

**TEIGNBRIDGE DISTRICT COUNCIL
OVERVIEW AND SCRUTINY**

22 SEPTEMBER 2020

Report Title	Council Use of Glyphosate
Purpose of Report	To consider the Council's use of Glyphosate Herbicide
Recommendation(s)	<p>The Committee RESOLVES to:</p> <p>(1) Continue the current carefully managed use of glyphosate</p> <p>(2) Implement the improvements suggested and reduce the use of glyphosate in parks and cemeteries by a further 20% (within current budgets)</p> <p>(3) Continue to seek alternative solutions and opportunities to reduce use of glyphosate.</p>
Financial Implications	<p>Please refer to 2.1</p> <p>The recommended course of action is achievable within budget. Other options will increase costs and will require savings to be found elsewhere.</p> <p>Martin Flitcroft, Chief Finance Officer Tel: 01626 215 Email: martinflitcroft@teignbridge.gov.uk</p>
Legal Implications	<p>There are no legal implications as such regarding the use of Glyphosate currently. However, the report indicates that the use of Glyphosate can have health implications if used incorrectly. Guidance on the use of Glyphosate is widely available and must be adhered to.</p> <p>Paul Woodhead Legal Services Team Leader and Deputy Monitoring Officer. 01626 215139 paul.woodhead@teignbridge.gov.uk.</p>
Risk Assessment	<p>The risks associated with the use of glyphosate are managed carefully and are acceptable. There are some risks to be considered if moving away from the current practice, financial and reputational which are set out in 2.3</p> <p>Lorraine Montgomery Head of Operations Tel: 01626 215852 Email: lorraine.montgomery@teignbridge.gov.uk</p>
Environmental/ Climate Change Implications	<p>From an energy and resource point of view, Glyphosate based treatments seem to be the most practical solution. It minimises the need for repeat site-visits, resulting in reduced transport emissions, requires little energy (electricity, diesel etc.) and water to administer when compared to the alternatives.</p> <p>William Elliot, Environmental Health, Climate change Officer Email: william.elliott@teignbridge.gov.uk</p>
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Portfolio Holder	Cllr Andrew MacGregor: Portfolio Holder for Sport, Recreation & Culture
Appendices	<p>Appendix A Sites treated for Notifiable Weeds</p> <p>Appendix B Hard surfaces annually spot treated</p> <p>Appendix C Foamstream costs</p> <p>Appendix D Glasgow City Trials</p>
Background Papers	Appendices attached/previous OS minute 3 March 2020 (Minute 36)

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1. PURPOSE

Members have raised concerns about the Council's use of Glyphosate herbicides and wish to understand the Council's current use and what alternative options are available.

2. REPORT DETAIL

What is Glyphosate?

Glyphosate is the active substance in many herbicides. It is widely used around the world. It is a non-selective systemic herbicide and it is effective in controlling most weed species including perennials and grasses. It is used in amenity situations but used most widely and in much greater quantities in forestry and agriculture. It is subject to extensive testing and regulatory assessment in EU, USA and by the World Health Organisation. Glyphosate is not a neonicotinoid – (these are types of pesticide used to treat crops against certain insects). The Council does not use neonicotinoids.

What is the concern?

Pesticides including Glyphosate if used without care or incorrectly can have human health impacts, harm biodiversity and contaminate can water courses. In 2015 the World Health Organisation concluded that Glyphosate is 'probably carcinogenic to humans'. However the science and evidence shows that Glyphosate is safe when used correctly.

Council's current use of Glyphosate

The Council has already taken steps to minimise use of glyphosate. There has been a 35-40% reduction of Glyphosate use by the Council over the last 8 years. Great care is taken in terms of who uses it, how it is stored and how it is applied. We maintain COSHH records and ensure our contractors have the relevant training, risk assessments and safe operating procedures. The use of Glyphosate is kept under review and we actively seek an effective alternatives.

