Windrowing or direct heading canola—which is best?

Coomandook Ag Bureau focus on soils

Farmers take on Mallee Challenge

Highlights from the MSF field day

Brome grass GDD available on-line

PIRSA animal health update

How to sample brome grass seeds

Collect dry Brome grass seed heads in an A4 sized paper envelope.

If resistance is widespread, then collect seed heads following a ‘W’ shape area every 10-20m across the suspected paddock or problem area.

Alternatively, you may collect seeds from weed patches in the paddock where the weeds seem to have survived the herbicide (sample suspect areas).

Do not bias samples by collecting seeds from a small number of plants but aim to collect a similar number of seeds from each plant.

If collecting seeds after harvest, look between the crop rows or alternatively from header screenings.

How many times have you used a group A or B herbicide in a paddock?

If it’s more than 4-5 times then it’s possible there may be herbicide resistant weeds present.

Group A’s & B’s are high risk chemicals for resistance and also the cheapest and most useful when they work, and that’s the problem and the reason why they are used too frequently.

Whilst ryegrass herbicide resistance is common, it has been less so in other grass weed species….BUT with the introduction of Clearfield crop varieties group B use, Intervix® and OnDuty®, has risen dramatically. Many of these herbicides are being used in successive years and this causes concern with how long they may remain effective in the system as a brome grass management tool.

Some farmers may think they have only used Intervix® once or twice but when looking at a herbicide history you need to think about all the group B’s that have been used including sulfonylurea herbicides such as Logran®.

The SAGIT funded Brome grass project is currently investigating the incidence of group B resistance in brome grass and is looking for farmer paddocks in the northern and southern Mallee. We need to collect brome grass seed heads prior to harvest to be sent away for resistance testing to group A, B and possibly D (trifluralin) herbicide.

The cost of the testing, $300 per paddock, will be subsidized by the project and could give you vital information when making expensive herbicide decisions next year.

(Continued on page 2)
Windrowing or Direct heading Canola

Which is best?

As canola becomes an increasingly popular break crop option more and more farmers seem to have a paddock or two or more in their system. At the same time growing canola on a smaller scale will mean most won’t have all the gear required to windrow and pick up canola and will have to look at contractors for harvesting or hiring machinery. Is there an easier way and is direct heading canola a viable option?

There are advantages and disadvantages to both methods and this decision is best made on a year-by-year basis. Newer canola varieties are becoming better suited to direct heading with better tolerances to pod shattering and more even maturity, but seasonal and yield factors will still play an important role in timing of harvest operations.

Timing (too early & too late) can have a big impact on yield and quality so it’s important to get it right. At this time of year we need the crystal ball again. What will conditions be like at harvest and how quickly do I need to get it off the paddock?

The advantages and disadvantages of each operation have been summarized below (some info adapted from the Canola –best practice management guide for south-eastern Australia, GRDC).

Windrowing

- Gives even seed maturity and allows for earlier harvest. This is useful in paddocks with uneven soil type which leads to variation in crop maturity
- Can help manage harvest over a large area as can plan when the timing of operations will take place – ready for harvest 7-10 days after cutting but can be left up to 6 weeks if windrowed at the correct time.
- Reduces shattering losses and losses from winds/hail damage
- Can be a tool for managing herbicide resistant weeds

BUT

- It is an extra cost at harvest
- In long seasons may lose some potential yield when windrowing early
- Windrows can take longer to dry when there is a wet harvest which can affect quality
- Narrow window for timing windrowing so keep checking crops - usually 20-30 days after flowering and when 40-60% of seeds have changed colour. Green seeds should be firm but pliable.

- Direct Heading

- Can be done with or without desiccants but without can lead to grain moisture issues when harvesting especially on uneven soil types.
- Can give a cleaner sample and suits rocky country
- Timing is when all but the few pods on the plant tops rattle when shaken.
Desiccation

- Helps even maturity once again on uneven soil types.
- Reglone® is currently only product registered for desiccation and should be timed when 70-80% of seeds in the middle pods have changed colour.
- Crops should be harvested within a week of application so only desiccate an area that can be reaped quickly.

Unfortunately the registration for Roundup Attack® has not come through for this season which would have allowed growers to desiccate canola crops at 20% colour change or spray glyphosate at windrowing. The minimum rate for grass control will be between 2.4 - 3.2L/ha and this should give farmers extra flexibility at harvest time. It is anticipated this registration will be in place for the 2014 harvest season.

