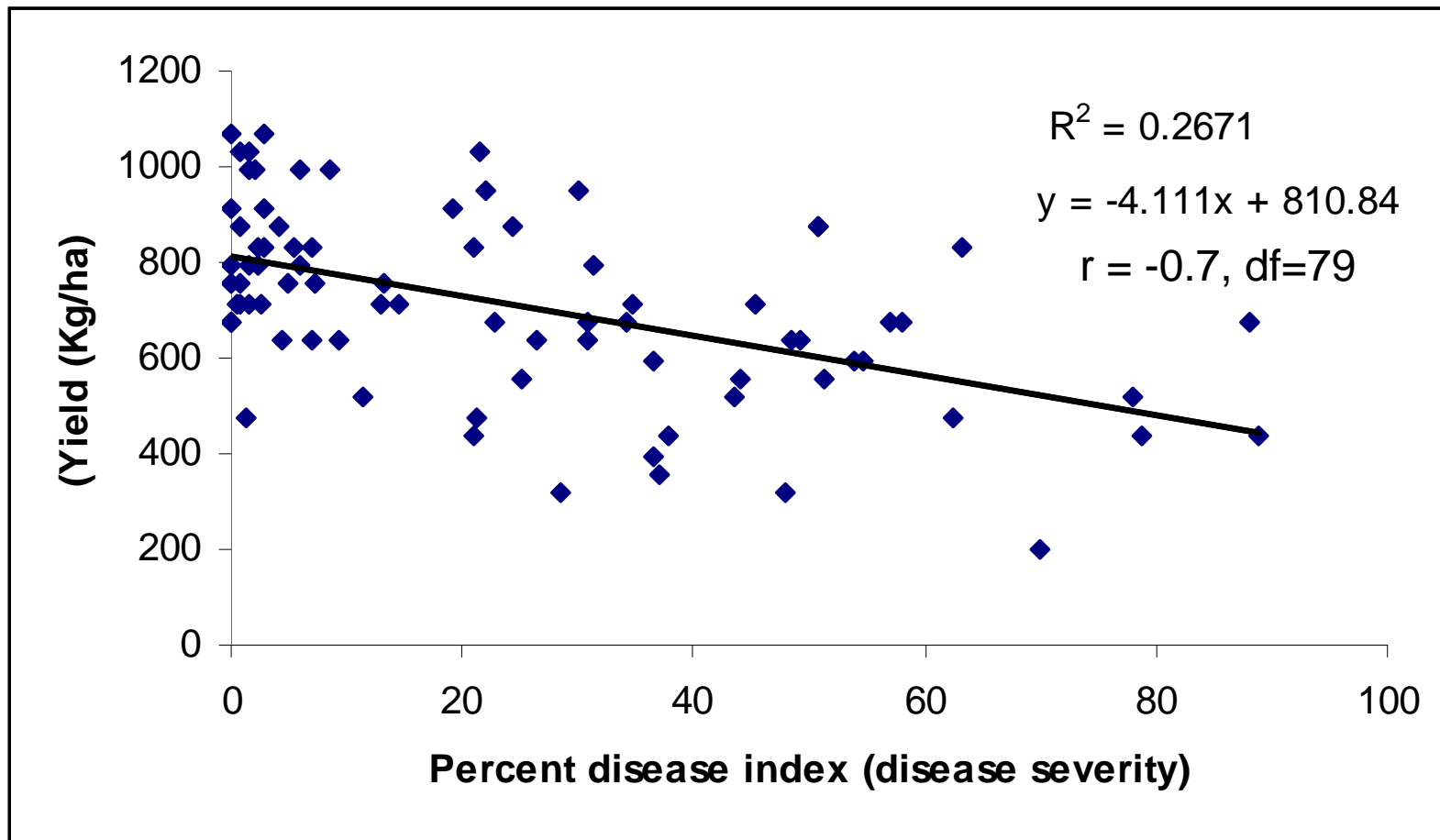
# Yield loss from blackleg - Crown canker severity in canola varieties