The Council currently now only uses glyphosate in the following situations:

- **Treatment of invasive notifiable weeds** -The Council has a legal obligation to treat notifiable weeds such as Japanese Knot Weed, Giant Hog Weed, and Himalayan Balsam. We currently have 14 sites (Appendix A) where we have ongoing treatment of Japanese Knot Weed this is typically two treatments per year until eradicated, which can take up to 5 years depending on the size and concentration of the outbreak. The current chemical used is Round- up Pro–Advantage 480 which has a higher content of Glyphosate.
- **Treatment of hard surfaces in parks open spaces and carparks.** Currently one application of herbicide takes place per year to sites shown in Appendix B. This treatment of hard surfaces takes place in late April or early May dependent upon weed germination (it has not taken place this year). The chemical the contractor uses currently is Monsanto Amenity Glyphosate 350 (we moved from use of Amenity Glyphosate 450 to reduce the Glyphosate salt content for each application).

What are the Options?

- **Reduce frequencies**
We have already reduced the frequencies and quantities/ concentrations to the minimum that is effective.
- **Use of condensed droplet application CDA instead of knapsack application**
This is what was planned to be used going forward for hard surfaces, although slightly higher cost. 'Condensed' or 'Total Droplet' application is a low volume system (gravity fed) and virtually eliminates spray drift and run-off, making it safer for operators and the environment, the chemical is pre-mixed and connects directly to the applicator.
- **Mulching**
We have invested in mulching (with wood and bark chips) the vast majority of the Councils shrub beds over the last 8 years and no longer use glyphosate in shrub beds.
- **Hand weeding**
Hand weeding takes place in Council flower beds and in shrub beds to supplement mulching where needed. This is labour intensive and only a viable option in limited areas without increasing the need for additional operatives (at a greater cost).
- **Hot foam systems.**
This has been trailed before in our greenspaces and was found to be too slow to apply and not effective in terms of stopping regrowth (sometimes 4-5 treatments were necessary to remove perennials. The system needs to be vehicle mounted, the 'Foamstream' equipment is powered by a diesel engine, it uses a large amount of water and there are safety considerations in relation to trailing pipes in areas pedestrian footfall. It is an expensive option to set up, requiring two operatives to be safe and effective. To cover Council sites across Teignbridge we would require 3 sets of equipment which would need to be in constant use in the growing season. Appendix C shows typical costs for one Foamstream machine mounted on an electric vehicle and 2 seasonal operatives (one driver and one back up sweeper/banksman/ cover driver) this amounts to around £55k for one set up.
- **Acetic acid solutions (Vinegar)**
We have trailed this but found that very high concentrations of vinegar were required to be effective, particularly to tackle perennial weeds, it only acts as a contact weed killer, was very pungent and unpleasant and weeds grew back rapidly.
- **Flame treatment**
This method has been trailed in our open spaces with limited success, whilst it scorched the visible growth, it looked untidy and weeds grew back rapidly. There are obvious fire risks also to consider.
- **High pressure hot water treatments**
Trailed but much the same as other methods only kills visible growth leaving roots to regenerate growth quickly.
- **Steel brushing.**
We have recently trailed a pedestrian wire brushing systems and a strimmer mounted option was found to be reasonably effective in certain situations. It was not suitable where the surfacing was loose material was ejected so areas to be treated would need to be free of people and cars etc. so not suitable for carparks. Use of the strimmer mounted wire brushes is

achievable within current budgets and we propose to trail using these in certain areas in cemeteries and parks going forward. By doing this we hope to further reduce our use of glyphosate in parks and cemeteries by an additional 20%.

Appendix C shows results of trails by Glasgow City Council, circulated by APSE (Association of Public Service Excellence), much of this aligns with our experience.

2.1 Financial

Current cost of weed control to Council

- Invasive notifiable weeds £1070 pa
- Parks and Cemeteries £900 pa
- Carparks £1800 pa

The proposed use of 'condensed droplet application CDA at an additional cost of £800 pa and of strimmer mounted wire brushes £500 is achievable within current budgets.

Without the use of glyphosate on hard surfaces the condition of these assets will inevitable deteriorate leading to longer term costs in repairs and trip hazards will develop that will increase the probability of insurance claims.

2.2 Legal

The Council has a legal obligation to treat notifiable weeds such as Japanese Knot Weed, Giant Hog Weed, and Himalayan Balsam for which the use of Glyphosate is a recognised treatment. The Council could be liable and face financial penalty should such invasive species spread to a third party's land.

2.3 Risks

Health and Safety – there have been no definitive studies that confirm that glyphosate is carcinogenic, but as with all chemicals used by the Council or its contractors they are subject to strict controls. All products which contain glyphosate must be individually authorised in EU Member States. Applicants for authorisation must show that their products are effective, humane and pose no unacceptable risks to people or the environment. If their products were to pose such risks, they would not be authorised; or if such effects were discovered later, they would be withdrawn.

