



Report on Weed Control in Minehead

1. Background and Historical Context

Transition in Responsibility

Approximately a decade ago, Somerset Council ceased providing street weed control, leaving Minehead Town Council (MTC) to assume this responsibility. Initially, the in-house amenities team managed the task through ad hoc knapsack treatments followed by engaging a contractor. Recognising limitations in efficiency, management concerns with contractors, and long-term chemical availability concerns, MTC began exploring alternatives to chemical weed control.

Importance of Weed Management

As a tourism-dependent town, Minehead benefits significantly from a well-maintained streetscape. The quantity of resident and visitor feedback emphasises the need and expectation for effective weed control as a component of the town's overall appeal.

Historical Use of Glyphosate

Glyphosate, commercially available in the UK since 1976, has been the primary herbicide for street weed control in the town and worldwide. Before its introduction, other, now banned, chemical methods were likely employed alongside manual labour.

Characteristics of Glyphosate

Glyphosate is a non-selective, systemic herbicide, absorbed by plants to inhibit essential protein synthesis, ensuring thorough effectiveness without lingering in soil or water.

Previous Applications

In previous years, Glyphosate was applied comprehensively and liberally to street weeds and open spaces, including fence lines and trees.

2. Cessation of Chemical Use

Discontinuation Date

Circa 2020

Reasons for Discontinuation

1. **Environmental Concerns:** Questions around glyphosate's long-term effects on humans and wildlife.

2. **Management Challenges:** Difficulties with contractor management and the handling of public perception.

3. Developments Since Discontinuation

Regulatory Updates

The European Food Safety Authority and Chemicals Agency extended glyphosate's approval for ten years in November 2023, with additional conditions. Post-Brexit, DEFRA has indicated probable renewal under the UK's pesticide regulations when its current licence expires in December 2025.

Community Feedback

While concerns about glyphosate persist, clear communication about its application and safety often alleviates these worries. Residents have expressed dissatisfaction with the effectiveness of alternative methods attempted since its withdrawal and the perceived lack of control of street weeds.

MTC Environmental Initiatives

Since 2022, rewilding programmes introduced by MTC have enhanced biodiversity across the town and in particular within MTC-owned open spaces. This has balanced habitat preservation with public expectations, with plans to further expand these initiatives and introduce wildflowers to further increase biodiversity.

4. Alternative Methods Attempted

Manual Removal

- **Duration:** 10 weeks (March – May 2023)
- **Cost Per Treatment:** Total cost of additional staff member: £2912.00
- **Effectiveness Rating:** 1/5
- **Challenges:** Weather dependency, root regrowth, hidden costs (waste disposal, additional staffing), labour-intensive, slow progress, reliability issues.

Foam Stream Technology

- **Duration:** Six-month trial (April – October 2024)
- **Cost Per Treatment:** Total hire cost: £14689.00
- **Effectiveness Rating:** 2/5
- **Challenges:** Equipment heaviness, high fuel/solution costs, slow treatment rates, labour-intensive, unsatisfactory results.

Weed Brush Technology

- **Duration:** Two sales rep-led demonstrations (2023, 2024)
- **Cost Per Treatment:** N/A (retail cost: C. £15,000)

- **Effectiveness Rating:** 2/5
- **Challenges:** Surface-level removal, debris management, limited operational times, high maintenance costs, hidden costs (waste removal, additional staffing, and ancillaries).
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5. Proposed Chemical Reintroduction Plan

Objective

To reintroduce glyphosate for hard-surface weed control using a professional contractor while ensuring minimal habitat impact by excluding its use in open spaces, maintaining robust stakeholder and contractor management and transparent public communications, inviting all types of feedback.

