

# MALLEEFARMER

ISSUE 18 • Summer 2020

**Featuring:**  
*Ron and Nick Hards,  
Maintaining Ground Cover  
Strategies in Dry Years*

*Murrayville  
Landcare's Weather  
and Soil Moisture  
Monitoring Project*

***Herbicide Tolerant  
Lentil Variety Trial Results***

***Agriculture Victoria's  
Seed Treatment Update***

***MSF's Virtual Field Day  
Video Series Launch***

***And Much More***



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Cover Photo,  
Yarra Farmer Rod Hards,  
Photo: Agriculture Victoria

# Chair's Report

Welcome to the latest edition of the Mallee Farmer – and its packed full of interesting and informative articles, case studies and stories!

This edition reflects the strong community partnerships formed within the region and how important it is to continue to support each other during these challenging times. It is inspiring to see how business and community has continued to adapt and deliver amazing results.

The resilience and grit of the Mallee community has continued through Drought and COVID-19, and is a testament to the region. The important work being delivered by agribusiness, farmers, Landcare managers, volunteers, health services and natural resource managers is vital to ensure we can continue to be strong into the future.

In this edition of the Mallee Farmer you will find some very interesting and relevant articles:

- Agriculture Victoria's monitoring of wind erosion

and land management in the Mallee project;

- Mallee Sustainable Farming's article on area-wide weed management;
- The recent field days held as a virtual event;
- Important information about health services available to farmers from Western District Health Services;
- An interesting case study on Ron and Nick Hards about the benefits of maintaining ground cover in dry season's; and
- AgriFutures Horizon Scholarship Program for 2021 – calling for applications.

These are just a few of the great stories in this edition, with many more worth reading!

Through the Regional Land Partnerships Threatened Ecological Communities Project, the Mallee Catchment Management Authority (CMA) has been working with the Birchip Racecourse Recreation Reserve Committee of Management and Barengi Gadjin Land Council to protect and restore a precious remnant of Buloke Woodlands in the southern Mallee. A truly valuable project delivering great

## NLP ACKNOWLEDGEMENT

This publication is supported by the Mallee Catchment Management Authority (CMA), through funding from the Australian Government's National Landcare Program.

## DISCLAIMER

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outcomes for the community and the environment.

A novel approach to weed management in Australia is being investigated with the start of a project that aims to research the management, economic and social benefits of tackling weeds on a broader scale. In the Sunraysia region, Mallee Sustainable Farming (MSF) is working with broadacre farmers, wine grape, dried fruit, citrus and almond growers to trial different weed management practices to control Flaxleaf fleabane with some industries sharing a boundary.

Agriculture Victoria has created a helpful livestock transport checklist for farmers to prepare for and plan their trips. The

checklist includes links to resources relating to market specifications such as age or dentition, weight, fat or condition scores, withholding periods, Livestock Production Assurance (LPA), Meat Standards Australia (MSA) or other quality assurance program information. This is a handy resource and a timely reminder of animal welfare during the warmer months.

I would like to thank all the organisations and individuals who have contributed to this edition of the Mallee Farmer. The support provided by the community and through the Australian Government's National Landcare Programme ensures the Mallee Farmer continues to be a valuable resource across the region.

So, grab a cuppa and take some time to learn about the valuable work being carried out around the region from this edition of the Mallee Farmer!



**Sharyon Peart**  
Chairperson, Mallee CMA Board

## Want to be mailed a copy of the Mallee Farmer?

Two editions of the Mallee Farmer are produced each year. The spring edition is available around July – August and the autumn edition is released around late March. If you would like to register to have a copy mailed direct to you, fill out the form below and return to the Mallee Catchment Management Authority.

### Registration for Mallee Farmer mailing list

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2. Fax a copy to 03 5051 4379.
3. Mail a copy to: Mallee Farmer Subscriptions  
Mallee CMA  
PO Box 5017  
Mildura Vic 3502
4. Jump online and click on the link to subscribe at [www.malleecma.com.au](http://www.malleecma.com.au)



# 2020 Season Review

By Kate Wilson

Senior Consultant AGRivision Consultants PTY LTD

Harvest is well under way in the Mallee as I write this review of 2020. Another year of surprises and yet we were still surprised. To say that no two years in farming are alike is an understatement.

Many areas, but not all, of the Mallee had exceptional summer rainfall again. Anywhere that received good summer rain events have held on to produce some outstanding yields. Reports to this point of the harvest (about 25 per cent done as this goes to print), indicate above average yields in many areas. Unfortunately, there are pockets of the Mallee that did miss out on some of the better summer rain events and have just never caught up.

After good early break rains, we then hit a dry three months, pockets of horrendous frost and then some saving spring rains and exceptionally mild spring weather conditions.

It is pleasing to hear reports those areas of the Northern Mallee and Millewa that have suffered so much over the last few years have had a season that allows for some recovery.

## 2020 Issues:

- Lack of rain after sowing resulted in poor performance of many of the more expensive pre-emergent herbicides. Coupled with tough winter conditions for the crop and a mild spring, there are some terrible grass weed blowouts in paddocks even where growers felt

confident the Rye and Brome grass issues had been addressed.

- Early favorable seasonal conditions set up for some big yields and is often the case disease issues were also present in many crops. Stripe rust and Septoria in wheat, Ascochyta and Botrytis in Pulses, Net Blotch and Powdery Mildew in Barley were all reported, even in areas that traditionally do not have to treat for these diseases.
- Impacts of COVID on our communities has been minimal compared to those in Greater Melbourne, but were there nonetheless. The Mallee SA and NSW border communities suffered from travel restrictions as well as some impact on the supply of Agriculture inputs that may still be to come.
- Hay production was very trying this season. Some great hay crops were dropped and congratulations to everyone who got the

hay into a bale. There will be some varying quality amongst the hay in the Mallee but it pretty much all got a string around it - now to sell it!!

## SUMMER CHECKLIST

- Take a holiday!!
- Get any summer weeds under control - 2020 proved again the value of stored water.
- Conduct a fertilizer audit - big crops remove big amounts of nutrients. Consider a replacement plus maintenance rate to allow for tie up and losses.
- Consider securing inputs for 2021 early to avoid potential hold-ups to supply, with many of the countries that supply our inputs and technology going into Winter and potential for heightened Covid restrictions.
- Monitor mice as there is always potential for them to build up after a decent season.





# Farmer Health Matters: #farmerhealthmatters

By Cecilia Fitzgerald

*Business Development and Industry Engagement Manager, National Centre for Farmer Health, Western District Health Service*

A healthy workforce is vital for a productive and sustainable agricultural industry. The National Centre for Farmer Health (NCFH) has been engaging with farming communities to make health, wellbeing and safety their number one priority for over a decade. Founding Director, Susan Brumby says 'through our work, we have learnt that farming families and their communities face poor health outcomes and have a higher rate of injuries, illnesses and fatalities.' We have also learnt that farmers are keen to make changes when they can if they know it will help them and their farm business. In short, farmer health matters to the farmer, the family, the farm business and the industry.

To combat these issues, and in their quest of achieving their mission to make a difference to farmers' lives, the NCFH has provided farmer Health and Lifestyle Assessments at field days and agricultural events



NCFH Director Susan Brumby conducting Health and Lifestyle Assessments at a recent agricultural field day. Photo, National Centre for Farmer Health

to over 1280 Victorian farming men, women and agricultural workers and their families. Young Victorian farmer Logan received a farmer health and lifestyle assessment at the Mallee Machinery Field Days in 2019 afterwards stating, "If

I didn't get a free health check from NCFH at the field day, I wouldn't have discovered that I had type one diabetes at an early stage". However, with COVID-19 rapidly changing many aspects of life as we know it, including the cancellation of all

## Making a difference to farmers' lives

**NEW  
Online  
Ag  
Health  
Pilot  
Project**



**Victorian Farm Men, Women & Ag Workers - grab your tablet, computer or phone and get online to look after your health, wellbeing and safety today!**

Victorian field days, the Centre has had to adapt their practices, while remaining focused on providing appropriate and tailored support.

The Online Ag Health program provides farm women, men and agricultural workers an opportunity to have a free farmer-focused telehealth consultation. Farmers already face a number of unique challenges in accessing farmer health care and Online Ag Health provides access to a trained agrihealth professional who understands the specific challenges faced by people living and working on the land. Whatever your device you can participate. Each participant will be assisted to identify individual health, wellbeing and safety factors and possible risks and develop personalised goals to gain some improvements.

Catchup on the latest information (and past e-News) at this link <https://farmerhealth.org.au/2020/11/02/farmer-health-enews-november-2020>



**NATIONAL CENTRE FOR FARMER HEALTH**

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with Jacquie Cotton (NCFH) & Tegan Buckley (MSF)

[www.msfp.org.au/podcast](http://www.msfp.org.au/podcast)

Listen on: 

For more information on the Online Ag Health program or to find out how the National Centre for Farmer Health can support your community's next online event, please visit [www.farmerhealth.org.au](http://www.farmerhealth.org.au) or contact

Cecilia Fitzgerald on 03 5551 8533.



## Area Wide Management of Weeds – Fleabane Trials Begin in Sunraysia

### Can we control Flaxleaf fleabane across different land uses?

By Tanja Morgan

*Program Manager Mallee Sustainable Framing*

A novel approach to weed management in Australia is being investigated with the start of a project that aims to research the management, economic and social benefits of tackling weeds on a broader scale.

The traditional approach to tackling weeds has been to focus on paddock or farm scale management. Instead this

project aims to take an area-wide approach to weed management.

The theory being that if the number of weeds over the entire landscape can be reduced, everyone in that area should benefit, especially when dealing with weeds with mobile seed and pollen. This includes considering potential benefits across different land uses such as dryland,

irrigated land and public areas like roadsides.

In the Sunraysia region, Mallee Sustainable Farming (MSF) will be working with broadacre farmers, wine grape, dried fruit, citrus and almond growers to trial different weed management practices to control Flaxleaf fleabane with some industries sharing a boundary.



This project is all about bringing land managers together to identify cases with likely high payoffs and what it would take for a more collaborative approach to be attractive and successful.

Called the 'Area Wide Management(AWM)for cropping systems weeds, investigating the weed management, social and economic opportunity' this project aims to take a new approach to weed management.

This project is supported through funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit program and the Grains Research and Development Corporation and the Cotton Research and Development Corporation.

## **Summer trials to begin**

This season the late spring rainfall has provided optimal conditions for weed germinations and three trials have been planned over summer.

Trials will be established with a focus to control fleabane in broadacre and horticulture, but the project is also addressing the wider implications of weed management such as correct spray application to minimise spray drift and preventing the spread of herbicide resistant weeds across the region.

A number of trials will be of interest to broadacre farmers as regulations are making spray application opportunities more difficult.

These include:

## **Non-phenoxy options for use with optical sprayer in summer fallow**

As fleabane is hard to control summer growing weed in broadacre cropping paddocks. The best control is normally achieved through a combination of non-selective herbicide such as glyphosate in conjunction with a selective phenoxy herbicide. However, phenoxy herbicides are at high risk causing of site damage to susceptible crops such as horticulture, and therefore Sunraysia farmers are extremely cautious when using such herbicides which is to the detriment of fleabane control.

Modern Optical Spot Spray Technology (OSST) only applies herbicide when and where a weed is identified and therefore offer an opportunity for Sunraysia growers to control fleabane using alternative herbicides and herbicide mixes that would otherwise not be cost effective to apply on a broadacre scale.

This trial will determine how effective alternative herbicides to phenoxy products registered for optical sprayers are at controlling fleabane in broadacre summer fallow paddocks in the Sunraysia region.

## **Strategies for spraying summer weeds in hot conditions**

Off-site damage from summer spraying activities is a huge concern in the Sunraysia region where broadacre cropping borders the sensitive horticultural region. Broadacre farms are also very large and the summer climate is very hot, and this provides further complexities for broadacre farmers who are seeking to complete summer spraying activities in a narrow window

when spraying conditions are suitable.

