

Event title: Slurry Separator Demo

Date of event: Thursday 6th March 2025

Host: Patrick and Jack Barrett, [FNZ Monitor Farmers](#)

Slurry separators can help to make slurry management more efficient, improving the use of what can be a valuable resource. To understand more about how slurry separation works and the benefits it offers, a group of dairy farmers met in Stoke Climsland parish where Ed Shere of EC Contracting Services demonstrated a mobile slurry separator at Patrick and Jack Barrett's farm. This event was made possible with thanks to the [National Lottery Community Fund](#) who fund the [Farm Net Zero project](#).

Slurry separation removes the solid fraction from the liquid fraction of slurry via mechanical pressure applied with a rotating screw press. The solids can then be handled as farmyard manure and the liquid put back into a lagoon. Although this may optimise slurry and manure management, farms must have adequate statutory slurry storage requirements to comply with environmental regulations.

Separating solid from liquid can improve nutrient use efficiency. Nutrient analysis from one farm using a separator system has shown that there is a greater proportion of available nitrogen in the liquid fraction than in non-separated slurry, and there is a high level of total nitrogen in the solid fraction. There could therefore be economic and carbon footprint savings to be made on artificial fertiliser by more effectively utilising nutrients from slurry. However, analysing the nutrient content of the slurry and separated fractions is vital. Nutrient content will vary by farm due to differences in feeding and bedding, only by understanding the true nutrient content can savings on artificial fertiliser be made.

Because they are easier to transport, the solids can be applied to fields away from the main farmyard that may have traditionally missed out on manure applications. There may be a risk of nitrous oxide emissions from the solid fraction so ideally it should be quickly incorporated into the soil after application. Ed Shere finds that due to their very fine composition, the solids can be cultivated in rather than ploughed. It may be possible to reduce the risk of emissions from the solids through anaerobic (covered) composting.



For the liquid fraction, separating means it is easier to pump and spread and doesn't require stirring beforehand. From Ed Shere's experience of spreading the liquid, it contaminates grass less than normal slurry as it runs down onto the soil faster. This can give the option of more frequent cuts of silage, which can increase the quality of silage produced on farm. There may be further carbon footprint benefits here, by reducing requirements for bought-in feed.

At Tresallick farm, Patrick and Jack Barrett milk 400 Holstein cows with all followers kept on. The farm covers 1100 acres and aims to be as self-sufficient in feed as possible, with a rotation of three years of grass followed by maize then wheat, before going back into grass. With the help of a grant, the Barretts have invested in a Near-InfraRed Spectroscopy (NIRS) monitor which analyses the nutrient content of slurry directly on the slurry tanker. By getting real-time data on the slurry nutrient content, Jack can adjust the rate of application to ensure that an even spread of nutrients is applied to the field. This not only optimises the utilisation of slurry on the farm, but can also help to reduce the need for artificial fertiliser which has a high carbon footprint.

Key takeaways:

- Focusing on slurry storage and use can benefit the farm environmentally and financially.
- Testing slurry nutrient values optimises fertiliser use, reducing emissions and cost.