Key Actions

1. MTC staff to carry out as much manual street weed and detritus removal as possible through the winter months, targeting high footfall and problematic areas.
2. Engage a qualified contractor [REDACTED] for targeted street weed control beginning March 2025.
3. Conduct three treatments in Year 1 (March, July, September/October) and reduce to two in subsequent years.
4. Limit applications to main streets and exclude service lanes, managed estates, and unadopted highways.
5. Enhance MTC's rewilding program to mitigate habitat loss concerns and restrict use to only controlling hard surface weeds.
6. Use in-house teams to provide additional ad hoc reactive controls as required between contractor visits, including removal of any unsightly dead vegetation if necessary.
7. Create a comprehensive weed control policy that reflects the method, frequency, and limitations of MTC's chemical usage.
8. MTC to proactively issue overgrown vegetation letters to households and businesses to reduce weed enabling detritus on streets.
9. Continually review Government guidance and legislation on Glyphosate use.

Contractor Application Methods

- Use of a small utility vehicle equipped with the Weed-IT spot spraying system and kerb jets.
- Employ handheld knapsacks for precision treatments.
- Utilize low-drift nozzles, such as DriftBeta, to minimise spray drift and ensure targeted application.
- Apply in suitable weather conditions to prevent environmental impact, halting operations if necessary.
- Incorporate adjuvants in the spray mix to further reduce drift and improve application efficiency.

Contractor Credentials

The preferred contractor is [REDACTED]. They possess vast experience and industry-recognised accreditations such as BASIS Amenity Standard, ISO 9001 and 14001 certifications, as well as advanced application systems.

Risk Management

- Employ low-drift nozzles and spot-spray systems.
- Adhere to safety regulations through comprehensive risk assessments.

6. In-House Operational Requirements

- **Training Needs:** Existing staff are adequately trained for supplementary treatments.
- **Equipment:** Current equipment meets requirements.
- **Storage:** Compliance with chemical storage regulations is ensured.
- **Record Keeping:** Maintain detailed logs for application monitoring.
- **Risk Management:** Comprehensive chemical application risk assessments are already in place and reviewed annually, with any additional hazards and associated controls added.

7. Stakeholder Management

Community Engagement

Transparent communication about glyphosate use, supplemented by educational resources, will address concerns and foster public trust. Regular updates via press releases and the MTC website will ensure ongoing transparency.

Feedback Channels

Provide avenues for public input and further collaboration with environmental groups and individuals to enhance inclusivity.

8. Monitoring and Evaluation

Performance Metrics

1. Effectiveness of weed control (public satisfaction surveys, general feedback, visual inspections, and contractor management).
2. Financial efficiency (cost analysis).
3. Environmental impact (increased commitment to rewilding areas on MTC-managed land).

Review Schedule

Annual report to council, including an evaluation to further refine methods and address any emerging concerns if required.

9. Budget

Implementation Costs

- **Contractor engagement:** £2,900 + VAT (per treatment, excludes service lanes, managed estates, and unadopted highways).
- **Equipment:** 20 Litre knapsack approx. £200 inc. VAT (currently not required).
- **Training:** Spraying refresher training approx. £250 per candidate, to be added to staff training and development plan.
- **Products:** Roundup Pro Active 5 litres approx. £55 inc. VAT (will treat 20 x 20 Litre knapsacks with a dilution rate of 250 ml chemical to 19.75 Litres water).
- **Labour:** Contractor will provide most of MTC weed control; MTC staff will provide an additional reactive service if required.

10. Timeline

Phase 1 – Manual Weed Removal

MTC to conduct manual weed and detritus removal in high-priority areas from January to March 2025.

Phase 2 – Initial Contractor Treatment

Contractor to undertake first glyphosate application in March 2025, followed by treatments in July and September/October.

Phase 3 – Policy Finalisation and Review

MTC to approve a comprehensive weed control policy by May 2025.

Phase 4 – Ongoing Management

Monitor and refine the weed control programme throughout 2025 with annual reviews to ensure compliance and efficiency. Continue to actively identify overgrown vegetation, issuing letters to households and businesses.

11. Conclusion

Through advancements in technology and increased research into glyphosate, combined with the lessons learned from alternative methods, MTC is well-positioned to reintroduce glyphosate in a safe and controlled manner. The pragmatic approach outlined in this report ensures a balance between effective weed control, environmental stewardship, and fiscal responsibility. By incorporating stakeholder input, maintaining transparent communication,

and leveraging modern contractor application techniques, MTC can achieve the desired outcomes while addressing community and environmental concerns. This strategy represents the best value for taxpayer money and reflects the council's commitment to responsibly and effectively maintaining the town whilst preparing for focusing both time and finance on the management of any future devolved assets and services from Somerset Council.