Ultimately a big part of the decision will come down to how valuable the crop is compared to other crops in your farming system and what preference you give it at harvest. For more info and some in depth info on windrower/ harvester set up visit: http://www.grdc.com.au/uploads/documents/GRDC_Canola_Guide_All_1308091.pdf

Coomandook Ag Bureau focus on soils

The Coomie Ag Bureau held their annual Crop Walk on 19th September in fine windy weather. They visited the Rural Solutions SA trial site (managed by Rebecca Tonkin) on Paul Simmons’ property and inspected the barley crop growing under a range of treatments designed to overcome the problem of non-wetting sand without using clay.

There are 30 treatments: Control, Moldboard Plough and Spader as soil treatments; and these are combined with different organic matter and fertiliser treatments: Aged Pig Manure, Composted Pig Manure, Composted Grape Marc, Vetch Hay, Cereal Straw, Cereal Silage, Fertiliser 1 (135 kg DAP in 3 applications), Fert 2 (270 kg DAP in 3 applications), Fert 3 (67 kg DAP in 3 applications) and the Control (nil).

Clear differences could be seen between the control treatments and the treatments with soil modification. The plots with manure, grape marc or vetch hay are showing strong growth, and plots with fertiliser are also growing better than the control. The cereal straw plots are showing signs of N deficiency.

When holes were dug with a spade to check root depth, soils with spading showed much deeper root growth (down to 40 cm) than the control (approx. 20 cm), with moldboard ploughed plots being intermediate. The soils all had good water reserves at that time. As the crop comes under water stress, it will be interesting to see how the different treatments respond.

There was also a short talk by Dr. Mark Thomas from CSIRO showing a soil water characterisation plot that has been set up next to the trial site. This plot is currently being saturated with water to determine the upper limit of water content that the soil can hold. This will be compared after harvest with the amount of water remaining in the soil that the crop has not used.

From this, water use efficiency can be calculated and potential for improvement. A moisture measuring probe can then be installed to give real-time data on soil moisture at the site for future Yield Prophet simulations.

Farmers interested in having soil characterisations done on their own soils should contact Rebecca Tonkin (Rural Solutions SA), Tanja Morgan, Lou Flohr or Felicity Turner.

The group then visited the SARDI NVT Barley site, where several promising new varieties were seen. This was followed by a visit to compare two canola crops, a field bean crop and to look at a spray rig at the hay sheds. The day finished with a BBQ which was welcomed by all – as was the rain which accompanied it!
“Farmers take on Mallee Challenge”.
Tackling the practical issues of sustainable farming

What break crop options are best to build up nitrogen, control disease and grass weeds and boost cereal yields?

Are moisture probes a practical tool for dryland farmers to better manage risk?

Is it worth spraying out paddock feed to increase Notill cropping success?

How can you target the best rates and timing into different soil zones to make the most of your fertiliser dollar?

Is it worth turning shallow stony areas into permanent grazing within cropping paddocks?

These are some of the questions being tackled by Mallee Challenge farmers, with the support of Chris McDonough of Rural Solutions SA in providing soil and plant testing, monitoring and assessment, to gain a better understanding of practical management option in implementing sustainable Mallee farming systems.

Mallee Challenge 2013/14 is being delivered through Mallee Sustainable Farming with funding through Caring For Our Country and the State NRM Community Grants, and support from Natural Resources SA Murray Darling Basin.

This project gives farmers the opportunity to conduct paddock demonstrations relevant to them, their local farmer groups and the wider region.

This year there have been 10 sites located throughout the Mallee region, each one exploring different management options and challenges. Some of the work will be taking MSF research into the practical paddock situations, while some of the work will be innovative and new.

The detail of the trial work is listed in the table on the right.

It is intended that some of the current Mallee Challenge projects will continue to be monitored beyond December 2014, should further funding be available. This will enable us to evaluate the longer term trend of these farming system issues.

