

Agromony Update

September 2010

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Introduction

Whilst spring has officially started the seasonal conditions remain wet and cool. In fact ground conditions have become quite swampy and wet in some areas. Windy weather has also been hampering paddock activities, delaying late weed control and stripe rust programs. Over the next few weeks as the days continue to become significantly longer and soil temperatures rise the magic bloom of spring will really kick in and we will all appreciate the production potential that a good season can deliver.

There are several management issues that will come to the fore over the next few weeks such as spray topping and fallowing, as well as, continued management of stripe rust. More immediately we thought it would be timely to present an update on sclerotinia control in canola as well.

Late nitrogen applications are also being considered by many croppers as potential yields move to the next level.

Stripe Rust in Cereals

The current season's epidemic is rapidly building and spreading across the district from western

regions to the east. In the warmer environments it is causing significant damage to unprotected MS-S rated varieties and is a loud warning bell for growers in our district to remain proactive and implement preventative strategies in a timely manner, given the critical protection period is from now and over the next 4-6 weeks.

Sclerotinia

This highly sporadic fungal disease which mainly affects broadleaf crops, (in particular canola and lupins) has been off the radar for most of the last decade as it has been too dry for it to proliferate. The return to more normal seasonal conditions has many growers asking about the potential risk to this season's canola crop, particularly in the eastern portion of the district.

This is a very timely issue as the bulk of the crop is now moving through the early-mid stages of flowering, which is when it is most susceptible to infection and is also the time to apply preventative fungicides.

Sclerotinia was a significant issue in the mid to late 90's when most producers were running a continuous canola wheat rotation and seasonal conditions were more suited to sclerotinia. Following this period we were involved with a significant amount of research that was carried out locally in 2000 and 2001 investigating the benefits of using fungicides to manage this disease. The levels of yield increase measured ranged from zero to 25% with a mean response of around 10%, picking up between 0.15 to 0.3 t/ha of extra yield. In today's money this equates to \$70-\$140/ha gross return.

Whilst the cost of using these fungicides is around \$35/ha (+ application), with the current price of

canola, the current yield potential and the current seasonal conditions, this does increase the potential for a positive benefit and warrants a closer investigation of the potential risk of sclerotinia infection.

The life cycle of Sclerotinia stem rot

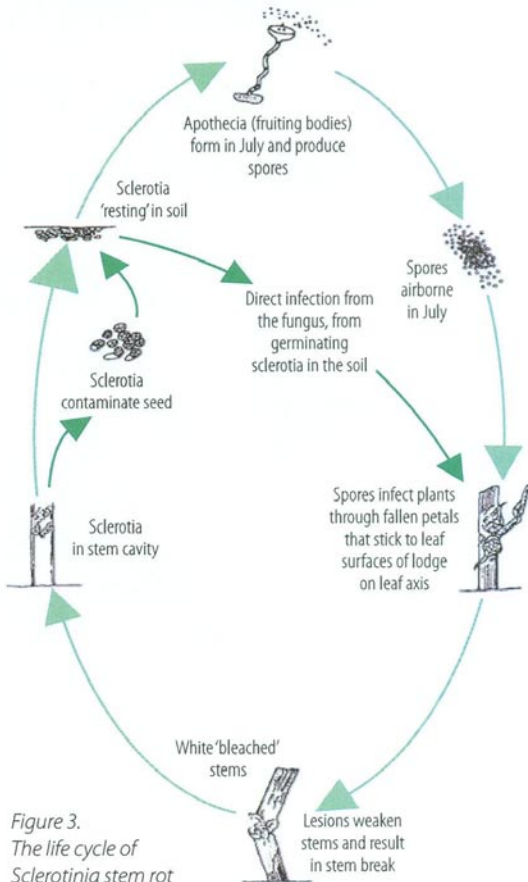


Figure 3. The life cycle of Sclerotinia stem rot

There are three environmental conditions that need to occur simultaneously for a sclerotinia infection to occur.

1. At least 10 days of wet soil conditions with temperatures in the 11 – 15°C range, as flowering commences to germinate the sclerotinia and trigger spore release.
2. Extended wet periods during flowering to allow petal infection.
3. Extended wet periods during petal drop to allow lodged petals to introduce the infection into the stems. Stem lesion development is then favoured by humid wet conditions and temperatures in the 20-25°C range.

The main factors that are known to influence the risk of a canola crop to become infected include;

- Growing the crop in a high rainfall environment.
- The aspect of the paddock, cooler and later southern aspects are more prone.
- The intensity of canola in the rotation.
- A history of a sclerotinia outbreak in the paddock or adjacent paddocks within the past three years.

Within our local region, experience is that the earlier sown and bulkier canola paddocks tend to have taken more of this disease when it occurs. Overall, the TT varieties have typically incurred less sclerotinia for their large area sown; however, there have still been a reasonable number of heavily infected TT paddocks in years when the disease is present.

The fruiting body or “apothecia” which produces the spores can be found in those paddocks where sclerotinia has occurred before. They are a very small mushroom structure, similar in size and shape to a golf tee. If a high number of these are detected than the risk of petal infection would be higher.

Examples of “Apothecia”



As with stripe rust in cereals a preventative fungicide application can be used to manage this disease. In high risk paddocks with a high yield potential the fungicide needs to be applied before infection occurs, so the target window is between the 20-50% flowering stage.

For those considering this decision, the time is right upon us, as most crops to the east are between 20-60% flowering now.