12. References

[Cardiff weed control report](#)

[EU approval Q & A](#)

[Further information](#)

[ISO 9001 & 4001 Explained](#)

13. Appendices

Appendix 1 weed it information

Appendix 2 Glyphosate General Safety Data Sheet

Ben Parker
Town Clerk
December 2024

2.1.3 Technology

WEED-IT - What is it and why use it?

WEED-IT (**W**eed **E**conomical **E**radication **D**etection – **I**ntelligent **T**echnology) is a weed control application technology developed specifically for the control of weeds on public footpaths and similar hard surface areas in urban environments.



The original version was introduced in 1997 (with several iterations improving on it since), Complete Weed Control has treated many hundreds of thousands of kilometres of footpaths and hard surfaces and continued to use and develop the technology, the latest development being the building of a new purpose-built, articulated carrier vehicle.

What is WEED-IT?

WEED-IT is a computer-controlled herbicide application system specifically designed for use on footpaths and other hard surface areas. The system consists of a shrouded spraying head mounted on the front of a purpose-built, articulated carrier vehicle. Within the shrouded head are sensor units and spray nozzles. The sensor units detect the presence of weeds and trigger the appropriate spray nozzles to apply accurately the correct amount of herbicide just to those weeds and their immediate surroundings.



The result is very high levels of weed control coupled with greatly reduced herbicide use and increased safety to the operator and the public. The environmental impact of herbicide use is also greatly reduced.

During early trials with a major local authority in the year 2000 a unit was used for 20 weeks without any down time related to technical faults, and with outstanding weed control results. The key benefits were found to be:

- Weeds were targeted accurately and controlled
- A reduction of 65% in herbicide use*
- No off-target spray damage to grass verges, open-plan gardens and the like
- The WEED-IT system attracted no adverse comments from local residents and members of the public. (In previous years up to 40 complaints per year had been received).
- Productivity for one operator of between 35 and 40 km per day

* Further years of experience with WEED-IT have shown this to be nearer to 80% reduction in herbicide use.

2.1.3 Technology

Why use WEED-IT?

Reduced herbicide use*:

- Reduces the risk to the operator from herbicide contamination
- Reduces both the real and perceived negative environmental impact of herbicide application, especially on hard surfaces
- Provides the risk reduction measures necessary to satisfy the requirements of COSHH assessment and environmental risk assessment better than any other system



* See later section "The evidence"

The shrouded spray head:

- Virtually eliminates the risk of spray drift and off-target contamination
- Virtually eliminates the risk to the public from herbicide application on footpaths and other hard surfaces

2.1.3 Technology

- Greatly reduces concern and negative comments from members of the public (in fact positive comments are often received)
- Allows spraying to continue when the weather would mean that quad bike and knapsack application work would have to stop
- Can be used in “spot treatment” or “overall spray” modes

Computer controlled herbicide application:

- Allows the operator to give a far greater part of his/her attention to the safe operation of the sprayer
- Provides the highest levels of accuracy in herbicide application
- Ensures that herbicides are always applied at the correct rates
- Minimises waste

The purpose built, articulated carrier:

- Provides a stable platform for the operator and for the spraying equipment to be mounted on
- Has its top speed restricted to 16kph, much lower than any quad bike so limiting greatly the risk to people, vehicles, buildings and street furniture (typical spraying speed is 6-8kph depending on the specific situation and risk assessment)
- Allows the operator to pay much more attention to his/her surroundings, increasing both public and environmental safety
- Provides a highly manoeuvrable vehicle that can safely access many more areas than a quad bike
- Enables additional spray nozzles to be controlled with foot-operated switches leaving both of the operator's hands on the steering wheel
- Allows the safe use of a hand lance where this is necessary

The Evidence

A quantitative evaluation was carried out at Plant Research International in December 2000 (*Quantitative evaluation of liquid deposition by herbicide application systems for weed control on hard surfaces – C. Kempenaar, R.M.W. Groeneveld and A.J.M. Uffing*).

