

Upper North Farming Systems Newsletter

July 2014

Beet Western Yellows Virus

Ruth Sommerville

Beet western yellows virus (BWYV) is an aphid-borne virus that causes yield and quality losses in canola. It belongs to the same family of virus as Barley Yellow Dwarf Virus and other economically significant virus'. It also infects other crop and pasture species including mustard, chickpea, faba bean, field pea, lucerne, medic and subterranean clover. Infection with beet western yellows virus is very common and the most serious economically of the virus' affecting canola. Yields can be drastically reduced when infection occurs early and incidences of infection are high. Beet western yellows is predominantly transmitted by Green Peach aphid.

This season there have been confirmed reports of high levels of BWYV infected canola throughout the Lower and Mid North, Murray Mallee and Lower Mallee. A meeting last week of agronomists and advisors developed an estimate of 3000ha of canola being severely infected with many more paddocks showing symptoms. BWYV is mainly found in high and medium rainfall wheatbelt zones but also occurs in low rainfall zones, as such it is likely that this virus is also in the Upper North Region.

With early infection yield losses can be high with records of 50%. For every one per cent increase in the level of BWYV in a canola crop there is a 6-12 kg/ha decline in yield resulting from formation of fewer seeds. In addition to yield losses, BWYV infection diminishes seed quality by decreasing oil content and increasing erucic acid levels. If the crop is infected late, yield and quality losses are minimal.

What does the virus do?

• The virus clogs the phloem of the plant preventing translocation from occurring properly.

What do I look for across the Paddock?

• Discoloured sometimes stunted plants that occur in patches, in thinner crop areas or the edge of the paddock, and gradually spread.

Continued on Page 2...

In This Issue

- Beet Western Yellows Virus
- UNFS Eastern Low Rainfall Zone Bus Tour - Seats still available!
- UNFS AGM and Annual Field Day
- Join the fight to Stop the Spot
- Perennial Pasture Management Systems Farm Gate Meeting
- Managing Climate Variability Climate Champions Report
- Seed to Store Competition
- Spirit of Excellence Awards



High numbers of Green Peach Aphid. Photo taken in a paddock where testing is showing a 90% infection rate of BWYV. Photo; Damien Sommerville

Beet Western Yellow Virus

cont...

What do I look for in Individual Plants

- First signs are red, yellow or purple colours at the ends or edges of older leaves, then yellowing in the middle of the leaf.
- Infected plants are often stunted and pale, and produce few flowers or seeds.
- New growth has a distinct crinkle to the leaf edge.
- Discoloured leaves become thickened and may cup inwards.
- Older leaves turn yellow and sit flat on the ground then develop a purple tinge.



- Colours are more intense between leaf veins and on the upper side of the leaf. Petioles and leaf veins are green or pale.
- Late infected plants show leaf symptoms but are not stunted and have lower yield loss.

How did it get into my paddock?

- It is not seed-borne, but survives in host weeds or volunteer canola outside the growing season and is spread from these infected plants into crops by aphids which act as vectors for virus transmission.
- Host weeds include wild melon, fleabane, stinkweed, and blackberry nightshade. It also persists yearround in infected lucerne pastures and some native legume species. A main source of BWYV for canola crops is infected wild radish weeds growing along fence lines and road verges.
- BWYV is transmitted by aphids and it does so persistently as it is present in the gut of the aphid, not just the mouthpart. When an aphid feeds on an infected plant it acquires the virus permanently. When the infective aphid then probes the phloem of a healthy plant it infects the plant and continues transmitting BWYV for the rest of its life.
- Autumn is the most critical infection period, so the earliest-sown crops are usually infected most. Management Strategies

• Control broadleaf weeds (especially over summer) as they act as reservoirs for the viruses.

- Retain stubble at sowing to cover the ground, this reduces the ability of aphids to land on young canola plants thereby reducing virus spread.
- Manipulate sowing dates. Delay sowing to avoid exposure of young canola seedlings to peak aphid flights.
- Sow at high seeding rates. High plant density helps diminish the rate of virus spread and speeds up canopy closure resulting in lower aphid landing rates.
- Sow varieties with infection resistance. While there are currently no canola varieties with resistance to BWYV, varieties do differ in their susceptibility to infection.
- For canola, consider using Gaucho® (imidacloprid) treated seed.
- Monitor and if necessary control aphid populations. Common insecticides are ineffective against green peach aphids because of widespread insecticide resistance, however a new product is available with no recorded GPA resistance.
- Test for viruses. If virus-like symptoms are observed, arrange for laboratory testing to be done. At least 5 symptomatic and 5 relatively symptomless plants should be tested. This can establish which virus species occur in the area, show whether viruses account for symptoms, and add confidence to visual diagnosis. References:
- 1. https://www.agric.wa.gov.au/mycrop/diagnosing-beet-western-yellow-virus-canola
- 2. GRDC Canola Diseases Back Pocket Guide
- 3. Virus diseases in canola and mustard. Agnote DPI 495

