

Last reviewed August
2023



Pesticide Report

GREEN & CLEAN SERVICE, HNB

Past

In past years we had a different approach to the control of weeds using pesticides this included;

- **The use of MMC pro chemical to treat areas of moss** - this is no longer used in our service and we use machinery instead.
- **The use of Dicophar chemical to treat weedy grassed areas** - this is no longer used in the service and we no longer treat grassed areas.
- **Weed spraying as part of a gardening round** - This wasn't effective due to conflicting work streams, created a higher risk to safe practices and use of chemical was inconsistent.
- **Recording use in paper form** - All weed spraying records are now inputted onto a database in which we can monitor and extract information as necessary.
- **Only operatives were trained on safe use of pesticides** - Managers now attend courses along with the operatives to gain understanding and be able to safely manage operations. Unlikely to be necessary going forward due to movement away from use of pesticides.

Throughout the time in which we have been weed spraying we have been continually exploring better ways of working and alternative methods which have not always been successful;

In 2018 we trialled using soda crystals to treat moss

Soda crystals were evidenced as a cheap and effective way to remove moss.

Our findings were;

- To best apply the soda crystal/water combination we applied through a knapsack sprayer which clogged up regularly.
- The process was labour intensive from mixing the product to applying, agitating and removing the moss.
- Soda crystals were slippery on contact so created another hazard.

In 2019 we trialled foam from a company called Weeding tech

Foamstream is a herbicide-free weed control solution. It kills unwanted vegetation, including weeds, moss and algae, using the precise application of hot water insulated by a specially formulated biodegradable and organic foam. Our findings were;

- Does not kill all weeds on first application and would require a few treatments
- Significant investment in a new machine is needed and training of staff
- You will not always be able to park the machine near to your site due to parked cars

Vision

Our vision

In line with Portsmouth City Council's commitment to the phasing out of pesticides over a 3-year period, we aim to control weeds where needed and to allow growth where we can accommodate the biodiversity this creates. With our increasing understanding of the harm that the use of pesticides can cause to our environment we need to change how we perceive weeds and our desire to remove them. For example, many of the plants we deem as weeds are beneficial for our insects and do not need to look unsightly. Some grassed areas do not need to be kept as lawns but can be left to grow longer to encourage biodiversity or even planted as wild meadow areas to create beautiful sites, that benefit insects and birds.

It is our intention to control weeds across our estates without the use of chemical treatments.



Present

How we identify weeds:

Before we put in procedures to control the weeds, we are identifying our areas of concern through site validation during our gardening rounds and from reports during cleaning operative's assessments of the buildings. From this we build an understanding of where we typically need to weed spray and have created specific rounds for weed spraying purposes.

Designing out the need to weed control:



Over planting

We work with the landscape architects to design and plant beds with plants chosen to specifically fill planters and beds. Planting in this way not only suppresses weeds it also creates an attractive area, whilst increasing biodiversity and improving air quality.

This style of planting has been implemented over the last five years and is now established in many areas across the city.



Repairs

Part of our weed control also includes working with the repairs team and surveyors. Our operatives when attending sites conduct an assessment of the site which includes reporting of repairs.

This efficient reporting of repairs helps to control weeds by ensuring the ground around our properties is well maintained reducing the ability for weeds to grow as they would through damaged ground or paths.

To improve the estate now and into the future we are collaborating with surveyors and landscape architects to influence future decision making around the type of flooring and 'street furniture'.



Suppressing

As well as planting we also use bark mulch as a natural suppressant whilst plants become established and around new trees.

This is a cost effective and sustainable way to suppress weeds as we use bark mulch produced by Gristwood and Toms from tree work they have completed on our estates.

Designing in designated areas for weeds to flourish:

Where we cannot eliminate the weeds we are finding innovative ways in which to embrace them such as;



Re-wilding

From the learning of our gardening rounds and with consultation with our residents we have identified appropriate areas in which we can re-wild.

In these areas we are allowing for the grass and weeds to grow naturally, cutting in a neat border and desired walk lines.

In areas of wilding we have created signs to display our purpose and demonstrate our commitment to improving the environment.

Re-wilding is extremely cost effective as we are embracing the natural plant species and saving time on maintenance.



Wildflower

Similarly to re-wilding we have identified areas across the estate which can implement wildflower meadows.

Although initial outlay of the wild flower soil/seed mix is expensive. The result is a fail-safe native and attractive looking wild meadow that flowers twice a year every year.

Along with increasing biodiversity, improving air quality

Controlling weeds

Equipment & Method

- Weed control will form part of the day-to-day work carried out by our Cleaning and Grounds maintenance teams when attending site to carry out tasks. Staff will be equipped with the appropriate tools to deal with this task. Where there is a concern with weeds causing a safety concern such as a trip hazard or obstruction then a specialist service request can be made, and the issue dealt with using the below equipment.
- **Cleaners** attending sites to carry out cleaning tasks will as part of that task assess the area for weeds and will, where deemed necessary remove or reduce growth of the weeds by use of hand scraping tools on in hard surfaces.
- **Grounds Maintenance operatives** attending sites will as part of that task assess the area for weeds and will, where deemed necessary remove or reduce the growth of the weeds by use of hand or power tools on hard surfaces, beds and grassed areas.

Controlling without pesticides:



Weed Ripper Machine

After testing various machines, we purchased Westermann weed ripper machines to assist us in our ability to control weeds without using pesticides.

These machines although resource intensive have proven to be very effective so far in removing weeds and moss in large areas such as drying areas, block paved areas and ball courts.

As technology progresses the ability to access better machinery increases so year on year we are finding alternatives to using pesticides.