Neither the EU's assessment of glyphosate as an active substance nor the UK's assessments of applications for authorisation of products which contain it have found the substance unacceptable for use.

Specific risk assessments are carried out for each chemical (COSHH assessments) that ensure that the storage, handling and use of chemicals is reduced to low and well managed risk levels. By using glyphosate in accordance with appropriate procedures, safe working practices and, where appropriate, personal protective equipment the chemicals can be used safely. Compliance with these measures are regularly monitored.

In addition use of effective chemicals to clean footpaths etc. massively reduces the risks of serious slips, trips and fall injuries which are by far the most common cause of accidents and claims to local authorities.

Financial Risk – the current practice is affordable, alternatives which are less effective are more expensive and no additional budget is identifiable. There is a medium to long term financial implication to stopping use of glyphosate, additional repair and maintenance budget will need to be found as well as the potential cost of insurance claims and higher insurance premiums.

Reputational – Inevitably without the use of glyphosate weeds will be more prevalent, whilst this may be understandable to some others may not find this acceptable. Weeds trap litter and there is an increased risk of areas looking unkempt.

2.4 Environmental/Climate Change Impact

The current practice entails two annual trips to the sites listed in Appendix 1 and (sites with notifiable weeds) one trip annually to the sites in Appendix 2 (Parks, cemeteries and car parks). More manual options will require significantly more frequent trips to the sites in Appendix 2 in vehicles. 'Foamstream' requires more trips in a vehicle, an additional diesel engine and a significant amount of water.

From an energy and resource point of view, Glyphosate based treatments seem to be the most practical solution. It minimises the need for repeat site-visits, resulting in reduced transport emissions, requires little energy (electricity, diesel etc.) and water to administer when compared to the alternatives. The total droplet application method described in the report lends itself to a more targeted approach and will act to prevent any unintended impacts on native and non-nuisance plant species. The use of hot substances, flames and acids will have both short and long-term implications for native wildlife and should therefore be avoided.

Glyphosate inhibits functions specific to plants and so the substance has a lesser impact on insect and animal species, it has a relatively short half-life and is actively degraded/digested by micro-organisms, reducing its long-term impact on the environment.

3. OPTIONS

- Continue glyphosate use in a carefully managed and targeted way i.e. treat invasive notifiable weeds and hard surfaces and continue to seek alternatives to reduce use of glyphosate where we can.
- Treat invasive notifiable weeds only with glyphosate, accept a less tidy environment, do what we can by other means within budget.
- Invest more budget (need to identify what we will stop doing to pay for this) to maintain current standards and use other more expensive (and less effective) methods.

4. CONCLUSION

The use of Glyphosate in this setting is very small compared with agricultural use. The Councils use of Glyphosate has reduced substantially and there has been an ongoing effort to find effective alternatives. The current use is minimal, targeted and managed carefully.

The use of condensed droplet application CDA to make a safety improvement and trimmer mounted wire brushes in some areas are achievable within budget, and will reduce the glyphosate usage in parks and cemeteries by approximately a further 20%.

Alternative methods are less effective and more costly, increased weed will lead to additional financial costs in the mid to long-term.

Appendix A – Sites treated for Notifiable Weeds

Ashburton

Miners Close

Dawlish

Brook Street Carpark

Newhay Field

Oaklands Park

Shutterton cycle plath

Newton Abbot

Old Forde House Grounds

Forde Road Depot

Newton Abbot Cemetery

Shaldon

Homeyards Botanical Gardens

The Ness

Teignmouth

Broadmeadow Industrial Estate

Meadow Centre

Coombe Road

Second/Third Ave

Appendix B – Sites where annual Glyphosate spot treatment of weeds in hard surfaces takes place.