The progress and final results of the Mallee Challenge 2013/14 project will be made available through the MSF networks, so watch this space.
<table>
<thead>
<tr>
<th>NAME</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td>Assessing the practicality of NoTill seeding into mixed farming systems in the southern Mallee.</td>
<td></td>
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<tr>
<td>Don and Andrew Beelitz</td>
<td>Parrakie</td>
<td>Comparisons will be made using NoTill systems against the current practice, assessing feed availability, grass control, soil health and protection, crop yield and gross margins within the overall mixed farming enterprise.</td>
</tr>
<tr>
<td>David Smith</td>
<td>Geranium</td>
<td>NoTill systems into pasture will be assessed against the use of cultivation, timing of chemical fallow, to improve soil protection and maximise returns.</td>
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Variable Rate Technology, based on understanding soil zones, moisture and nutrition

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<tr>
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<tr>
<td>Bernie Lehmann</td>
<td>Paruna</td>
<td>Identifying best management nutrition application, (nitrogen and trace elements), taking into account soil types, rates, timing, practicality, economics and risk. It also explores the paddock scale use of Variable Rate application based on soil zones using EM38 and soil conditions at the start of the season, and may test new organic matter mapping technology.</td>
</tr>
<tr>
<td>Peter and Hannah Loller</td>
<td>Lowalde</td>
<td>Evaluating the practical application of Variable Rate cropping from the MSF research site findings, on the entire surrounding paddock using farmer equipment. It will also assess the use of soil moisture probe data to make better “in crop” fertiliser decisions.</td>
</tr>
<tr>
<td>Allen Buckley</td>
<td>Waikerie</td>
<td>Evaluating optimal paddock management strategies in variable land types with mixed farming in the northern Mallee, through turning shallow stone areas into dual grazing zones, while applying VRT on the rest of the cropping paddock, with the use of EM38 mapping, farmer experience and onsite NRM weather station and soil moisture probe data.</td>
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Assessing the value of various break crop options in intensive farming systems in the northern Mallee

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<tr>
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<tbody>
<tr>
<td>Rodney Tonkin</td>
<td>Caliph</td>
<td>Assessing the value of peas, vetch and vetch brown manured against cereal, in terms of N contribution, grass and disease control, moisture carry-over, profitability and practicality.</td>
</tr>
<tr>
<td>Dean Wormald</td>
<td>Caliph</td>
<td>Evaluating the use of TT canola, vetch for seed and vetch brown manured in terms of grass control, nitrogen build-up, soil moisture, future crop performance and profitability, as well as sulphur and trace elements.</td>
</tr>
<tr>
<td>Stuart and Grant Worsfold</td>
<td>Wunkar</td>
<td>Evaluating the use of chickpeas and lupins as a break crop in terms of grass weed control, nitrogen, soil moisture, future crop performance, profitability and practicality, as well as the value of trace element application.</td>
</tr>
<tr>
<td>Stephen and Rhys Heinrich</td>
<td>Wunkar</td>
<td>Evaluating peas, vetch hay and Clearfield cereals in crop sequences that best manage weeds, increase nitrogen, and improve crop performance and profitability. The practical use of soil moisture probes will also be evaluated in different soils and crops to improve management decisions.</td>
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Assessing the value of various break crop options in intensive farming systems in the southern Mallee

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<tr>
<th>NAME</th>
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<tbody>
<tr>
<td>Wayne Niejalke</td>
<td>Pinnaroo</td>
<td>Assessing the value of vetch, chickpeas, lupins and canola as break crops against cereal in the southern Mallee, in terms of nitrogen contribution, disease and grass weed control, as well as moisture carry-over.</td>
</tr>
</tbody>
</table>

For more information please contact Chris McDonough, Senior Farming Systems Consultant, Rural Solutions SA, 0408 085 393, or Rachel May, Regional Landcare Facilitator, SA MDB NRM, 0408 416 684.
Highlights from the MSF field day at Karoonda

Tuesday the 3rd of September brought sunny conditions for the Karoonda field where 130 people attended to catch up on the trials and some networking over a BBQ lunch. See below for highlights from the day. There is one more MSF field day on the calendar for the year. If you feel like heading to the Vic Mallee for a look, then try the Ouyen trial site & research forum which will be held Tuesday 8th of October. Topics will include NVT trials, WUE trials, stubble retention and pulse trials and more. Contact Steph at MSF for more info ph 03 5021 9100.

At the back of the main tent—one of 3 groups listening to Dr Rick Llewelyn discuss fertiliser rates and strategy for cereals on flats.

