National round up of diseases and new threats in 2013

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Outline

- National disease round up
  - Western Australia
  - South Australia
  - Victoria
  - New South Wales
- New Threats
  - Cankers in branches
  - Canola virus in northern NSW

Western Australia

- Moderate levels of blackleg in the southern and south coastal regions
- Moderate incidence of downy mildew and white leaf spot
- Low levels of Sclerotinia across the northern region but a few crops in the southern region had moderate levels of stem rot
- Low to moderate levels of charcoal rot detected in the northern and central regions
- No club root or Rhizoctonia hypocotyl rot observed in 2013
- No major virus issues

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South Australia

- White rust – above average observations made across SA
  - emergence to 4 leaf
  - disappeared quickly after that.
- Blackleg – about average observations across SA
  - higher levels than seen previously in the SA Mallee possibly due to higher canola intensity than seen previously in this region.
- Sclerotinia – Some significant observations in the South East region (Millicent) only
- Stubby Root Nematode (*Paratrichodorus* spp.)
  - New pathogen, discovered on Lower EP

Victoria

- Blackleg resistance of most cultivars was good.
- Concerns with CrusherTT and AV-Garnet which are being widely grown as retained seed.
- Increasing level of Group D infection in western district.
- Resistance groups being considered in 2013 plantings.

Victoria

- Other diseases not an issue in 2012.
  - Late break - dry spring = crops grew on stored moisture, not conducive for disease.
- Some sclerotinia in North east – same as NSW.
- Some alternaria infection on pods.
- Fungicide use against blackleg very effective.

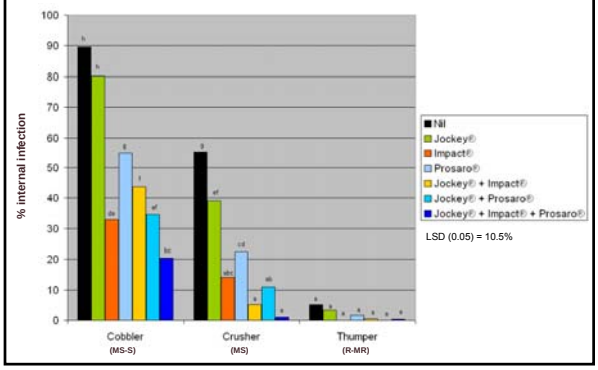
New South Wales

- Good opening rains – crops planted on time
  - Dry autumn → early winter
  - delayed spore release → reduced levels of blackleg canker
  - No concerns with blackleg resistance
- Below average rainfall generally kept foliar disease levels low
  - Crops grew on stored moisture from March
  - Good rains in late October/early November

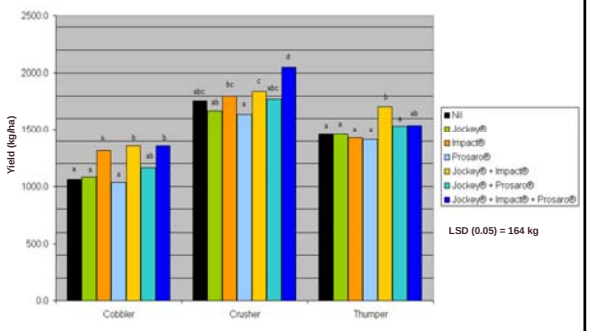
New South Wales

- Concerns with longevity of wheat/canola rotation
  - Grower retained Crusher TT, Garnet, Gem
  - Most crops grown with fungicide seed dressing and amended fertiliser
  - Some reports of widespread Prosaro use on crops in some districts
- High levels of interest in rotation groups
  - Dispel confusion over what groups mean
    - Keep messages simple

Effect of fungicide treatment - 2012

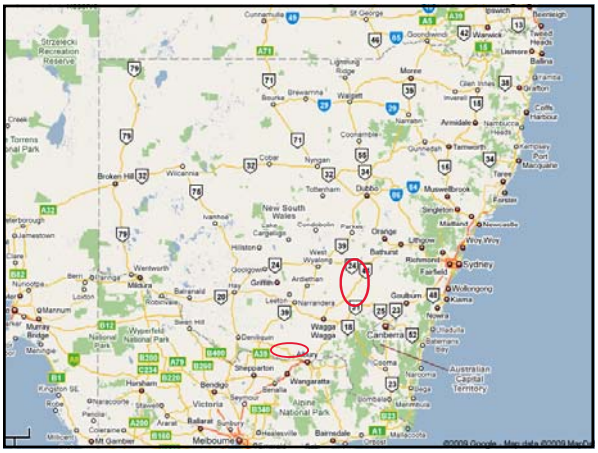


Effect of fungicide treatment - 2012



Sclerotinia in 2012

- Epidemics of sclerotinia developed in districts with a mild, late finish and extended flowering period.
- Infection levels of up to 70% were measured in some crops in southern NSW.
- Paddocks on a wheat/canola rotation appeared to be the worst affected
- Basal infection levels also appeared to be worse in paddocks with a tight canola rotation suggesting increasing levels of sclerotia.



