



NewquayCouncil

CorporateService

Environment & Facilities Committee

Officer MEMO

Weed Control Methods on Council-Owned Sites: Evaluation and Alternatives

Background

The Environment Service (ES) performs annual removal of unwanted vegetation from hard surfaces on council-owned properties. Historically, this has involved spot-spraying with glyphosate, a herbicide approved for use in the UK until December 2025.

In the current year, the ES trialed manual removal methods (hand-pulling and use of hand tools). Staff provided feedback on various aspects of these methods, including removal techniques, time and frequency of effort, site conditions, and personal impressions (see Appendix A and E&F Committee Report).

Research on Alternative Weed Control Methods: Studies from various councils across the UK have examined alternative methods for controlling weeds on hard surfaces.

1. Glyphosate

- Mechanism: Inhibits plant enzyme systems, leading to total weed control.
- Usage: East Sussex applies a 5% glyphosate solution once per year where weeds are present.
- Concerns: Awaiting further UK government approval (licensed until 2025); approved by the European Food Safety Authority until 2033.
- Conclusion: Cardiff's report supports glyphosate as the most sustainable method currently available.

2. Acetic Acid

- Mechanism: Causes plant desiccation.
- Research: Cardiff's 2021 trial (4 applications per year) showed moderate costs and environmental impacts but low satisfaction and efficacy.

- Concerns: Requires high concentrations (20-30%), poses health risks, and is less effective. Not recommended around metals or animals.
- Conclusion: Provides rapid but short-lived weed control; limited by safety risks and effectiveness.

3. Foam Spray

- Mechanism: Uses hot water insulated by plant-based foam to kill or damage weeds.
- Research: Cardiff's 2021 trial (3 applications per year) reported high costs, high water and fuel use, but high satisfaction.
- Concerns: Very costly and carbon-intensive, challenging in congested or remote areas.
- Conclusion: Effective but not cost-efficient; significant environmental impact.

4. Flame Guns

- Mechanism: Destroys vegetation using propane-fuelled flames.
- Research: Trials in Truro showed limited success; safety incidents reported.
- Concerns: Risk of fire, especially near infrastructure, and high CO₂ emissions.
- Conclusion: Not suitable due to safety and environmental concerns.

5. Manual Removal

- Method: Removal by hand or with simple tools.
- Research: Newquay trials indicated incomplete coverage within time constraints; weeds regrow quickly.
- Concerns: Labour-intensive, high staff fatigue, and morale issues.
- Conclusion: Best used alongside other methods.

6. Weed Rippers

- Method: Mechanical devices that physically remove weeds.
- Research: Trials in Newquay found limited effectiveness; high vibration levels limit use (HAVs).
- Concerns: Labour-intensive, requires frequent equipment maintenance.
- Conclusion: Effective for limited use; does not address root regrowth.

7. No Planned Maintenance / Reactive Approach

- Method: Maintenance only upon public complaint or hazard identification.
- Research: Mixed responses; some councils tolerate higher weed levels, while others report negative feedback related to safety and aesthetics.
- Concerns: Accessibility issues, potential infrastructure damage, negative public perception.
- Conclusion: Feasibility of tolerance-based approaches warrants further study.

Conclusion

Results from extensive testing across the UK indicate that glyphosate is the most effective and sustainable weed control method, while hot foam is effective but unsustainable, and acetic acid is both ineffective and unsustainable.

However, glyphosate has drawbacks, including negative public perception, potential freshwater eutrophication, and inconclusive evidence regarding its carcinogenicity.

According to the European Food Safety Authority (EFSA) recently found no unacceptable risks, but highlighted data gaps in several areas, with restrictions in place to protect non-target organisms.

Evaluating the advantages and disadvantages of each method is crucial for minimising the environmental and economic impacts of weed control and enhancing management sustainability.

References:

Council, Cardiff. (2022) 'Weed Control Trial 2021: Final Project Report'.

Council, Truro. (2024) 'Chemical Use: Parks, Amenities and Facilities Managers Report The use of Glyphosate'.

Council, East Sussex. (2023) 'Weed Maintenance Techniques Research'

Glyphosate: No critical areas of concern; data gaps identified (6 July 2023) European Food Safety Authority. Available at: <https://www.efsa.europa.eu/en/news/glyphosate-no-critical-areas-concern-data-gaps-identified> (Accessed: 02 September 2024).

Appendix A

gary

UNWANTED PLANTS REMOVAL (WEEDS) - This year we have been manually removing unwanted plants from all of our open space hardstanding, instead of using Glyphosate twice a year. This is separate to the weed contract carried out by a contractor.

GLYPHOSATE APPLICATION

Member(s) of Staff - N/A

Locations - N/A

Application Time - N/A

Application Period - N/A

MANUAL REMOVAL

Member(s) of Staff - Gary Porter

Locations - KC, doorstep, Marcus hill
Mountwise

Method - Hand, tools Hoe, power tools, strimmer

Frequency - daily 30min - 60min.

