

WEED MANAGEMENT RESEARCH AND MORELAND NO-GLYPHOSATE TRIAL

Director City Infrastructure Anita Curnow

Open Space and Environment

Officer Recommendation

That Council:

1. Notes the findings from the Deakin University research which indicates based on the results of the field trials and taking into consideration cost, safety information and off-target impacts, glyphosate is considered to be the most effective weed management strategy of the different approaches used in the trial. A peer reviewed report on this research is provided at **Attachment 1**.
2. Notes the commencement in July 2021 of Council's own weed management trial including community feedback from trial areas to date and notes the budget recommendations that will be put forward for 2022/23.

REPORT

Executive Summary

At the June 2021 Council meeting, Council determined to pursue a trial of a 'no glyphosate' zone alongside control zones, to compare the resources required for weed management and the effectiveness of different weed management practices over two years Council.

In addition, it was agreed that the findings of Deakin University research into alternatives to glyphosate and indications of the budget requirements of the trial into future financial years would be brought to the December 2021 Council meeting.

Council is now five months into the two-year trial of managing weeds with and without the use of Glyphosate across three trial zones. A variety of methods are being used including the use of hand weeding, organic herbicides, brush cutting, and mulching with steaming to be introduced in the next 12 months. At this stage of the trial, it is too early to compare areas, zones and methods with accuracy as to which area is responding the best to the treatment applied.

The trial includes an opportunity for the community to provide feedback via the Conversations Moreland Weed Management Trial website. From July 1 – October 31, the contribution from 85 community members includes comments relating to:

- areas not being managed as expected with unsightly weed growth occurring,
- requests for officers to be pulling weeds by hand only and
- a view that the use of glyphosate is welcomed provided officers wear appropriate PPE when using it.

Included in this report is an update on the research conducted by Deakin University on alternate options to glyphosate. The project sought to identify and assess the efficacy of potential alternative non-glyphosate-based weed management strategies.

Previous Council Decisions

Weed Management: Glyphosate Phase Out Plan – 9 June 2021

That Council:

1. *Notes that to date, despite considerable investigation of options, none of the alternatives to using glyphosate for weed management has shown to be as effective or viable economically or environmentally.*
2. *Notes that current guidance from the Australian regulatory authorities and WorkSafe Victoria, is that products containing glyphosate can continue to be used safely, as long as adhering to directions in the Safety Data Sheet and labels and does not represent a health risk to the public.*
3. *Notes that glyphosate has already ceased to be used in high risk exposure sites across Moreland.*
4. *In the light of the high cost and unproven effectiveness of currently available alternative treatments, undertakes a trial of a large 'no glyphosate' zone with a comparison control zone over a two-year period and evaluates the trial using metrics including worker hours, equipment hours, material costs and community feedback.*
5. *By agreeing to the trial, sets aside previous Council decisions to cease the use of glyphosate by August 2021, made at the:*
 - *14 August 2019 Council Meeting - "Weed Management Review – Further Report to Review of Pest and Weed Management Policy (from 6 December 2017)"; and*
 - *12 August 2020 Council Meeting - "Weed Management – Glyphosate Phase Out Update"*
6. *Continues a phased approach to both reducing and then potentially ceasing the use of glyphosate at all other low risk and environmentally sensitive sites in the future, with an update report on the findings of current Deakin University research and the application of any promising alternatives to Moreland that may impact on the 2022/23 Budget be received by Council in December 2021*

Cr Tapinos moved, Cr Carli Hannan seconded – carried

Weed Management Review – Further Report to DCI70/17 (Review of Pest and Weed Management Policy decision 6 December 2017) - 14 August 2019

That Council:

1. *Notes the potential negative health impacts of glyphosate on residents, workers and bystanders, and notes the well-established negative impacts on bees and insect populations which are critical to agriculture and native ecosystems as well as the development of weed resistance to glyphosate.*
2. *Adopts a phased approach to ceasing the use of glyphosate products by August 2021.*
3. *Receives a report in August 2020, providing an update on the progress of moving to banning glyphosate by 2021.*
4. *Continues to advocate for viable alternate products to replace glyphosate.*
5. *Notes that Council officers are progressing an initiative to provide a sign to all residents currently on the 'No Spray Register' and those who sign up to the register, noting that the resident is committed to maintaining the weeds on the public areas that abut the property, including footpaths, laneways, verges and gutters.*

Weed Management – Glyphosate Phase Out Update - 12 August 2020

That Council

- 1. Notes the work currently undertaken to phase glyphosate products out of Council operation by August 2021.*
- 2. Receives a report at the March 2021 Council meeting highlighting the timing and cost implications of the full 'Phase Out Plan'.*
- 3. Notes that residents can register their property on the 'No Spray Register' which stops the use of glyphosate on land abutting their property. Property owners who sign up to the register, acknowledge that they are committing to maintaining the weeds on the public areas that abut the property, including footpaths, laneways, verges and gutters*

1. Policy Context

The Pest and Weed Management Policy 2018-2026 was adopted by Council in September 2016.