Parks and Open Spaces

Ashburton

Cleder place

Recreation Ground

Dawlish

Lea Mount

Earlies wall / Coryton Cove

Lawn (including mini golf and York Gardens)

Manor Gardens

Dawlish leisure centre (paths around buildings, all weather, Sandy lane car park area)

Newhay Field

Warren (promenade side walkway and outer car park

Marina Bowls club

Kingsteignton

Kingsley Park

Newton Abbot

Courtenay Park

Forde Park

Decoy Country Park (car park and around buildings)

Bakers Park (Inc. Tennis courts)

Forde house Inc. car parks)

Old Forde House (including old drives and chipping areas)

Powderham Park

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Newton Abbot Leisure Centre (paths and around buildings and car parking areas)
Coach Road
Manor Road park
Osborne Park
Sandford view
Bradley lane (industrial units)
Forde Road offices and depot perimeter / parking spaces

Shaldon

Ness Drive and Gardens (Inc. car park)
Homeyards Botanical gardens

Teignmouth

The Den (promenade and open space paths)
Lido
Bowls club
Broadmeadow sports centre
Estuary Court

Cemeteries (paths and road edges)

Newton Abbot Cemetery
Kingsteignton Cemetery
Teignmouth new and Old Cemetery
Dawlish Cemetery

Car Parks

Ashburton

Dolbeare Road
Kingsbridge Lane

Bishopsteignton

Bishopsteignton
Michaels Field

Bovey Tracey

Mary Street
Methodist Church
Station Road
Teignbridge Business Centre Heathfield

Chudleigh

Town Hall

Dawlish

Barton Hill
Dawlish Leisure Centre
Dawlish Warren outer carpark
Sandy Lane
The Strand

Exminster

Victory Hall

Kingkerswell

Fore Street

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Kingsteignton
Gestrige Road

Moretonhampstead
Court Street
Station Road

Newton Abbot
Bradley Lane
Cattle Market
Collett Way
Cricketfeild
Decoy Country Park
Forde House
Halcyon Road
Multi Storey Car Park
Newfoundland Way
Newton Abbot Leisure Centre
Osborne Street
Venture Court
Wain Lane
Wolborough Way

Shaldon
Labrador Bay
The Ness

Starcross
The Strand

Teignmouth
Broadmeadow Leisure Centre
Brunswick Street
Eastcliffe
Polly Steps
Quay Road
Teign Street
The Point

Widcombe
Widcombe-In-The Moor

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Appendix C – Foamstream Costs

Provision of latest Foamstream Machine with electric vehicle and two operatives March - October		idverde 	
	Annual Cost	Capital Cost	Note
Vehicle and machinery			
Electric Goupil G4 drop-side with 48v lead acid batteries, road registered and giving a range of 40-45 miles	£ 3,418	£ 23,925	As sumed vehicle life of 7 years
Foamstream L1200 model	£ 5,656	£ 19,795	As sumed 3.5 year life of machine
Financing	£ 1,366		
Fuel (Vehicle)	£ 950		
Fuel (Machine)	£ 2,660		
Maintenance	£ 2,000		
Insurance	£ 1,824		
Tax	£ -		
Tracker	£ 144		
Consumable Costs			
Foam	£ 8,000		Based on current usage
Labour costs			
Team Leader/Driver March - October: Basic	£ 14,000		Based on current (2019) pay rates
NI & P	£ 1,436		
Back-up Driver/Sweeper - March - October: Basic	£ 12,600		Based on current (2019) pay rates
NI & P	£ 1,200		
Uniforms	£ 400		
Total Costs	£ 55,654	£ 43,720	
idverde profit and overhead	£ 5,565		
Total Annual Charge to Client	£ 61,219		

Appendix D APSE (Glasgow trials) - WEED CONTROL METHODS AND COSTS (Costs will require updating since the spread sheet was populated but are a useful comparison).

