

Case Study – Bokashi manure treatment at Lochhill

Andrew Taylor has been trialling Bokashi manure preparation for the past 2 years at the family farm, Lochhill, in Ayrshire.

The Farm: A 170 ha regenerative, award-winning dairy farm with a beef enterprise running alongside. The farm runs 110 dairy cattle (Holstein x Fleckveih x Norwegian Red) and 45 suckler cows (Aberdeen Angus x Simmental). The cattle are housed from around September to May each year.

The Bokashi system

Andrew has been applying Actiferm® on to straw bedding in alternate bays of the cattle housing weekly at 1 part in 20 parts water (at ~ 1 l/m²) from the time when the bedding was first laid until the animals were removed. He began by trying a standard pesticide sprayer with a low-pressure nozzle but now finds that a watering can with the rose removed works better and is faster. He cleared the sheds in late spring, stacked the manures and bedding 1.5 - 2 m high and covered it in black plastic for at least 6 weeks before spreading. Andrew is interested in the extent to which mass and nutrients are lost during manure preparation and to that end, set up a simple trial in 2025 to investigate that. He prepared covered and uncovered Bokashi-treated and untreated manures and composted manures.



Bokashi manure ready for spreading

The verdict:

Andrew will continue to consider using Bokashi but will also look at the impact of cheaper alternatives (including the use of impermeable covers alone).

What's lacking?

Andrew is keen to better understand the extent to which nutrient and carbon losses are prevented, ammonia and greenhouse gas emissions are reduced in both Bokashi-treated and untreated covered manure heaps. Scientific studies are clearly required on that front. He is also keen to learn whether there are any benefits to soils from making Bokashi manures rather than traditional stacked, uncovered straw cattle manures. Repeated applications of Bokashi manures for several years are likely to be required in order to look at that.



Young cattle on Bokashi-treated bedding at Lochhill

Benefits Bokashi brings to the farm

Unlike many farmers who have tried Bokashi, Andrew has not noticed a significant difference in the odours within the cattle housing, but acknowledges that that may be due to his trial design, where bokashi-treated and untreated bedding/manures were situated in close proximity.

Andrew does feel that Bokashi-treated manures are crumblier, more uniform and easier to spread. However, at present, he remains unconvinced that there are enough other benefits from Bokashi to justify the cost.

Challenges and information gaps?

Andrew feels that the extra cost and time required to produce Bokashi manures has to be balanced, in future against clear evidence of benefits in terms of nutrient management. He believes that more definitive, science-based information and guidance is needed before he can decide whether Bokashi will have a long-term future at Lochhill.

He is currently wondering whether the greatest benefits would come from simply covering their manure heaps with black impermeable polythene rather than first treating with Bokashi before covering.