Further info on weed ripping equipment:

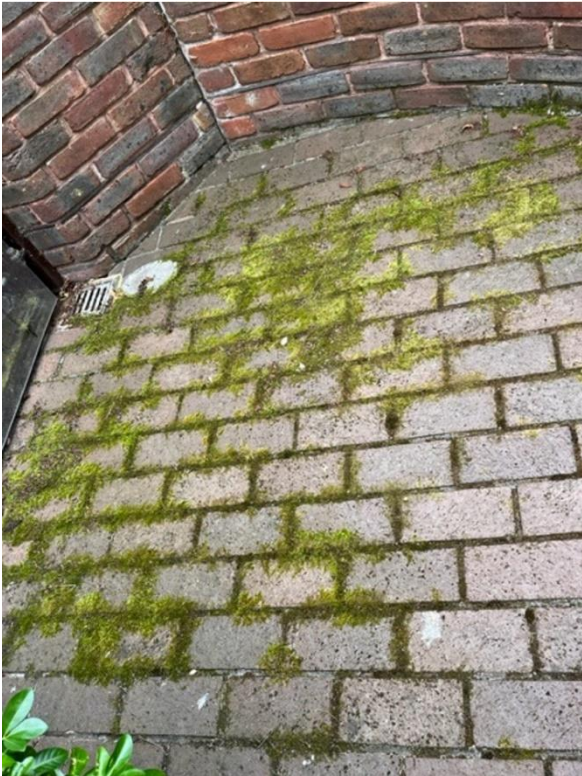
Weeds will be controlled by use of mechanical methods.



Westermann Weed Ripper - Moss Brush

When will we control weeds...

- When deemed hazardous or has the potential to cause damage.
- Weed growth can:
 - interfere with visibility for road users and obscure traffic signs
 - prevent or slow down drainage in kerbs or around drains
 - damage the surface of pavements causing broken and uneven slabs
 - damage hard surface areas, walls, and kerbs



1 Before treatment with Weed Ripper



2 During treatment with Weed Ripper



3 After treatment with Weed Ripper



4. Before the use of Weed Ripper



5. After use of the Weed Ripper



6. Four weeks after weed strimmer last used

It is not our aspiration to completely remove weeds as this is not possible without the use of chemical treatment. The above is a clear illustration of the approach we will take and the expected outcomes. we will need to manage expectations on what are estates will look like in future.



Our cleaning and gardening teams work together to control weeds across the estate.

Our gardening teams use the battery operated equipment when on gardening rounds and the weed ripper machine in appropriate areas.

Working to a systems thinking method our operatives will carry out all work required whilst on site before moving on. Weed control is part of their usual cleaning tasks and therefore operatives will use a long handled scraper to manage small areas of weeds such as entranceways and external balconies.



In 2020 we invested in battery operated equipment including hedge cutters, trimmers and blowers.

This equipment has proven to be lightweight, robust, easy to maintain and heavily reduced the risk of Hand Arm Vibration (HAVs) injuries to our staff.

This equipment has been so effective that it has now been rolled out across Green & Clean.

This equipment combined with the effective management of our gardening rounds has reduced the necessity for our teams to have to weed spray.

Alternatives for dealing with invasive species

The only viable alternative to herbicides that is actually capable of treating invasive species like Japanese Knotweed has proven to be Electrothermal treatment. This works by applying high-voltage electricity to the plants' foliage. This heats the water inside the plant to boiling point turning it into steam, which causes the cells to burst, instantly killing the plant.

Pros

- will kill all plants targeted while glyphosate only kills vascular plants
- many plant species are naturally tolerant of glyphosate and there are now nearly 60 plant species with evolved resistance to glyphosate
- can be used in a greater variety of weather conditions than pesticides
- no issues with drift - can use after rain
- small amount of initial training but no certification necessary
- low noise level
- safe to use in all environments
- low ongoing cost
- no impact to soil, surrounding plants or wildlife

Cons

- expensive initial outlay for machinery, £12,000 for Rootwave Pro and generator, although there are a number of ways to mitigate this
- limited to use where suitable grounding point can be accessed
- lower versatility than some other options as only really suited to weed control
- requires a generator to power
- cannot use while raining

Suppliers - Rootwave <https://rootwave.com/>

This is not something Estate Services will investigate further at this time.

Exceptions to chemical treatments

1. Japanese knotweed and other invasive species

To eradicate Japanese knotweed you must kill the rhizomes (underground root-like stems). Glyphosate is effective because it penetrates through the whole plant.



Injector kit for Round Up (glyphosate) - key for size comparison

The recommended dilution rate for stem injection is 2ml neat per stem

Recommended Dilution Rates for Round Up		
Rate Per Hectare	Dilution Per Litre	Weeds Controlled
3 Litres	15ml per litre of water	Annual grasses, annual broad-leaved weeds
5 Litres	25ml per litre of water	Most perennial weeds
2ml neat per stem	Stem Injection	Japanese Knotweed and other invasive species

If the root of the plant is too small then it cannot be treated by injection and must be sprayed.

2. Wild meadow - selective herbicide treatment to reduce grass dominance.

To maintain a healthy wild meadow, originally planted via wild meadow earth supplied via wildflower turf Overton, occasional treatment may be necessary.

- For example, Centurion Max or Laser chemicals. This is the quickest and most effective way of removing the grass from within the meadow and then a rapid follow up with an over-sow of wildflower seed only into that space, using a half rate application of Meadowscape Pro.

Conclusions

Cost

- No impact on cost has been noticed at this stage.

Complaints

- No complaints have been received at this stage.

Visually

- The estates will have more weeds on them, mostly noticeable in hard landscaped areas. This does not appear to be noticed so far by residents who have made no comment either way about how the Housing Areas are maintained.