The choice as to what paddocks to treat is difficult and is very subjective. If you are considering treating for this disease the most common approach is to choose the bulkiest paddocks and/or treat a % of your sown area, and normally pick out the paddocks with the best yield potentials. Given the area of hybrid canola has increased dramatically over the last two years, these paddocks will often be the first ones chosen.

There are two fungicide products registered for this disease, Rovral® and Sumisclex®. On a practical note application needs to occur by air, unless you have tramlines and access to a high clearance sprayer. As time is of the essence, access to a plane would need to occur ASAP, and given the wet weather we all know that there has been a considerable waiting period for other application jobs.

This season it will be important to scout paddocks well at windrowing to assess crops for the presence or absence of Sclerotinia infections for future reference.

If you have any queries regarding this then please contact your Delta Advisor.

Reference: *Managing sclerotinia stem rot in canola*, NSW I&I GRDC & Canola Association of Australia. *Canola Disease Scouting & Risk Assessment Card*, Canola Council of Canada.

Late Nitrogen Applications

As wheat yield potentials move to the next level, which is 5.0 t/ha and greater, many growers are considering the crops requirement for further N. Considering the lower levels of N detected in mid-season deep N tests and the responsiveness of crops to applied urea throughout August, this is a likely scenario.

Late N applications, post head emergence and flowering typically put more N into increasing protein levels then increasing yield. This season late applications would be best applied slightly earlier at around flag leaf emergence with the aim of enhancing yields

as much as possible, as well as, with a side benefit of contributing to protein levels once yield potential is met.

The other target for later N applications is the undersown cereal paddocks, which have typically been sown later so are less developed and generally have very little N reserves under them. As seasonal conditions are now favourable enough to ensure pasture survival, these crops can be pushed along with an application of N.

As with stripe rust fungicide applications to crops at these late stages, application technique needs to be carefully considered. Wheel tracks from ground rigs can lead to green heads which delay harvest, which in a La Nina year could be a significant factor influencing grain quality at harvest.

Spray Topping Pastures

As spring develops, the annual grasses in pasture paddocks will begin running to head. Obviously the mature seed of barley grass, brome and silver grass become a problem for livestock as the seeds harden up and get into their eyes and wool.

This is also the first opportunity to reduce the "seed set" or production of viable seeds of these grass's, and annual ryegrass for next year. This practice is often part of a planned integrated weed management strategy for managing herbicide resistance in annual ryegrass and this spring will be the first time in a while that there is sufficient feed available elsewhere to take the dry matter production losses associated with this practice.

Whatever the driver of your decision, now is the time to be setting paddocks up with grazing strategies to produce even head emergence. The timing of these applications revolves around the head emergence and flowering stage of development. There are two products to choose from when spraytopping, Paraquat (Gramoxone®) and glyphosate (Roundup®)

Glyphosate is best applied when the seed heads emerge until the end of flowering. Paraquat is best applied once the seed heads have

developed past the flowering stage.

The big benefit of glyphosate is that it will pick up a wider range of emerging and flowering heads, however, the big downside is the negative impact it has on annual legume seed set. As well, it is not preferred for use on perennial grass paddocks as it can significantly reduce dry matter and take out a percentage of the plants.

This season it may be more appropriate to use two applications of Paraquat applied three weeks apart. This strategy can be used to more effectively target several species of grass as well. When applying paraquat wherever possible, apply late in the day and/or on an overcast day (as can improve results), obviously being careful to avoid any risk of a spray inversion event occurring.

In general it would be best this season when spray topping to only target older paddocks where the seed reserves of annual legumes should be higher.

Where feed quantity is at a premium there is a third option to manage barley grass using the selective group A herbicides Correct® or Verdict®.

This season with the more favourable moisture conditions several growers have already used these products with great effect. The product Correct® has a shorter withholding period and also is very weak on ryegrass, often seen as a benefit in the pasture situation if just removing barley grass. It needs to be pointed out that these are group A herbicides and the ramifications for herbicide resistance must be considered.

Spray Fallowing

The aim of this practice is to fully eliminate the seed set of all species by completely removing the pasture in the paddock to prepare it for cropping in 2011. The timing of this operation is usually aimed at the flowering stage of annual ryegrass and glyphosate is the product used.

This season, as we move back into a more widespread and traditional use of spray fallowing, there are two things to consider:

1. The dominance and early head emergence of barley grass and shepherds purse.

2. Annual ryegrass resistance to glyphosate

In the first instance it will be appropriate to apply two applications – an early low dose application to stop the initial emergence of barley grass and shepherds purse and a later full rate application for full control of all species.

With regards to resistance, following the major application of glyphosate in high risk paddocks, check the level of control achieved, in particular with regard to escapes of ryegrass. If this occurs then seek further advice regarding what further action to take.

Claiming the Dates

We would like to advise of two upcoming events that we would like to invite you to be a part of.

Paddock Walks: (Venue to be advised)

Tuesday the 28th of September

Harden – starting at 8.30 am
Young – starting at 2.00 pm

Spring Bus Tour:

Monday the 11th of October

We have organised a field trip targeted at controlled traffic cropping in southern NSW. We will be visiting three farms that have adopted a range of new cropping techniques as well as looking at some very topical trial work.

More details and directions for both of these events will be distributed later this week.



Heavily infected paddock of a MS variety west of Temora last week

Disclaimer: This newsletter is for the benefit of clients. It is not intended to be a complete analysis of all issues raised in the newsletter. As individual circumstances can vary, further professional advice should always be sought before any course of action is undertaken.