

Pathogenicity Test of Western Australian isolates of *Sclerotinia sclerotiorum* in Canola

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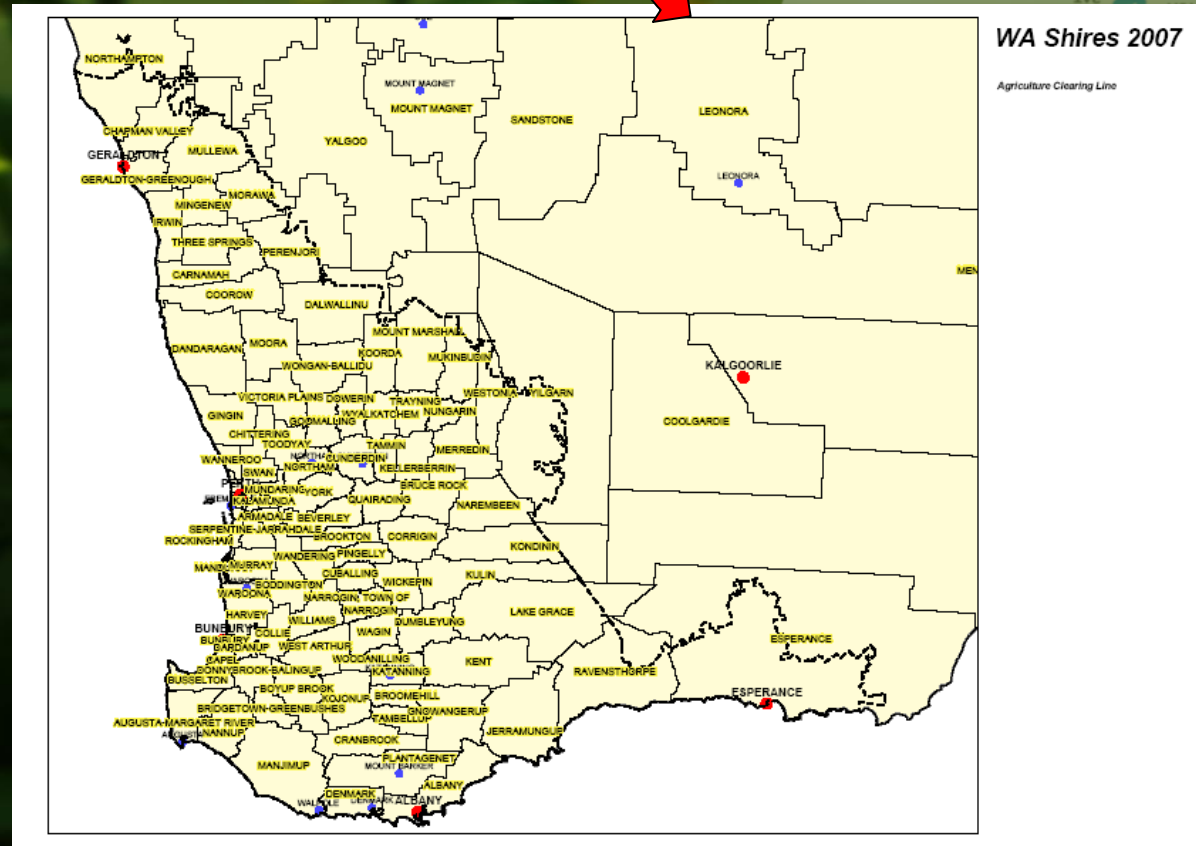


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Introduction

Sclerotinia stem rot (SSR), *Sclerotinia sclerotiorum*, an important disease of canola (*Brassica napus* L.) production in Australia.

Potential to cause annual losses of up to \$30 million (Murray and Brennan, 2012).



Introduction....cont.

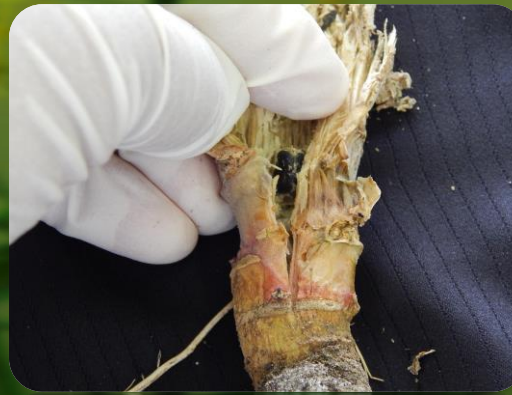
- In WA, SSR has emerged as a serious problem in canola production where crop losses were estimated up to 40% in the worst affected crops in 2011 cropping season (Khangura and MacLeod, 2012).
- Objective → Investigate Pathogenic and Genetic Variation of WA Isolates → Management of *S. sclerotiorum* in Canola and other Brassica Crops.



Isolation of the pathogen



Infected canola plants



Sclerotia inside infected canola stem



Sclerotia growth on media (PDA + antibiotic)



Isolate of *S. sclerotiorum*

- Over 100 isolates were collected from different canola growing regions of WA (Northern and Southern regions).
- Isolates were grown in Potato Dextrose Agar (PDA) medium supplemented with Aureomycin.

S. sclerotiorum pathogenicity screening



Isolate of *S. sclerotiorum*
(3-4 days old)



Canola seedlings inoculated
by *S. sclerotiorum*



In misting chamber



In Growth room

- Canola seedlings were inoculated with each of the isolate as per methods of Khangura and Mian 2013 (in Press).
- Each isolate was tested across four replicates of pots with 6 seedlings each.
- The percentage of diseased/dead plants was determined 2 and 6 days after inoculation.

S. sclerotiorum pathogenicity screening...cont.



Control



Isolate with low pathogenicity



Isolate with high pathogenicity

Results so far...

Initial results indicated that:

- *S. sclerotiorum* varies in pathogenicity with disease levels ranging from 0% - 100%
- Pathogenic variations exist among isolates.

Pathogenicity Level (% Plants Affected)	Number of Isolates	Percentage of Isolates
0 - 20	12	10.91
20 - 40	17	15.45
40 - 60	21	19.09
60 - 80	26	23.64
80 - 100	34	30.91
Total	110	100.00

On Progress

- Mycelial Compatibility Groups (MCGs)
- Molecular analysis
- Cluster analysis
- Will be performed on all isolates to determine the genetic variations.

**Thank you very much for your
attention**

Comments, suggestions, and
feedback are more than welcome