In recent times there has been a shift towards farmers completing spraying activities early in the morning when temperatures are still cool, and the delta T is favourable. However, recent industry guidelines show that this is also the highest risk time of day for the presence of inversions. Inversions are bad news as they can prevent fine droplets from reaching the ground and move these over vast distances where they can potentially impact sensitive crops.

Recent regulation changes now prevent farmers spraying when an inversion is present, however there is almost always an inversion present early in the morning. Therefore, farmers may be forced to spray later in the day when conditions are less favourable for herbicide efficacy and this will impact their ability to control hard to kill summer weeds such as fleabane.

This project will trial a range of spray application factors that contribute to herbicide efficacy over a range of daily temperatures typically experienced in Sunraysia over the duration of a summer day.

## **Herbicide options for controlling ryegrass and fleabane escapes post glyphosate application in vineyards**

Small block owners rely heavily on the application of glyphosate to control weeds within vineyards. There is less focus on alternating strategies for weed control in vineyards as the aim is to remove all weeds

as they become a nuisance for operations and harvesting rather than compete with the crop for water and nutrients. This is a high-risk scenario for the development of resistance within weed populations and from dispersal of weed seeds from survivors as farmers are motivated to repeatedly use broad spectrum, cheap herbicide options such as glyphosate.

This trial will investigate alternative herbicide options to prevent seed set and/or control surviving weeds of glyphosate application in a vineyard. The principle weeds of interest are ryegrass and fleabane, however weeds such as milk thistle and marshmallow were also noted. Herbicide resistance testing will be done to identify which herbicides will have the greatest efficacy as well as genotyping to work out how far the plants are spreading across an area.

Frontier Farming Systems and MSF will be working with local growers in horticultural crops and broadacre to investigate improved options for fleabane control to try and achieve area wide management across industries.

## SAVE THE DATE

An MSF Area Wide Management of Weeds spray application and herbicide resistance forum



Mature Fleabane flowering stage. Photo Mallee Sustainable Farming

will be held in the Sunraysia region Tuesday 2 and 3 of February 2021 for broadacre and horticultural growers with weed scientist Chris Preston, Adelaide University and Field Development Officer David Keetch, NuFarm.

## Videos and Podcasts

Still unsure what area wide weed management means? Check out the project video and podcast for a quick summary



<https://www.youtube.com/watch?v=nP-bw4XOfs4&t=9s>

of what it means to implement Area wide management of weeds.

## Acknowledgement

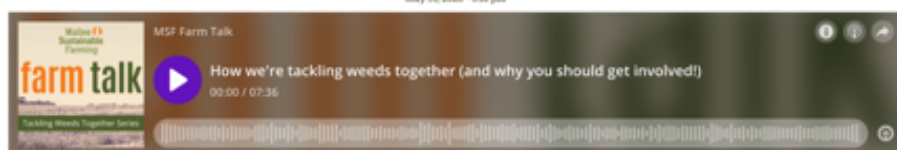
This project is supported through funding from the Australian Government Department of Agriculture as part of its Rural R&D for Profit program and the Grains Research and Development Corporation and the Cotton Research and Development Corporation.



**Australian Government**  
Department of Agriculture,  
Water and the Environment

### Podcast - Episode 1: Tackling Weeds Together Series | How We're Tackling Weeds Together

May 19, 2020 - 5:58 pm



Dr Rick Llewellyn (CSIRO) chats with Tegan Buckley (Mallee Sustainable Farming) about an exciting new project that MSF is involved in! New project called 'Area Wide Management for cropping systems weeds, investigating the weed management, social and economic opportunity' aims to take a new approach to weed management. Listen to the episode to learn more about how we can tackle weeds together!

<https://omny.fm/shows/msf-farm-talk/tacklingweeds1>



# Using Technology to Monitor Wind Erosion and Land Management in the Victorian Mallee

By Rachel Coombes

*Agriculture Victoria*

A new project by Agriculture Victoria with support from the Mallee Catchment Management Authority (CMA), is monitoring wind erosion risk in the Victorian Mallee by assessing groundcover and land management throughout the year. This will help build a picture as to how the region is maintaining ground cover and reducing the effects of wind erosion. Groundcover data is obtained through remote sensing (satellite imagery) technology and roadside surveys. This combines new technology and is reinforced by existing tried and true methods.

Wind erosion is a high risk in the Mallee, with the potential to affect 97 per cent of dryland cropping areas, threatening air quality and the long-term viability of agricultural businesses. Wind erosion is affected by wind speed and direction, soil moisture and land management, with the maintenance of ground cover a key mitigation factor.

The project aims to link the underlying conditions such as the soil type and wind erosion risk, with the data collected including seasonal conditions, crop cover and ground cover to assess the wind erosion risk. The project will continue for the next three years and the data collected will be used to help inform the delivery of information to land managers in the Mallee region.

Two roadside surveys are undertaken each year during autumn and spring to collect ground cover and land management information. Crop type data is derived from satellite imagery which provides information to understand the percentage of different crop types to produce a crop cover estimate for the Mallee. Crop type has a significant impact on wind erosion risk following harvest as different crop types have varied amounts of retained stubble and rate of breakdown, determining effective ground cover protection levels. The use of satellite imagery allows the entire Mallee CMA area to be measured repeatedly and efficiently. The roadside surveys collect on ground data that assists in the interpretation of data derived from satellite imagery and provides detailed information that cannot be produced from satellite images.

## 2019 Transect Survey Results

Sowing started with confidence in 2019 in the southern Mallee where good summer rainfall was recorded. Winter rainfall was promising for most of the Mallee, except the far north west. Spring brought disappointing rainfall totals across the Mallee. Overall the Mallee received below average rainfall with the far north west receiving their lowest annual rainfall on record (Figure 1).

The autumn transect survey captured land cover and cover management and was completed in March 2019. Results from this survey indicated that 82 per cent of paddocks surveyed had stubble cover whilst nine per cent were bare. The bare paddocks had either been grazed, cultivated or windblown, all of which contribute to increase

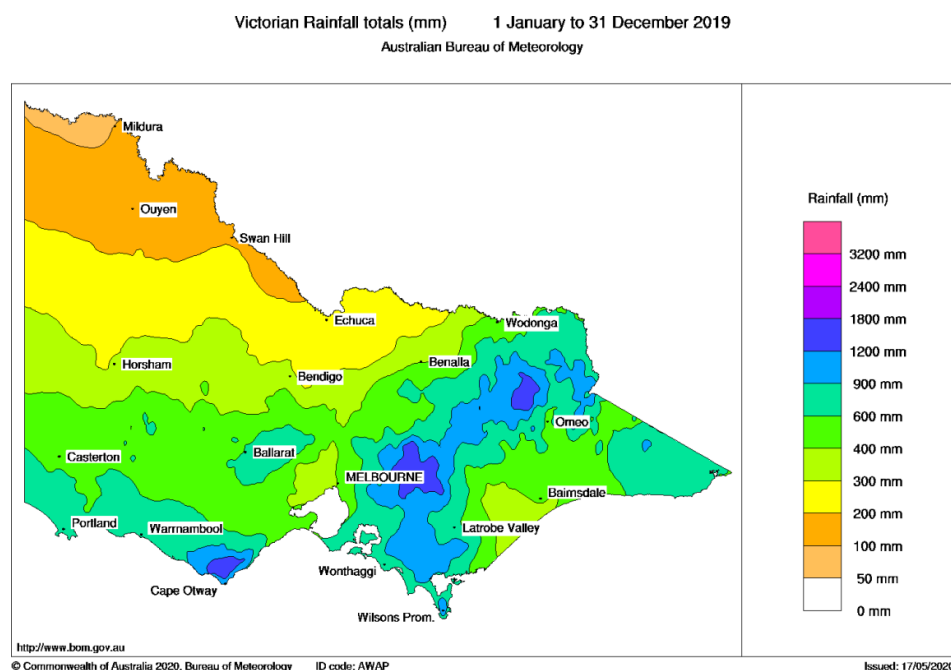


Figure 1: Victorian rainfall totals 2019 (Source: Australian Bureau of Meteorology)

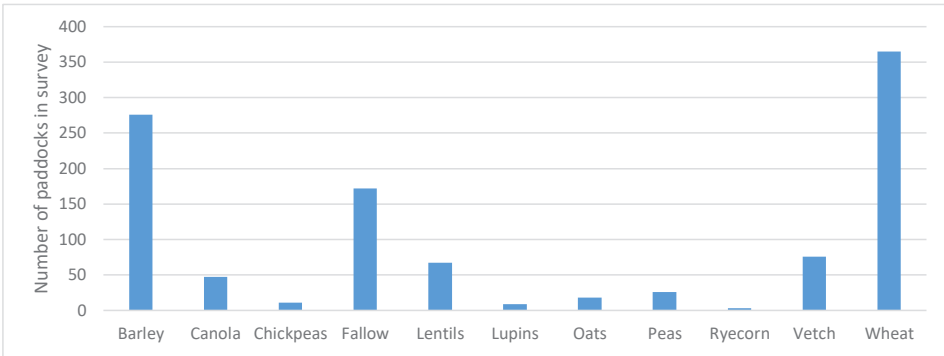


Figure 2: Crops observed on spring Mallee transect survey

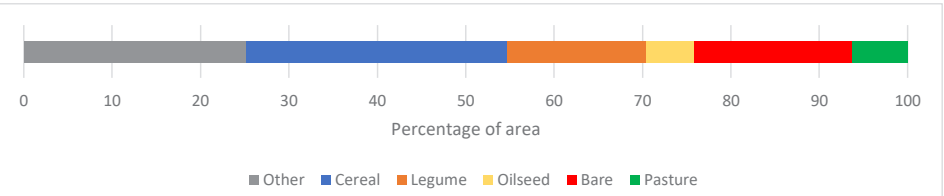


Figure 3: MODIS landcover data for Mallee region October 2019

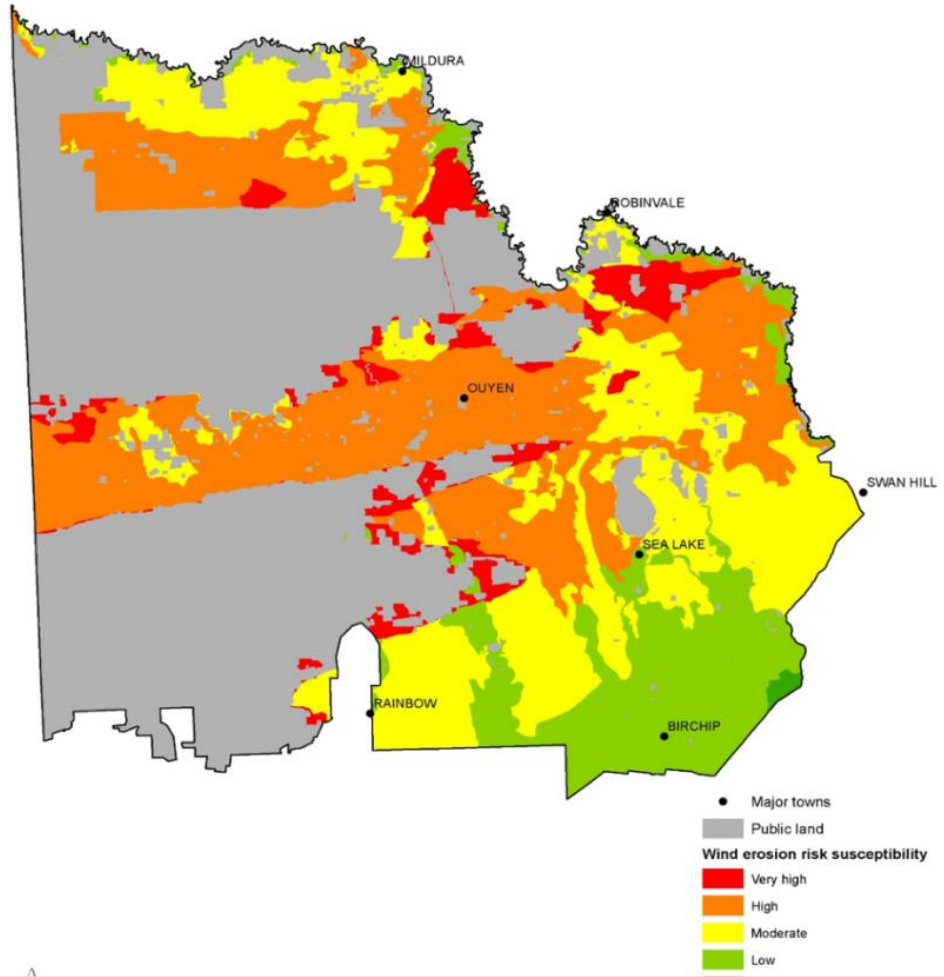


Figure 4 Inherent wind erosion susceptibility across the Mallee Catchment Management Authority area (Hopley et al. 2011)

soil movement during wind erosive events. The remaining paddocks had been disturbed by being harrowed, chained or grazed.

