Staying Ahead of Blackleg -SABL

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- **2013 version released today**
- Has everything you need to know about blackleg.
- Updated every year with the latest blackleg ratings, cultural practices and resistance groups.
- Available on GRDC and NVT websites.

Resistance groups

- In 2011/2012 all cultivars assessed for seedling and adult plant resistance and placed into a resistance group.

Virulent
(susceptible reaction)

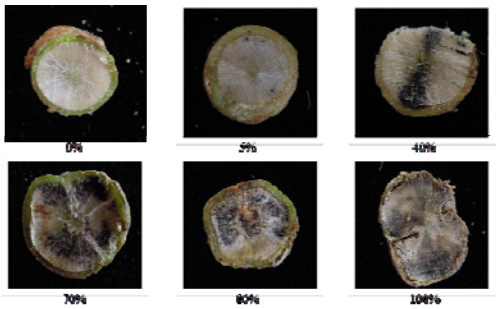
Avirulent
(resistant reaction)

Resistance groups

- Resistance groups released in August 2012.
- Aim for growers to measure the level of disease in their crops so that they know if disease levels are increasing.
- If disease levels have increased and they have sown the same resistance group then switch to a different resistance group.

Blackleg monitoring

1. Monitoring your crop should not take any more than 30 minutes.
2. Observe your crop at or just prior to windrowing.
3. Walk approximately 200m in a W-shaped transect, randomly select (pull out of ground) 15 plants along each leg of the W.
4. Look for cankered and dead plants.
5. With a pair of secateurs cut the roots off at the crown (point where the roots join to the stem).
6. Score each plant for stem canker internal infection,
7. Work out the average infection score and keep this score as a comparison for future years.



How are resistance groups being used?

- Many anecdotal comments from advisors / growers that they have seen more disease in situations where a cultivar is sown in close proximity to the same stubble.
- Many growers aware of the resistance group of their cultivar and plan to use the knowledge.
- At field day on Eyre Peninsula all 100+ growers said they would use resistance group knowledge when planning 2013 crops.

How are resistance groups being used?

- Growers making sure they do not sow a cultivar close to stubble of the same group.
- Growers trying to prolong the life of cultivars by protecting them from their own stubble eg- CrusherTT and AV-Garnet.
- Growers are considering groups when purchasing fresh seed.

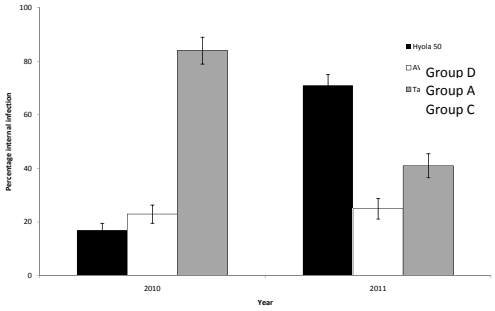
Resistance group monitoring

- In 2011 and 2012 a cultivar from each resistance group sown in 36 sites across Australia to facilitate monitoring changing blackleg populations.

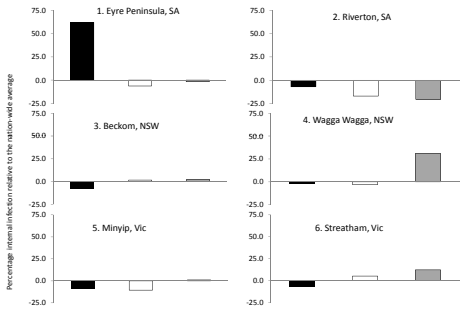
Blackleg resistance group monitoring sites Western Australia

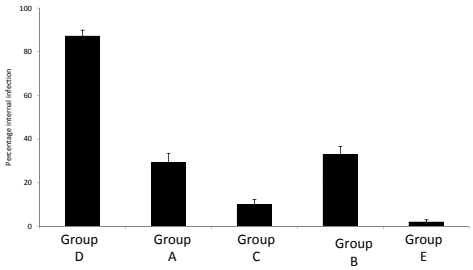
Blackleg resistance group monitoring sites
Eastern Australia

Eyre Peninsula changes in disease severity 2010 - 2011



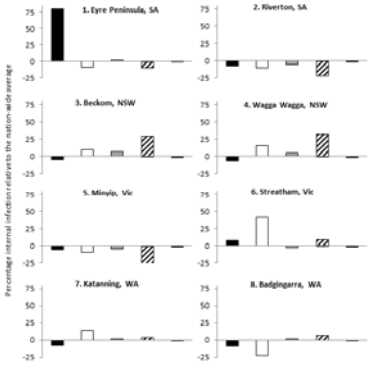
Disease severity of *Brassica napus* Group D, Group A, Group C at different sites in 2011.