UNFS EASTERN LOW **RAINFALL ZONE BUS TOUR**

WHEN

SEATS STILL 21st -25th July 2014

WHFRF

Mildura - Balranald - Condobolin

Departing Booleroo Centre with site and farm visits at Mildura, Murravville, Walpeup, Ouven, Balranald, Merriweather, Hillston, Lake Cargelligo, Condobolin, Rankin **Springs and Renmark**

FEATURING • Paddock Scale Canola "Best of" Trial -Conventional vs TT vs Hybrid • Enrich Mixed Fodder Shrub Planting • Social Events with members of Mallee Sustainable Farming and Central West Farming Systems Groups • Replicated Seeder Comparison Trial in Wheat and Canola • Long Term Tillage and Crop Rotation Trial • Stubble Management Comparison Trials • Numerous Farm Visits and **Open Discussions with early adopters • Lamb Finishing • Crop** Sequencing Trial • Improving Flock Performance

SUPPORTED BY GRDC

COST

\$150 Members \$200 Non Members

This includes all travel. accommodation. planned activities and meals



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Opper North Farming Systems

Farm Gate Meetings 27th June 2014 Perennial Pasture Management Systems

Jodie Reseigh

A cold and windy day welcomed the first of the Upper North Farming Systems Farm Gate meetings to visit Andrew, Pasty and Tom Weckert's property north-east of Orroroo. Producers inspected the

remediation work that had been undertaken on the property's clay pans. The spreading of medic straw is showing positive results with large increases in ground cover, and a visit to the rotational grazing paddocks enabled producers to see the amazing grass growth and increased cover since implementation of rotational grazing.

The second Farm Gate Meeting to Mark Ludgate's property south east of Peterborough saw the results of establishing Lucerne in old cropping ground where it was competing well, and also paddocks where chemical control of Onion weed has had great success.



Farm Gate Meeting: Producers inspect the water yards in Mark Ludgate's paddock where spraying has controlled Onion weed in his old cropping country. Photo - Jodie Reseigh



Farm Gate Meeting: Richard McCallum inspects remediation work on the Weckert's clay pans. Photo - Jodie Reseigh



RIGHT: Farm Gate Meeting: Producers inspect the Lucerne pasture Mark Ludgate established, which is competing well with Onion weed. Photo - Jodie Reseigh



Upcoming Events Calendar

July

16th July - 7PM UNFS AGM
21st - 25th - UNFS Eastern Low Rainfall Zone Bus Tour - Seats Still Available
22nd - Hart Winter Walk - www.hartfieldsite.org.au
August
7th - UNFS 2014 Annual Field Day - Booleroo Centre
12-14th - Eyre Peninsula Field Days
26-29th - ACTFA Annual Conference - Mildura - http://actfa.net
September
2-3rd - SPAA Annual Conference
11th - UNFS Spring Crop Walk - Booleroo Centre
16th - Hart Field Day - www.hartfieldsite.org.au
19-20th - Riverland Field Days

UNFS AGM - 16th July 2014 - Booleroo Centre CFS Shed 7PM

A short AGM will be held on Wednesday for the Upper North Farming Systems Group. All members are invited to attend and consider nominating for the committee.

AGENDA

- 1. Present (10 required for a quorum).
- 2. Apologies (Allocation of proxy votes allowed. Those wishing to nominate for a committee member position or an office bearer position, but unable to attend are required to submit this intention in writing with a signature of a nominating member and the nominee).
- 3. Welcome Joe Koch
- 4. 2013 AGM Minutes
- 5. Reports:
- 6. Chairman's Report Joe Koch
- 7. Financial Report 2013-2014 Financial Year Samantha Quinn
- 8. Annual Trial Report 2013 Season Ruth Sommerville
- 9. Declaration of all positions vacant and appointment of Returning Officer
- 10. Call for nominations for the 2014 Coordinating Committee of UNFS (minimum of 7 required however the committee aims to have additional regional representatives)
 - 1. Election of Officer Bearers
 - 2. Chairperson
 - 3. Vice Chairperson
 - 4. Financial Officer
 - 5. Public Officer
 - 6. Appointment of an Auditor
 - 7. 2014/2015 Membership Structure and Pricing
 - 8. 2014/2015 Sponsorship Structure
 - 9. Meeting Close 7.30PM

Ag Bureau - Spirit of Excellence Awards for young rural South Australians

If you are from rural SA, are young and want to excel in your chosen career – be it farming or other, then you may be eligible to receive a grant from the Agricultural Bureau of SA through the Spirit of Excellence Awards. There are two awards up for grabs providing the opportunity for young farmers and young people in rural communities to improve their personal and professional development skills and to look at further study in their chosen career. Peter Olsen Fellowship \$8000 and Rural Youth Bursary \$5000. Successful recipients are chosen on their abilities, achievements, vision and motivation for success. Applications are open now until 31 August 2014 and can be downloaded from www.agbureau.com.au/awards

MCV Climate Champions Report

Kym Fromm, UNFS Public Officer

As part of the Managing Climate Variability (MCV) Climate Champions Program we met in March in sunny Canberra with climate and agricultural scientists to talk about what farmers need from forecasts and research, and to hear about the current state of play and what's new. There is an updated app (CliMate) to track the season and its rainfall, we listened to a summary of experimental forecasting from the Bureau of Meteorology (BOM) about POAMA (a physics-based climate forecast model), heat stress in SA, frost risk in southern Australia, new multi-week forecasts, how the BOM and CSIRO might be able to work together to focus energies and improve forecasts, new products such as a pilot heatwave alert system and improving drought services (there is a summary in the latest free CLIMAG magazine).