The spring transect survey captured land cover, cover

management and the presence of livestock and was completed in late September 2019 before harvest activities started. The land management survey results recorded 81 per cent of paddocks in a cropping phase, 15 per cent of paddocks in a

fallow, less than one per cent of sites were in a volunteer or improved pasture phase and two per cent of paddocks were classed as bare. The 2019 spring transect survey crop types observed are shown in Figure 2. Wheat was the most grown cereal crop followed by barley. Lentils were the most grown legume crop. Of the crops surveyed 77.7 per cent were intended for harvest and 4.3 per cent of crops appeared as though they would fail.

### 2019 Satellite Derived Crop Type Results

According to MODIS satellite imagery land cover data for October 2019, 51 per cent of the Mallee was covered in crops. Of the cropped area 58 per cent were cereals, 31 per cent legumes and 11 per cent oilseeds, as shown in Figure 3. Pasture accounted for six per cent of the Mallee and 18 per cent was bare.

The Mallee has been divided into wind erosion susceptibility zones (Figure 4), which consider soil type, landscape position, landform components and wind exposure (Hopley et al, 2011). The most crop cover observed was in the very low wind erosion susceptibility zone where 99 per cent of the area was covered with a crop. The least crop cover was in the very high wind erosion susceptibility zone where only 33 per cent of the area had crop cover, and this zone also had the highest level of bare ground at 24 per cent (Figure 5).

### Discussion

Areas of the Mallee that are in the highly susceptible and very highly susceptible zones are most at risk to wind erosion issues because the soils in



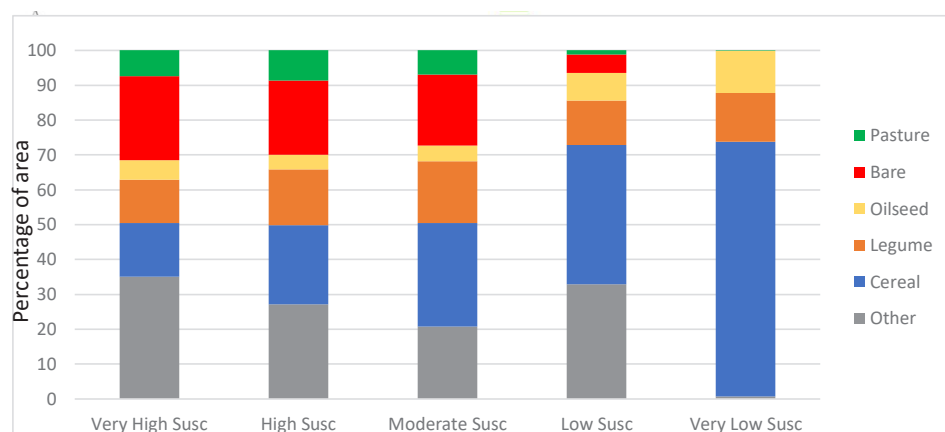


Figure 5: MODIS landcover data for Wind Erosion Susceptibility Zones in the Mallee over 2019 (Guerschman et al 2009)

these areas are primarily sandy soils. Maintaining ground cover is the best protection against wind erosion. Once wind erosion processes have begun in sandy soils it can be difficult to control. Paddocks that are bare or have low levels of groundcover either due to cultivation or overgrazing, are at a higher risk of erosion. The impact of the bare paddocks in the very high,

high and moderate wind erosion susceptibility zones did cause wind erosion particularly in the Millewa region, with dust storms being common throughout the Millewa and into Mildura over the 2019/20 summer.

## References

Monthly ground cover measurements are being compiled using the Fractional

Ground Cover products developed by Guerschman et al (2009). Hopley, J., Clark, R., & MacEwan, R. (2011). Mallee Wind Erosion Susceptibility Mapping. Bendigo: Victorian Department of Primary Industries.

## Acknowledgement:

This project is supported by the Mallee Catchment Management Authority through funding from the Australian Government's National Landcare Program.



# Managing Standing Crops for Grazing

By Alison Frischke and Genevieve Clarke (*Birchip Cropping Group*)  
and San Jolly (*Productive Nutrition*)

## Boosting productivity and providing flexibility on farm

Establishing cereal crops for grazing to finish lambs has been implemented by several farmers across the southern region of Australia, achieving greater economic returns than managing livestock and cropping separately.

Many farm enterprises manage both livestock and cropping, however there is often separation of the two in terms of management. By understanding livestock nutritional requirements and crop management, the two enterprises can be integrated

to increase productivity and profitability of less productive land.

Grazing standing crops does not limit land use, rather it provides increased flexibility for a mixed farming system. The following case studies are examples of how this management can be implemented on farm.

## Petering's - Murtoa, VIC

Running a mixed farming enterprise of 1100 breeding ewes, Petering's set aside 265 hectares of the farm dedicated to establishing crops for grazing. This area is made up of smaller paddock sizes and is typically less productive

land relative to the rest of the cropping paddocks.

Since sowing cropped area for grazing in 2016, Petering's have been able to increase productivity of land and returns from lamb production that was typically regenerating pasture.

A benefit that comes with establishing a crop for grazing is the flexibility offered if seasonal conditions are favourable and feed is in excess.

Bailey Petering explains 'The key thing is to treat it [the crop] as if it's for harvest. Manage everything properly and don't skimp on things like fertiliser.'

In 2019, the area sown for grazing provided more than required, so some was cut for hay while other areas were followed through and harvested for grain.

### **Tips from Petering's**

- Treat the crop as if it's for harvest
- Know the feed value and manage protein requirements
- Be flexible

The 250 hectares on Petering's property that is set aside for grazing crops is managed on a two-year rotation. In year one, crop is established with paddocks sown to Spartacus CL barley to allow for better grass control.

Depending on the season, ewes can be held in containment while the crops establish, then

enter the crops to lamb during July. In September-October, lambs are weaned and placed straight back into the crops, that are now beginning to develop grain in the heads. Lambs remain on the crop while grain matures.

As the crop matures (from vegetative to flowering and early grain fill), there is a natural decline in feed value and a protein supplement is needed to meet the higher protein demands of growing lambs. Petering's manage this by providing seconds lentils in a paddock feeder. Lambs remain on the crop until they meet target weights for sale, and any remaining lighter, tail-end lambs moved to a lentil stubble to finish.

In the second year, volunteer crop and clover are allowed to regenerate and bulk up. They're grazed by lambing ewes until

just prior to seed set, then either sprayed out or cut for hay.

As the season progresses, the best decision for the crop end-use can be made using the season outlook and stored soil moisture, expected production and commodity price figures. Establishment costs for a grazing crop are the same as establishing a crop for harvest.

Below is an example process for calculating economics of both production options. The (ungrazed) harvested area in Petering's poorer performing paddock sown to standing crops for grazing averaged 1.86 tonne barley/ha, whereas better crop paddocks yielded 4.9 t/ha in 2019.

For this paddock, the return on grazing by lambs was greater than if harvested - and would be higher if the grazing value by ewes for three months was added.

Petering's have now successfully grazed cereal crops with lambing ewes and lambs over several, varied seasons. However, there have been important things to consider and learn along the way.

Timing is important when introducing stock to graze a standing crop. Crop chemical with-holding periods must be adhered to. Be mindful when they're applied and control stock movements around them.

Similarly, if stock will be introduced to the crop when grain has ripened, to avoid acidosis risks stock will need



Bailey Petering standing in Spartacus CL sown for grazing 2019.  
Photo, Birchip Cropping Group



## Grain harvest production economics – Summer 2019/2020

Barley sown for grain harvest		Total cost (\$/ha)	Gross Margin - Grain for harvest	
Spartacus seed		16.00	Establishment cost	\$251.78
Seed coating- Systiva		12.96	Harvest cost	\$74.11
Fertiliser		98.85	Yield potential (t/ha)	1.86
Herbicide/insecticide		59.70	Grain value (\$/t)	\$280
Operations Excl. harvest		64.27	Gross income/ha	520.80
Harvest Incl. insurance & freight		74.11	Gross margin/ha	\$194.91
<b>Total costs</b>		<b>\$325.89</b>		

## Grazing barley for lamb production economics – Summer 2019/2020

Barley for grazing prime lamb (35kg → 45kg liveweight)		Costs - lambs	
<b>Dry matter production</b>	<b>kg/DM/ha</b>		<b>Cost \$/head</b>
Total DM Year 1	7000	Purchase price	114.80
Available for grazing	6000	Drench	0.31
Residual	1000	Vaccination	0.36
<b>Cost of establishment</b>	<b>\$251.78/ha</b>	Crutching and shearing	6.00
<b>Cost of production</b>	<b>\$41.96/t DM</b>	Water and repairs	0.50
	<b>kg/head/day</b>	Transport to market	2.50
Barley	0.5	Commission on sale (5.6%)	9.62
Lentil	0.3	Levies (2.1%)	3.61
Roughage- standing barley crop	0.8	Total feed cost	15.75
PN Dry feed energiser	0.02	<b>Total cost/head</b>	<b>\$153.45</b>
Lime and salt 80/20	0.01		
<b>Total feed – cost/tonne</b>	<b>\$130.60</b>	<b>Returns - lambs</b>	
<b>Total feed - cost/head/day</b>	<b>\$0.21</b>	Average carcase weight	20.7kg
Expected daily rate of gain	132g	Carcase price (\$8.30/kg)	\$171.81
Starting average weight	35kg	Skin price	\$3.00
Target average weight	45kg	Wool clip (grow 1kg)	\$8.00
Number of days to feed	75	<b>Total returns/head</b>	<b>\$182.81</b>
<b>Total feed cost/head</b>	<b>\$15.75</b>	Profit/loss per head	\$29.36
		Stocking rate (lambs/ha)	12.00
		<b>Gross margin/ha</b>	<b>\$352.32</b>



Ewes and lambs grazing Spartacus CL crop, October 2019 Photo, Birchip Cropping Group



Lambs on barley residues after 4 months grazing, February. Photo, Birchip Cropping Group Birchip Crop

to be adapted to grain prior to entering the crop. If sheep are placed on the crop prior to ripening and remain on the crop while grain ripens, health issues are avoided as sheep rumens will adapt gradually to the changing plane of nutrition. Build-up of disease in a grazing standing crop system can be managed by understanding the disease profile of the cereals used. In Petering's two-year grazing rotation and the abundant crop biomass, disease pressure was high in 2019 even with the use of fungicide. Sheep will consume the diseased crop, but it could result in lost biomass and feed value. Depending on how seasons roll, Petering's will modify the system to reduce disease pressure when needed.

