



Decision Session - Executive Member for Environment and Climate Change

12th January 2022

Report of the Director of Transport, Environment and Planning

Weed Management of Highways and Associated Areas

Summary

1. This report examines options for weed treatment to inform how the Council's in house service and external contractors manage weeds for the next two years.

Recommendation

2. The Executive Member is asked to:
 - i. Approve the continued use of glyphosate based treatments as the principle method of weed control.
Reason: To ensure the most effective weed control
 - ii. Approve a two year contract, with an option to extend for two years, the decision being brought back to a future decision session.
Reason: To enable the future treatment option to be reviewed having considered changes in product availability and any trials, whilst allowing the council to obtain value for money
 - iii. Approve a further trial namely the heat method.
Reason: To trial a new method which will inform future decision making.

Background

3. In common with most local authorities the Council has used the herbicide, glyphosate as the basis for weed treatment for many years, primarily to control weeds on the highway network.

4. In recognition of the concerns being raised about the environmental impact of glyphosate in the Pollinator strategy, the Executive in March 2021 asked for alternative treatments to be trailed in the 2021 season.
5. The majority of the highway spraying is carried out on behalf of the Council by an external contractor through a fixed term contact. The current contract has now expired and the decision taken in this report will inform the award of a future contract commencing for the 2022 growing season. The contractor uses a quad bike to access all areas of the city and this is the industry standard form of treatment.
6. Glyphosate is also used to treat a number of injurious weeds and invasive plants, such as Creeping and Spear Thistle, Giant Hogweed and Japanese Knotweed. It is proposed glyphosate remains the treatment of choice for such weeds.

Current situation

7. In house use: Public realm staff spray around obstacles in verges e.g. lampposts, street signs, trees, around communal drying areas and some parks and garden path edges. This takes place in March / April and at ad hoc times later in the year as the need arises. Delivery is by knapsack spraying and uses some 260 litres of glyphosate annually.
8. The contracted service covers kerbs, footpaths / pavement joints, wall bottoms and back lanes, the bar walls upper footpath, bridges and supporting structures. Weed killer is delivered using quad bikes, supported with knapsack spraying. This takes place 3 times a year - April, July and September (subject to weather conditions), and uses on around 200 litres of glyphosate per spraying round.
9. This contract has now expired and needs to be re-tendered in time for the 2022 growing season.
10. In 2021, the weed spraying regime was broadly successful. However, the last spray of the season was delayed by a few weeks as a result of vehicle and parts issues experienced by the contractor (supplies were affected by the covid pandemic). It has emerged that there are a couple of locations on South bank which were not captured on the spraying rounds and these will be updated prior to any contract being awarded.
11. Problem weeds. The authority is also required to address specific weeds which can be dangerous e.g. Giant Hogweed or cause

problems to property e.g. Japanese Knotweed. These have traditionally been an option with the contacted service. Going forward the treatment of such weeds either in house or externally provided will continue to use glyphosate

Weed treatment Options

12. The options for weed control fall into three broad areas

Chemicals e.g.

- Glyphosate
- Acetic Acid applied at 20% strength, also known as vinegar (for human consumption is usually 5% strength),
- Nonanoic acid (or Pelergaonic acid), a naturally occurring fatty acid)

Heat e.g.

- Hot foam – boiling water with added foam (see more detail below)
- Burning – using a portable propane torch

Manual e.g.

- Wire brush / hoe

York Trials of alternative weed treatment

Acetic Acid and Nonanoic Acid

13. As part of the first 2021 treatment three areas of terrace housing were selected for alternative treatments in Bishophill, off Scarcroft Road and off Heslington Road. In early April these area were treated with acetic acid and Enclean (a biocide or hard surface cleaner Nonanoic acid).
14. Areas treated with acetic acid and Enclean showed less weed die back than glyphosate. Site visits with the external advisor in mid-May found several properties had large weeds growing where the pavement meets the property. The weeds had survived the treatment and continued to grow. Complaints from the test area were more frequent than non-test areas and visually the areas were weedier at the time of the second spray in July 2021.
15. For the second treatment the trial was moved to a new area within the council's Hazel Court depot. The Trail tested Glyphosate, Acetic Acid and Nonanoic Acid along with no treatment in four identical areas.

