

Clear pond. No machines?



When the Browns built a new pond, their goal was simply to *keep costs down*. Here is their story...

One crucial question

Shirley and Tony Brown own a 550 cow farm out in Pirongia, Waikato. When it came time to build a new pond, the question they asked was: *how do we keep the costs down?*

Machines are expensive

The conventional way of managing effluent solids is to use machines: machines that *separate* the solids; machines that *break up* the solids; machines that *stir* the solids.

As every farmer knows, such equipment is very expensive. First there's the initial cost of buying the gear. Then there's the ongoing cost of running it. And, of course, there are the costs of maintaining the machinery.

Hill-top complications...

To make use of *gravity* and to avoid *water table* pressure on the *pond liner*, farm manager **Paul Brown** wanted to construct the holding pond on a hill. But in planning, he foresaw several challenges:

1. Because the proposed hill site was 100M from the shed, the cost of getting electricity up to the pond to run a *stirring* machine would be significant.
2. Paul was also concerned with *potential repair costs* in the event that a *stirring machine* ripped the liner.

These complications led the Browns to look for alternatives. *Could crusting and effluent odour be managed without machines?*

A chance meeting

At the 2012 *Agricultural Bio Technology* conference in Rotorua, Sheryl Brown (Tony and Shirley's daughter) met *Liz Russell*, the founder of *EnviroSystems* in the UK.

For 10 years, *EnviroSystems* had been addressing the *cause* of effluent crusting and odour. Scientists had discovered that crust

and sludge were merely the symptoms of the real problem and that the cause of pond solids were *microscopic creatures* living below the surface – **anaerobic bacteria**.

These **anaerobic bacteria** would separate the effluent fibres and send them to the surface. Once reaching the surface, these fibres would combine to form *the crust*.

Scientists realised that the way to beat crust bacteria was relatively simple: put *counteractive bugs* into the effluent pond. These corrective micro-organisms are called **Aerobic Bacteria – SLURRY BUGS**.

Can crust be prevented?

The Browns learned that **Slurry Bugs** digest *effluent fibre*. It's their food. And if sufficient numbers of **Slurry Bugs** are in a pond eating the effluent fibre, the raw materials needed to make the crust are removed.

That means no crust can develop.

Researching Slurry Bugs

Because Shirley, Tony and Paul were open to biological solutions, they decided to investigate **Slurry Bugs** further.

Over the next two years they had further talks with *Liz Russell*, viewed video footage of **Slurry Bugs** in action in UK ponds and read independent research that drilled deeper into the biology behind it all.

Trialling Slurry Bugs

After weighing up the two approaches – *Machines (symptoms) vs Biology (causes)* – the Browns decided to build their hill-top

pond and to dominate it with **Slurry Bugs** from the beginning. *Their rationale*: if **Slurry Bugs** prevent crusting, we save a lot of money and get *better fertiliser* in the process. If **Slurry Bugs** fail, we've spent very little to discover that fact and can then proceed with a *machine-based* approach.

The Results

After 5 months, the Brown's effluent pond looked like this:

As impressive as that was, one further question remained: *had **Slurry Bugs** dealt with the problem of sludging on the bottom of the pond?* In December 2014 that question was answered when Paul siphoned out the effluent.

The bottom was clear.

Where to from here?

For the Browns, the ongoing task is simply to keep **Slurry Bugs** dominant in the pond. They do that by adding a small amount of **Slurry Bug** powder into the pond every week. Easy.

Before you buy machines:

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