Ewes and lambs are moved from standing crop paddocks once most of the grain in cereal heads has been consumed, and in time to leave adequate residue to protect the soil over late summer and early autumn.

Despite, these challenges, Petering's are positive about the system providing productive feed across all seasons. 'We have enough area set out so that if it is a dry year or a wet year we can manage that; whether it be through providing feed at a time when there is typically a gap, or jumping at hay or harvest opportunities that present themselves in a wet year' Bailey Petering said.

## Bennett's - Lawloit, VIC

The Bennett's run a mixed farming enterprise consisting of

6000 self-replacing Merino ewes and 1000 cross bred lambs in the medium rainfall zone of western Victoria. As well as their regenerating pasture areas they have been using crops sown for grazing to expand their sheep enterprise, but are adaptable with management of the crops considering seasonal conditions and other aspects of the system that may need to be prioritised.

Over a time of business growth and risk management, Bennett's have been increasing the area managed for stock. Different soil types and rainfall environments across the property are managed for their needs and limitations.

Towards the southern end of the property, soils are heavier and there is a large amount of well-established lucerne used for lambing. Cropping in this area of the property involves a canola-wheat-bean rotation. Grazing of bean stubbles and standing crops are used to finish lambs. Northern areas of the property fall on lighter soil types with lower

rainfall. This area is managed for grazing using crops and lucerne. Care is taken to allow lucerne to establish well and recover after each graze. The choice of cereal rye and fathom barley for grazing has been beneficial due to their suitability to lighter soils.

In general, Bennett's manage a standing crop for grazing across one season. Crop is established as it would be if it were intended for harvest, with the standard seed treatment and fertiliser regime. It is then grazed by lambs starting in August and October for eight to ten weeks.

***'It's a great pasture system because it makes management so much easier. Once the crop is in, I know there will be abundant feed to wean lambs on to in August and October and they can stay there comfortably for 8-10 weeks.'***

**- Alan Bennett**

In the past, Bennett's have sown Moby barley for grazing, but switched to Fathom barley when they found it to also be a high biomass variety, that yields more grain than Moby. This gives flexibility to either graze the grain or harvest in a good season. It also meant they could simplify the number of different grain types they needed to store as Fathom was already part of the cropping program.

The decision to include cereal rye for grazing was made after seeing the success by other local growers with growing and

grazing rye, and its suitability for their system. The Bennett's have found cereal rye to be a safe crop for grazing, with high fibre content reducing likelihood of sheep scouring.

Bennett's value the feed availability that standing crops provide, making livestock management easier. Heading towards harvest, having a large abundance of feed on offer means Bennett's can comfortably graze ewes and lambs on these paddocks without experiencing a feed gap over the harvest period.

Protein in cereal crops changes as the crop moves through different growth stages. A vegetative cereal crop will have 25-30 per cent protein, during flowering it drops to 8-11 per cent, but then rises again in mature grain to 11-16.5 per cent depending on the cereal type, variety and season. Likewise, energy also declines from 12-12.5 MJ ME while vegetative to 8-9.5 MJ ME during flowering, then rises back to 12-14.5 MJ ME/kg DM in grain.

This means protein and energy will meet sheep maintenance requirements (8 per cent protein, 8 MJ ME/kg DM) during flowering, but a protein supplement is needed to support growth in lambs (18-20 per cent protein for lambs growing at 200g/day). By sowing cereal crops into a lucerne, medic, clover or serradella pasture base, or providing legume hay or grain, protein requirements can be met.

The mid-October feed value of



Ellen Bennett in a Fathom barley and serradella pasture sown into a cereal rye stubble for grazing, October 2019 Photo, Birchip Cropping Group



one of Bennett's mixed pasture paddocks and a pure sample of a Fathom barley standing crop is below. As expected at this time of year, the standing crop has lower protein than the mixed pasture, but the amount of feed on offer is four times that of the mixed pasture paddock. This paddock was under sown with serradella, which added protein to the sheep diet. The paddock was grazed with ewes in this instance due to leased paddock fence line conditions. The Bennett's are adaptable in the management of their grazing across the property, adapting to the market and making decisions on opportunities to increase returns. Crops will be



Fathom barley sown in a leased paddock for grazing, October 2019  
Photo, Birchip Cropping Group

#### Feed test results and biomass from mixed pasture and grazing crop paddocks, 15 October 2019

Paddock/ crop	Crude Protein (%)	Neutral detergent fibre (%)	Digestibility (DMD) (%)	Metabolisable energy (MJ/kg DM)	Water soluble carbohydrates (%)	Biomass (t DM/ha)
Pasture (clover, lucerne, ryegrass)	17.5	55.6	70.0	10.4	3.5	2.61
Standing Fathom barley	12.3	60.1	63.5	9.3	11.6	8.44

cut early for hay or sprayed out if weed issues are experienced. If grain prices are low and sheep prices are high, they will allow total grazing of standing crops. If grain prices increase, they may choose to harvest a larger area to sell or retain for feed grain if supplementary feeding is required in drier seasons.

A long-term perspective on management is important for the Bennett's - being adaptable plays a big role in achieving this. Sustaining ground cover is a long-term priority for the Bennett's and is managed through monitoring and moving stock when required. In a dry

season, more crop stubbles will be grazed, but if groundcover is compromised sheep can be moved into containment yards until pasture growth resumes and is ready for grazing.

Bennett's have increased their feed on offer, particularly in periods across autumn and late spring when a feed gap is more common. Sowing crops for grazing has helped to fill these feedgaps and maintain condition and growth on stock. Alan Bennett said 'Mixed livestock is a complex system. You need to be adaptable in management and make decisions for the long term. We have seen many

positive effects of grazing crops on our property'.

#### Acknowledgement

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# Evaluation of the potential for herbicide tolerant lentils to manage herbicide residues in the Mallee

By Michael Moodie

Farming Systems Research Agronomist, Frontier Farming systems, Mildura

This article presents results from Mallee trials which have been evaluating exciting new lentil varieties with tolerance to both Group B (Imidazolidine) and Group I (Clopyralid) herbicides.

### Key Points

- New lentil lines with tolerance to both group B (Imidazolidine) and Group I (Clopyralid) herbicide have been trialled in the Mallee
- Growing existing variety (PBA Hurricane XT) in the presence of Clopyralid residues resulted in a grain yield loss of up to 75 per cent while there was no decline in grain yield in the tolerant lines
- The presence of Clopyralid residue also had a suppressive effect on the growth of vetch (simulated weed)

### Brief background

As legumes crops such as lentils become more common in the Mallee, farmers need to be

vigilant in managing herbicide residues, particularly herbicides that can persist within paddocks for many years. There have been many examples where Imidazolidine (Group B) and Clorpyralid (Group I) herbicides have impacted the growth and production of legume crops several seasons after the herbicide was applied to the paddock. Therefore, many farmers are electing to remove these herbicides from there farming system, even though there have proven to be cost effective weed management options in other crops.

Grains Innovation Australia (GIA) is a private company that has developed lentil germplasm with combined tolerance to there two herbicides. Frontier Farming Systems has teamed up with GIA to trial these exciting new lentils in the Mallee environment in the presence of herbicide residues to evaluate the benefits that this technology could provide Mallee farmers in the future.

### Methods

Two herbicide tolerant (group B and I) lentil lines (GIA 1705L-LI and GIA 1906L-LI) were compared to the herbicide tolerant (group B only) commercial variety PBA Hurricane XT at Kooloonong (Vic Mallee). Table 1 outlines the herbicide management treatments that were applied to each variety. Simulated clopyralid residue treatments were applied prior to sowing, metribuzin was applied as incorporated by sowing (IBS) and Intercept® treatments were applied post emergent at the 6-node stage.

A second trial at Pinnaroo (SA Mallee) compared GIA1705L-LI and PBA Hurricane XT with the same herbicide treatments (Table 1). However, in this trial common vetch was spread on the surface of one half of each plot to simulate weed pressure. The vetch seed was spread prior to the application of the simulated residue treatments.

Table 1. Group C herbicides and rates applied

Treatment	Residues	Pre-Emergent	Post Emergent
Nil			
Group C		Metribuzin 150 g/ha (IBS)	
Clopyralid 0.5x	Clopyralid (600g/L) @ 75ml/ha		
Clopyralid 1x	Clopyralid (600g/L) @ 150ml/ha		
Clopyralid 1x + Intercept®	Clopyralid (600g/L) @ 150ml/ha		Intercept®@750 ml/ha
Intercept®			Intercept®@750 ml/ha



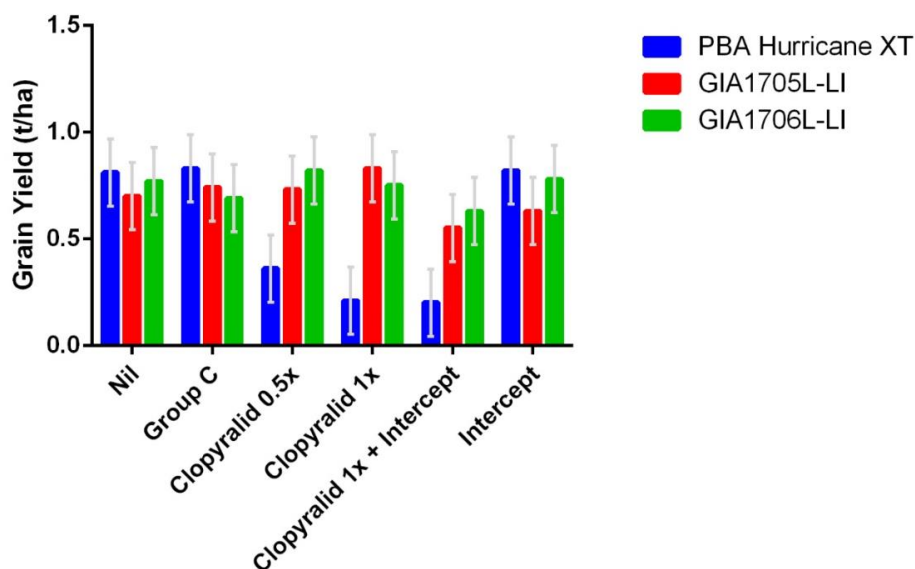


Figure 1. Effect of simulated group I herbicide residues and herbicide strategies on the grain yield of lentil varieties at Kooloonong. Error bars are LSD

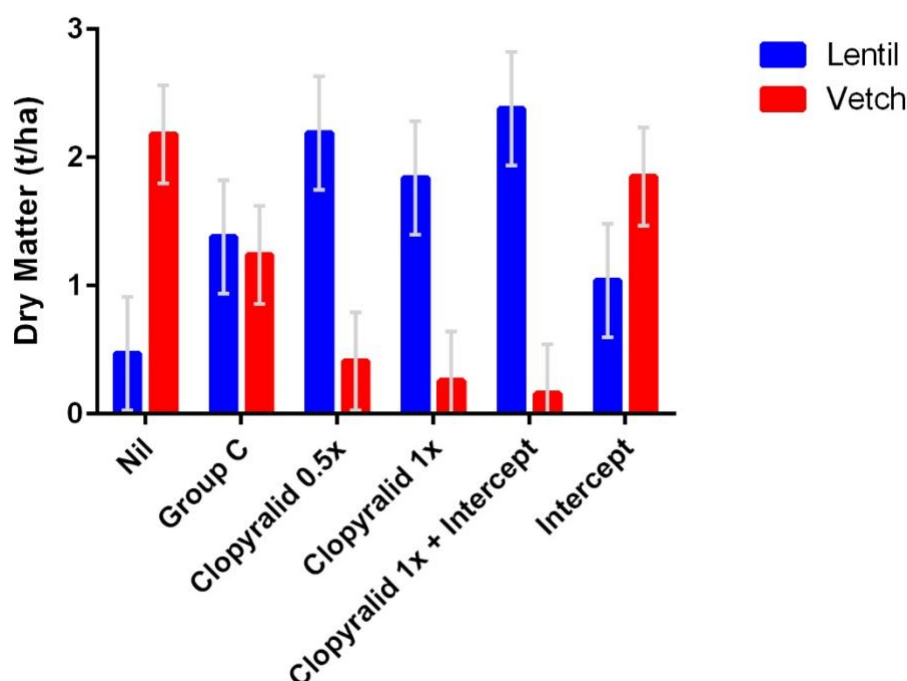


Figure 2. Effect of simulated group I herbicide residues and herbicide strategies on the biomass of GIA 1705L-LI lentil and vetch (spread to simulate weed pressure) at Pinnaroo. Error bars are LSD



Kooloonong lentil trial site field day 2019.  
Photo Michael Moodie, Frontier Farming systems, Mildura

## Results

The potential for herbicide tolerant lentil varieties to manage clopyralid residues was demonstrated at the Kooloonong site (Figure 1). There was no significant difference between the PBA HurricaneXT and the Group I tolerant lines GIA 1705L-LI and GIA 1906L-LI when no herbicide treatments were applied, when metribuzin was applied IBS and when Intercept® was used in-crop. However, PBA HurricaneXT yielded significantly less than these varieties in the presence of simulated clopyralid residues. The grain yield of PBA Hurricane XT was 55-75 per cent lower in the the nil treatment with clopyralid residues simulated, while the grain yields of GIA 1705L-LI and GIA 1906L-LI were not significantly different across the range of herbicide treatments applied.