New medics for the Mallee - SARDI medic team
Six new strand medics have been shortlisted and have shown to have 35% improved dry matter production and seed yield over Herald, Angel & Jaguar. They have powdery mildew resistance, SU tolerance, aphid resistance and larger seeds. A SAGIT project will help identify the best line for commercialisation by 16/17.

Large medic inoculation responses have been observed with increased nodulation and plant vigour therefore inoculation of medics should be viewed as standard practice for Mallee soils.

Work at other sites has confirmed medics are appropriately classified as moderately resistant (MR) to Pratylenchus neglectus i.e. medics don’t multiply nematode levels.

Dr Graham Brodie, Uni of Melbourne, introduces microwave technology as a way of killing (herbicide resistant) weeds. Experiments using a trailer mounted microwave weed treatment system demonstrate that it is possible to kill weeds using microwave energy.

This may be economically viable when herbicide resistance weeds are present and the technology may only be a few years from commercialisation. More long-term field trials are needed in the interim.
Broomrape Growing Degree Days available on-line

For readers in the former broomrape quarantine area, growing degree days is a familiar concept as a tool that can be used to time herbicide spraying for broomrape control. This information has been available on the Branched Broomrape website and SMS alert messages are sent out to farmers in the former quarantine area as a reminder of when the broomrape spray season finishes and ends.

As part of the transition of coordinated management of broomrape from PIRSA to Natural Resources South Australian Murray Darling Basin (SAMDB), this information will now be available through the SAMDB website.

The Natural Resources SAMDB manages a number of Automatic Weather Stations throughout the district. The data from these stations is updated daily and available on the SAMDB website http://www.aws-samdbnrm.sa.gov.au/. Currently, the summary data from weather stations at Caurnamont, Mypolonga and Swan Reach includes cumulative Growing Degree Days. This can be found on the Summary page for the weather station and in the form of charts on the Daily and 7 Day data pages. The screen print below is of the Caurnamont weather station summary page and shows how to navigate to the available information.

GDD charts can be found on these pages
Daily updates of cumulative GDD are shown here

Further information about Growing Degree Days can be found as a factsheet or in the guide “On Property Management of Branched Broomrape” available from the Natural Resources SAMDB office at Murray Bridge or online from http://www.pir.sa.gov.au/biosecuritysa/branched_broomrape.

Jane Prider, PIRSA
Michael Cutting, Natural Resources SAMDB
PIRSA Animal Health Update—Spring 2013

PIRSA is always interested in reports of unusual diseases, sicknesses or deaths in livestock, including poultry and wildlife. One day this could be the early signs of a new or emerging disease.

PIRSA Animal Health staff Dr Jeremy Rogers (0427 608 133) or Amelia Bartlett (0408 897 583) can be contacted or ring the emergency hotline 1800 675 888. PIRSA will respond or may be able to subsidise the investigation by your private veterinarian, but we need to hear from you.

In the coming months Mallee sheep producers may be preparing their rams for mating ewes in December through to February. Unfortunately ram preparation is often neglected in the busy months around harvest, so it may be timely to look at some issues before it gets too busy.

**Ram preparation**
- Feet trimming, and foot conformation
- Check the testes for obvious defects
- Rams should be in Score 3 to 3.5 body score condition
- Drench the rams – remember that rams are more susceptible to worms than ewes.
- Vaccinate against common diseases using 5 in 1 or 7 in 1 vaccines
- Some producers shear rams, but clear around the breech and face at least to avoid grass seed and fly issues.

**Ewe preparation**
Remember that lambing and weaning rates are directly related to ewe nutrition and body score at the time of mating. Ewes should be in Body Score 3 condition at least, at the time of mating for best results.

You may want to do a Faecal egg count (FEC) to see if any of the ewe mobs need worming in early summer. These tests are easily and cheaply done – talk to PIRSA or your local vets for advice on this. Many producers will also shear ewes prior to mating.

PIRSA matters is edited and compiled at the PIRSA Murray Bridge office. Any queries or comments on this edition can be directed to Merri Tothill. P: 8539 2112 E: meredith.tothill@sa.gov.au

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Copies on the web
www.msfp.org.au

The MSF new website is up and running. Keep an eye out in next few months as more information is uploaded — it will be easy access for everyone.