# Yield loss from blackleg in canola varieties



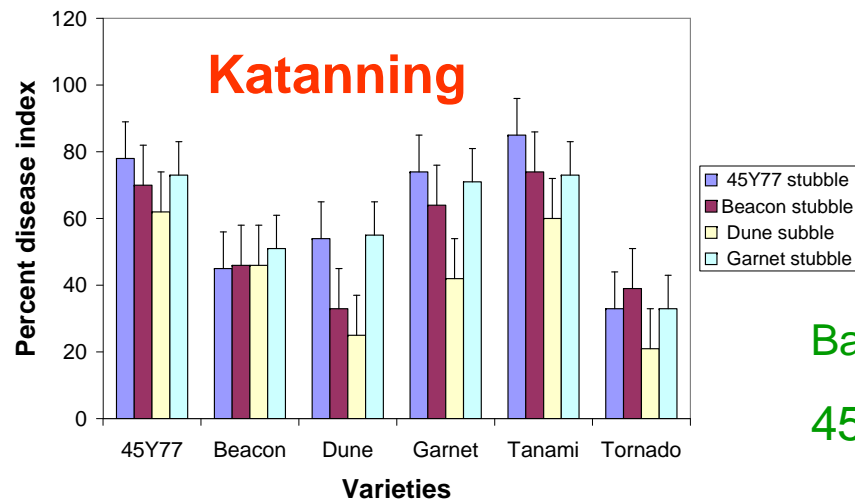
# Percent disease index-Yield relationship



# Durability of blackleg resistance

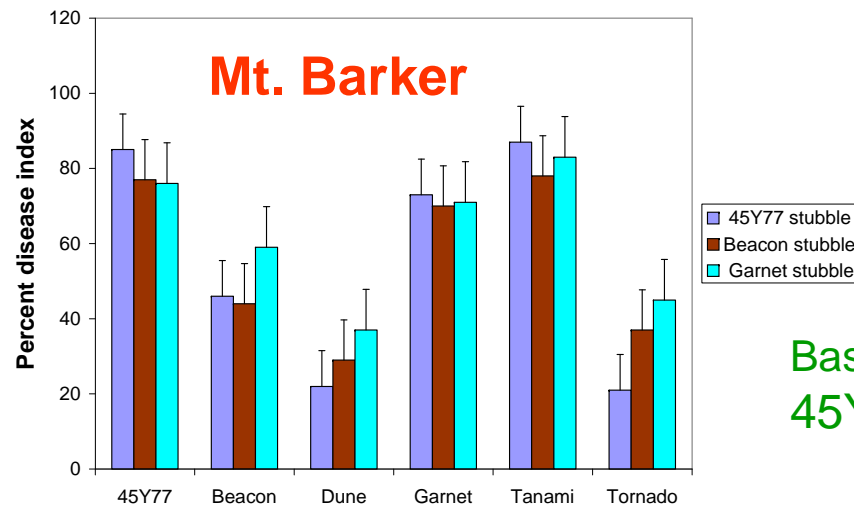


# Durability of blackleg resistance



Baseline av internal inf. (2008)

