

[View this newsletter in your browser.](#)

Spring 2020



small talk

a seasonal newsletter for rural landholders

Welcome to the Spring 2020 edition of Small Talk!

In this edition:

- Utilising native grasses, biochar and mycorrhizal fungi in viticulture
- Converting woody weeds into healthy soils
- Regenerating soil health in the Hills & Fleurieu Landscape Board management region
- Horse keeping in peri-urban environments
- Welcome Rayne Simpson to the Hills and Fleurieu Landscape Board!
- Heritage Agreements Grants announced
- Handy Hint - rabbit control
- Things to Do – Spring
- Events



Andrew Fairney from Seeding Natives with Namgarina vineyard owner Julianne Troup. Photo: Abbie Thomas.

Utilising native grasses, biochar and mycorrhizal fungi in viticulture

In agriculture, and specifically viticulture, there is often a tendency to have an environmental system that is closer to a monoculture rather than a functioning system with high biodiversity. Primary production, including viticulture, makes up a significant component of land use throughout the Adelaide Hills and Fleurieu region. It is therefore important to find ways to incorporate biodiversity into agriculture, which is beneficial for both the agricultural sector as well as our natural environment. This concept is

particularly important for this region, as it recognized as one of Australia's biodiversity hotspots.

Native grasslands are crucially important for many threatened species in the region, however only 1% of native grasslands still remain in South Australia. Revegetation attempts often focus on over-story trees and shrubs rather than the species-rich ground flora of herbaceous plants and grasses. Seeding Natives Incorporated is a not for profit association and registered environmental charity which aims to address this issue by specialising in the ground up ecological restoration of grassland ecosystems. Seeding Natives is striving to develop methodologies and biodiverse systems that benefit agricultural systems as well as the natural environment.

A study site was set up at Namgarina vineyard, near Mt Pleasant, to examine the best approach to establishing native grassland in the inter-rows in a vineyard. Inter-row planting with native grasses supports the beneficial insect populations and also makes the vines part of a functioning system that will require less inputs in the long term.

For this project, nine treatments were trialled:

- Arbuscular mycorrhizal fungi (AMF) and a diverse mix of native species
- AMF and native grasses
- Biochar and a diverse mix of native species
- Biochar and native grasses
- Biochar, AMF and a diverse mix of native species
- Biochar, AMF and native grasses
- Control
- Diverse native plant species mix
- Native grasses

Baseline information was collected before treatment, including comprehensive soil analysis inclusive of the soil microbiology. Vegetation monitoring including species and cover was done before treating the site, so that comparisons could be made throughout the duration of the project. Photo points at the end of each row kept a record of changes over time. Vine vigour and crop yield were recorded. Weeds were controlled to reduce competition while the native species got established.

Results from this project indicate two important trends. Firstly, improving the soil with biochar improves the ability of the native grasses to emerge and establish at the Namgarina vineyard. Secondly, the addition of the fungi may also benefit the growth of the native species with their ability to access water and nutrients from further afield in the soil through their symbiotic relationship with the roots of the plants. Soil testing also showed a trend for potential positive change.

This project is the beginning and ground work for a longer term program designed to monitor and assess the long term effects of the nine treatments described. As the species become established, there will be the ability to also measure the influence on the grapes and ultimately the wine.

This project is jointly funded by the Hills and Fleurieu Landscape Board and Seeding Natives Inc. To learn more about Seeding Natives and its services, please [visit the website](#).



Greg Butler (South Australia No Till Farmers Association) holding Biochar made from removed woody weed (wild olive).

Converting woody weeds into healthy soils

The McLaren Vale Biodiversity Project (MVBP) is a community group which aims to remove feral vegetation from selected creek lines and roadsides within McLaren Vale, and replace them with endemic species and maintain those plantings through their establishment phase. One of the key focuses of the group is enhancing the capacity of the community by providing training in practical skills such as the management of weeds and tree planting, and also by educating the community on the importance of biodiversity. MVBP works at a landscape scale, creating corridor linkages to, and working on, areas of significant remnant native vegetation.

Through a grant received from the Hills and Fleurieu Landscape Board, the group recently undertook a project to show how woody weeds removed from areas of high biodiversity can be turned into food for soil.

To begin, the group removed an understory of olive trees from remnant vegetation which has been providing valuable habitat for endangered birds such as the Yellow-tailed Black Cockatoo. The olives were cut off at stump

level by chainsaw, then treated with the drill and fill method to kill the lignotuber. The area was then replanted with native understory. Native plant species benefit viticulture by providing a home for insects, and this in turn attracts beneficial arthropods such as parasitic wasps, and also improves biodiversity and number of species in the area.