Liquid application was measured from a number of spray application systems in swath (overall spray) and spot treatment modes. In swath treatment mode, sprays were evenly distributed over the whole surface, whilst in spot treatment mode, sprays were directed at the weeds only.

WEED-IT is a modern herbicide sprayer for spot and swath treatment. The system uses sensors to detect the presence of weeds before triggering an application of herbicide. Application begins just before and terminates just beyond the weed to ensure complete coverage.

2.1.3 Technology



The machine was compared with a hand operated sprinkle bar and a knapsack sprayer. Tests were carried out on three types of hard surface and two levels of weed infestation.

2.1.3 Technology

Key results are shown below:

Application system	Liquid applied (gm/m ²)	Reduction relative to swath treatment (%)
<u>Swath treatment:</u> Sprinkle bar Knapsack sprayer Weed IT	 220 76 27	
<u>Spot treatment:</u> Sprinkle bar Knapsack Weed IT	 200 43 7	 9 43 74

These results show clearly the significant reduction in herbicide application
From a safety point of view

- When comparing **WEED-IT** with knapsack sprayer application the risk of operator and public exposure to herbicide contamination is greatly reduced and the accuracy of herbicide application is improved. The risk to the operator of developing musculo-skeletal disorders is also greatly reduced.
- When comparing **WEED-IT** with quad bike application the risk of overturn and collision are greatly reduced through the use of a purpose-built carrier unit which is stable, highly manoeuvrable, has top speed strictly regulated and allows the operator to apply his/her full attention to driving safely in public areas.

Conclusions:

By using **WEED-IT** Complete Weed Control can provide:

- An unsurpassed level of weed control
- The highest levels of personal, public and environmental safety
- A “public friendly” method of herbicide application
- A means of meeting better the aims and objectives of your organisation’s environmental policy
- Cost-effective, safe solutions to your weed control problems and a better public environment



Roundup® / Glyphosate Technical Factsheet

Roundup® herbicides contain the active ingredient glyphosate, a surfactant and water. Roundup® is a broad-spectrum herbicide with no soil residual activity. The effectiveness of Roundup® herbicide, and its favourable environmental characteristics, have combined to make it one of the most widely used and trusted herbicides in the world. And because the mode of action is very specific to green plants, there is minimal risk to other non- target organisms. Monsanto introduced the original Roundup® herbicide in 1974 in several agricultural markets worldwide including the UK. Its use has constantly expanded to include other applications including those in residential and industrial markets. Glyphosate safety and all its uses have been reviewed regularly by regulatory authorities throughout the world including the World Health Organisation and EU regulators.

This information sheet summarises glyphosate safety to humans, wildlife and the environment.

Section I:

HEALTH AND SAFETY OF GLYPHOSATE & ROUNDUP HERBICIDES

Toxicological testing with laboratory animals serves as a model for evaluating the potential of a substance to cause adverse effects in humans. Toxicology studies measure the effects of direct and indirect exposure to many substances, including herbicides and pharmaceuticals. Numerous, extensive short-term (acute) and long-term (chronic) toxicity studies have been performed to determine the effects of exposure to glyphosate, the active ingredient in Roundup herbicide. As a result of a thorough review of the results of these studies, glyphosate was determined to belong to a limited class of herbicide active ingredients with no evidence of carcinogenicity in humans. In addition to the standard toxicology tests, numerous studies have also been conducted with Bayer glyphosate products on other non- target species such as soil micro-organisms, birds, small forest mammals and various aquatic organisms.

ORAL TESTS

The results of acute (single exposure) oral toxicology tests using rats are expressed as LD50 values; the smaller the value, the greater the toxicity. Here are the approximate oral LD50 values for glyphosate and some other familiar substances fed to rats. For example, glyphosate, with an LD50 of 5600 mg/kg, is less toxic to rats than table salt, with an LD50 of 3000 mg/kg.

COMPOUND	LD50*	TOXICITY
Glyphosate	>5000	Least toxic
Table Salt	3000	
Vitamin A	2000	
Aspirin	1000	
Caffeine	192	
Nicotine	53	Most toxic

* LD50 values are in milligrams of test substance per kilogram of body weight.

