

Result of project where perennial wildflower mix has been sprayed onto topsoil

# Hydroseeding

Franklyn Melville-Brown of BALI Registered Contractor RMB Hydroseeding explains a landscaping technique that is no longer just for large scale projects.

**Hydroseeding (otherwise known as Hydraulic Mulch Seeding) is the process of applying a specially mixed slurry comprising seed, water, hydro-mulch, fertiliser and tackifier (binder) in just one operation. It is applied by spraying, either directly from the hydroseeder or using extension hoses, allowing difficult areas to be reached.**

Individual mixtures, using grass, wildflower, tree and shrub seed and sedum, can be applied with a variety of different hydro-mulches (manufactured mainly from either wood fibre or paper) together with an eco-friendly tackifier and fertilisers to establish new vegetation. Soil amendments such as microbial bacteria can also be added to aid germination and enhance establishment by creating the ideal growing environment that increases moisture retention, aids soil stabilisation, provides valuable nutrients and helps fight disease.

Although the optimum times to hydroseed are traditionally spring and autumn, with the right weather conditions hydroseeding can be undertaken throughout the year. Experienced hydroseeding contractors will advise on the best mixture and correct components for each project.

Initially developed in the US in the 1950s and introduced to the UK in the 60s, hydroseeding was originally intended as a cost effective means of seeding areas too large and difficult for traditional seeding methods. As equipment and materials have improved, however, the cost of having a medium size lawn hydroseeded is now within a home owner's budget. These traditional projects use a variety of seed mixtures suitable for each specific environment.

Technology has come a long way since the early years of hydroseeding in terms of both the machinery and the materials used in the process. Gone are the days of using bitumen or unprocessed wood pulp and hydroseeding can now profess to being environmentally friendly with ethical companies utilising sustainably sourced wood fibre or recycled paper.

The first purpose-built 'HydroSeeder' was invented by the Finn Corporation in 1953 but it was not until the early 1990s that they were first imported into the UK. Previous machines were predominantly homemade versions and although they produced similar results they lacked the efficiency and safety of the Finn type models. These imported machines and subsequent models allowed companies to exploit the knowledge and engineering of an already well-established US market, boosting the UK industry as a whole.

Developments in hydroseeding materials have allowed an evolution of the traditional process of simply establishing new vegetation over difficult terrain to an integral element of erosion control methods. These specialist, high performance, mulches contain different fibre types and higher levels of tackifier, which binds seeds and the soil together allowing slopes with as steep an angle as 45° to be hydroseeded without the need for erosion control blankets.

On slopes requiring extra protection, installing Turf Reinforcement Matting (TRM) prior to hydroseeding provides an effective alternative to Hard-Armour (concrete or other man-made materials) erosion control methods. Soft engineering offers an aesthetically pleasing, more environmentally friendly and cost efficient way of protecting steep slopes and areas with high discharge waterways.



Turf reinforcement matting is secured to the slope before a high performance hydro-mulch containing deep rooting grasses is sprayed onto the slope



Hydroseeding equipment is towed into position

Providing permanent protection, the erosion control matting or TRM is an open matrix that is filled with a high performance hydro-mulch giving instant erosion control whilst offering conditions that promote rapid seed germination by creating an environment that allows the seeded area to absorb and retain moisture.

A domestic project undertaken on a new property that had been cut into a hillside required erosion control to prevent the bank from slipping. Using a TRM to initially retain the bank, a high performance hydro-mulch containing deep rooting grasses was sprayed onto the slope to prevent erosion.

Hydroseeding processes can also be used on landfill sites as an alternative to traditional seeding methods during capping works. Hydroseeding allows the areas to be seeded without using heavy machinery that could penetrate the surface and damage the hidden membrane and leachate pipes that are required to safely cap the site. It is non-evasive so the risk to contractors' equipment is minimised. The same principles can be applied to any sites, reducing the impact on the prepared area and delivering a more uniform result.

## Hydroseeding allows the areas to be seeded without using heavy machinery that could penetrate the surface

The many benefits of hydroseeding include a flexibility that surpasses conventional seeding methods. For example, on a steep hillside the operator can stand at the base and spray up the embankment. Correct utilisation of hydroseeding techniques and materials can dramatically assist erosion control. Another benefit of hydroseeding over conventional dry seeding methods is its cost effectiveness as it is far less labour intensive and much faster than some traditional techniques.

The process of hydroseeding enables the seed to penetrate further into the soil so that it avoids the shock of being transplanted into foreign soils, allowing root establishment to take place at a deeper level and encouraging a longer lasting, quality growth. Hydroseeding typically provides superior results the first time it is applied. The seeds are more resistant

to external problems because they have adjusted to the soil conditions; germination typically takes around 3-4 weeks, dependent on conditions. Additionally, soaking the seed in water means it is less likely to blow away or run off and birds tend to avoid eating the wet seed.

Although hydroseeding is overall a cost effective and efficient process it isn't without its drawbacks, including the cost of the machinery. It is important to recognise that this is not a miracle method and it still relies on nature to succeed, with preparation and maintenance the key to long term success. The initial condition and preparation of the soil lays the foundation for the quality of the results and a common oversight by specifiers or buyers is not obtaining valuable advice from hydroseeding experts who can assist with identifying the correct combination of materials to suit the project.

Using recommended TRMs and quality topsoil at the recommended depth is essential for good results. If the preparation of the area is poor, results are more than likely to suffer. Once the mixture is applied to the area it is left to Mother Nature to do the rest. Like all vegetation the right

amounts of water is essential for growth. If the area does not receive enough moisture germination and establishment will be affected, in exactly the same way as it would with conventional seeding or turfing. Without suitable drainage there is a risk the seed may wash away or rot on the ground.

Experienced hydroseeding operatives will understand the correct application rate required for a project and can advise on this for optimum results.

As the process itself is not challenging, any problems that do arise do so predominantly from a failure to seek expert advice before specifying, failing to give sufficient attention to preparing the ground, and failing to consider what vegetation requires in order to establish and grow.

[hydroseeding.co.uk](http://hydroseeding.co.uk)