The presence of clopyralid residues also had a suppressive effect on vetch that was spread to simulate weeds at Pinnaroo (Figure 2). In the nil treatment, vetch outcompeted GIA 1705L-LI lentil by producing 2.18 t/ha of dry matter compared to just 0.47 t/ha of lentil dry matter. However, this outcome was reversed in the treatments containing clopyralid residues with GIA1705L-LI producing approximately 2 t/ha of dry matter and vetch 0.25 t/ha. Applying metribuzin pre-emergent or Intecept® post emergent did not adequately suppress the simulated weeds and as a result lentil biomass was approximately half of what was achieved in the treatments with clopyralid residues.

## Implications of the findings

These two trials demonstrated that combined group B and

herbicide tolerance would be beneficial to Mallee lentil growers. In the presence of clopyralid residues, grain yields were reduced by up to 75 per cent in the commercial variety PBA Hurricane XT while yields were maintained in the two tolerant varieties. Incorporation of these traits in commercial lentil varieties would mean farmers would be able to utilise clopyralid in other crops in the cropping sequence without fear of impacts on future lentil crops. Furthermore, the Pinnaroo trials demonstrated that clopyralid residues could have a benefit in suppressing common problem

weeds in lentil crops such as vetch. Without clopyralid residues vetch spread on the surface choked out the lentil crop, however where clopyralid residues were simulated vetch biomass was largely suppressed. This finding may also have relevance for other problem weeds such as medic.

### **Acknowledgments:**

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Larn McMurray and Michael

Materne (Grains Innovation Australia) for assistance with trial design and analysis and supply of seed of non-commercial varieties.

Thank you to Gleeson Farms (Kooloonong) and Nickolls Partners (Pinnaroo) for hosting the trials.



# **Bunts and smuts – now is the time to consider seed treatments**

**By Luise Fanning, Grant Hollaway and Mark McLean**

*Agriculture Victoria*

Seed treatments are an essential part of disease prevention. They provide management of damaging bunts and smuts while some products can also suppress many foliar and soilborne diseases. Looking toward 2021, now is the time to consider what seed treatments will provide the greatest benefit to your cropping system.

The SARDI Cereal Seed Treatment Guide lists the range of available seed treatments and the diseases that they can help manage and is a useful tool to assist with the planning of seed treatments in preparation for the 2021 cropping season.

At their most basic, a seed treatment provides protection from bunts (Figure 1) and smuts (Figure 2) in cereals. If these diseases are not controlled, they can have a significant

impact on grain quality and affected grain may be unsaleable due to very low or nil tolerance at receival sites. There are a range of products available that can provide cost effective protection.

The key to maximising efficacy of all seed treatments is to ensure good coverage of all seed. Seeds that are not covered with the treatment are vulnerable to disease.

It is recommended that all cereal seed used at planting is treated with a product that controls at least the bunts and smuts.

While a basic seed treatment can control bunts and smuts in wheat and barley, seed treatments have the potential for the suppression and management of other diseases as well.

There are a wide range of seed treatment options that can provide suppression of foliar diseases such as stripe rust, leaf rust, and septoria in wheat and the net blotches, leaf rust, scald and mildew in barley, in addition to bunts and smuts. These treatments should be selected in consultation with the diseases of importance in the region and the disease resistance rating of the varieties to be grown.

Several seed treatments can provide suppression of important soil borne diseases such as rhizoctonia and take-all. Ideally soil borne disease risk should be determined prior to planting using a PREDICTA B test. This test identifies the soil borne diseases of concern in a paddock, which then helps identify those situations where a seed treatment may provide benefit.





Figure 1 Healthy and bunt infected wheat grain (Grant Hollaway, Agriculture Victoria)

Seed treatments that include an insecticide can provide early suppression of aphids and therefore virus spread within a crop. The seed treatments work by controlling aphid numbers during early crop growth stages. Crops will still need to be monitored for aphids as further control may be required later in the season as the seed treatment wears off. These are most effective following a wet start to the season where a green bridge is present. Aphid populations are generally very low following a dry summer/autumn, so insecticide seed treatments will provide little benefit.

It is important to note that using a seed treatment can be less effective towards new strains of disease and if environmental conditions are favourable for disease, crops will still need to be monitored for signs of disease throughout the season. Over the last decade fungicide resistance has become an increasing risk in Australian farming systems. Rotating actives and modes of action should be part of the seasonal disease management plan. For instance, if a Group 7 (Succinate dehydrogenase inhibitor or SDHI) with foliar activity has been used as a seed treatment, it should not then be applied as a foliar application in crop.

The Australian Fungicide Resistance Extension Network (AFREN) has developed information to help growers manage the risk of fungicide resistance and provide a range of useful resources on their website.

Growers are reminded that all cereal seed used at planting needs to be treated with a product that controls bunts and smuts, at the very least.

### Further resources

- The latest edition of the SARDI Cereal Seed

Treatment Guide can be found on the SARDI crop performance page [https://pir.sa.gov.au/research/services/reports\\_and\\_newsletters/crop\\_performance](https://pir.sa.gov.au/research/services/reports_and_newsletters/crop_performance)

- For more information regarding bunts and smuts visit <https://agriculture.vic.gov.au/biosecurity/plant-diseases/grain-pulses-and-cereal-diseases/bunts-and-smuts-of-cereals>
- For more detail information for crop specific diseases visit <https://extensionaus.com.au> and look for 'Identification & Management of Field Crop Diseases in Victoria' under the resources tab.
- Further information regarding fungicide resistance management can be found on the Australian Fungicide Resistance Extension Network (AFREN) website <https://afren.com.au/>



Figure 2 Barley loose smut (Mark McLean, Agriculture Victoria)

# Case study – Ron and Nick Hards, Yarrara

By Rachel Coombs

*Agriculture Victoria*

Yarrara farmers Ron and Nick Hards say dryland farming in the 21st century is no longer about responding to weather conditions as they unfold. Their farm system is about developing solid, medium and long-term strategies that optimise outcomes, and preserve the physical condition of the property and its soils, regardless of seasonal conditions. The Hards' farm, with large areas of fragile and light, sandy soils, registered the two lowest

rainfall years on record in 2018 and 2019, but their approach to farm management remains consistent. Last year was extreme, with only 25 per cent of average annual rainfall, yet the Hards' harvested viable crop from 50 per cent of their farm's seeded area and a further 25 per cent was used as fodder. The intense winds created only superficial damage and 2020 crops have gone into soils that were stabilised with good ground cover and stubble.



## FARM INFORMATION

### Producer

Ron and Nick Hards

### Location

Yarrara (80 km west of Mildura)

### Property size

3000 ha

### Rainfall

Long term average annual: 278 mm. 2019 annual: 104 mm

### Soils

15 per cent heavy and stone type soils; 50 per cent sandy loam; 35 per cent deeper sand

### Enterprise

Cereal and legume crops; export hay production; feedlot merino lambs (as opportunity arises)

Ron and Nick Hards prioritise the maintenance of ground cover on their light soils in every aspect of their farming operation.

Ron had worked to a conventional three - year rotation until 20 years ago, but, with the region's fragile Mallee soils, he was interested in the possibilities of more sustainable farming models.

When Nick made the decision to join him on the property after finishing school, they moved to a minimum-till model they were confident would secure





the farm's viability across the range of climatic possibilities in the low-rainfall region.

The Hards' cropping program is now on a four-year rotational system, with around 90 per cent of the property under crop each year. Sheep (Merino lambs) are bought in only when they can be safely and profitably managed (on-farm and within containment without compromising soil condition).

Ron and Nick take a year-round approach to soil protection using techniques that achieve and protect effective ground cover and keep soil in the paddock. They focus on diminishing the risk of soil erosion and preventing problems before they occur. In 2019, they experienced moderate soil erosion on only one area of their farm where they admit they left sheep to graze "a few days too long".

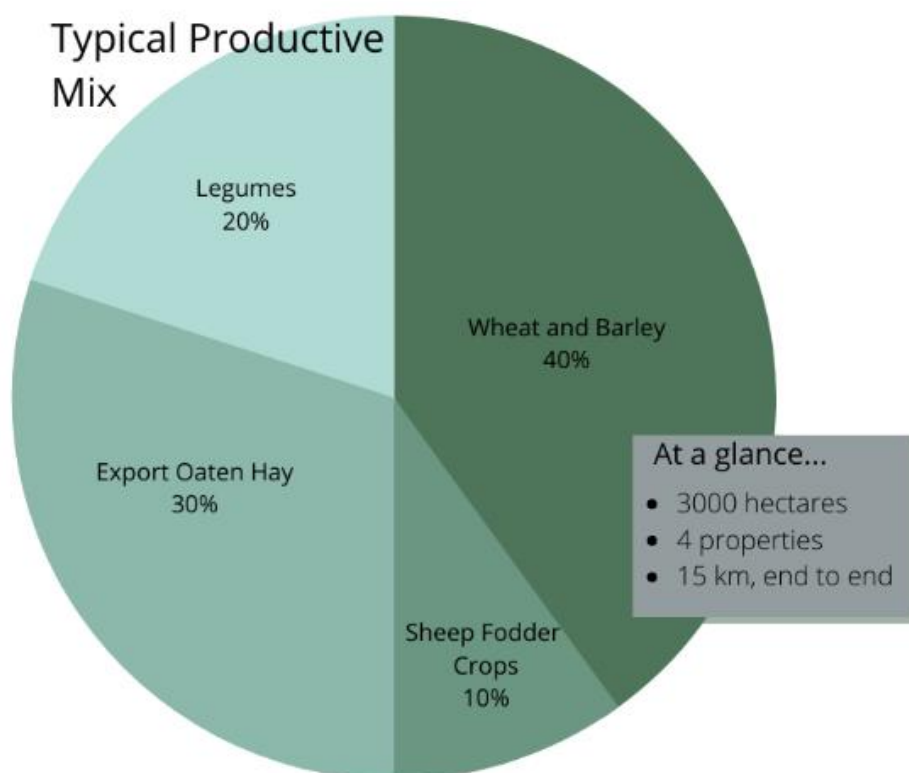
Drifting soils in the past pushed their decision to convert their farming systems. The extreme conditions of 2019 were the ultimate test for minimum-till farming systems in the Millewa. They proved effective by safeguarding soils and reducing moisture loss over summer and maximizing the soil conditions and available moisture for the 2020 growing season.

"Soil erosion creates a lot of problems – if you have paddocks blowing, you are losing productivity, and that's a huge financial and farm management problem," Ron said.

