Foamstream: the vital ingredient transforming herbicide-free weed control

Many health and environmental experts are concerned about the impact of the widespread use of traditional chemical herbicides. Weedingtech’s journey so far has been dedicated to finding the most effective and sustainable herbicide-free weed control solution. As part of this journey, the company’s founders began by exploring technologies such as hot water and steam, but quickly agreed that neither was efficient nor effective enough. Realising that no-one had yet hit on a system that combined performance, efficiency and sustainability; they added foam to the mix and quickly spotted the potential. That’s when we created Foamstream.

Foamstream is Weedingtech’s award winning, herbicide-free system for controlling weeds, offering the most effective alternative to traditional chemical herbicides. It is the leading and most advanced herbicide-free weed control product. It introduces an opportunity – which had previously not been available – for individuals and businesses of all shapes and sizes to make an ethical, sustainable, environmentally responsible and effective choice.

Together, we’re on a journey to transform this market and reduce reliance on herbicide-based weed control products.

The Why and the How

Botanists have known for a long time that boiling water kills weeds. So the solution is simple then? Not quite. The problem with making thermal technology available on a commercial basis has been finding a way to keep the heat on the weed long enough to kill it for good. When developing Foamstream, we were convinced that hot water alone was simply not good enough for many reasons, including the fuel inefficiency of hot water systems and the number of treatment cycles required, resulting in decreased efficacy. In addition to the fact that they don’t work well enough, many systems which use just hot water still use non-biodegradable chemical surfactants as part of the cleaning process they require. We wanted to create a weed control solution that was a significant step on from hot water. We knew that the key to success was to create a product which allowed as much thermal energy to get into the plant as possible, to cause more damage to the root and, therefore, to limit the weed’s ability to grow back.
Fewer treatment cycles, less diesel, better results; naturally

We worked in conjunction with industry-leading partners to develop Foamstream, a biodegradable foam made from natural and renewable plant oils (such as coconut, palm kernel oil and rapeseed oil) and sugars (derived from conventional crop of potato, maize and wheat), which can be precisely applied to weeds together with hot water. Foamstream is the crucial ingredient in the system and sets us apart from the rest. Here are just some of the reasons why:

• Our research has shown that with Foamstream even stubborn weeds will only require 3-4 treatments per year as the heat stays on the plant so much longer, as opposed to the 5-7 treatments per year with weed control systems which only use hot water.

• This is because Foamstream limits the thermal “leaching” from the hot water applied to the weed to the surrounding atmosphere. Foamstream is essentially an emulsion of hot water and warm air that provides a thermal blanket over treated weeds. The thickness of this blanket is around 10mm. It enables the temperature of the hot water to be maintained for a far longer period of time and thus enables a far higher and more consistent kill rate of weeds.

• Keeping heat on the plants for longer means that Foamstream is also able to tackle spores and seeds on the ground which, in turn, helps prevent future weed growth. In effect, this means that the more you use Foamstream, the less of the product you would need to use the next time.

• Foamstream and the MW-Series use the leading temperature control technology, which guarantees the most effective kill. This means not only does it have a significant impact on even the most stubborn weeds from the first treatment, but as outlined above, they also require far fewer retreatments than with non-foam systems such as hot water.

• Where hot water systems typically become less effective in challenging weather, Foamstream actually performs better as it doesn’t lose heat nearly as quickly as other systems, meaning it can be used all year round no matter the weather.

• Foamstream and the MW-Series use less diesel than hot water alternatives, making it more cost-effective for the end user. What’s more, we’re looking at ways of making this saving even more significant and are working on bringing down the cost of Foamstream by up to 40% during 2015.
• Independent tests such as the Clean Region Project undertaken in Germany (please see appendix for details), have long suggested that hot foam (Foamstream) delivers results equivalent to those delivered by herbicide-based weed control and in some cases – including on small weeds and moss – Foamstream outperforms these technologies.

• Our foam is certified as biodegradable by the European Union.

• And just in case you’re not convinced, we’re about to kick off some extensive independent testing of Foamstream for additional proof and evidence of its efficacy.

Here’s how Foamstream works:

- Heat is applied to the weed in the form of 99.7% hot water and 0.3% foam
- The foam acts as a blanket, keeping the heat on the weed long enough to kill it
- A wetting agent in the foam speeds up the transfer of heat into the weed’s cell walls
- The weed dies within minutes
- Repeated applications ensure eradication of taproots

Inside out

Sustainability is at the root of everything we do at Weedingtech. The founding principle upon which the company is based is to reduce reliance on herbicides in order to help create a more sustainable environment. We would not allow any ingredient to be used if we were not fully satisfied with its green credentials.

A word about palm oil

Less than 10% of our feedstock is palm oil related - coming from palm kernel oil - but we take the sustainability of this ingredient extremely seriously.

Palm oil and its derivatives constitute a very important and renewable part of the global supply chain. Palm oils are used across a wide variety of everyday products.

Weedingtech is committed to the production of sustainable palm oil through the GreenPalm programme. This means that for every gram of palm oil based material we use we have paid a voluntary premium to a palm oil producer which is operating within the Roundtable on Sustainable Palm Oil’s (RSPO) strict guidelines for social and environmental responsibility. This guarantees that all the materials are responsibly and sustainably sourced, and completely GM free.
We don’t mean to brag…

…but our backers and founders include some very well-known environmentalists and green investors such as Ben Goldsmith, the Low Carbon Innovation Fund, Roman Abramovich’s Ervington Investments as well as numerous angel investors from the ClearlySo social investment network. We’re approved for use in organic farming by the Soil Association and the Organic Farmers and Growers Association (UK), as well as being cleared for use across Europe. We’re pleased to call Pesticides Action Network UK; a leading advocate of safe and sustainable alternatives to pesticides, and Legambiente in Italy, friends and fans. Foamstream also won the coveted UK section of the EDGE (Expo Demo Green Europe) Award for Design and Supply of Amenities 2012 at the SALTEX show, and “Best New Product or Innovation” at LAMMA 2012. We also work with some of the UK’s leading water companies on both clean water and waste water sites, as well as some of Europe’s leading water companies – for example, SITA in France - demonstrating that Foamstream can be used in even the most sensitive of environments.

Foamstream has been through rigorous safety and toxicity testing to ensure we’ve left no stone unturned. Weedingtech has been working on bringing the technology to market and testing it extensively over a number of years in partnership with experts and independent third parties such as the Soil Association.

Our Impact

We’re exceptionally proud of the product we’ve developed. Foamstream can be used to manage all types of weeds whilst remaining completely safe to people, animals and the environment. Foamstream itself is also biogenic (carbon negative), which can help organisations to reduce their carbon footprint. Using Foamstream can help organisations meet legislative, budgetary and environmental ambitions because they’ve chosen Europe’s most advanced herbicide-free weed control system. The product protects organisations against likely changes to legislation which will prevent the use of ‘traditional’ herbicides in some settings.

But don’t just take our word for it…

Nick Mole of the Pesticides Action Network UK, says:

“At PAN UK we are committed to finding sustainable alternatives to pesticides and herbicides in agriculture, urban areas, homes and gardens. With its innovative product Foamstream, Weedingtech has made significant progress towards this goal and we are excited to see the results of the Europe-wide tests.”

More questions?

Visit our website: www.weedingtech.com
or drop us a line on info@weedingtech.com
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