The removed olives were converted to biochar, a form of carbon that is useful to soil. Astonishingly, one gram of biochar has the surface area of a football oval, and this surface area can be inoculated with compost and used to improve soils. Biochar helps compost to last longer in vineyards by improving the water holding capacity of not only the compost, but also the existing soil. It also increases the nutrient holding capacity by preventing nutrients from leaching out of the soil.

The biochar was created by placing the olive logs into a pit and burning them. Airflow into the pit was encouraged to draw the fire downwards. Once the logs were charred all the way through, they were quenched with water several times, ground up and mixed with compost.

Biochar is a stable, long term way to store carbon and make it available for soil mycorrhizae and fungi, further increasing the soil health.

There are numerous beneficial outcomes to this project, including weed removal, increased biodiversity, improved soil health, and increased habitat for local fauna. The carbon and soil health story continues to evolve-**watch the video** to find out more!

The Hills and Fleurieu Landscape Board is proud to support the McLaren Vale Biodiversity Project.



Project manager James Hall preparing soil samples using sterile techniques for soil DNA analysis.

Regenerating soil health in the Hills & Fleurieu Landscape Board management region

Regenerating soil health is a Hills and Fleurieu Landscape Board project that is assessing soil carbon levels in permanent-pasture farming systems.

With the cooperation of four landholders in different parts of the region with different soil types, the project has been carefully sampling soils with a range of tests. These include total organic carbon, organic carbon components such as humic carbon, and soil DNA analysis.

It's widely understood that carbon – along with being an essential plant and animal nutrient and the building block of living things – is a key ingredient of a healthy and productive soil.

It is also becoming better understood that many soils have the capacity to increase soil carbon levels, and so absorb some of the carbon pollution present in the atmosphere (known as being a carbon 'sink').

James Hall from the Hills and Fleurieu Landscape Board is managing the project.

"What is not well known is the optimal level of soil carbon in particular soil types, in particular climatic zones, and under particular land use and management regimes," he said.

"All of these factors can influence soil carbon potential."

Mr Hall said regenerative farming practices had been included among the land management regimes being assessed. Soil material that is derived from living matter – mostly plant roots – is called soil organic matter. Carbon is the key component of all living matter, and is the part of soil organic matter that is measured in laboratory tests.

The project is looking at how carbon levels differ in different soil types and different permanent-pasture management systems. It is also looking at how carbon levels differ in farmed soils compared to adjacent soils under native vegetation – which will improve understanding of natural limitations to soil carbon as well as the potential on farmed land.

All the field sampling work and testing has now been completed, and once assessed, a report will be available later in the year.

"An exciting part of the project is the assessment of soil carbon components, especially the proportion that is in the form of humus," Mr Hall said.

"This is the stable yet reactive part of soil organic carbon that provides so many benefits to soils and the environment.

"Another exciting aspect of the project is using a new soil DNA testing process, which measures the different kinds of bacteria and fungi that inhabit different soils. Although assessment of this sort of data is in its infancy, down the track, information like this could be used to directly measure soil health by discovering what lives within it."

Keep an eye on our [website](#) for the full report when it becomes available.



Horse keeping in peri-urban environments

Funded by the Hills and Fleurieu Landscape Board, Horse SA have recently released 'Peri-Urban Horse Keeping in South Australia - Tips for the management of stable yards and small horse properties'. The booklet contains a wealth of knowledge for private and professional landowners and managers in both rural and near-urban properties. From design considerations for stables, yards and utility areas, to soil health, water and pest management, this booklet covers everything you need to know in easily understood language. Written for South Australia with local knowledge and information, it is equally relevant to horse holdings interstate and even

overseas. Website links to relevant government legislation and fact sheets make this a comprehensive resource.

View the **electronic version**.



Welcome Rayne Simpson to the Hills and Fleurieu Landscape Board!

Nina Marni (hello).

My name is Rayne Simpson, proud Kaurna man and Aboriginal Partnerships Officer within the newly formed Hills and Fleurieu Landscape Board.

Before taking on this role, I worked as a Liaison Officer within the Kaurna Partnerships Team, providing support to the various teams within the former Adelaide and Mount Lofty Ranges Natural Resources Management Board, with engagement of the Kaurna Community within their projects. Prior to this I worked within the banking industry for 15 years, my final position being Project Manager for a suite of applications and managing staff both on and offshore.

Throughout my career I have been privileged to work with Kaurna elders and emerging leaders in a number of capacities. I see this role as a new opportunity for me to continue my own journey of learning, not only about my people and culture, but also about our neighbouring Aboriginal brothers and sisters within the Hills and Fleurieu Landscape Board footprint.