"But the other side of it is that blowing paddocks are not good for your health either. It's unbelievably stressful, so if you can reasonably expect to take



Figure 1 A vetch crop on the Hards property in May 2020. Photo, Agriculture Victoria.



that worry out, I really think that's the way to go. 2019 was definitely a huge test and no-till / minimum-till systems certainly stood out."

## FARMING TO A SYSTEM, NOT A CIRCUMSTANCE

Ron and Nick say their four-year rolling cropping rotation is focused on maintaining year-round soil cover, reducing the need for decision making on the fly.

"Year on year, you go ahead with a fair degree of confidence, especially after what we saw in 2019. Whatever the season brings, you have a four-year plan, and you stick with it – you can't afford to mull over things," Ron said.

"2019 was a prime example of a season when, if you were farming to the conditions, you might have been second-guessing," he said.

“2019 did not give us that March starting rain, and 10 mm was our biggest rain to August. It wasn’t a great set up, but the only change to our program was dropping off legumes in one paddock and sticking to wheat and barley instead. That’s simply because there hadn’t been enough rain for legumes and our priority is to always ensure ground cover”.

THE FARM BUSINESS

Ninety per cent of the Hards’ farm is sown every year – a mix of cereals, fodder and hay crops. The typical mix includes wheat, barley, oats and vetch, and when conditions allow, lentils and legumes including field peas and chickpeas.

Over the past three years, recorded rain was: 250 mm in 2017 (near average), 162 mm in 2018 and 104 mm in 2019. Growing season rainfall (GSR) in these years highlight the need for weed control over the rest of the year, with 2017 receiving 202 mm, 2018 getting 93 mm and 65 mm in 2019 .

Wheat and barley account for about 40 per cent of the cropped

area, sheep fodder crops approximately 10 per cent, export oaten hay 30 per cent and legumes 20 per cent.

Ron and Nick also include sheep as a diversification opportunity and an alternative income stream when conditions allow. Merino lambs are bought in, purely on an opportunistic basis, and managed with the assistance of containment yards.

THE PLAN

The Hards’ four-year rotation avoids bare paddocks, with cropping paddocks maintaining a cover of stubble, plant residue or, at worst, cloddy soil.

Sowing is done to the calendar, with Ron and Nick starting the cropping program in late March, with vetch and stock feed crops. Break crops are used, including legume and pulse pastures, rotated with cereal and broadleaf crops. Break crops such as legumes are used to control grass weeds, but also increase soil nitrogen, allowing an overall reduction in fertiliser applications and in-crop costs.

Post-harvest, the rotation begins with chemical fallow during the summer to eliminate summer weed problems.

Sowing of cereal crops is programmed to start on 10 April, with the goal to be finished sowing by 20 May.

“After mid-May, the crop doesn’t get enough time to get good coverage by the time those windy months of August and September hit,” Nick said.

“So again, you need to be thinking about getting that cover in place when the soils are vulnerable and when the conditions can be difficult.

“And even last year, with only very minimal rains up until mid-May, we still had very good cover across the farm when the conditions turned bad.”

THINKING AHEAD

Ron said “mid-June to July was the time to start thinking closely about the following season.”

“Once cropping and spraying is finished, we’ll get out





across the whole farm with our agronomist and look for potential problems, such as rye grass and brome grass infestations.

“We took the decision nine years ago to get into export hay production. We had to buy extra machinery and plant to do the job, and it does require a lot of infrastructure, but financially, I think it’s been of great benefit.

“From a farm management point of view it gives an extra grass break in the rotation, and that’s an important factor in our farming now, breaking that grass cycle.

“So typically we will rotate a legume, for example vetch, in year one, then a hay crop, a Clearfield barley, then wheat.

“But it’s important to work with an agronomist on these sorts of decisions. Managing weeds is one of the key factors in successful rotations, but they’re complex planning decisions and if the expert advice is available, why not use it?”



Nick and Ron Hards. Photo, Agriculture Victoria

## SLOWING DOWN TO REDUCE RISK

Ron and Nick believe reducing speed during sowing is an important factor in maintaining soil coverage.

“You can’t be in too much of a hurry – we generally keep speeds back in any case, but last season, we had come out of a dry year, so we were extra careful. It takes longer, but it cuts the risk.”

Double cross-sowing in high risk areas is also a valuable practice, according to Ron.

“It means it’s rougher and has more seed on vulnerable areas, so you get good cover in place as soon as possible.

“I also don’t think prickle chains or disc chains have any place in this country.

“We’ve tried them in the past, but they just pulverise the soil and the stubble too much.

“You’re far better to have things a bit rough and cloddy because it will get cover more quickly and the soil will hold much better.”

## WEED AND DISEASE CONTROL

In terms of in-crop weed control, rotation is front and foremost. Pre-emergent and in-crop chemical controls are also important.

“Keeping the paddocks clean, keeping the summer weeds and fallow weeds under control to try to conserve moisture is one of the secrets I think,” Ron said.

“If there’s a summer rain and you eliminate the weeds then there’s nothing else drawing down the moisture you’re conserving and making available for your next crop.”

## ROTATION RULES

Ron and Nick apply some important guidelines to their farming program:

- Make a solid plan in conjunction with the best agronomist advice you can get – and follow it. Be decisive in your planning to eliminate decision-making under pressure.
- Cereal crops predominantly following legume or hay; field peas only on better soil types; oaten hay on legume stubble or fallow.
- If there are paddocks where grass numbers are building (e.g. brome, barley, rye grass) aim for a four-year grass control phase and use vetch early in that phase.
- Vetch/ barley fodders in paddocks with barley grass and brome grass.

## TINKERING THE PLAN

Even though the Hards have solid medium and long-term

farm management strategies, that doesn't eliminate important decision making in response to the emerging conditions.

"For example, we planned to sow more chickpeas in 2019, but when we got to mid-May and it was still dry, the conditions just weren't right to get them established," Ron said.

"So we dropped off some legume paddocks."

Again, Ron said knowing what was happening across the farm was an important practice.

"So in June or July, you get across the whole farm and have a look what's going on in terms of weed activities, and you factor that in to your decision making and planning.

"In November and December it's important to do paddock inspections again, looking for grasses and other issues.

"I think getting out across the whole farm at key points in the year is what really informs your decision making going forward and can eliminate some big headaches down the track.

"Grain and hay storage is also a major management tool that is a great drought aid, which allows marketing flexibility."

## **SHEEP MANAGEMENT**

"We got back into sheep to diversify the business. We established containment yards to allow better management," Nick said.

"It's been a good decision as part of our overall farm business planning and decision making. "But the lambs are bought and

sold purely on a business basis and we only do it when the opportunity is right, when the prices and conditions are right, and we think we can make a profit on them

"We have feed crops, but we make sure they're well established before the sheep go out. Once the crop is up and there's a good root system, the soil will hold even if the crop does get grazed off.

"We do put them out on stubble, but it's very controlled and when we're in doubt at all, we'll get them back in the yards – we'd sooner be feeding grain and hay and keeping the soil in the paddocks and that's what the containment yards are all about."

## **RESULTS**

The Hards' farming operation's six-year average across the property is approximately 1.8 tonnes to the hectare for wheat and barley. In 2019, on 65mm of growing season rain, the best wheat yield was 1.4 tonnes to the hectare and financially returned a profitable year overall.

"2019 was the driest year on record here. Our feeling is that if you can maintain your soil cover and harvest a crop from 75 percent of the farm on that sort of a season, then this is an exceptionally reliable system for this climate. Hopefully, we don't see years like that too often," Ron said.

## **GOLDEN RULES**

- Lighter soils are the most reliable production areas, year-on-year, but they are also the most erosion-prone.
- Maximise the retention of

stubble and ground cover at harvest and monitor grazing impacts.

- Push to get sowing done and crops up and established before the windy months of late winter.
- If areas are exposed, consider how you are managing pre-emergent chemicals.
- Manage stock carefully, including decisions around grazing crops which won't make harvest -- ground cover is rapidly removed by grazing and often provides little feed and there is a fine line between having enough (or not enough) cover to hold the soil.
- Try to use plant numbers and fertiliser applications (increase seeding rates and fertiliser) to establish cover quickly every year – to get plants up and growing as soon as possible.
- Use in-crop nitrogen management to maximise outcomes when possible.
- Try to manage the in-fallow scenario – how often you are using the same spray tracks – and use different work lines.
- Consider the hay option with crops that are frosted or are just not going to make it (and don't mull over the decision).

## **FURTHER INFORMATION**

For more information or to obtain a copy of relevant farm planning [www.agriculture.vic.gov.au/drought](http://www.agriculture.vic.gov.au/drought), contact your local Agriculture Victoria Extension Office or call the Customer Service Centre on 136 186.



# Murray River floodplains and the Mallee Dryland recognised as hotspots for wildlife

By Louise Nicholas

Senior Conservation Officer, Trust for Nature

Landholders around the Murray River are permanently protecting their properties to give threatened plants and animals a home forever.

Tom Begley from Natya is one of the latest landholders in the region to negotiate a conservation covenant on his property.

"I got a letter from Trust for Nature about Regent Parrots, then a flock of about 50 of them landed in a tree next to my house! I'd never seen them before, so I thought I'd better let them know," Tom said.

More than 1300 ha of land along the floodplains of the Murray River has been protected by conservation covenants.

Conservation covenants are voluntary agreements on a property title that enable

landholders to protect nature forever, even after the land changes hands.

Established in 1972, Trust for Nature is a not-for-profit organisation which was established to partner with landholders to protect land.

The Trust's Mallee Conservation Officer, Louise Nicholas, said landholders can play such an important role in looking after the plants and animals that are in the area and making sure they are there for future generations to enjoy.

She said, "There are some amazing properties around the Murray River that have old stands of native trees and shrubs that are worth protecting.

"These old trees often have hollows that parrots will nest in. Tom's property has great habitat

and it also has Spreading Emu-bush which is a rare plant with a beautiful purple flower. We are lucky to have other important native species in this area, like Carpet Pythons, Lace Monitors and Fat-tailed Dunnarts, a very cute, pint-sized predator related to quolls and the Tasmanian Devil."

These species rely on land like Tom's which act as buffers around state and national parks, creating wildlife corridors between them and connecting the landscape.

"Much of the remaining native bush on the Murray River floodplain is now considered endangered, vulnerable or rare, which is why it's so important to look after and protect what's left," Louise said.

"Conservation covenants can also be placed on farms and we work with many landholders across Victoria who have protected just a part of their property that isn't used for agriculture. What is protected really depends on their plans and how they use the property." Away from the Murray River floodplain, Regent Parrots rely on corridors of native trees, shrubs and grasses to move through the landscape to feed. "Patches of Mallee woodland in farm paddocks can be vital feeding areas for Regent Parrots, especially if they're connected to a road reserve with similar woodland habitat. Even if your property isn't close to the Murray River, we're still



Regent Parrot populations are recovering in the Mallee. Photo, Trust for Nature.

interested to hear from any landholders who have these patches of Mallee woodland that may support Regent Parrots and other native animals.”

Landholders don't need to pay anything towards the costs of covenanting.

For Tom, the covenant will give him peace of mind knowing

that the property's plants and animals will be protected long after he isn't there to look after it.

He said, “The nature and the birds and wildlife is the whole reason I moved here, I love living amongst it. I think it's a good idea to put this covenant on, it'll make sure that whoever lives here in the future has the same interests at heart.”

To find out more call Louise Nicholas from Trust for Nature on 0477 010 973, [louisen@tfn.org.au](mailto:louisen@tfn.org.au) or visit [trustfornature.org.au/projects/murray-river](http://trustfornature.org.au/projects/murray-river).

### Acknowledgement

This project was funded with the support of the Victorian Government.



