

Strulch™

info@strulch.co.uk

www.strulch.co.uk

Mineralised straw know how for sustainable agriculture projects

Strulch is a new treatment process for applying to crop straw used in mulching. For horticultural applications in the UK, the patented process is used to produce a completely new garden mulch which is brown in colour and lasts a lot longer than ordinary straw mulches. This is marketed under our trademark Strulch and it has been highly praised by gardening professionals in England for being very effective at controlling weeds and it beds down to form a protective mat which helps to retain water and lasts for up to two years. The product has been featured on top UK gardening and garden design programmes including BBC Gardeners' World. Following a successful launch and growth of sales in UK horticulture, the company is interested in applying the technology to sustainable agricultural projects for soil management and erosion protection.

The product featured at the UK Channel 4 Grand Designs event – Christian Aid sustainable world Garden at Grand Designs Live Exhibition, NEC,

October 2006

Diarmuid Gavin's Global garden Sponsored by GRANDGARDENS



Diarmuid Gavin's Global garden, sponsored by Christian Aid, is in the shape of the globe with indigenous plants (kindly supplied by [Amulree Exotics](#)) from each area making up the shape of the continents. As well as providing a whistle-stop tour of exotic plants, the garden also has an important message. Inspired by Christian Aid-supported communities across the world, the central eco-village draws attention to the effects of climate change and shows you ways to make your home and garden more eco-friendly. The village focuses on how people affected by climate change are combating its destructive effects. Diarmuid Gavin developed the global garden and eco-house in partnership with Christian Aid. "I'm a gardener and garden designer first and foremost, rather than a climate change scientist or politician. But for anyone interested in the future of our earth, climate change is obviously one of the biggest issues facing all of us. That's why I was keen to get involved with the global garden and eco-house." Thanks to Strulch for providing mulch for the global garden. Strulch is a mulch made from organic wheat straw that lasts for up to two years and gives an earthy brown colour.

Partnership opportunities in sustainable agriculture

Strulch Limited was established as a spin off company from the University of Leeds in 2004. The company holds the exclusive international licensing rights to patents for the process which are owned by the University. The company would welcome serious enquiries from prospective partners in international agricultural development projects. Prospective partners may be:

- Research and development agencies working on sustainable agricultural development projects
- Agricultural cooperatives interested in developing new crop management strategies
- Companies with international agricultural operations involving mulching for irrigation and or erosion protection

The offer package

We are happy to reply to informal enquires sent at any time to gmw@strulch.co.uk.

If you would like to discuss the opportunity directly, please sign and return the confidentiality section at the end of this document and we will contact you right away. Subject to mutual consent we can then offer:

- An initial evaluation period with no financial obligations
- A feasibility project to fully evaluate the use of crop residue treatment for mulches
- Development of a practical implementation and evaluation period

In providing a technology transfer package Strulch Limited will assist with: sourcing of raw materials, setting up crop residue processing, performance evaluation and recording on a consultancy basis.

The Strulch manufacturing process can be used for the on-farm treatment of crop residues for use as mulches.

Where crop residues are in short supply, iron mineralization treatment will make this go a lot further and last a lot longer. The treatment process will slow the rate of decomposition of crop residues applied to the soil surface. If rotting occurs when the plants are young, nitrogen is removed from the soil causing reduced growth. Mineralisation treatment avoids this problem because the straw is treated with mineral iron which acts as a preservative and slows the rate of breakdown by cellulose

degrading enzymes. This mechanism is called ‘physical and chemical protection’ by Soil Scientists. When spread as a covering layer, Strulch will last longer than conventional plant composts and straw and yet it is fully biodegradable in the long term and returns beneficial humus and plant nutrients to the soil. The processing and packaging plant required for manufacture are readily available in animal feed and agricultural crop processing industries.

Strulch has had the benefit of more than five years of independent trials

Development trials were conducted between 1999 and 2002 at the University of Leeds followed by independent external trials in carried out at The Eden Project and by the Royal Horticultural Society and many other professional gardening organisations in the UK. The product has received endorsements from many bodies and development has been assisted by a number of awards for innovation. It is now used regularly in many of the largest and best public gardens and country estates in England. The benefits could be even better for sustainable agriculture in harsh climates.