I am very excited about the year ahead. I believe that by working together in partnership we can ensure that the culture and values of the Aboriginal people of South Australia are meaningfully incorporated within environmental projects across their lands.

You are welcome to get in touch with me via [email](#).

Ngaityalya (thank you).



Heritage Agreements Grants announced

The Heritage Agreements Grants Program offers funding to current and aspiring owners of Heritage Agreements to plan and undertake activities on those Heritage Agreements, including purchase of materials and services for pest plant and animal control programs, fencing, revegetation and threatened species assessments to name a few.

Two initial grant rounds are on offer:

- Small grants - up to \$10,000, for better managing Heritage Agreement areas, applications open now.
- Large grants - more than \$10,000, aimed at achieving landscape-scale conservation outcomes across multiple properties, on offer later in 2020.

Apply for a Small Grant - applications open now

Before you apply it is essential that you read the **Small Grants Guidelines for Applicants**.

Then complete the simple small grants application form and a team member will be in touch to discuss your application.

Apply via the **online form**.

Applications close 5 October.



Photo: Scott Jennings

Handy Hint - rabbit control

Rabbits are regarded as agriculture's most costly pest, estimated to impact on agricultural production by \$200 million a year. They are also a significant threat to biodiversity affecting the survival of more than 300 nationally threatened plant and animal species.

Rabbits are difficult to control and will quickly re-invade, so they need constant management. Their deep burrows enable them to survive most environmental conditions. They adapt to a variety of food and can graze plants to ground level.

Planning a control program

Plan and prepare your control program in advance so you can implement the control methods at the right time and in the best sequence. Try to work in collaboration with your neighbours, as this can achieve more widespread and successful results.

Look for signs where rabbits have been active, such as burrows, fresh scratches in the soil, scattered or piled dung and damage to vegetation. They also take refuge above ground, in areas such as plant beds or wood heaps. Rabbits are territorial, generally staying within 200 metres and feeding mainly at 25 to 50 metres of burrows and shelter.

How to control this animal

There are a number of methods for rabbit control, and it is best to use an ongoing combination of them. Start by estimating the total area the rabbits are using – this is where your control program will need to concentrate.

Successful control methods include the following:

- Careful planning and working with your neighbours
- Biocontrol-K5 virus release in late Spring
- Baiting
- Destroying warrens and burrows
- Removing above ground refuges
- Fumigation
- Exclusion fencing.

It is a landowner's legal responsibility to control rabbits on their property under the *Landscape South Australia Act 2019*.

Our Landscape Officers can help you plan a rabbit control program for your property and work out which combination of control methods will be most effective, and can also provide more information on the K5 virus release.

Find your local **Landscape Office**.



Things to Do – Spring

- If you haven't already done so, worm test sheep and calves and treat if necessary.
- Start your summer rotational grazing plan by assessing how much ground cover you have, how much feed is available and how much feed to buy in.
- Assess your stocking rate – do you need to offload any livestock?
- Have you set up a **stock containment area**? If not, now is the time if this is required.
- Assess your water resources for the coming months. Will you have enough water and water points/troughs for your livestock?
- How are your crops looking? Consider cutting crops for hay or silage that may not make it to grain. Cut hay when digestibility is highest. Good quality hay should appear green and be sweet smelling, have good legume leaf and be free of weeds. Silage can often be a better option if the hay crop is heavily weed infested or likely to make poor hay.
- Check for any leaf diseases or pests and treat as required.
- Watch out for germination of pasture weeds. If your initial infestation was severe, follow-up sprays may be required in spring when the warmer weather germinates dormant seeds. At this time of year weeds will be quick to flower and set seed, so preventing seed-set is critical to reduce next year's weeds. If chemical control is not an option make sure you hard graze or slash.



Events

Short course - Bushfire recovery and land management

Join us for an eight week course on rural land management and bushfire recovery, presented by specialist rural consultants and Landscape Board staff.

This course is run on consecutive Thursday evenings, beginning on the 1st of October and concluding on the 19th of November. A Saturday morning farm walk is also included on the 28th of November.

Please note this course is subsidised and only available to those with properties affected in the Cudlee Creek fire.

Visit our [events page](#) for more information, including an outline of the course. Registrations are via [Eventbrite](#). Registrations close 27 September 2020.



Your questions and comments are welcome. Please email Sophie Bass, Regional Agriculture Landcare Facilitator for the Hills and Fleurieu Landscape Board, sophie.bass@sa.gov.au. The Regional Agriculture Landcare Facilitator Program is funded by the Australian Government's National Landcare Program.

[Unsubscribe](#) | [Web version](#)