Product	Main Active Ingredient	Cost £ per 5ltr	Product cost per 10ltr tank mix	Product per 10ltr water	Application Rate: per Ha (ml)	£ per Ha	Treatment on					
							hard surface	soil	grass	riverbank	knotweed	
Finalsan Plus	Pelargonic acid/maleic hydrazide	£46.00	£15.33	1660ml	16600	£150.00	no	yes	yes	no	no	Can causes severe eye irritation. Finalsan does not possess a long-term effect, i.e. re-emergence of affected weeds may occur. Therefore, repeated applications in 2 to 4 week intervals are necessary during the course of one vegetation period. Dangerous to bees. To protect bees and pollinating insects do not apply to crop plants when in flower. Do not use where bees are actively foraging. Do not apply when flowering weeds are present.
Katoun Gold	500 g/L fatty acid pelargonic acid	£125.00	£25.00	1125ml	22500	£562.50	no	yes	yes	no	no	Katoun® Gold is a non-selective contact herbicide for use on amenity vegetation (bare soil around trees and woody shrubs). A natural weed management solution. Dangerous to bees. To protect bees and pollinating insects do not apply to crop plants when in flower. Do not use where bees are actively foraging. Do not apply when flowering weeds are present.
Newway	acetic acid in a soluble concentrate	£33.00	£16.00	2500ml	25000	£165.00	yes	no	no	no	no	Artificial Surfaces, Hard Surfaces. Dangerous to bees. To protect bees and pollinating insects do not apply to crop plants when in flower. Do not use where bees are actively foraging. Do not apply when flowering weeds are present.
Paradise	Flazasulfuron	£53.00 per 50mg Granular product	£10.60	10grms	50mg	£53.00	no	yes	yes	no	no	Residual does not kill green plant tissue
Chikara	Flazasulfuron	£277.00 Granular product	£15.13	10grms	150grms	£227.00	no	yes	yes	no	no	Residual does not kill green plant tissue
Nomix Dual	Glyphosate & Sulfosulfuron	£165.00 pre mixed	na	na	9000	£300.00	yes	yes	yes	no	no	Residual kills all green plant tissue
Nomix Hilite	Glyphosate	£100.00 per mixed product	na	na	10000	£200.00	yes	yes	yes	no	no	kills all green plant tissue and roots
Roundup	Glyphosate	£46.00	£1.66	180ml	3500	£35.00	yes	yes	yes	yes	yes	kills all green plant tissue and roots
ICADE	Aminopyralid	£56.00	£8.48	150ml	4000	£224.00	no	yes	yes	no	yes	does not kill grass

System Name	Control method	Full Time Vehicle Required	Liquid Fuelled Generator Required	Herbicide Required	Additional Water required	Approx Cost	Pros	Cons
Foamstream	Hot water and foam	YES	YES	NO	YES	£25,450.00	Herbicide Free, kills moss and algae. Good PR. Unlimited applications per area.	Required high amount of fossil fuel to heat water, potential scalding via splashing to public, large vehicle to transport, large volumes of water. Liquid foam concentrate required £. Cannot fit into small spaces, could not be used to treat road side weeds around parked vehicles. Will not kill weed roots. High Noise volume output from generator
Ubiquotec	Electricity	YES	YES	NO	NO	£25,000.00	Herbicide Free, Good PR. Unlimited applications per area.	Requires earthing point for use, this ruling out many hard standing areas. Required high amount of fossil fuel to create electricity. Weeds/dry leaves/litter can catch fire during treatment, SERIOUS FIRE HAZARD. Does not kill weed roots. High Noise volume output from generator
Weed it Infrared System	Infrared sensors and Glyphosate	YES	NO	YES	NO	Not for sale. Owned by Complete Weed Control	Reduces the amount of used herbicide, pin-points weeds preventing over spraying.	Cannot be used on pedestrian foot paths legally.
Oeliatec Hot Water	Hot water	Part	NO	NO	YES	?	Small in size, self-powered, runs on Electricity? Ultra-quiet, requires small vehicle to transport.	Small water supply, will not kill weed roots, potential to cause scalding via splashing.
Cardley Wave	Hot water	YES	YES	NO	YES	£22,000.00	Hot water only, kills moss and algae, removed gum, and cleans hard surfaces.	Required high amount of fossil fuel to heat water, potential scalding via splashing to public, large vehicle to transport, large volumes of water. Cannot fit into small spaces, could not be used to treat road side weeds around parked vehicles. Will not kill weed roots. High Noise volume output from generator.
Gas Powered Weed Burner	Gas Flame/ Thermal heat	No	No	No	No	?	Quickly gives impression weeds are killed due to immediate visual of brown/yellowing of leaves and mosses.	Only burns leaves of weeds, perennial weeds will regrow. Flame could set fire other items e.g. dry plant material, dead leaves and twigs, paper etc.
	Note the below have not been trialled							
WEEDGO	Strimmer head attachment					£700	Clears hard surfaces of weed and moss, contain debris within head unit	Hand Arm Vibration Issues
Red Dragon weed burner						£99	Quickly gives impression weeds are killed due to immediate visual of brown/yellowing of leaves and mosses.	Only burns leaves of weeds, perennial weeds will regrow. Flame could set fire other items e.g. dry plant material, dead leaves and twigs, paper etc.