Department of Agriculture and Food

Australian National Canola Pathology Program

# National Survey of canola diseases other than blackleg and Sclerotinia

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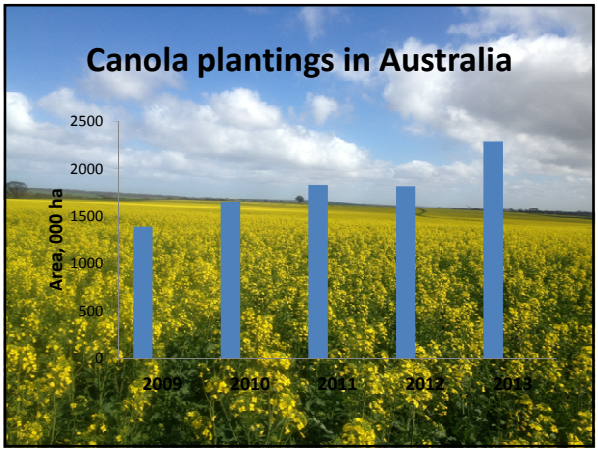
## Broad Aims

- Identify disease constraints and provide practical management solutions for other major canola pathogens impacting canola production in different regions of Australia.

## Canola plantings in Australia




## Early – mid season disease monitoring

### Protocol

- Samples were collected along a 200m straight line transect.
- A total of 40 plants were collected (4 plants after walking every 20 paces).
- After collection, plants were given a gentle tap to remove some soil and placed in a plastic bag.
- Samples maintained at cool temperature in a cool room on return to lab until assessed.
- Samples assessed ASAP after collection
- *For general disease monitoring from trials, disease assessments were made on 20-50 randomly selected plants (non-destructive sampling)*

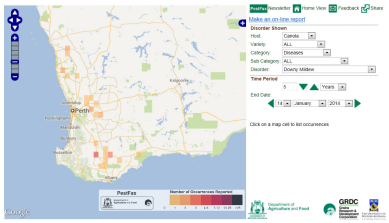
## WA Disease monitoring activity

- Seedling stage – A total of 33 samples
  - 27 samples from Focus Paddocks
  - 3 trial sites (2 in Katanning and one in Esperance)
  - 3 samples from commercial crops
- Diseases observed
  - Downy mildew
  - White leaf spot
  - Damping-off/hypocotyl rot
  - Seedling blackleg

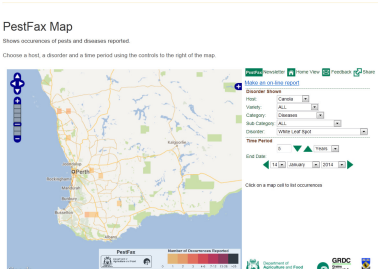
## WA Results-seedling monitoring

- Downy mildew
  - Percentage samples affected = 72%
  - Average incidence 40%, Range 0-100%
- White leaf spot
  - Percentage samples affected = 23%
  - Average incidence 7.7%, Range 0-60%
- Damping –off
  - Detected only in 2 samples, incidence 3 and 24%

## Pestfax map – downy mildew reports



## Pestfax map - WLS reports




## SABL Katanning (DM rating)

| Plot | Group | Disease rating |
|---|---|---|
| 1006 | D | mod to sev |
| 2001 | B | severe |
| 2002 | S | severe |
| 2004 | C | severe |
| 2006 | E | mod |
| 3002 | A | severe |
| 3003 | D | severe |
| 3004 | B | severe |
| 3005 | S | severe |

*Juncea was completely free of DM in all plots*

## Victoria

Early season observations

- 8 SABL sites
- Streatham, Hamilton, Minyip, Kaniva, Charlton, Yarrawonga, Wunghnu

Data courtesy Steve, Angela and Vicki

## Victoria-incidence of early seedling diseases

| Site | Species | Downy Mildew (%plants infected) | White Leaf Spot (% plants infected) |
|---|---|---|---|
| Charlton | Juncea | 0 | 35 |
| | Napus | 25 | 5 |
| Diggora | Juncea | 10 | 30 |
| | Napus | 25 | 100 |
| Hamilton | Juncea | 0 | 100 |
| | Napus | 100 | 100 |
| Kaniva | Juncea | 0 | 0 |
| | Napus | 10 | 42.5 |
| Minyip | Juncea | 55 | 5 |
| | Napus | 82 | 22.5 |
| Streatham | Juncea | 0 | 10 |
| | Napus | 100 | 20 |
| Wunghnu | Juncea | 40 | 25 |
| | Napus | 100 | 100 |
| Yarrawonga | Juncea | 0 | 0 |
| | Napus | 12.5 | 27.5 |