Time Spent on Removal - 30min - 60min

Site Appearance - When done looks good but they soon come back.

Issues (Surface etc.) - cracks pot holes

Staff Feeling/Observations (Personal) - never ending by hand. you can not always get the roots out.

Suggestions - Glyphosate you do not use so many man hours. - re tar mac surfaces
Glyphosate get to the roots. ie KC

Jacey

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GLYPHOSATE APPLICATION

Member(s) of Staff – N/A

Locations – N/A

Application Time – N/A

Application Period – N/A

MANUAL REMOVAL

Member(s) of Staff –

ALL

Locations –

ALL

Method –

HAND WEEDING WITH TROWEL, DUTCH HOE, RAKE, HANDS.

Frequency –

EVERY DAY

Time Spent on Removal –

ATLEAST 1 HOUR EACH SITE

Site Appearance –

BETTER ONCE DONE BUT TACKY + UNKEPT IF NOT,

Issues (Surface etc.) –

TARMAC COMING UP, WEEDS COMING THROUGH A WEEK LATER
OR TOUCH AREAS TO GET TO -

Staff Feeling/Observations (Personal) –

HARD LABOUR ON KNEES + BACK, NO WHERE TO DISPOSE GREEN WASTE,
DO ONE AREA + BY FOLLOWING WEEK, WEEDS DOING AGAIN.
Suggestions –

ECOFRIENDLY WEED KILLER?

James

UNWANTED PLANTS REMOVAL (WEEDS) - This year we have been manually removing unwanted plants from all of our open space hardstanding, instead of using Glyphosate twice a year. This is separate to the weed contract carried out by a contractor.

GLYPHOSATE APPLICATION

Member(s) of Staff - JAMES MARRIOTT, MATTHEW WILCE

Locations - MOUNTWISE, MARCUS HILL, KILLACOURT, DOORSTEP GREEN
ATLANTIC RD PLAY PARK

Application Time - 30-40 MINS PER SITE, DOORSTEP GREEN MAYBE 15 MINS
ATLANTIC RD PLAY PARK MAYBE 15 MINS

Application Period - TWICE A YEAR APPLIED DURING THE GROWING PERIOD

MANUAL REMOVAL

Member(s) of Staff - JAMES MARRIOTT, MATTHEW WILCE, GARRY PORTER, JACEY PEACOCK, JOE ASHTON

Locations - ALL SITES

Method - HANDS, HAND TOOLS, HOES, PATIO BRUSH, PATIO KNIFE

Frequency - AS AND WHEN, DURING SUMMER EVERYDAY

Time Spent on Removal - 30-60 MINS A DAY IN SUMMER LESS IN WINTER.

Site Appearance - AFTER REMOVAL THE SITE LOOKS LOVELY BUT WEEDS BACK IN LESS THAN A WEEK IN SUMMER

Issues (Surface etc.) - CRACKED TARMAC, HARD TO GET AT ON HARD STANDING - WITH HAND TOOLS, LOT OF KNEELING AND OCCASIONAL DOG MESS

Staff Feeling/Observations (Personal) - THE WEED SPRAYING DOES WORK WELL BUT NOT KEEN ON CHEMICALS AND ALWAYS GET QUESTIONED BY MEMBERS OF THE PUBLIC, DON'T MIND WEEDING BY HAND AND PEOPLE SEEM HAPPY WITH THAT METHOD AND UNDERSTAND THAT ALWAYS GOING TO BE WEEDS BUT IS NEVER ENDING IN SUMMER

REPAIR & SURFACES

Matt

UNWANTED PLANTS REMOVAL (WEEDS) - This year we have been manually removing unwanted plants from all of our open space hardstanding, instead of using Glyphosate twice a year. This is separate to the weed contract carried out by a contractor.

GLYPHOSATE APPLICATION

Member(s) of Staff - James + Matthew

Locations - Mount Wise, Marcus Hill, Killacourt, Doorstep

Application Time - South fistral playpark
30 minutes per site, play parks less

Application Period - During active growth x2 applications in the season

Notes - PPE, Suits, gloves, visor prep + cleaning time
20 minutes

MANUAL REMOVAL

Member(s) of Staff - All Staff

Locations - All sites

Method - Hand, Hoe, patio brush, travel / rake

Frequency - Everyday

Time Spent on Removal - 1 hour per person

Site Appearance - Instant improvement, visible

Issues (Surface etc.) - Some tools can cause more damage to surfaces making more room for weeds, ~~can't~~ can't remove all roots

Staff Feeling/Observations (Personal) - Can be disheartening to see weeds come back so quickly, some plants are pretty

Suggestions - leave beneficial plants, encourage them

PREPARED BY:

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