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# Tussock Times



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**[Tussock assistance in Bannockburn](#)**

**Regular attendees to the popular monthly Golden Plains Farmers' market in Bannockburn may be familiar with the Geelong Landcare Network (GLN) stall raising awareness of the noxious weed serrated tussock. At the August 2018 market, the VSTWP joined forces with GLN to promote a new VSTWP extension project in a region south of Bannockburn.**

The VSTWP Bannockburn South project area adds another piece into the patchwork of properties in the Corangamite region west of Geelong, continuing on from neighbouring VSTWP extension project areas at Inverleigh North, Murgheboluc South and Stonehaven. This project area includes more than 130 properties over 8,250 hectares and includes the waterway of Bruce's Creek, a tributary of the Barwon River.

From commencement in June 2018, Tim Johnston, Extension Officer from the VSTWP, has been offering free inspections and providing management advice to landholders in the target area. Several significant infestations with mature plants have been detected in poorly managed blocks, creating concerns amongst some neighbouring landowners.

Mr Johnston advises that "due to the peri-urban nature of the project area, some of the smaller landholders have had limited exposure to and education of best practice land management practices. It is these landholders that are benefiting the most from this awareness program. Adequate control along with early detection of new infestations is critical in managing this invasive plant." stated Mr Johnston.



*Most of the large agricultural enterprises have ongoing control programs in place. This property along Bruce's Creek undertakes an annual program spot spraying with flupropanate.*

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## **VSTWP representation at Maffra Agricultural Show**

**Two of the finest VSTWP Community Representatives, Wendy Bitans and Margot Galletly, made the long journey to attend the Maffra Agricultural Show in late October 2018. This is the second year the VSTWP has attended. The weather remained kind and there was a steady flow of people through the pavilion, in an area that has some larger but mostly isolated outbreaks of serrated tussock throughout the region.**

The VSTWP were well assisted by Carmen Lee, WGCMA Landcare facilitator, who was also set up on the same table and made many introductions to local farmers.

The general discussions had with the community revolved around the weather, i.e. lack of rain, and the patchy but persistent presence of Serrated Tussock in the district. The VSTWP delivered over 30 bundles of materials to predominantly smaller land holders and had many more discussions over the identification key points. There was also a request for additional fence signs, which were supplied from those taken to the show. Surprisingly, there was even a visitor from Brighton who recognised the sample plant as one she had in her own native garden. Thankfully the landowner said she was going home to pull it out!

As the demographic around Maffra changes and more and more land is subdivided, it seems that weeds, yet again, are an issue for the smaller landholder. Most full time farmers seemed reasonably educated about the issue and were addressing any tussock they had in an appropriate manner. Flood, which carried seed along with silt and debris was recognised as a major mode of spread.

Later in the day the stand was visited by another VSTWP Community representative, Norman Cameron, a long-time local who spent some time talking with the community. It was clear from the response from local property owners that Norman is a well-known and strong advocate and practical warrior for the removal of tussock from the district.

*The VSTWP offering how to best identify serrated tussock from other grasses.*



## Melbourne Airport keeping the tussock at bay

**The Melbourne Airport site is home to threatened ecological communities, threatened species and migratory species that are defined as Matters of National Environmental Significance (MNES). The threatened ecological communities provide habitat for threatened or migratory species.**

Within this sensitive environment, Melbourne Airport is subject to a range of existing and potential biodiversity threats that have an impact on our estate management, such as Serrated tussock.

To mitigate the threat to Melbourne Airport's biodiversity caused by pest plants and animals including serrated tussock, a number of management initiatives are undertaken by Melbourne Airport, such as prioritising pest plant and animal management using an Integrated Weed Management (IWM) approach. This utilises multiple strategies including mapping weed species and locations, procedures to minimise the introduction and spread of weeds on the airport estate, chemical application and mechanical removal using a targeted risk based approach and follow up monitoring and adaptive management.

Serrated tussock is a big problem around the airport site, as well as the adjoining regions, but Melbourne airport has prioritised the species and have treated 245 hectares in the past 12 months to prevent the seeding each season. The environmental management team has adopted methods such as:

- consolidation of serrated tussock populations by targeting low weed density areas and individual outlying specimens
- targeted weed control within recognised high biodiversity areas, such as the Grey Box Woodland, that allows for native flora regeneration to outcompete invasive weed populations
- undertaking our weed control activities in line with seasonality and other environmental factors to maximise effectiveness of control measures
- considering feedback from stakeholders in planning our program
- seedbank removal by topsoil scraping and isolation.

Some of the challenges that Melbourne Airport are managing in relation to serrated tussock include accessibility of infestations located within steep escarpments, lack of competition from native flora, movement of seed via wind, livestock, fauna and human activities, the high viability and large size of the historical seedbank, and the inconsistent management of the weed by neighbouring private and public landholders.

The VSTWP congratulate Melbourne Airport for taking a proactive approach to managing and mapping serrated tussock, and setting an

example of best practice management principles.



*One of the numerous sites that Melbourne Airports have treated in the past 12 months with the selective herbicide Fluproponate*

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## Maribyrnong Valley Connection Project

**The Maribyrnong Valley Connection project is funded by DELWP's Peri-urban Weed Management Partnership. This partnership project has been funded for four years and stakeholders include Parks Victoria, Melbourne Water, Port Phillip & Westernport Catchment Management Authority and Local Government.**

The first two years have been successfully delivered using a strategic approach in addressing high priority weeds across a broad landscape while protecting biodiversity values and

encouraging community engagement.