# Murrayville Landcare group assisting farmers with real-time weather and soil moisture information

**By Glen Sutherland and Nelson Burand-Hicks**

*Mallee Catchment Management Authority*

The Murrayville Landcare Group was recently successful in obtaining funding through the Australian Governments' National Landcare Program – Smart Farms Small Grants. The group applied for matching funding to purchase and install six local weather stations that include soil moisture probes. The objective of the project was to provide important information, in real time, to inform critical on farm decisions including identifying and managing weather related risks and improving farm productivity. It can be argued when it comes to making important farming decisions there's no such thing as having too much background information at hand.

Murrayville Landcare group facilitator and weather station project coordinator Fiona Willersdorf recently spoke about the drivers behind the local weather station and soil moisture monitoring project and how the project is currently

tracking against the Landcare groups project objectives.

Fiona explained “the key driver behind the project concept was the recognition that by introducing weather stations and soil moisture probe technologies to the Murrayville district this would allow for the first time the ability to capture accurate local weather records. The closest Bureau of Meteorology weather station is located 80 kilometers away at Walpeup, making informed decision making difficult. The Landcare group members have been looking at the technology for some time and the decision to adopt it came after members attended the Hart Field days. During the field day members had an opportunity to see the technology up close and talk to farmers and advisers about the benefits the stations have brought to their farming, particularly in the South Australian York Peninsular and Clare districts.

Soil probes accurately measure the changes in soil moisture from rainfall events and moisture drawdown from crops at sub soil levels to depths crops and pasture can access. “This is literally a game changer for our Murrayville district farmers particularly with the current and forecast future extremely variable weather patterns here and elsewhere”. Fiona said. “Crop viability and ultimately the farming enterprise is directly threatened by changing rainfall patterns, more severe frosts and bursts of out of season heatwaves, especially at critical periods, that all seems to be occurring more often. Having quality and relevant data at hand increases the confidence needed to back production decisions”, she added. These decisions may include where and when to apply nitrogen fertilizers, apply chemical sprays and deciding when to cut crops for hay etc. Murrayville Landcare president Sam Parker commented there a number of





Murrayville Landcare Group Facilitator Fiona Willersdorf and group President Sam Parker at one of new Murrayville district weather and soils moisture monitoring stations. Photo, Mallee Catchment Management Authority.

other important benefits from the stations.

“Off target damage from spray drift can be a major problem and the stations will certainly assist in alerting farmers to adverse spray conditions. Harvest fire risk is also another consideration and again the stations can help predict problem days”, Sam said. “Another benefit is rainfall data collection that will go some way to understanding the variations in falls across the district on a seasonal and long-term basis” Sam added.

Experiences elsewhere have shown real-time field data collection is critical to understanding the impacts of weather on crops and pastures. To capitalize on varying seasonal conditions and better manage production, farmers benefit from access to local, accurate and real time soil and weather information to make better, more timely decisions both to manage threats and take full advantage of the prevailing weather to maximize

returns. The project has resulted in six weather stations and soil moisture probes being installed across a 30-kilometer line running approximately Northwest from the site at Panitya North (close to the South Australian border) to the Southeast at Tutye.

“We will continue to work with the technology providers Agbyte and Agricultural Victoria holding several workshops to help farmers to understand the new technology and how to use it to their advantage. Our aim is for everyone that has access to the data knows how to use it. Ongoing workshops mean as farmers use the data and mobile app, they will have more questions so a workshop later down the line can address issues once current COVID restricts allow”, Fiona said.

“We were very pleased with the help we received from the Mallee Catchment Management Authority (CMA) Landcare support staff” Fiona said. The Mallee CMA’s Regional Landcare

Coordinator and Regional Landcare Agriculture Facilitator both assisted the Murrayville Landcare group prepare and submit the successful application.

### Further information

For further information about this article or the the Australian Governments’ National Landcare Program and the Smart Farms Small Grants, please contact: Glen Sutherland Northern Mallee Regional Agriculture Landcare Facilitator.

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### Acknowledgement

This project is supported by the Murrayville Landcare Group, through funding from the Australian Government’s National Landcare Program.

**mallee**  
catchment management authority



Australian Government

**National  
Landcare  
Program**



# Birchip Racecourse Recreation Reserve: a successful partnership approach to restoring Buloke Woodlands

By Cameron Flowers

*Mallee Catchment Management Authority*

Through the Regional Land Partnerships Threatened Ecological Communities Project, the Mallee Catchment Management Authority (CMA) has been working with the Birchip Racecourse Recreation Reserve Committee of Management and Barengi Gadjin Land Council to protect and restore a precious remnant of Buloke Woodlands in the southern Mallee.

## The significance of Birchip Racecourse Recreation Reserve

Buloke Woodlands were once widespread on the more fertile soils of the Mallee. During settlement and land clearing for grazing and cropping these woodlands were extensively cleared and now exist as isolated and fragmented remnants, subject to a number of ongoing threats. It has been estimated that between 60 to 75 per cent of these woodlands have been cleared in the Victorian Mallee

region. In recognition of the serious threat this presents to their ongoing survival, Buloke Woodlands are now classified as endangered at both a state and commonwealth level (The Buloke Woodlands of the Mallee are part of the 'Buloke Woodlands of the Riverina and Murray Darling Depression' an ecological community which is listed under the federal Environment Protection and Biodiversity Conservation (EPBC) Act 1999).

With the loss of extent and decrease in vegetation quality of these woodlands has come a loss of habitat for a distinctive suite of flora and fauna species, many of which are now rare or threatened. Many much-loved Mallee birds use these woodlands, including the Flora and Fauna Guarantee-listed Major Mitchell's Cockatoo and a range of smaller species: the White-browed Tree Creeper,

the Grey-crowned Babbler, Gilbert's Whistler, the Hooded Robin and many more.

This makes the Birchip Racecourse Recreation Reserve, located in the southern Mallee three kilometres north west of Birchip, highly significant. Within a heavily cleared and fragmented agricultural landscape, the 45-hectare Birchip Racecourse Recreation Reserve is a relatively large remnant of Buloke Woodland and is connected on its western front to a large remnant of Buloke woodland on private property. The Reserve previously housed the Birchip horse racing track, which ceased operating in the 1950s. The Reserve is now managed by engaged local community members as part of the Birchip Racecourse Reserve Committee of Management. Under the Regional Land Partnerships Threatened



Supplementary planting of Buloke seedlings at the Reserve in 2019. Photo, Mallee CMA



Ecological Communities project, the Mallee CMA has been working with the Committee of Management since 2019 to restore and protect the Reserve's precious Buloke Woodlands.

***"The project at the Birchip Racecourse Recreation Reserve is a fantastic effort, to plant so many trees and water them. It will be an asset for the future. It will provide a great area for the birdlife, wildlife and the community."***

Jack Coffey, Chairman, Birchip Racecourse Reserve Committee of Management.

### **Restoring the canopy layer of the Reserve's Buloke Woodlands**

While Birchip Racecourse Recreation Reserve contained Buloke, Black Box, Gold-dust Wattle and a number of spear grasses (particularly feather grass), like many stands of Buloke Woodland the canopy layer was severely depleted. The Buloke Woodlands of the Reserve had experienced some past clearing and ongoing grazing by rabbits. Most importantly, the canopy species were not regenerating, and this lack of regeneration of overstorey species is the major

threat facing Buloke Woodlands throughout the Mallee region. Active management intervention was required to ensure the future viability of the woodlands, and the plants, insects and animals which depend on them. Working with the Committee of Management, a program of supplementary planting of canopy species across the 45-hectare reserve began.

Key overstorey species which are being planted include Buloke, Slender Cypress Pine, Sugarwood, Bull Mallee, Dumosa Mallee and Black Mallee Box. In 2019, over two thousand tubestock were planted. In 2020 around 10,000 tubestock of six overstorey species were planted, including 4,700 Buloke seedlings. A further 11,000 overstorey seedlings will be planted in May 2021. All seedlings are protected from grazing by tree guards, and are 'water-jetted' in, a method which gets water deep into the soil. Soil moisture levels are carefully monitored and a program of follow-up watering of the plant stock is undertaken when rainfall levels are inadequate to maintain the health of the stock.



Tackling the rabbit problem at the Reserve Photo: David Sickerdick

### **Sourcing plant stock for revegetation works: working with Barengi Gadjin Land Council**

The Mallee CMA is working in partnership with Barengi Gadjin Land Council (BGLC), and its Wail Nursery to source the tubestock for supplementary planting in the Birchip Racecourse Recreation Reserve. Seed for propagation is collected by Wail Nursery using the '70/20/10 rule' to support safeguarding against the effects of climate change: 70 per cent of seed is collected from the local bioregion; 20 per cent from the adjoining bioregion and 10 per cent from a region with similar climatic conditions to those which have been modelled to occur in the Mallee in 2030. To maximise the genetic diversity of the planted tubestock, seed for the propagation of stock is collected in a number of different 'collection zones' within each region. BGLC then coordinate the planting of the tubestock on site.

### **Managing the threats of rabbit grazing and environmental weed invasion**

A major causal factor in the lack of overstorey regeneration (and other woody species) is rabbit grazing, with previous work determining that rabbit abundance needs to be less than one rabbit per spotlight kilometre to facilitate the natural regeneration of woodland species. Prior to on-ground works being undertaken by the Mallee CMA, the Reserve had been heavily infested with rabbits. The serious environmental weed, Boxthorn, was also scattered throughout

the Reserve. To protect the growing seedlings and facilitate natural regeneration, intensive rabbit control was undertaken across the 45 hectares of the Reserve prior to planting and all infestations of Boxthorn were treated.

## Conclusion

Through this project the Mallee CMA is working with the local community and Traditional Owners to deliver an integrated approach to protecting and restoring the Buloke Woodlands of the Birchip Racecourse Reserve. Buloke are a slow growing tree and it is critical this species be replanted now to ensure the future survival of these endangered woodlands and the fauna which depend on them.

## Acknowledgements

This project is supported by the Mallee Catchment Management Authority, through funding from the Australian Government's National Landcare Program.



Major Mitchell's Cockatoo, one of several threatened bird species that use hollows in old Buloke trees for nesting. Photo: Mallee CM

## Further information

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# Mallee Sustainable Farming are pleased to bring Virtual Field Days to Victorian Mallee Farmers this year

## “Vic Lockdown Lowdown Video Series”

**By Tegan Buckley** *Communications and Media Manager, Mallee Sustainable Farming*  
**and Glen Sutherland Mallee** *Mallee Catchment Management Authority*

Despite COVID19 the show goes on for Mallee Sustainable Farming (MSF) Victorian Field Days – but it's a little different this year.

We know there's nothing better than attending field days in the flesh.

MSF enjoy networking at field days with members,

farmers, Agri professionals and researchers while sharing new findings and enjoying a cold drink at the end of the day. However, due to public health related restrictions in Victoria at this time of the year when MSF would normally run their field days, a virtual field day is the next best thing to communicate the findings and key takeaways from MSF's

Victorian trials this year.

In lieu of Victorian Field Days MSF are presenting a series of videos focusing on trials, results and findings undertaken in the Victorian Mallee region as part of MSF's 'Vic Lockdown Lowdown Video Series.'

In the first video released in October as part of MSF's Vic





Frontier Farming Systems Michael Moodie introducing the innovative “Lockdown Lowdown” virtual field day video Series. Photo, Mallee Sustainable Farming.

Lockdown Lowdown series, Michael Moodie from Frontier Farming Systems provides a summary of an innovative trial undertaken by Kenton Porker and his team from SARDI at a trial site in the Victorian Mallee.

The video provides a run-down of the trial which investigated management strategies to reap the benefits of early sown wheat along with mitigating risks of sowing early as the season progressed. Michael explains choosing varieties that adapt best to low rainfall environments and he also highlights in this trial how they slowed wheat phenology through simulated grazing for a later flowering time.

But that is just the start with more videos also available covering trials and topics.