16. In this second trial glyphosate was again the most effective chemical treatment. Annex 1 contains photographs from Hazel Court. Similar results were observed on a larger section of rough ground on the opposite side of the depot car park.

Other Alternatives to Glyphosate that have not been trialled in York

17. The heat method (hot foam) has evolved out of more general street cleansing operators (e.g. chewing gum removal), where a combined heater unit and water tank is mounted on the rear of a flatbed truck and driven to site. Water is heated to between 60 and 100°C and mixed with a biodegradable foam which is applied through a lance onto the weeds or area being treated. The foam helps concentrate the heat on to the plant by reducing heat loss to the atmosphere. A minimum temperature 57°C is required to kill the plant, spores and seeds. No data has been found on what this does to any insect life in the vicinity of the treatment.
18. In 2016/17, Bristol City Council undertook a year-long ward based trial glyphosate-free weed treatment together with a desk top assessment of alternatives. The outcome favoured the short term continued use of glyphosate whilst at the same time exploring alternative treatments and / or reduced use. Full details can be found at <https://democracy.bristol.gov.uk/ieListDocuments.aspx?CId=149&MId=375&Ver=4>
19. In 2017, Hammersmith and Fulham Council began trialling new non-chemical alternatives – with hot foam and hot water being the chosen treatments being used across the borough. Initial details can be found at <https://www.lbhf.gov.uk/articles/news/2017/07/hf-unveils-new-chemical-free-weeding-treatments>
20. North Yorkshire County Council have tested hot foam in 2021. This has taken place predominantly in Harrogate and in Scarborough on a limited basis. *They have found that foamsteam requires 2 to 3 treatments and in the rest of the County they undertake 1 weed spray per year with glyphosate (this is done in June).* Broadly they have found the treatments to be of success but they do not have any current plans to roll the provision out any further across the County. The main reason for this is that it is essentially a machine more suited to urban areas and NYCC do not believe the system to be suitable for more rural and disparate areas. Additionally, the

set up costs for the trial have been high and with the move to Local Government Reorganisation they are not progressing any further.

21. The London Borough of Hounslow has switched from using Glyphosate to a manual based approaches. The budget spent on glyphosate has been reused to employ more operatives to manually remove weeds as part of the two weekly ward based cleansing schedule. A dedicated teams with trimmers to support the ward based teams See for more information https://www.hounslow.gov.uk/info/20006/environment/2229/greener_borough/3
22. Annex 2 details a how a range of other local authorities treat weeds.

Options and analysis

23. The principal options open to the Executive Member are :
 - a) The choice of principle treatment
 - b) The length of contract
 - c) The frequency of treatment
 - d) The area to be treated
 - e) Any further trials

Principle Treatment

24. From the limited York trial, glyphosate is the most effective chemical treatment currently available and on performance alone officers would not recommend acetic or nonanoic acid.
25. Additionally acetic acid is not recommend as this has additional health risks to both the applicant and the public. The recommend strength to kill weeds can also burn the skin.
26. For this reason it is recommended that the principle treatment needs to remain as Glyphosate.

Contract Length

27. Contracts of this nature are usually let on a minimum 2 year basis with the option to extend the contract.
28. The benefit of a shorter contract is that it allows the treatment options to be reviewed in light of trials or new products reaching the market.

29. The benefit of longer contracts is that they offer more certainty for suppliers which may lead to a better price.
30. For this reason it is recommended that the contract is tendered and awarded for two years, with an option to extend for two years pending the results of any further trials and the developments in the market place.

The Frequency of Treatment

31. Traditionally the external contract has had three treatments per year - April, July and September (subject to weather conditions).
32. This could be reduced to 2 occasions which would reduce the volume of glyphosate used by about 20-25% (it is not possible to be precise as a more glyphosate may be required on each treatment). There may also be a small cost saving which could fund the effects of inflation on any future contract. It is anticipated however, there would be a decrease in effectiveness and an accompanied increase in resident complaints.
33. For this reason it is recommended that the treatment frequency is three times per year commencing approximately April, July and early September.