Brimbank Council Maribyrnong Valley Connection Project Officer, Simon Purves, said “Serrated tussock has been identified as a major threat and has been treated across the project area including Holden Flora and Fauna Reserve in Sunbury and Organ Pipes National Park in Keilor North”.

“Approximately 55 hectares have been sprayed in 2017/18 to form buffers to the high value assets with planned works to continue in 2018/19 expanding the buffers and monitoring treated areas” said Mr Purves.

The VSTWP have provided assistance in the design of the extension services to be provided to landowners in the Maribyrnong Valley, drawing on our years of experience in this space. It is encouraging to see local government lead the way with additional extension in areas where the VSTWP have not been traditionally active.

For further information on this project please contact Simon Purves, Maribyrnong Valley Connection Project Officer on 9249 4000.



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## **New Applied Science research published**

**The results of an applied science study led by Associate Professor Singarayer Florentine at Federation University have been published in the Online Journal PLoS ONE.**

The objective of this study was to identify how the environmental factors of light, temperature, heat, salinity, drought, soil pH, and seed burial influence germination and seedling emergence of two serrated tussock populations.

Studies have shown that light and alternating temperature regimes have been identified as two of the most important environmental factors in triggering seed germination.

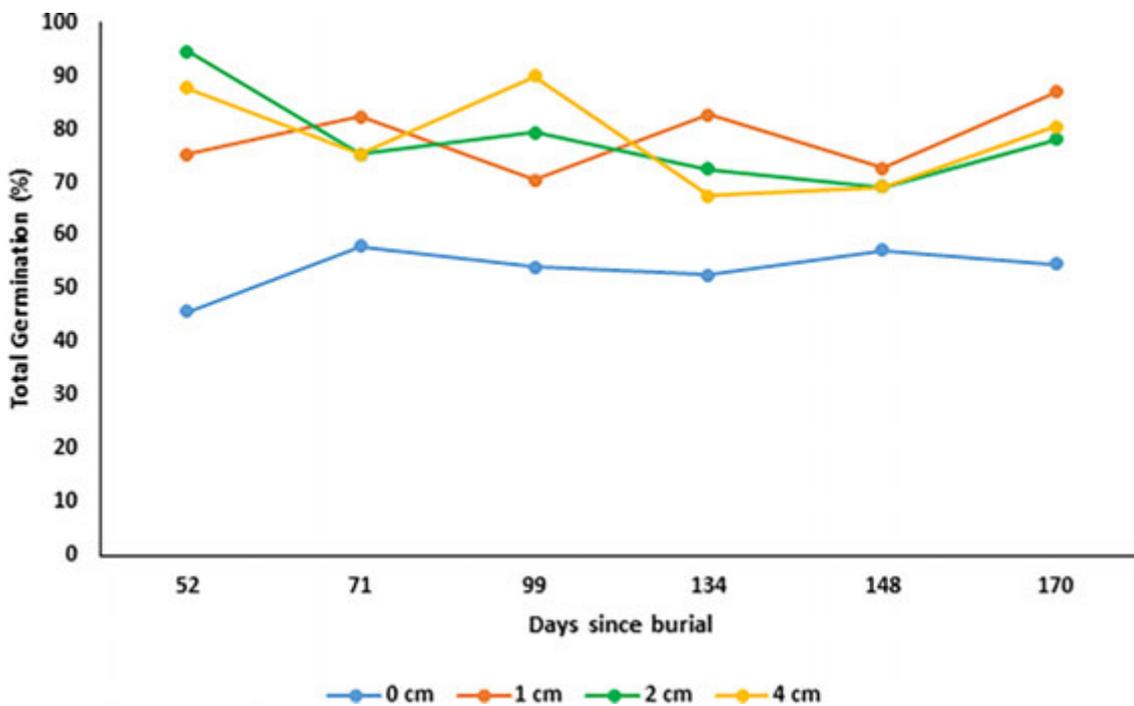
The results of this study highlight that serrated tussock seeds are non-photoblastic, and dormancy break can be triggered by favourable of alternating temperatures of approximately 25/15°C and ample water availability. Radiant heat was also observed to have a positive effect on total germination yields. Interestingly, the study found that germination was not enhanced or inhibited by pH level, suggesting that soil pH is not a limiting factor on this species recruitment.

These findings suggest that light reducing management techniques will be unsuccessful for preventing germination. Tilling the seeds to a depth of at least 4cm may reduce the emergence of seedlings, and because the seeds still germinate when buried, this may quickly reduce the seedbank.

Land managers should look for serrated tussock recruitment after good rainfall events and suitable temperature regimes, particularly after fire treatments. By understanding the climatic conditions that significantly enhance recruitment, management techniques can be applied accordingly to maximise their productivity.

The full journal article can be viewed for free by [clicking here](#):

Citation: Humphries T, Chauhan BS, Florentine SK (2018) Environmental factors effecting the germination and seedling emergence of two populations of an aggressive agricultural weed; *Nassella trichotoma*. PLoS ONE 13(7): e0199491. <https://doi.org/10.1371/journal.pone.0199491>



*The effect of seed burial (cm) under field conditions on seed germination (%)*

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The Victorian Serrated Tussock Working Party welcomes your contributions and feedback.

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In our efforts to reduce the number of newsletters being printed if you currently receive a hardcopy of this newsletter but have access to email please send your email address to the Executive Officer.

More information on serrated tussock can be found on the Victorian Serrated tussock Working Party website: [www.serratedtussock.com](http://www.serratedtussock.com) or by contacting the DELWP Customer Service Centre on 136 186.

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Bacchus Marsh Victoria, Australia Summer 2018.

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