EYE STUDIES

The eye irritancy of Roundup formulations is determined by the type of surfactant, (wetter) used in the formulation. (Surfactant is required to help penetrate the waxy cuticle of target leaves). Formulations like Roundup PowerMax, Roundup ProActive, Roundup Flex and Roundup ProVantage which have been introduced since 1994 use non-irritant surfactants and are all practically non-irritating to eyes carrying no irritancy classification. A typical spray solution of the original Roundup® glyphosate formulation was rated as "slightly irritating" in eye studies. The eye irritation observed following exposure to the spray solution was completely reversible. The concentrated formulation in eye studies is only at the borderline for irritancy, but sometimes the persistence of effects is such that labelling is required. A summary of reported accidental eye exposure to original Roundup herbicide, in various dilutions, showed 94.6% percent of the reports exhibited

no symptoms related to exposure or only minor irritation. In the remaining cases there was moderate irritation, but the effects were only temporary.

SKIN STUDIES

In acute skin studies using laboratory animals, glyphosate is non-irritating, even at exposure levels far in excess of those expected from normal uses of the herbicide. Clinical studies using human volunteers have also been conducted. These studies compared the eye irritation of the original Roundup herbicide with a common baby shampoo, a dishwashing detergent and a household cleaner. In this study, concentrated Roundup and the baby shampoo were found to be less irritating to eyes than the cleaner or the dishwashing liquid. In fact, Roundup and the baby shampoo were indistinguishable from each other. In addition, the newer formulations referred to above are practically non-irritating in skin exposure studies.

INHALATION STUDIES

Glyphosate is not volatile. Thus, exposures to glyphosate vapours are not possible. Exposure to aerosols of glyphosate spray solutions during application may occur. Aerosol inhalation studies, including spray solutions several times more concentrated than normally used, show no effects except at unrealistically high concentrations. The only symptoms resulting from such accidental inhalation of glyphosate spray solutions are describable as mild irritation.

LONG TERM TOXICITY TESTS

Chronic toxicology studies have been conducted to determine the effects of prolonged exposure to glyphosate. Unrealistically high doses of glyphosate were given on a daily basis for one year to dogs and for the average lifetime of two years to rats and mice. The combined results of all these long-term toxicity tests led to glyphosate's classification as non-carcinogenic to humans. Long-term feeding studies have also shown that glyphosate does not cause birth defects or reproductive problems in laboratory animals. Pregnant rabbits and rats fed unrealistically high dose levels of glyphosate delivered normal offspring. Mutagenicity and genotoxicity studies to evaluate gene mutations, chromosome aberrations and DNA damage and repair were also performed using glyphosate. The results of these studies show glyphosate does not interfere with the genetic makeup of cells.

HEALTH AND SAFETY CONCLUSIONS

The results of extensive toxicological studies demonstrate that glyphosate, DOES NOT cause carcinogenicity, birth defects, mutagenic effects, neurotoxic effects or reproductive toxicity. It is not allergenic and does not act as a sensitiser.

Section II:

THE ENVIRONMENTAL FATE OF GLYPHOSATE & ROUNDUP

In addition to toxicology tests, a completely different set of tests is conducted to determine how the herbicide behaves in the environment. The results of these tests show that Bayer's glyphosate-based herbicides exhibit favourable environmental fate characteristics. These favourable characteristics result in Bayer's glyphosate herbicides often being selected for delicate historic site and wildlife habitat restoration work such those as in Pompeii, Lindisfarne & on Easter Island.

MICROBIOLOGICALLY DEGRADABLE

Glyphosate is degraded in the environment by naturally occurring micro-organisms. The average half-life in soil is less than 45 days. Numerous independent studies show that glyphosate does not accumulate in the environment after repeated applications, either in the same year or over many years.

AVAILABILITY IN WATER

Glyphosate rapidly dissipates from water with a half-life of 4-7 days. It binds tightly to sediment in biologically active water where it degrades to naturally occurring compounds including water and carbon dioxide.