Choice of crop straw for Strulch

Although we use wheat straw as a preference in the UK, our process can be adapted for use on any crop straw. The treatment process is approved and certified by the Soil Association of the UK for use in organic growing systems. Even though wheat straw is the most readily available it has not previously been recommended for garden mulches because of its low nitrogen content which causes nitrogen shortage to plants (immobilisation) when it decomposes. However, Strulch removes this limitation because it is made by treating crop straw with a patented formulation of non-toxic minerals (< 1% mineral content) which colour the straw and act as a preservative – this prevents nitrogen immobilisation allowing almost any crop straw to be used.

Confidentiality Agreement :

Please sign and return by post or FAX to +44 (0) 1943 863610

Confidentiality Agreement

SUBJECT: Biomass treatment for growing media and mulches and associated know how.

PARTIES:

- 1) Strulch Limited an English company incorporated under the laws of England and Wales having a place of business located at 26 Hill Crescent, Burley in Wharfedale, Ilkley, LS29 7QG; and
- 2)
- A. At meetings to explore the possibility of business opportunities of mutual interest we may need disclose to the other proprietary information relating to our products, processes and commercial activities.
- B. In order to protect our respective proprietary interests in the information we each disclose and in order to avoid misunderstandings, we wish to set out the terms and conditions on which the information is disclosed.

IT IS HEREBY AGREED

1. In this Agreement the term "Confidential Information" shall mean any information (whether of a technical, operational, administrative, financial, business, intellectual property nature or otherwise) whether oral or written emanating directly or indirectly, from a party to this Agreement (or from any of its associated companies) and shall include any compilation of otherwise public information in a form not publicly known.
2. It is understood that the term "Confidential Information " does not include:
 - i) information which is publicly known at the time of its disclosure;
 - ii) information which, after disclosure to the recipient, has become publicly known other than through breach of this Agreement;
 - iii) information which the recipient can show was known to it prior to the disclosure by the other party;
 - iv) information which the recipient can show was developed independently by a member of its staff who was

not aware of the content of the information disclosed by the other party;

v) information which the recipient can show was made available to it by a third party who was not subject to any obligation of confidentiality or restricted use in respect thereof, imposed by the other party to this Agreement;

3. The associated companies of a party to this Agreement shall mean its parent organisation, direct and indirect subsidiaries, its intermediate and ultimate holding companies and all direct and indirect subsidiaries of such holding companies worldwide.
4. Neither party shall disclose to any third party it is having discussions with the other without prior agreement with the other party.
5. Each party agrees that it will treat the Confidential Information as strictly private and confidential and will not disclose to any third party any Confidential Information which it received from the other and it shall use the Confidential Information only for the purposes of considering and evaluating the business opportunities and the development of a product under discussions between parties and not to procure any commercial advantage over the other party.
6. The parties acknowledge that any patents, design rights, copyright, know-how and any other intellectual property (whether registered or not or whether capable of registration) ("**Intellectual Property**") belongs to the party (or licensors of the party) disclosing and this Agreement gives no rights whatsoever to the other party in relation to such Intellectual Property.
7.
 - a) Subject to sub-clause 7(b) below, each party may disclose the Confidential Information which it received from the other only to such of its officers and employees as need to know for the purposes of considering and evaluating the said business opportunities and the development of a product. Each party shall ensure that such officers and employees are bound by equivalent obligations in respect of the Confidential Information to those set out in this Agreement and shall use its best endeavour to ensure that they abide by such obligations. Each party shall be fully responsible for any unauthorised disclosure or use of the Confidential Information by its officers and employees.
 - b) Each party shall, in addition, be entitled to disclose the other party's Confidential Information to such officers and employees of its associated laboratories and companies on the same terms as it can disclose Confidential Information to its direct employees, subject to the obligations contained in Clause 7(a) strictly on a need-to-know-basis.
8. Any documents, printed or written material, designs, drawings, models, sample, computer software or other tangible items supplied by one party to the other in the course of their discussions of the said business

opportunities shall be returned promptly at the request of the party which supplied them together with any copies thereof.

9. Each party acknowledges that damages would not be an adequate remedy for any breach of this undertaking and accordingly, it shall, without prejudice to any other rights or remedies that it may have, be entitled without proof of special damage to the remedies of injunction and other equitable relief for any threatened or actual breach of this Undertaking.
10. Each party will be bound by the obligations in this Agreement for a period of 10 years from the date of this Agreement.
11. This Agreement covers the entire understanding between parties and each party intends to be bound hereby.
12. This Agreement is made in accordance with the Laws of England whose courts shall have sole jurisdiction to hear any dispute relating to or arising out of this Agreement.

For:

For:

Name:

Name:

Signature:

Signature:

Position:

Position:

Date:

Date: