

LAVERSTOKE PARK FARM

"Known as the University of Organics"

13-05-09

To Whom It May Concern,

My name is Joel Williams and I am the resident Agronomist at Laverstoke Park Farm, a 1000 hectare mixed livestock/cropping biodynamic farm in Hampshire, England. During the 2 years I have been working at Laverstoke Park I have been responsible for the coordination and implementation of the biodynamic practices throughout all areas of the farm and our compost site. After completing my formal studies in Agricultural Science specializing in plant and soil sciences, I spent 5 years working and lecturing in organic consultancy working throughout Australia and South Africa with growers across varied areas of agriculture and horticulture with a particular emphasis on soil chemical and microbiological health.

The farm has used a Flowform™ Vortex (FF) for almost 3 years and since my arrival 2 years ago I have been the primary user of the FF and have been extremely happy with its performance.

As we are a larger farm, the FF has made possible the dynamization of larger quantities of BD preparations for application – without this it would make it much harder and impractical to be timing the BD applications at the necessary cosmic cycle and crop stage.

Our farm is also developing work with our 'partner farms' that grow and produce for us under our brand label. These farms are currently organic, however with the potential for expanding our market and demand for our BD produce we may also need to be rolling out production of BD practices/preparations for a further 500 hectares.

The practical hurdles of BD farming must be considered and overcome if a desire to increase the availability of BD produce to wider community is desired. I feel that practical, large-scale dynamization of the spray preparations (in order to apply the influence of the biodynamic preparations over a greater area of land) is a key consideration toward achieving this goal.

Our farm is still in early days in terms of its biodynamic life and I expect many of the changes and improvement we hope to see will take time as our systems and protocols progressively improve. Nonetheless, in these past 2 growing seasons we have seen very promising improvements particularly in our grasslands. Last year our silage contractor commented that we were by far the best organic farm that he had contracted on and that our best performing fields were producing equally as good as conventional farms he had been working on. Of course we are an integrated farm utilizing many different management practices and so any improvements seen on our farm

are no doubt a combination of practices – however with BD spray preparations being applied more accurately in the past 2 years, I feel this has certainly been a key contributing factor.

I have done some limited experimental work with FF treated water.

The results of my initial investigations have impressed me immensely that I intend to do much more detailed further work as I believe there is vast untapped potential for the FF both within and outside of BD circles.

I should note at this point that within our farm we also run a commercial soil analysis laboratory where we perform microbiological and chemical assessments of soil fertility.

Thus far, I have primarily investigated the dissolved oxygen (DO) content of water treated with the FF and conventional air pump oxygenated water.

Visually, a clear difference immediately arises between the subtle, passive, rhythmical movement through the vortex compared to the aggressive, forceful injection of bubbles of air pumped into water through diffusion tubes.

Although both systems have satisfactory capability to aerate waters, once the pumps are turned off, it is the fascinating fact that the FF treated water has an ability to maintain its DO levels compared to the bubble diffuser method which immediately and rapidly declines within minutes.

My preliminary work is suggesting that the vortex will hold DO levels in water for up to 8 days (which is when the experiment stopped, not when the DO levels dropped!).

Due to these exciting results, I intend to pursue further investigation and see how long DO levels can be maintained and also to perform a full chemical analysis (macro & micro elements, heavy metals, pH and EC) of treated waters prior to and after treatment through the FF over a period of time.

What influence the FF will have over these chemical properties of water remains to be seen.

Oxygen is an integral element to all life processes and I also have assessed the ability of the FF to sustain microbiological growth in liquid compost extracts and once again it performed equivalent to conventional aeration methods not only during the aeration process but also after dynamization ceased for the same period of up to 8 days.

Microbial activity would normally significantly decline once conventional methods of aeration ceased. Again, I intend to do further work on elucidating the effect of FF treated water on soil microbiology.

I can only speak positively about the Flowform™ and its use on our farm.

I am more than happy to recommend its use to anyone as I have only had encouraging experiences with its use. Due to this, I have a keen interest in the future of water enhancement with this method and I look forward to contributing to the knowledge base with observational and quantitative data collection from my own experimental work.

Should you have any further queries you would like to discuss, I welcome the opportunity. Please find my contact details below.

With Regards

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Agronomist

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