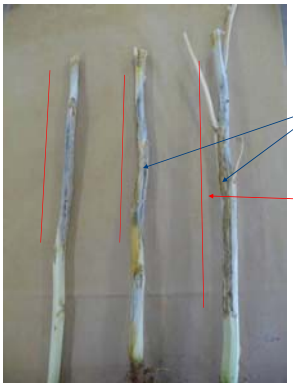
Basal infection of canola plants by Sclerotinia

- Caused by direct infection of plants by sclerotia in soil.
- Increased levels of this type of infection were observed in crops in 2012, up to 30%.

Formation of sclerotes in tap root and crown of plant

Cankers in branches

- Reports of 'blackleg like' stem lesions in canola crops in southern NSW
  - Noticed following windrowing
  - Across all varieties
  - Across a number of districts (Temora, Junee, Wagga Wagga and Lockhart)
- Similar to reports of cankers in branches from 2010 crops
  - South Australia & Victoria



Damage to stems

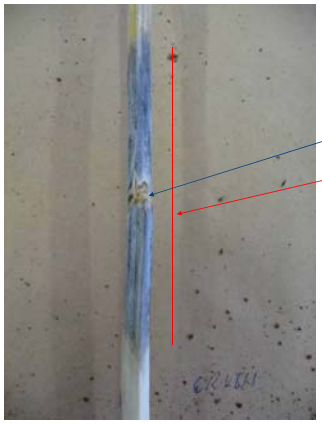
Hail..?

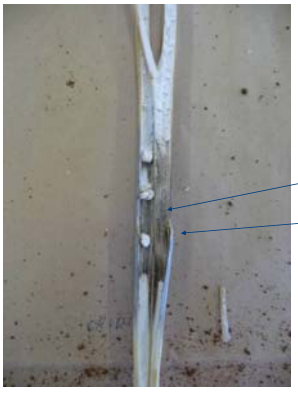
Frost..??

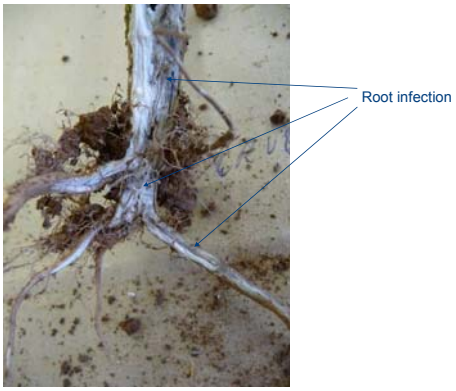
Blackleg lesions


Stem injury


Splitting of stem, rupturing of Epidermis
Splitting caused by rapid growth in spring, or frost…??
Pycnidia present


Leaf attachment node
Blackleg lesion


Inside ‘infected’ stem
Darkening of inside of stem And pith
Leaf attachment node



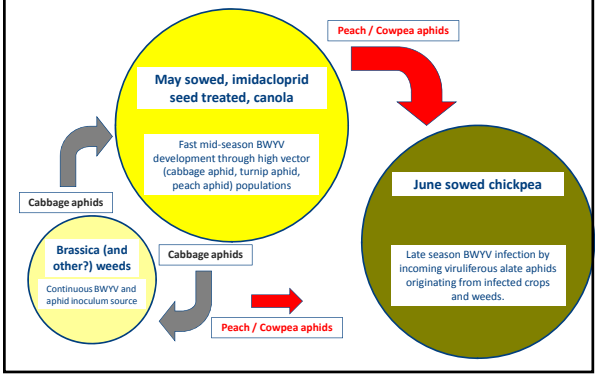
Canola virus pilot project 2013

Background

- Canola industry in the northern grain region has changed considerably over the last decade.
  - Little recent local information on the virus (or disease) situation in canola.
- Large number of varieties released with unknown virus susceptibilities.
- *Beet western yellows virus* (BWYV) reported to induce substantial losses after early infection.
- Imidacloprid seed treatment will offer protection (not complete) against early virus infection, but not for late infection.
- *Turnip mosaic virus* (TuMV), a non-persistently transmitted and highly destructive virus found in canola. Imidacloprid treatment does not protect against non-persistently transmitted viruses.
- **Possible interaction between viruses in canola and other crops, particularly chickpea.**

Chickpea BWYV screening at the Liverpool Plains Field Station, 2012

BWYV / Canola – Brassica weeds / Chickpea pathosystem (hypothetical model)



Canola virus pilot project 2013

Planned Activities

- Screening of canola varieties for BWYV resistance in the Liverpool Plains Field Station.
  - Current varieties.
  - Lines in NVT trials.
  - Lines identified in WA with contrasting levels of BWYV resistance.
- Screening of canola varieties for TuMV resistance in the Liverpool Plains Field Station and in the Tamworth greenhouse.
- Monitoring virus development in canola through the season in selected sites.
- Survey of canola and neighbouring pulse crops for viruses.