Area to be treated

34. Many of the 'weeds' that are sprayed from standard practice are useful to many pollinators e.g. dandelions. By reducing the total area sprayed we would be supporting the pollinator population. However, allowing weeds to grow would be contentious for this reason no change is recommended.

Additional Trials

35. Additional trials of acetic or nonanoic acid are not recommended at this stage, but new products are likely to be developed so new trials will be considered in the future. Trials that could be considered for the 2022 season include:

Hot Foam

36. Of the non-chemical treatments which could be considered hot foam does have potential. Given the apparent lack of significant adoption across the country there are risks associated with this choice and concerns over the practicalities of how long it would take to treat a city's road network.

37. If this method of hot foam was applied to CYC operations this would require significant investment in new equipment and training coupled with an additional vehicle. To allow time for procurement and training this would come into effect in 2023. If applied to contacted services this could form part of the 2024 highway weed treatment tender.
38. The weedsteam machine would cost £30k to purchase, plus a vehicle on which the petrol / diesel powered hot water boiler sits. It would require a two person crew to operate the vehicle due to the temperature the machine uses water at (at least 60 degrees C) and the risk to pedestrians in built up areas.
39. The machine uses on average 1,000 litres of water per day but this can rise to 1,500 litres in heavily soiled/weeded areas. Using a 1,000ltrs/day equates to around 0.5tCO₂ emissions.
40. Whilst there are concerns about glyphosate and the impact on pollinators applying heated foam to plants will have negative impacts.

Manual Weeding

41. Manual weeding is also possible, it will require additional staff and additional investment in vehicles to transport operatives to and from their work.
42. The current contractor travelled 1,250 miles to carry out the three treatments. Manually hoeing 450 miles of highway network would be an onerous task. Although this could be combined with other tasks such as the in house treatment of highway obstacles this option would require more detailed consideration to accurately forecast labour costs and vehicle costs but it is estimated to be around £100k. Assuming 450 miles of road per treatment at 0.5 miles an hour, for 6 hours a day it would take 1 person about 32 weeks to manually weed the highway once.
43. Whilst labour intensive, this method would have the least impact on Pollinators. It will require additional investment together with more staff which, given the current recruitment difficulties may be hard to resource. Therefore officers would recommend that a trial of the hot foam method could be undertaken or alternately more work undertaken on the viability of a trail and to continue to scope out options for future years.

Council Plan

44. This proposal supports and contributes to the following Council Plan priority - a greener and cleaner city. The proposed way forward allows the Council to establish the costs and effectiveness of other alternatives treatment options to glyphosate and supports the Council's aims in relation to Biodiversity and the Pollinator Strategy.

Implications

45. **Financial** - The funding for the existing service is within current budget provision. A trial of an alternative method will have minimal costs and will also be met from existing budgets. Any alternative delivery methods that are likely to permanently increase costs could not be met from existing budgets and would therefore need to be considered as part of a future budget process.
46. **Public Health** A 2015 review by the European Food Safety Authority (EFSA) concluded on the pesticide risk assessment of the active substance glyphosate. It was concluded that glyphosate does not meet the interim criteria for endocrine disrupting properties concerning human health, and that apical studies in the area of mammalian toxicology did not show adverse effects on the reproduction. However, EFSA noted a data gap which a 2017 review addressed. The conclusion was that the weight of evidence indicates that glyphosate does not have endocrine disrupting properties.
47. A recent review (Aug 2021) in the European Food Safety Authority, concluded the following on the use of nonanoic acid "In the area of mammalian toxicology and non-dietary exposure, no critical area of concerns or data gaps were identified.
48. There are no Legal, Property, Human Resources, Crime and Disorder, or Information Technology implications arising from this report.

Risk Management

49. In compliance with the Council's risk management strategy the main risks that have been identified in this report are that a decision is not made on a proposed weed treatment option which could in turn damage the Council's image and reputation. Measured in terms of impact and likelihood, the risk score has

been assessed at “Low”. This means that the risk level is acceptable.

Annex 1 – Hazel Court trial site photographs.

Annex 2 – Other local authority approaches.

Contact Details

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Report Approved	√	Date: 22.12.21
Specialist Implications Officer(s): N/A		
Wards Affected:	All	√
For further information please contact the author of the report		

Background Papers:

None