



Landcare Checks In - Monday 8 February 2021 at 2.00 – 3.00 pm

Discussion Topic: Native grasses for grazing and grain

- Why are Native Grasses so valuable?
- What research and trials are underway with native grasses?
- How can we utilise native grasses in our system for biodiversity and productivity?

View the recording here -

https://us02web.zoom.us/rec/share/rwWBMrnIbK3aLpFm86up6J4kutnusVS9ylg9g5J6sG7ovq2dE4kUH_Mdx_aAfDFy5_0DHleib7wJdkQGb



Discussion Notes

Tina Bell, University of Sydney tina.bell@sydney.edu.au

Academic at the University of Sydney specialising in bushfire research. Tina did her undergraduate and postgraduate studies at the University of Western Australia, the latter in ecology and physiology of the family Ericaceae. Tina is currently involved in a research project about using native grasses for food.

- University of Sydney web page Indigenous Grasslands for Grain <https://www.sydney.edu.au/science/our-research/research-areas/life-and-environmental-sciences/indigenous-grasslands-grain.html>
- Small pilot project with seed funding from the Sydney Institute of Agriculture over 18 months to show what can be done with native grasses
- Resources – including videos and webinars and a public report providing a summary of what has been done. Bottom line – It can be done! Native grasses can be grown for a grain industry
- Native Grains from Paddock to Plate <https://www.sydney.edu.au/content/dam/corporate/documents/faculty-of-science/research/life-and-environmental-sciences/sia-native-grains-paddock-to-plate.pdf>

Bec Cross, University of Sydney

Human Geographer working at the University of Sydney with interests in sustainable, regenerative and Indigenous agriculture and land management. Rebecca is currently working on projects related to native grasslands for grains and carbon farming.

- Background - Human Geographer exploring sense of place and belonging with the natural and build environment. Working on Sustainable farming and regenerative practices and looking at the sociocultural dimensions of that, how its changing relationship with place and each other and how it has created shifts in the farming subculture. Understanding environmental systems as socio ecological systems so understanding that health of humans is connected with the health of the environment and that our resilience is actually embedded in that as well
- Statistics show that Indigenous enterprise development is only 1 % ownership so not equitable.
- Collaborated with local indigenous communities to identify opportunities and barriers to owning land and pursuing native grasses enterprises.
- See a clear way forward for Aboriginal Councils who own land, however funding is a limitation. Research is looking at how groups can care for country and develop some form of sustainable profit from their land so that Councils can become more self-sustaining. Multiple motivations for why a community might want to be involved with native grasses– money, cultural reasons caring for country, education of children, walking songlines and passing on knowledge
- Cotton farmers interested in native grasses on their marginal land. Looking at ways that indigenous groups could harvest native grains through partnerships with local farmers.
- Value chain – how much a community values a product they produce and the number of process the products go through and that that chain could be completely aboriginal owned (growing, harvesting, producing and selling).
- Who are the consumers? – A lot of native foods have a high costs and often often sold in top end restaurants or small grocery stores in high socioeconomic suburbs. Looking at how can we have equity in the consumption of native grains.
- Consumerism - Not the monoculture that we are used too. There will be a different mix in different seasons, in different environments so part of the research is about how willing would consumers be to get a different product every time.

Roy Butler

A retired veterinarian, Greenie from way back in his life in Tasmania. Roy is Interested in whether it's possible to profitably integrate natural systems into farming and is trying to do this on his 33 hectares at Merredin, since around 1992. Native grasses are an important component. Roy is no botanist.

- Moved to a farm in Merredin with dry conditions and poor soils. Came from Tasmania in 1990s and was told there are no native grasses or if they existed, they were not of interest.
- Native grasses are still here, however in small proportions, along roadsides and in cemeteries.
- With time on the property native grasses started to reappear and became progressively more diverse.
- Interested has been how to integrate native systems with a profitable farming system in the SW environment.
- Convinced that with a low input system, with low input animals you can make a reasonable profit in a poor environment.
- Has presented the outcomes of his work at conferences and would be prepared to assist to develop a case study.

Why are native grasses not there?

- Not in the wheatbelt because of cultivation and fertiliser.
- Historically grasses were here but not necessarily grasslands instead grassy components in the understory of forests.
- Grasses may also not have been common because of low fertility soils and water availability.
- In the Eastern States too much cultivation has eroded the seed bank. Cemeteries and travelling stock routes are the best places to find examples of remain native grasses.

How are grasses being reintroduced? Through seedlings or spreading seed?

- Regeneration if seed bank is available.
- Sometimes seed has to be sown depending on how highly cultivated the landscape is.

