


The Breakdown of Hyola 50 on LEP: - What have we learnt?

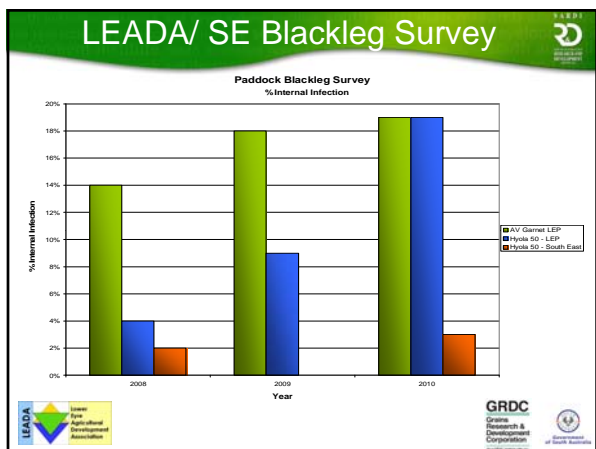
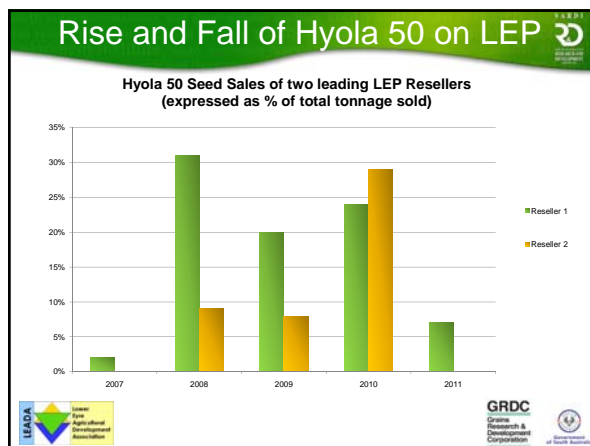
Nematodes on canola



Andrew Ware,
SARDI, Pt Lincoln

LEADA Lower Eyre Agricultural Development Association

GRDC Grains Research & Development Corporation



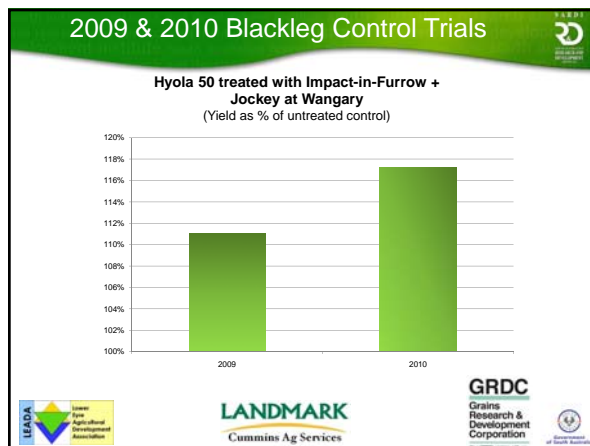
SABL Monitoring Sites

Blackleg Internal Infection 2010 & 2011 (%)

Region	Mid-North	YP	South East	EP Wangary
2010 Garnet	10	10	22	23
2011 Garnet	14	28	45	25
2010 Hyola 50	2	6	0	17
2011 Hyola 50	2	8	0	71

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Breakdown of Hyola 50 Resistance

Managing your risk of blackleg in canola cultivar HYOLA® 50 on the Eyre Peninsula

Recommendations for growers on the Eyre Peninsula

1. Choose a variety different to Hyola 50 with high levels of blackleg resistance for the Eyre Peninsula region. The current level of blackleg damage is available at www.grdc.com.au.
2. Rotate the crop to a variety from last year's results available for a minimum of 20%.
3. Do not use Hyola 50 unless 20% or of its area available from a 2012 or 2013 crop with suitable blackleg resistance through genetic engineering.
4. Ensure that control has been tested with Department or equivalent control trials through an extension agent/consultant.
5. Monitor blackleg severity under the 2012 crop in order to discuss sowing in 2013.

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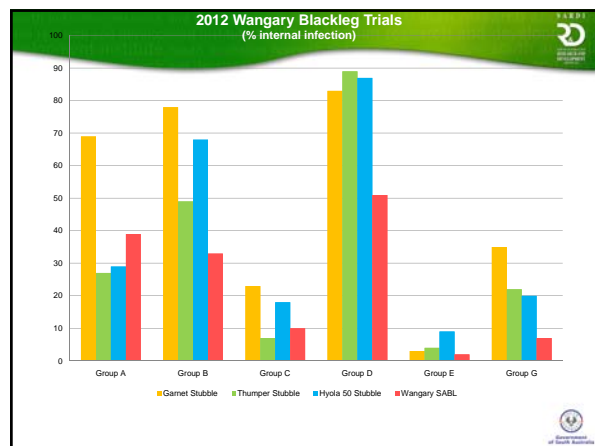
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Conclusions –what have we learnt?

- **What went wrong**
 - too much reliance on one variety over a number of years
 - avoiding this happening again is now part of the extension message
- **What went right**
 - We were able to pick up that changes in the blackleg population were happening
 - We were able to notify growers and advisors before widespread significant yield losses were incurred
 - Growers rapidly adopted and changed varieties

The numbers

If in 2011....

- Hyola 50 was continued to be grown in large areas on LEP
- With canola prices @ \$600/t and expected losses due to blackleg

Saving made by not growing Hyola 50 on LEP:

\$18-20M

Stubby Root Nematode

Paratrichorodus spp.
A new parasite of Canola in Australia

Key:
A: Stubby Condition of Canola
B: Non-stubby canola
C: Curved stylet





Field Observations - 2012

- Symptoms observed on 3 LEP properties in 2012 – within approx 40km radius
- Approximately 200ha canola severely affected in 2012
- Very wet June – nutrient leaching & slow growing crops
- Worst symptoms on sandiest parts of paddocks & on wheel marks
- Initially presented as N deficiency
- Then as N & S deficiency

Field Observations - 2012

- Roots having trouble accessing nutrients because of nematode damage
- Multiple liquid applications of SOA helped pick crops up
- TT varieties appeared to have suffered worse (lack of vigour??)
- Yields in affected paddocks ranged from: 0.7t/ha – 1.2t/ha.
- Unaffected yields in the region were around 1.9t/ha+

Root Lesion Nematode

Pratylenchus spp.
Testing cultivars for resistance

Alan McKay, Grant Hollaway, Danuta Pounsett,
John Lewis, Sjaan Davey, Beverley Gogel

GRDC
Grains Research & Development Corporation

Cost of nematodes to Australian wheat industry

Pathogen/disease	Potential (\$ million)	Current (\$ million)
Cereal cyst nematode	547	57
<i>Pratylenchus thornei</i>	167	50
<i>P. neglectus</i>	266	73
<i>P. teres</i>	34	9
TOTAL	1014	189

Murray and Brennan, 2009

Terminology

Resistance: Plant ability to reduce nematode multiplication

Tolerance: Plant ability to yield when infested with nematodes