In video 2, Michael Moodie discusses how far we can push the longer-term benefits of deep ripping Mallee sandy soils.

Michael explains the varieties sown at this site and what we are looking for in terms of getting more out of our sandy mallee soils at a National Landcare Program funded trial site in Victoria.

Video 3 is all about Dryland Legume Pasture Systems with Roy Latta from Frontier Farming Systems. Roy discusses options for pasture in deeper sandy soils. The major driver of this trial site in Victoria is to compare the performance of Seradella pasture and Vetch in deeper sandy soils.

Jason Brand, from Agriculture Victoria features in video 4 with a legume break crop performance update at a Southern Pulse Agronomy site near Speed, Victoria.

In video 5 Michael Moodie provides an overview on pulse inoculation and N Fixation at a trial site near Kooloonong,

Victoria. The GRDC N fixation extension project aims to promote best management pulse inoculation and N fixation practices. Demonstration trials will be established with leading growers and field walk activities will be held with farmer groups and agronomists at each site.

Further videos are set to be released so be sure to visit <https://msfp.org.au/projects/field-days-vic/> to watch all of the Lockdown Lowdown videos.

## Acknowledgement

This project is supported by Mallee Sustainable Farming, through funding from the Australian Government's National Landcare Program.

**Mallee Sustainable Farming**





# Does mixed cover cropping in winter have a place in the low rainfall Mallee?

By Richard Saunders

*Agribusiness Consultant, Pinion Advisory*

## What is mixed cover cropping?

Diversity. One of the great drivers of successful farming in the Mallee is diversity – a rotation with a range different crops; where each crop brings some strength -something different to the game. We have come a long way from just growing wheat year in year out, because as we have seen in a monoculture yields go down as disease and pests come in. Diversity of crops brings new vigour, refreshes the soil, controls root disease, allows

different grass control options, nitrogen fixation in the case of legumes, different root systems and importantly different soil microorganisms.

So what is it? Cover cropping is the 'a crop in between cash crops for the protection and improvement of the soil'. Mixed cover cropping is the planting of a crop of diverse species between cash crops for the same reasons. In a Mallee context a mixed cover crop can take the place of a chemical fallow or even a break crop. A mixed

cover crop is so much more than simply Oats and Vetch together; we suggest that you might want to think bigger than just mixing two species– there are mixed cover croppers planting mixtures of up to 25 species.

## What are the potential benefits of mixed cover cropping?

There are many wonderful claims from proponents of mixed cover cropping to soil health and production. Some of the potential benefits of cover cropping are:



Mixed cover crop of Barley and Vetch. Photo Michael Moodie, Frontier Farming



- Build soil life (microorganisms) and fertility and organic carbon
- Suppress weeds
- Reduce erosion
- Cut fertiliser use and costs
- Cut herbicide and insecticide use and costs
- Improve yields of money making sown the next season
- Increase soil carbon and organic matter levels
- Decrease nutrient loss to leaching
- Prevent soil moisture loss through increased (even complete) ground cover

All Mallee growers would want to see all or at least some of these things for their paddocks and farm. There is more work to be done to identify these benefits out for the Mallee

## The Engine Room

Microorganisms are the engine room of the soil and therefore any farming system. There are billions of a very wide range of soil 'bugs' in each tablespoon of soil. Some are pathogens (rhizoctonia) and many are beneficial (rhizobia), and they all contribute. Every time we disturb the soil we reduce and change the mix of these bugs in the soil. Each crop we grow changes the mix as they foster some bugs and inhibit others. Really, we are only now finding and identifying out how many different types of microorganisms there are in our soils – let alone what they do.

Like a natural environment. A mixed species crop is what

we see in a natural landscape – a wide range of plants with different root systems and canopies, different soil type preferences all feeding and fostering a diversity of microorganisms. Rarely do you see in a natural environment a single plant species dominating a landscape for years on end.

Organic carbon. We need to stop the decline in organic carbon. The organic carbon is a measure of the fertility of a soil. The organic carbon fraction of a soil is a reserve of mineral nutrients that as the mineralisation happens the organic carbon component releases and can later store plant nutrients. Our Mallee soils have decreased in organic carbon and, despite our best efforts with no till farming techniques, are still dropping and certainly are not growing. Some of the sandhills are almost pure sand; much like a hydroponic system where we must supply all the nutrients for plant growth. Organic carbon drops with tillage and erosion and builds very very slowly; think decades rather than yearly changes.

Mixed cover cropping has the real potential to arrest some of this decline.

## How can I make mixed cover cropping work on my paddocks?

There is a lot we still need to find about the benefits of a mixed cover cropping system in a Mallee environment. We can start with a farm rotation as per normal with the mixed cover crop replacing a chemical fallow. The winter crop can be terminated in the same way as a fallow with subsequent savings

of moisture and nitrogen. The benefits potentially flow in the following seasons with improved crop health and yield.

The longer a mixed cropping system is used in rotation the better we hope to see the health and structure of the soil improving as we foster and promote the diversity of our system

## Livestock benefits?

A cover crop with diversity offers another level of benefits for growers running livestock. Variety in crop species in feed crops offers a more balanced diet to stock through a better balance of nutrients. Cover-cropping farmers reported stock 'self-medicating' by selecting specific plants from within a cover crop; eating what they need for health rather eating what's on offer. There are many reports of improved stock health grazing on diverse cover crops. We are all told to eat a wide range of foods and livestock are not that different – they will perform better with a diverse diet; with a wide range of plant species.

Mixed cover crops can be sown early with little impact on the normal cropping program – thus also providing early feed or filling in an autumn feed gap.

Grazing. Cover crops can be grazed, so long as the species included in the mix are safe for stock. There are two general rules for grazing cover crops:

1. Crash graze - use big mobs on small areas for short periods. This applies high grazing pressure, which

encourages efficient use of the cover crop, but avoids over-grazing and erosion. Strip grazing cover crops would give even greater control of grazing while improving the efficiency.

2. Allow stock to eat only a third of the biomass, with the residual cover retained for soil health.

Maximising dry matter. Most of the regenerating pastures in the Mallee have a diverse range of species – medic, wild turnip, thistles, grasses – ryegrass, barley and brome, geranium, volunteer cereals and grain legumes. A group of farmers sat down recently and counted 60 plus species regularly growing as weeds in their paddocks; there is a broad range of plants already here. However, most of these plants are weeds and have

very low productivity - low dry matter and mainly concerned with producing a large amount of seeds.

Sowing a mixed cover crop with highly productive species which are similar species to what we already have but with improved production will promote better utilisation of the paddock. With a much wider range of species in a mix there is better chance that the plants will find their niche soil and landscape with better overall overage.

I think mixed cover cropping needs to find a place in the Mallee for the sake of our soil health.

### Acknowledgment

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funding from the Australian Government's National Landcare Program, Grains Research and Development Corporation and the South Australian Department for Environment and Water

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**Mallee Sustainable Farming**



# AgriFutures Horizon Scholarship Applications Now Open

By Angela Wakeman

*AgriFutures Australia, Manager Capacity Building*

Applications for the 2021 AgriFutures Horizon Scholarship Program are now open. Students entering their final two years of an undergraduate degree who are passionate about the future of Australian rural industries are encouraged to apply.

The AgriFutures Horizon Scholarship is a collaboration between many of the Research and Development Corporations (RDC's) to provide eligible university students with a \$10,000 bursary over two years and plenty of opportunities to develop their leadership skills and expand their networks. As part of the Program, students

also attend an annual four-day professional development workshop and complete two weeks of industry work placements.

The Horizon Scholarship Program is open to students studying agriculture-related or STEM degrees with major studies and/or subject selections that align to agriculture.

In acknowledging that the prosperity of agriculture is going to require a stronger inter-disciplinary approach, the inclusion of STEM degrees broadens the Horizons Scholarship offering.

AgriFutures Australia Managing Director, John Harvey says that collaboration across a broad range of disciplines will be crucial to the growth of our rural industries and is excited to see the Horizon Scholarship Program evolve to meet this need.

"Our cohorts are no longer made up solely of ag students from traditional farming backgrounds. We now have scholars studying engineering, economics, plant and animal science," said Mr Harvey.

"We have scholars who have never set foot on a farm in the





same room as fifth-generation farmers, and this diversity in backgrounds and thinking is beginning to elevate the conversations beyond anything we've seen before."

The diverse range of industry sponsors involved in the Horizons Scholarship program represents the desire to build prosperous and sustainable rural industries. To do this, there is a need to build the skills, capacity, leadership and knowledge of the future rural leaders of Australian agriculture.

"Creating a space for students to collaborate across traditional and emerging areas of rural industries will create a platform of networking, idea creation and forward thinking that is invaluable to the rural industries of the future and I thank all of the industry sponsors who recognise the value and importance of the investment into future leaders."

"Australian Eggs, Australian Wool Innovation (AWI), Cooperative Research Centre

for Developing Northern Australia (CRCNA), Cotton Research and Development Corporation (CRDC), Dairy Australia, Grains Research and Development Corporation (GRDC), McCaughey Memorial Institute and Meat & Livestock Australia (MLA) are all sponsors of the Horizon Scholarship program, and our scholars have seen first-hand the benefits associated with having such valuable industry connections," said Mr Harvey.

To be eligible to apply students must:

- Be an Australian citizen or permanent resident
- Be studying an undergraduate degree at an Australian university
- Be entering the final two years of their degree in 2021

Scholarship recipients will be selected on the basis of their commitment to a career in agriculture, as well as their

leadership potential and tertiary academic record to date.

Applications close Friday, 15 January 2021 at midnight AEDT. Shortlisted applicants must be available for a telephone interview in February 2021, and scholarship winners will be announced in April 2021.

For more information and to apply visit [www.agrifutures.com.au/horizon](http://www.agrifutures.com.au/horizon)

Current sponsors of the AgriFutures Horizon Scholarship: Australian Eggs, AWI, CRCNA, CRDC, Dairy Australia, GRDC, McCaughey Memorial Institute, MLA and AgriFutures Australia (Rice and Chicken Meat research programs).

### Media enquiries:

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# Top tips for selling and transporting animals

By Deb Banks

*Agriculture Victoria*

Agriculture Victoria has created a livestock transport checklist to help farmers prepare and plan their trips.

Agriculture Victoria technical specialist Kirstie Anderson said the transport of cattle, sheep or goats involves rules and regulations across a number of agencies.

“The new ‘Transporting livestock responsibilities and recommendations’ webpage provides everything farmers need to be across from market expectations to curfews, animals being fit to load, planning the journey and getting the paperwork right,” she said.

“If you’re selling livestock, either for slaughter over the hooks, to the saleyard or in a private sale, it’s important to consider whether the stock meet your customer’s requirements.”

“Meeting market specifications can lead to higher prices compared to selling stock that is outside the specifications and can help to create a good relationship with your supply chain,” Ms Anderson said.

“The page provides a checklist of everything you need to be ready



Check out the livestock transport checklist. Photo, Meat and Livestock Corporation

for market, to plan your journey and to get the paperwork right.”

The checklist includes links to resources relating to market specifications such as age or dentition, weight, fat or condition scores, withholding periods, Livestock Production Assurance (LPA), Meat Standards Australia (MSA) or other quality assurance program information.

Producers, stock agents and transporters can access curfew advice and information as well as links to MSA handling requirements and standards to better understand specific supply chains.

The page has links to Australian Animal Welfare Standards and Guidelines, including the handy and easy to use booklet ‘Is the animal fit to load?’.

“Good preparation can ensure better animal welfare, minimize transport-related losses and can support better eating quality outcomes,” Ms Anderson said.

“We’ve included reminders about ‘spelling periods’ for livestock if a journey is going to take longer than the maximum time allowed, as well as maximum times off feed and water to help producers put their best plan forward.”

For more information visit the ‘Transporting livestock responsibilities and recommendations’ web page or contact Kirstie Anderson on 0437 990 967.



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