Traditional harvesting methods vs machinery

- Traditional ways of learning and sharing is very important.
- So many different species of native grasses which mature differently at different heights etc. Difficult to know how to go forward taking traditional harvest techniques to a marketable product.
- Traditional methods will be low quantities and intensive compared to what would be needed to produce an agricultural product. Conversations with indigenous groups are exploring these issues. Different groups have different ideas of where to take this.
- A great way to get indigenous groups involved is keeping local ownership of local province native grasses

Native species and regenerative agriculture systems

- Integration of native species into modified regenerative agricultural system (low fertiliser and lower production based on native species).
- Aboriginal communities could become the producers of the seed for these types of modified systems.
- One of the issues being faced is the variability of rainfall and need for summer rain to keep grass crops going during the summer months.

Native grasses as a turf

- Weeping grass likes disturbance, can be mowed and would lend itself more to a monoculture. So some species could be used as turf.
- Weeping grass seed being sold over east in the horticultural industry for lawn.

Seed availability and cost are major barriers

- In WA people interested in establishing native grasses come up against hurdles including seed availability, cost and lack of recipes. Comes back to allowing natural regeneration. People are used to sowing a crop and harvesting in the same year and are all in a bit of a hurry
- One approach – allowing a paddock to regenerate through careful management and supplementing with seedlings grown in a nursery under intensive care.
- Predation of native grass seed is particularly high by ants so the idea of growing grass seedlings is a good one. Grasses grow pretty quickly and can be kept in a nursery for a couple of years.
- Competition from weeds depends on the condition of the ground, however once established native grasses will out compete annual weeds.

Stimulation of native grasses germination through cool burning.

- University of Sydney's plan is to integrate the use of cool burning as well as pasture cropping and grazing to see which mix of systems best regenerates the grasses.
- Bruce Pascoe is doing work to investigate how cool burning assists regeneration with the indigenous community most excited to pass on knowledge about cool burning as part of a growing grasses for grains system.
- Many indigenous groups go onto farmers properties to do cool burns on a fee for service basis. Charlie Massy uses cool burns to help regenerate his native grasses.
- Difficult to generalise over landscapes. Often on the Swan Coastal Plain weeds take over. Any burning encourages invasion of grassy weeds and can increase fires risk. So burning can be counterproductive.
- Roy Butler: Burning seems to improve regeneration of some species eg kangaroo grass along railways in Vic. where I grew up Now I understand herbicides are used - to the detriment of KG regeneration. I'm not game to burn here, practically anytime

Other comments from the chat

Kane Watson, NACC: We are talking about a very diversified topic here, my understanding of the SW is that grasses were limited originally, but if we consider the rangelands this is/was a heavily grassed system that has supported

grazing for a prolonged period. There a number of learnings about regeneration of these grass systems that tie in with controlled grazing pressure. This has evolved into initiatives in the wheat sheep area for cover crop and supplement pasture, we have a number of farmers interested in hardy and diversified native grass species. As another note we understand that UWA has been making progress with grass regeneration in the Pilbara, if we are considering spinifex in this topic :) More information on the Pilbara work – contact Allison Ritchie, UWA.

Annabelle Garrett, NACC: We are working to put together a workshop on Native Grasses and their use in local agriculture systems later next month. We would love to talk more about this topic with some of the legends in this zoom meeting, so I am wondering if there is some way we could possibly get some contact details from participants and presenters from today? Contact Annabelle Garratt, Regional Agriculture Landcare Facilitator, NACC 08 9938 0100

Cheryl Hamence, Blackwood Environment Society: I've always incorporated native grasses into revegetation project areas using seedlings. Patches of native grasses have been established in one reserve to produce seed for collecting. Introduced grasses are manually weeded out of the areas before they set seed and one day we might have weed free seed collection areas. I collect and grow *Microlaena*, *Poa*, *Rytidosperma* and *Austrostipa* species and will try the *Lachnagrostis* sp next. Always open to learning more about these.

Alison Ritchie, UWA: This is how we are tackling the issue for deploying seeds that are hairy and have awns, with or without coating. <https://www.news.uwa.edu.au/archive/201611039173/awards-and-prizes/seed-flamer-wins-wa-innovator-year/>

Native grass identification resources

Una Bell (unable to attend) - native grasses identification expert from the Perth Hills who has produced a couple of publications on identification of native grasses with other groups. Una is also a volunteer Research Associate at the WA Herbarium focussing on native grasses.

Native Grasses of Perth Hills: a field guide to identification *Una Bell...2018*

free to download includes 48 most common native grasses of Perth Hills

– classified alphabetically by genus

– life-size photocopies of native grasses with line drawings of characteristic features, also includes photocopies of weedy

grasses https://www.perthseasternregion.com.au/Profiles/per/Assets/ClientData/Environmental/A7549_EMRC_Grass_book-final.pdf

Wetland Native Grasses Poster - Perth Biodiversity Project

http://pbp.walga.asn.au/Portals/1/Templates/docs/wetland_native_grass.pdf

Sustainable Agriculture: Introducing native perennial grasses into a farming system

Wheatbelt NRM Project Snapshot - September 2015

(Took the grasses to Una Bell at the WA Herbarium to get them identified)

<http://biogrowers.com.au/wp-content/uploads/2015/10/McLean-case-study-D0.2.pdf>