The policy underscores the benefits of an integrated pest and weed management strategy in public open space, ensuring proper selection and use of herbicides and pesticides and investigating the use of viable alternatives that lead to more sustainable environmental outcomes. The main objectives of the policy are:

- Seek to reduce the use of chemically based herbicide and pesticides as a weed control and landscape management measure where possible and replace with environmentally sustainable alternatives.
- Continue to investigate cost effective alternatives to herbicide and pesticide use where available.
- Trial environmentally sustainable herbicide and pesticide alternatives for weed control spray applications utilising a risk management approach.
- Utilise aspects of Integrated Pest Management Plan methodologies for Open Space Management.
- Guide and implement best practice methods and clear and accountable management systems for weed control and pesticide application to minimise environmental and human impacts.
- Review the process for assessing new chemicals to ensure that herbicide and/or pesticide use is justified, minimised and the lowest toxicity necessary to achieve the desired outcome.
- Create a safe environment for all staff and the community in relation to chemical application within the municipality.

Before being adopted, the policy went through a full community consultation process. Feedback received through this consultation period helped form the final policy.

2. Background

Research into the use of glyphosate

Moreland City Council joined with Frankston, Maribyrnong, Whittlesea, Ballarat, Casey, Whitehorse, Greater Geelong, Banyule, Darebin and Kingston to commission a Deakin University research study in 2019, under the auspices of the Municipal Association of Victoria, into 'Weed management strategy at Victorian councils - Alternatives to glyphosate'.

The research has been published on the Multidisciplinary Digital Publishing Institute (MDPI) sustainability website. MDPI is a member of the United Nations Global Compact to support corporate sustainability.

3. Issues

Community impact

Findings from Deakin University research

The research included an extensive list of alternative options to glyphosate, with a short list of alternatives to glyphosate being selected for further trialling, which represented chemical, plant oil-based organics, organic acid and physical management options. Steaming of weeds was selected as a non-chemical, physical weed eradication strategy for assessment against glyphosate. This is due to steaming increasingly being seen as an attractive option, given it knocks back weeds instantly and with higher success compared to manually hand-picking weeds. However, further risks assessments need to be performed and risks associated with hot water or steam, fuel (unleaded petrol and/or diesel) and exhaust fumes accounted for (operate up wind from steamer unit).

Glyphosate was observed to significantly reduce weed coverage for up to 12 weeks with no evidence of negative impacts on soil profile, arthropod or microbial populations. Glufosinate significantly reduced weed coverage for up to 12 weeks with no evidence of negative impacts on soil profile, arthropod or microbial populations. The efficacy of glufosinate compared to glyphosate varied, and it was not as effective as glyphosate across all seasons.

Steam was not recommended as a chemical free alternative for small scale targeted applications as the treatment caused alterations in soil microbe populations, reducing overall microbial diversity. A range of oils and acidic treatments had varying short term effects on weed coverage and showed no capacity for significant reduction in weed coverage 12 weeks post application or beyond. Glyphosate-based herbicides have become the most common choice for weed control based on cost, ease of application, target specificity and high efficacy in killing a broad range of weeds.

Human health-related risks with weed treatment strategies

The Australian Pesticides and Veterinary Medicines Authority (APVMA) initially conducted a comprehensive review of a glyphosate in 1997, which set Australia's health-based guidance values at a level that remains protective; with concluding outcomes being "that all registered glyphosate products are safe provided they are used as per the label instructions". In 2016, following the outcomes of the International Agency for Research on Cancer (IARC) assessment for glyphosate use, the APVMA reviewed the IARC assessment report and other relevant scientific information and concluded that there is currently no scientific reason to reconsider the registration of glyphosate.

This means at present the APVMA advises that "Glyphosate is registered for use in Australia, and APVMA approved products containing glyphosate can continue to be used safely according to label directions".

For any herbicide or agent being used to control weeds, local area management plans need to be developed that detail the appropriate PPE (gloves, protective clothing, eye protection and face protection), ventilation requirements and ways to minimise vapours and risk of exposure.

Using alternatives to Glyphosate

Alternatives to Glyphosate, such as burning or steam treatments in themselves are equally cause for concern due to the burning of fossil fuels, such as diesel fuel, to power the units that produce the fire or steam. In this instance, alternative treatments are either equally as damaging to the environment or worse than Glyphosate treatment. Alternative treatments have been marketed as a 'safer alternative', but in effect, not all the studies have addressed the full extent of impacts to the environment or human health from these alternative 'safer' treatments.

