



Myerscough College
Farm Office
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Myerscough College is one of the UK's leading Agricultural Colleges, the facility introduces animal sciences and husbandry to its students in a controlled and practical manner.

One of Myerscough College's benefits is its ability to trial new and innovative products in a controlled manner and to monitor its effects throughout its whole lifecycle.

EnviroSystems contacted Advetec with a view to monitoring the effects of its slurry bugs in conjunction with its new slurry booster system. The products were to be introduced into the dairy slurry system with a view to processing the ammonia waste and retaining this within the slurry so that a greater nitrogen yield could be returned back to the soil. It was anticipated that additional benefits would be achieved in that the odour issues would be minimised and that the slurry would remain fluid and hence need less manpower and mechanical handling and that the use of aeration units and stirrers would be minimalised hence reducing CO₂ emissions and operating costs.

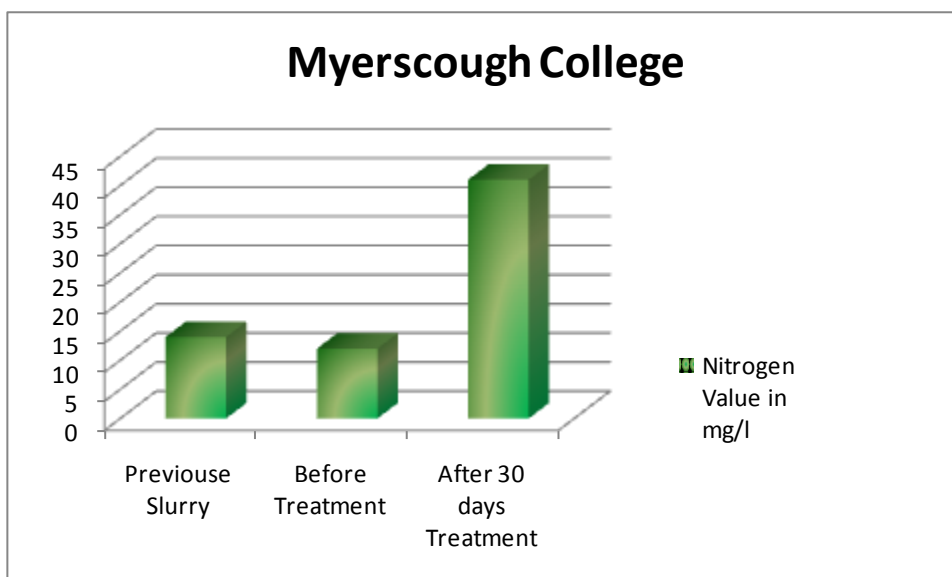
Background: To stop the slurry from the dairy herd solidifying in the lagoon, to reduce the airborne odour and to retain a significantly greater level of nitrogen within the slurry.

Objectives: The aim of the trial was to improve the following areas related to slurry treatment:

- Decrease Odours.
- Ensure greater levels of nitrogen per litre of slurry returned to the land hence reducing the volumes of bought in nitrogen fertilisers
- Reduce man hours and energy processing costs resulting in decreased CO₂
- Provide documented laboratory analysis to verify

Implementation: A solar powered electronic dosing system was fitted to the slurry lagoon which dispenses both Slurry Bugs and the micro nutrient blend. The unit is set to dispense a specific amount of both products over a 24 hour period over a strictly controlled dose pattern.

Analysis: During the evaluation period a sample was taken of slurry that had previously been treated for six weeks. (Sample 1) Prior to the commencement of the inoculation a further sample was taken of fresh slurry entering the lagoon (Sample 2) the trial commenced and ran for 4 weeks at this time a further sample was taken. (Sample 3)



Results:

Advetec Manufacturing Limited, Advetec UK Limited, Case Study Report

Summary:

By using the EnviroSystems slurry booster system it can be determined from the above case study the following potential savings can be made by a dairy farmer.

- The Nitrogen yield per litre has risen from 14mg/l to 41mg/l which is a 292% increase
- A typical farm will spread around 3000 gallons per acre (13500 Litres) that equates to a nitrogen load per acre before treatment of 162 Kilo's of Nitrogen per acre
- After treatment the load per acre will be increased to 553.50Kilo's
- Currently Nitrogen is around £400 per tonne and set to continue to rise, based on the figures above the addition of the slurry bug system has a financial pay back based on the increase in nitrogen yield by using the following formula:
 - Nitrogen cost £400 MT /1000 = £0.40/Kilo
 - Increased Yield 553.50 – 162 = 391.5
 - 391.5 x £0.40 = **£156.40 profit from the slurry per acre**
- In addition the labour cost is lower
- The mechanical handling and Energy costs are lower
- The Absorption rate of the nitrogen when applied to rate is faster due to the consistence which has a significant impact on the potential for run off
- The nitrogen is more readily absorbed by the grass as its in a more concentrated liquid form
- A significant reduction in the level of odours when collecting and discharging.