Disease severity (internal infection) of five *Brassica napus* cultivars sown at the Eyre Peninsula site in 2012.

2012 Eyre Peninsula on Group D stubble



Disease severity of *Brassica napus* cultivars at different sites in 2012.

Disease severity (internal infection) of each cultivar is relative to the nation-wide average.

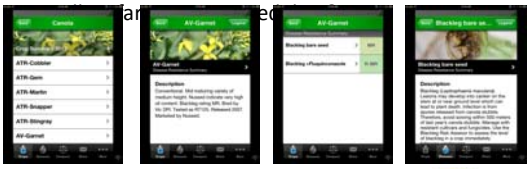
- **Arthurton 2012 NVT trial site blackleg monitoring results:**
- The Group D blackleg monitoring cultivar at the Arthurton National Variety Trial (NVT) site had moderately high levels of blackleg infection compared to the national average. The monitoring cultivars in all other groups (A B C E G) had low levels of blackleg infection.
- These data reflect the virulence profile of the blackleg fungal population at the Arthurton NVT yield site only and may be different to the blackleg population on your farm. The level of blackleg in your crop is influenced by the cultivars that you and your neighbours have sown over the past 3 years.
- If you have grown Group D cultivars for three or more years, consider switching to a cultivar belonging to a different resistance group to reduce your risk of disease. To confirm whether your farm is at risk of high levels of blackleg disease you must monitor your crop as described in the Blackleg Management Guide.
- If you plan to continue sowing Group D cultivars in 2013 it is crucial to monitor the level of blackleg infection to determine if you need to switch to a different group in 2014.
- The level of blackleg control in Group D cultivars can still be increased by avoiding Group D stubble and using fungicides.
- Consult the Blackleg Management Guide 2012 for further information on monitoring your own crops, cultural practices, cultivar resistance ratings and resistance groups www.grdc.com.au).

Resistance groups 2013

- Resistance groups in the Blackleg Management Guide.
- All new NVT lines will be screened and allocated a resistance group.
- Will produce a factsheet on monitoring blackleg severity on your farm.
- Monitoring site data on NVT website.

Electronic media

- Produce phone apps for the blackleg management guide
  - Blackleg ratings are already available as part of the DPI crop Disease App



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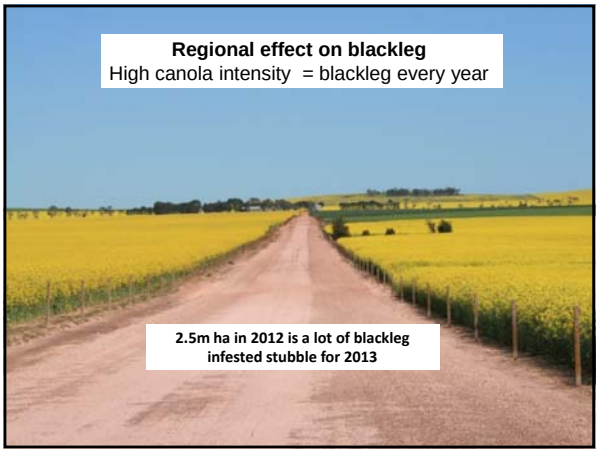

Questions from breeders

1. What additional stubble types should be investigated to separate the group of varieties currently aggregated into C
2. What additional research is either underway or planned to identify the seedling resistance genes in Groups D, E and F
3. How do we explain anomalies where the grouping does not fit with the known genetics of certain varieties
4. Why should we limit the publication of resistance groups to only varieties rated MR or above
5. What happens to the classification of a variety if specific Rlm genes are backcrossed into it. E.g. Rlm4 is backcrossed into a group C variety, or Rlm1 is backcrossed into a group B variety