45Y= 35, B=60, G=21, D=20



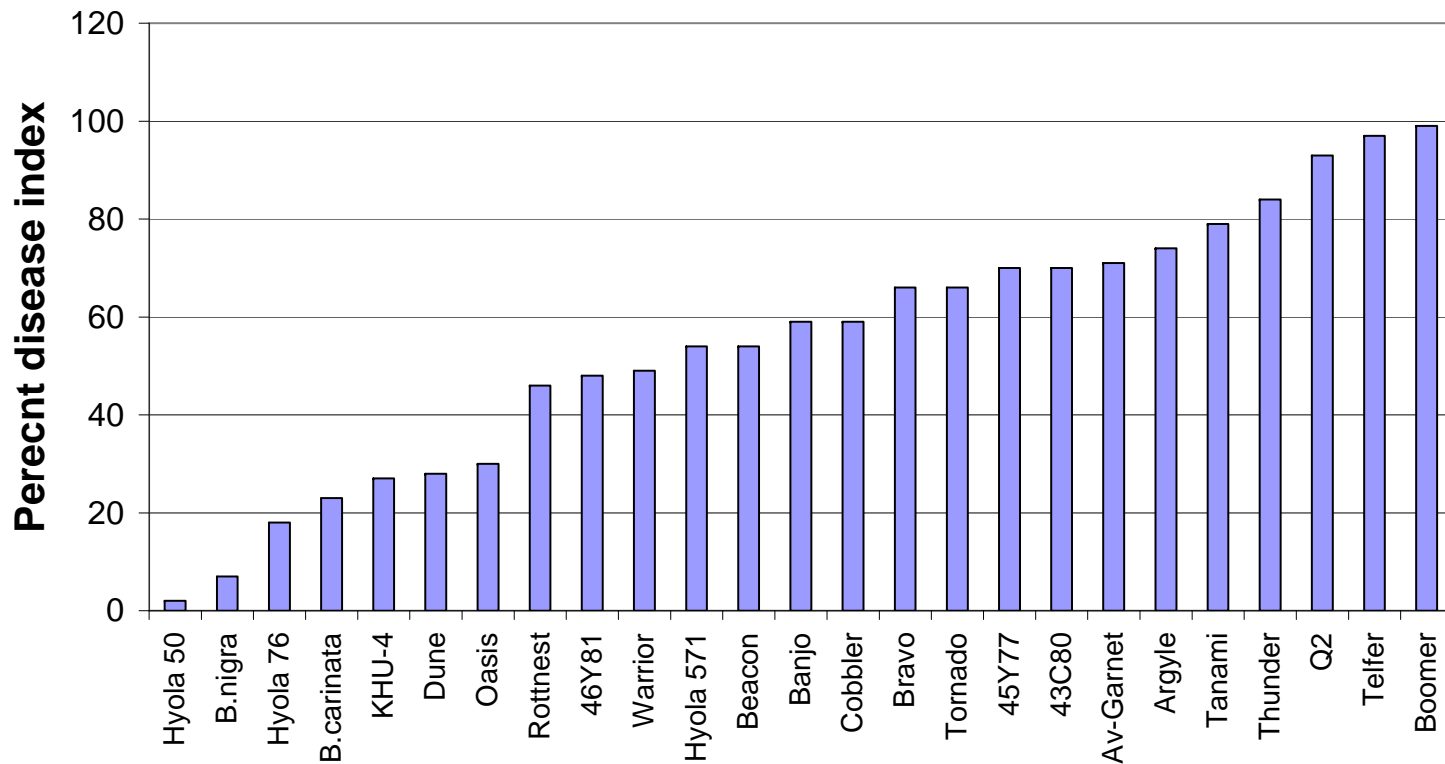
Baseline av internal inf. (2008)

45Y=97, B=95, G=86, D=na

# Durability of blackleg resistance (Medina)

Lsd = 18

PDI on Dune



# Conclusions

- High levels of Sclerotinia in the NAR
- High levels of blackleg in the SAR
- Yield loss from blackleg varied between 13-35%.



## **2010 Western Region Canola Pathology Field Research Program (DAFWA)**

- Durability of blackleg resistance in collaboration with Steve Marcroft
- Yield loss from blackleg
- Fungicide management of Sclerotinia stem rot
- Factors affecting initiation and development of Sclerotinia in canola
- Canola disease survey



# Acknowledgements

- Grains Research and Development Corporation
- Dr Hafeezulla Mian (HEC Postdoc)
- Mr M. Aberra
- RSU (Wongan Hills, Katanning and Mt. Barker)
- Peter Elliott-Lockhart, Elders Geraldton
- Bill Sharpe and Chris Matthews and all growers who participated in canola disease survey