



Farming Connect Management Exchange

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Alternative uses of poultry manure

N. Ireland - Anaerobic digestion (AD) plant - 100% broiler litter (£23 million set up costs)

Scotland – Liquid bed incinerator - 100% layer manure (£2 million set up costs)

Netherlands – Liquid bed incinerator - 100% mixed poultry production manure and litter (155 million Euros set up costs)

England – Pelleting plant - 100% Layer manure (£2.5 million set up costs)

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1 Background

After diversifying into free range egg production, I became aware of the increasing issues with the disposal of poultry production waste litter and manure.

Mid Wales has a very high density of poultry farms. The region can't cope with the volume of manure produced, and there is a growing need to find alternative uses to turn this waste product into an asset and add a further income stream.

I wanted to look at the processing of manure/litter for green energy production to be able to offset the carbon footprint of the sector and contribute to the wider issues of Powys' rural economy and growth. The systems out there were: a new anaerobic digestion (AD) plant (and the only one to run solely on poultry litter); an incineration plant in the Netherlands on a massive scale; an on-farm example to look at the economies of scale, and lastly, pelleting, which would be a simpler process but no energy production is associated with this method.

2 Itinerary

I have learnt that any project to process manure and litters produced in the production of poultry products needs a high level of investment, with a variety of outcomes and end uses for by-products of the processing procedure and processing of the raw product with no alternative secondary gain, like power generation.

The variety in the quality/method of farming and the quality of the waste determines how it can be used.

All three of the processes I saw in action (AD, incineration and pelleting on a massive scale and on-farm), have pros and cons but are also dependant of government grants (feed in tariffs) when looking into the production of green energy. It also relies heavily on a guaranteed supply of the raw product from the farm.

The solution will need collaboration between groups of farms working together. It will also need to include the wider industry with feed/contract/packer involvement.

3 Next Steps

I have already presented to my Agrisgôp leader and a small group including Welsh Water, Agora, various farmers and soil health consultants. NRW were invited and accepted to attend but did not attend.

I have registered the name, Circularfarming.co.uk, to set up a website to gather data to gain a better understanding of the scale of the problem.

We need to analyse the farming methods of the farms producing the manure and litter. How much is used on the farm? How much is actually needed on these farms and for how long? We need to know how much 'SUPRPLUS' manure is not needed, at source, for land improvement. This needs to be calculated to begin to gain a better understanding of the solution methods i.e AD, incineration and pelleting or another unknown and yet unexplored option such as composting, which smaller quantities may be suited to more than the predicted high volumes of raw product as presumed at this early stage.

We have been allowed and will now set up a specific discussion group (Agrisgôp) to discuss the detail of what data we will need to collect and to gain trust within the local vicinity to get the website off the ground. We will be looking at soil testing muck analysis and long-term use and effects of the manure/litter usage.

4 Key Messages to the industry

1. There is an issue that needs to be addressed – poultry waste is not being used in an 'informed' long-term plan for land improvement and the disposal of poultry manure/litters are causing pollution cases in Powys (as recorded by NRW and Welsh Water). Discussion groups have highlighted that farmers are not testing enough, and when they do, they are not fully understanding the variants and impact of use on the

land.



2. There is no silver bullet/one 'eureka' solution.
3. We will need to work together across the industry to find a long-term sustainable solution that can ensure bigger issues, such as greenhouse gas emissions, can be addressed to meet industry targets.
4. There is a need to gain a better understanding of the problem and quantify this.
5. The solution could contribute to the wider poultry industry becoming carbon neutral.