For steaming weeds, risk assessments need to be performed that consider health and safety risks associated with people using hot water or steam and inhaling exhaust fumes up wind of the petrol / diesel powered unit. In addition, the consistency of using unleaded petrol and/or diesel units when Moreland is seeking to reduce and ultimately eliminate fossil fuels from its operations requires further consideration.

For any herbicide or agent being used to control weeds, site-specific safety management plans need to be developed that detail the appropriate PPE (gloves, protective clothing, eye protection and face protection), ventilation requirements and ways to minimise vapours and risk of exposure.

Progress on Moreland's trial

Council commenced the trial of phasing out the use of Glyphosate in July 2021 with three trial areas established:

- No Glyphosate Trial Zone – is bounded by Melville Road (west), Albion Street (north), Sydney Road (east) and Victoria Street (south), where no glyphosate is to be used for weed management and instead alternative treatment strategies used. The Trial Zone features roadways, streetscapes, the AG Gillon Oval, Raeburn Reserve (Brunswick), Clifton Park West and Brunswick Park.
- Control Site South - bounded by Victoria Street (north), Melville Road (west), Dawson Street (south) and Sydney Road (east).
- Control Site East - Sydney Road (west), Albion Street (north), Victoria Street (south) and Lygon Street (east).

Officers are recording data in each area including method used, cost, time required and effectiveness of the method on weed management.

Community impact

The use of glyphosate in Moreland is not supported by some residents living in Moreland. To conduct the trial appropriately, residents living in the control sites may notice an increase in weeds due to the trial of other methods which may look unsightly to some people. Officers conducting the trial may not be seen 'weeding' in the traditional sense as the methods being trialled require various time frames and approaches. Officers have used a variety of treatments to date including mulch/jute mat suppression, brush cutting, organic herbicide and hand weeding.

Educating the community about the trial will continue and include the outcomes of available research including the findings of the Deakin University research outlined above.

Climate emergency and environmental sustainability implications

Moreland City Council continues to seek new initiatives to preserve and enhance the environment for community wellbeing.

The projected increase in global temperatures will favour proliferation of weeds with their physiological tolerances to climate stressors, so control and management of weeds especially environmentally significant ones is becoming increasingly challenging. Without the use of glyphosate, the main herbicide used against bushland weeds, and in the absence of a comparable alternative treatment, there is a risk that weed management will become increasingly ineffective and damage the sustainability of local environmental values.

Economic sustainability implications

With currently available alternatives, current evidence indicates the phasing out of use of glyphosate herbicide will result in additional expenditure to manage weeds in the municipality to maintain an acceptable level of service.

A key element of the trial is to establish both the effectiveness of alternatives (in terms of weed control and local community satisfaction) and their cost. Both of these aspects are important in determining whether glyphosate use should be discontinued or limited further than its current restrictions beyond the trial.

Legal and risk considerations

The prevailing AVPMA advice on glyphosate is that “Glyphosate is registered for use in Australia, and APVMA approved products containing glyphosate can continue to be used safely according to label directions”.

Moreland’s approach to a no Glyphosate trial provides an extra level of risk mitigation beyond participating in the Deakin University research.

Council will continue to trial alternate uses of glyphosate and seek community feedback during the two years in an effort to reduce the use of glyphosate. Research will continue to be reviewed to understand any new evidence assisting consideration of risk.

Human Rights Consideration

The implications of this report have been assessed in accordance with the requirements of the Charter of Human Rights and Responsibilities.

4. Community consultation and engagement

Council’s community engagement platform ‘Conversations Moreland’ has provided the community the opportunity to provide feedback and a summary of feedback from July to November includes:

- Eighty-five residents provided feedback, with 24 of those not living in a trial or control zone
- 78 per cent expressed concerns about chemical herbicides being used in their area
- 39 per cent were dissatisfied or very dissatisfied with Council’s weed management in their area
- 62 of the 85 residents indicated they would like to participate in the survey during the trial.
- Residents indicated they would like to see more hand weeding to be undertaken and for it to occur more often and appreciate it’s ‘a full-time job’

Affected persons rights and interests

Residents living in the trial zones will have opportunities every six months to provide feedback on the trial.

Communications

Council will continue to provide updates on the trial via the Conversations Moreland website.

5. Officer Declaration of Conflict of Interest

Council officers involved in the preparation of this report have no conflict of interest in this matter.

6. Financial and Resources Implications

Officers are trialling various non glyphosate products as well as hand weeding in the trial zones throughout the trial. Additional expenses to cover product cost is \$19,000. To hand weed a section within the trial zone will incur labour costs of \$6,000 and maintenance of equipment costs of \$5,000.

Officers seek support that the funds required \$30,000 to action this resolution are referred to the 2022/23 budget process for consideration.

7. Implementation

Council will continue the trial and seek community feedback on the Conversations Moreland website in June 2023.

Attachment/s

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| 1 | Sustainability - Comparative Analyses of Glyphosate Alternative Weed Management Strategies | D21/497809 |
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