



Food Animal Initiative

ENVIRONMENTS FIT FOR ANIMALS FIT FOR THEIR ENVIRONMENT

FAI Technical Datasheet G3 - Nitrogen balance on farm - Update August 2005

Legislation now requires that farmers are able to demonstrate that the environment is not being polluted due to nitrate run off from the farm.¹ This can be achieved in two ways; by limiting the amount of nitrogen produced on the farm or by removing the nitrogen from the farm in a way which does not cause pollution elsewhere.

'the facts.....'

The amount of nitrogen produced by animals is well documented and legislation requires that limits are not exceeded.² These limits vary depending upon whether the ground is in a nitrogen vulnerable zone (NVZ), part of an environmental scheme such as countryside stewardship or the various environmentally sensitive area schemes (ESA) throughout the country or organic. This variation can be between 160 and 250kg nitrogen per hectare.

Each farm is required to have a waste management plan and muck storage and disposal documentation is required as part of this plan. Muck must be stored in ways in which it cannot cause a pollution problem i.e. not within at least 10m of a watercourse and 50m away from wells, springs or water bores

Muck from different species contains variable amounts of nitrogen as follows:

- Poultry average 19.50kg/tonne
- Pigs average 4.96kg/tonne
- Ruminants average 4.98kg/tonne

Muck should be stored separately and kept under cover or black plastic. Records should be kept of quantities, type and date spread. Muck spreaders vary in size and muck can be light if there is lots of bedding present or much heavier if it is compressed. This must be taken into account when muck is being spread.

Many livestock farms, particularly those which are not land based such as housed pig and poultry systems, produce more nitrogen per hectare than is the legal limit. Livestock numbers may need to be reduced or the muck spread on another farmer's land. Systems which can be better for animal welfare can be vulnerable to run off e.g. free range pigs.



Cattle on woodchip

'.... the FAI response!'

At FAI we are studying the potential to produce peat free compost from woodchip waste and pig/cattle manure as a novel way of balancing nitrogen on farm. The key features of this project are:

- Free woodchip waste is sourced from the local council and tree surgeons.
- This is used as bedding and manipulable material for pigs and as bedding for cattle indoors and a flooring material for cattle outdoors.
- With straw prices continually increasing and availability restricted or in short supply in some areas alternative substrates are vital.
- When pens are cleaned out the woodchip/manure material is composted and made into peat free compost (PFC).
- Trials so far have shown that this material is consistent and capable of producing high quality PFC without any need for additional materials.³
- PFC will be sold locally.
- PFC is an environmentally friendly product as it provides gardeners with a material which does not involve further destruction of peat bogs which are valuable in terms of biodiversity.

1. DEFRA Guidelines for Farmers in NVZs- England, 2002
2. DEFRA Nitrates Directive. Farmer Information Leaflet Summer, 2002
3. Environment Agency Best Farming Practices: Profiting from a good environment, 2001



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