Slurry Management through Innovation

Centre for Rural Innovation
at Harper Adams University College

PROJECT SUMMARY

A modern slurry storage and management system was installed on the Harper Adams farm in 2004, following changes in legislation. It demonstrates best practice in waste management and utilisation. The storage system, referred to as a bagtank and is manufactured by Albers Alligator has a capacity of 5000 m^3 and is made of polyester fabric with high grade plastic on both sides. The plastic is inert to all types of slurry, even if it has become acidic. The company has installed over 1200 bag systems, 1000 of which during the past 10 years.

The bagtank has a number of advantages:

- It is cheaper than traditional slurry storage systems as foundations are not needed. At the time of installation the bagtank cost £12 per m^3, while a similar sized steel tank was about £20 per m^3.
- Rainwater does not collect in it, as with an open lagoon, so a system with lower capacity can be installed.
- Enclosing the slurry gives environmental benefits. Ammonia volatilisation damages sensitive habitats by directly affecting vegetation or through deposition that acidifies the soil and contributes to eutrophication. The bagtank significantly reduces ammonia volatilisation and retains valuable fertiliser nutrients.
- The system is not visually intrusive and is ideal for weak subsoil.

Previously slurry was stored in an open earth banked lagoon that covered an area of 5,400 m^2 and a capacity of 3,785 m^3. The new facility has a footprint of only 2,400 m^2, but an additional capacity of 1,215 m^3.

The entire bagtank was prefabricated in the Albers Alligator factory in Holland, and the 5 tonne package delivered to the college farm where it was moved into a predetermined position within a carefully excavated site. The package was unfolded, sealed to the filling pipes and pegged in a process that took only one day.

The storage system works in conjunction with an effective application system. Slurry is pumped from the bagtank to an underground ring main which circles the farm. Hydrants on the ring main are attached to an umbilical applicator. The applicator is a 6 metre trailing shoe system which provides accurate placement of the slurry direct to the soil minimising ammonia loss, odour, and leaf contamination. An inline flow metre and nitrogen testing kit allow the operators to determine exactly the amounts of nitrogen being applied to individual fields.

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For more information on Albers Alligater log onto www.albersalligator.com

KEY FACTS:

Lead Group: Harper Adams' Farm

Key Theme: Sustainable Technology & Rural Economy

Contract Value: £120,000

Project Leader: Scott Kirby

Project Duration: One Year

Sponsor/Client: HEFCE/Defra

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Accessing the research and consultancy work at Harper Adams University College

The main purpose of the Centre is the sharing of knowledge to support innovation in the rural economy by:

- the provision of technical research services and business consultancy
- making our facilities available to support the needs of businesses
- supporting business networking
- the development of new technologies
- providing training programmes and work-based qualifications to businesses and individuals

www.cfri.co.uk

The website is designed to allow you to interpret the range of research and consultancy work undertaken using seven key Themes:

- Rural Entrepreneurship and Social Enterprise
- Innovation for Sustainable Farming
- Food Chain Safety
- Linking Urban and Rural Economies and Communities
- Sustainable Technology and the Rural Economy
- Rural Advisors and Agencies
- Rural Professional Practice

General enquiries

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