## WLS within the Diggora fungicide trial

| Cultivar | Treatment | White Leaf Spot (0-4 score) |
|---|---|---|
| ATR-Stingray +Jockey | Nil | 2.0 |
| | Prosaro | 1.3 |
| CB Scaddan +Jockey | Nil | 3.0 |
| | Prosaro | 2.0 |
| CB Telfer + Jockey | Nil | 3.0 |
| | Prosaro | 1.3 |
| CrusherTT +Jockey | Nil | 3.0 |
| | Prosaro | 1.3 |
| Hyola444TT +Jockey | Nil | 2.3 |
| | Prosaro | 1.3 |
| ThumperTT + Jockey | Nil | 1.7 |
| | Prosaro | 1.0 |

## New South Wales

Data collected from 10 SABL sites

- Beckom, Bellata, Cootamundra, Cudal, Gerogery, Grentfell, Lockhart, Mullaley, Parkes, Wagga
- No other canola disease
- **Well done NSW for scaring all other diseases away!!!!!!!!!!!!!!!**

Data courtesy Steve, Angela and Vicki

## Late season disease monitoring

**Protocol**

- Sampling protocol similar to the one used for monitoring seedling diseases.
- Sampled at or close to swathing. A total of 40 or 100 plants were collected for each sample.

## Late season monitoring - WA

- A total of 87 samples
  - 56 samples from commercial crops
  - 31 focus paddocks
- Diseases observed
  - Powdery mildew
  - Alternaria leaf spot
  - Club root
  - Charcoal rot
  - Also Blackleg and Sclerotinia
- 40-50 plants /sample

## Late season monitoring - WA Results

| Disease | Prevalence | Range | Average incidence |
|---|---|---|---|
| Powdery mildew | 10% | 0-85% | 6% |
| Charcoal rot | 6% | 0-25% | 0.7% |
| Club root | 1 sample | | 5% |
| Blackleg pod infection | 17%* | | |

*A few commercial crops badly infected

## Blackleg internal discoloration – WA Should this be of concern?

Photos: RKhangura

## Late season monitoring - WA results

- Viruses

| | TuYV | TuMV |
|---|---|---|
| Prevalence | 40%* | 1% |
| Incidence range | <1-50% | |

*Crops with high incidence from South Coast

CaMV was not detected in any of the samples

Data courtesy B. Coutts

## Late season Diseases - Victoria

- Streatham and Hamilton – severe Alternaria

Streatham

Photo: MGP

Hamilton

| Group | Alternaria |
|---|---|
| A | 3 |
| B | 3 |
| C | 3 |
| D | 3 |
| E | 1 |
| G | 1 |
| S | 1 |

| Group | Alternaria |
|---|---|
| A | 4 |
| B | 4 |
| C | 4 |
| D | 4 |
| E | 4 |
| G | 1 |
| S | 4 |

## Late season - South Australia

- *Arthurton* severe Alternara causing yield loss
- *Bordertown* Alternaria
- *Mt Hope* No other disease
- *Riverton* Low level of Alternaria
- *Spalding* Low level of alternaria
- *Turretfield* Severe Alternaria, mild powdery mildew
- *Wanilla* Low level of Alternaria

Data courtesy Steve, Angela and Vicki

## Late season monitoring - NSW

- 19 sites
- *Mullaley* very low level of powdery mildew
- **Resilient NSW! You have done it again!!**

## Undiagnosed problem

- WA

Photo: RKhangura

## Summary

2013 major disease issues

- Early season
  - Downy mildew
    - Victoria and Western Australia
  - White leaf spot
    - Victoria and SA
- Late season
  - Alternaria
    - Victoria, South Australia and Western Australia

## Future research areas

- Continue monitoring activity
- Investigate the disease impact upon canola production
- Control measures

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