One project now released by BOM is called MetEye which uses a map in a new way to look at climate data. You can:-

- quickly find your location to get a 7-day forecast
- select weather information you want to see
- overlay your selected map with additional information
- drag and zoom the map
- animate/loop things like temperature, wind, waves etc.
- include other data such as radar and cloud.

Multi-week forecasting will hopefully be increasingly useful to fill the gap between daily forecasts and longer seasonal forecasts a few months ahead. Although in its early stage of development, it is important these multi-week forecasts be as accurate as possible, and in time, continue to improve. Using this forecast in conjunction with our other favourite sources should help give us a more accurate picture of the weeks ahead for suitable spraying days for example, by looking at the prediction for rain and wind. It is critical when planning opportunities for spreading N as far out as possible, so hopefully this will be a useful management tool.

My role in the MCV Climate Champion Program is to provide a conduit of climate information between climate researchers and Upper North farmers. It is important to these researchers that they provide knowledge of value to grassroots farmers, so we need to be able to communicate to them what we need. In a climate change scenario Upper Northern farmers have the potential to be severely affected, so we need the capacity and knowledge to adapt. An overwhelming majority of climate scientists agree that average temperatures will rise (they are less certain on rainfall), but we have many farmers who are more than capable of being successful if these predictions eventuate. The UNFS can play a leading role in helping with this management change. Please contact me on 08 8658 1183 if you can think of some climate information that is not currently available that would be of use to you.



Join the fight to Stop the Spot

Australian wheat growers have been called on to join a new 'Stop the Spot' campaign and help researchers cut losses from what is arguably the country's most costly wheat disease – yellow spot.

Yellow spot, known overseas as tan spot, causes national wheat crop losses of \$212 million, plus control costs of \$463 million per annum. In hard hit areas, losses can exceed \$30 per hectare.

The Grains Research and Development Corporation (GRDC) and Curtin University have launched the national Stop the Spot campaign with the aim of significantly reducing the economic impact of yellow spot.

Caroline Moffat, who leads yellow spot research at Curtin University's Centre for Crop and Disease Management (CCDM), said increased engagement between growers and researchers would be key to achieving this.

"Collaboration will be crucial to allow researchers to recover current strains of the fungus, monitor the pathogen and stay on top of any changes, so that we are best placed to combat it," she said.

Specific aims of Stop the Spot include:

- Developing and testing an early detection system for increases in the virulence of the yellow spot pathogen
- Screening for yellow spot pathogenicity mechanisms
- Developing biosecurity advice for industry
- Providing a national snapshot of yellow spot

"An important by-product of Stop the Spot will be the development of tools and markers for wheat breeders, tailored to current yellow spot fungal strains," Dr Moffat said.

She said that by taking part in the campaign, growers would be the first to know about new research outcomes. "To get involved, go to <u>www.stopthespot.com.au</u> and request a sample kit. We will send you prepaid envelopes and a sampling form," Dr Moffat said.

"Then if you suspect your wheat crop is infected by yellow spot, simply pick a couple of infected leaves and post them to us. Combined results from samples submitted will be sent out towards the end of the cropping season."

More information about yellow spot is available at the Stop the Spot website and in the GRDC *Yellow Spot Fact Sheet* at www.grdc.com.au/GRDC-FS-YellowSpotWest. Contact:

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UNFS ANNUAL FIELD DAY

Thursday 7th August



Booleroo Centre Sporting Complex and Surrounding Trials

The 2014 UNFS Annual Field Day will once again be held at the Booleroo Centre Sporting Complex with registrations and memberships payable at 8.30AM. Presentations will begin at 9AM. We have a great variety of speakers coming this year. A full program of speakers will be sent to members and publicised in the next week.

After the morning presentations there will be a farmer panel with open discussion of issues relating to Improved Profitability from Stubble Retention. We will then tour a number of trial sites to discuss the research currently being undertaken as part of the GRDC funded Stubble Initiative being undertaken by UNFS from 2014 -2018.

Notice of intention to attend would be appreciated for catering and seating purposes but is not essential. All welcome.



Seed to Store - The Story of Australian Grain is an exciting new video clip competition which will run complimentary to the Poyal Adelaide Show's 2014 Com-

complimentary to the Royal Adelaide Show's 2014 Competitions.

Simply produce a one minute video showcasing the journey of grains, legumes, oilseeds and pulses from being seed in the ground to food for people and livestock.

Concepts you might like to consider include best practice science, innovation, farming and food production in South Australia - essentially the journey of grain from the paddock to our plate. <u>http://eepurl.com/Vu3Fn</u>



Create an entertaining one minute YouTube clip profiling the South Australian grains industry to **WIN \$1000 CASH** and feature on the Coke Stage at the 2014 Royal Adelaide Show.

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