AVAILABILITY IN THE SOIL

Glyphosate binds tightly to soil particles on contact with mineral soils and is not available to be taken up by plant roots or germinating seedlings enabling land to be safely sown or planted after treatment; it also means weeds can be controlled around established trees & shrubs with no risk of damage through root uptake.

SOIL LEACHING

Numerous laboratory and field studies have been conducted to evaluate the potential of glyphosate to leach in soil. The laboratory studies include soil adsorption and desorption studies and column leaching studies. In addition, over 100 studies have evaluated the potential of glyphosate to leach following real-world field applications. Glyphosate is classified as a “non-leacher” based on the results of all these studies and is highly unlikely to move into groundwater.

ECOSYSTEM STUDIES

Because Roundup and other glyphosate-based herbicides are widely used throughout the world, studies have been conducted to assess their effect on actual ecosystems. The wildlife diversity and complex nature of the forest ecosystem are ideal to assess the ecological effects of Roundup herbicide. Results from two landmark, comprehensive ecosystem studies—the Canadian Carnation Creek Study and the Oregon State University study—show that glyphosate-based herbicide:

- Degrades readily in the environment
- Is essentially immobile in soil
- Is not a threat to either groundwater or surface water
- Does not cause adverse health or migrational changes in fish
- Has no effect on aquatic or terrestrial invertebrates or waterfowl when used according to label directions.

WILDLIFE EFFECTS

Glyphosate does not bio accumulate. Work with laboratory animals shows that glyphosate is poorly absorbed when ingested. Moreover, any glyphosate that is absorbed is rapidly eliminated, resulting in minimal tissue retention. Feeding studies with chickens, cows and pigs show extremely low or no residues in meat, milk, eggs and fat following daily ingestion of glyphosate. Negligible residues have also been reported in wild animals. Similarly, studies to determine if glyphosate bio-accumulates in fish and marine organisms show no bioaccumulation. Moreover, stopping exposure by placing the organisms in glyphosate free water resulted in virtually complete elimination of any residual glyphosate. These and other studies with mammals, birds, fish and marine organisms conclusively show that glyphosate will not bio-accumulate in the food chain.

Results such as these have led various wildlife habitat restoration groups to use Bayer’s glyphosate herbicides in the restoration and maintenance of sensitive habitat and refuge areas. Groups as diverse as Quail Unlimited, the Audubon Society, The Nature Conservancy and The Society for Ecological Restoration have chosen Roundup herbicide for preservation and restoration projects. The Environment Agency, National Trust, Forestry Commission and Natural England all recommend the use of Roundup on sensitive sites in the UK.

RESIDUE AND METABOLISM STUDIES

Studies are first conducted to determine how a herbicide is metabolised or processed by plants. Then residue studies are performed to determine the amount of the herbicide and its metabolites that remain in the crop after herbicide is applied under normal use conditions. Residue studies are conducted in many locations over a wide geographic range to ensure that the effects of many different climates and soils are examined. If residues are found, studies are then performed to determine if they concentrate in a processed food product such as in flour or vegetable oil.

Metabolism and residue studies have been conducted with Monsanto’s glyphosate herbicides, on over a hundred crops. Residue studies have been conducted on every crop for which glyphosate uses are approved. These studies include every major food crop and ranging from wheat, rice, maize, and soybeans to mushroom and tropical fruits. These studies show that glyphosate residues are primarily in the negligible range and that public exposure to residues in food crops is extremely low.

ENVIRONMENTAL FATE SUMMARY

Roundup formulations degrade readily in the environment and do not accumulate. When used according to approved uses, they have no negative effects on wildlife. Extensive environmental fate study and review shows that no significant adverse effects to the environment occur following exposure to Roundup and other Bayer glyphosate herbicides.

For more information visit: www.monsanto-ag.co.uk , email: technical.helpline.uk@monsanto.com or telephone the Roundup Helpline: 01954 717575.

Roundup® products contain glyphosate. Roundup® is a registered trademark of Bayer AG, Crop Science Division. Other brand names used are trademarks of other manufacturers in which proprietary rights may exist.

USE HERBICIDES SAFELY. ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE.