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Poultry Manure Management

The poultry industry in Wales has expanded significantly in recent years and as a result, poultry manure is more widely available. It is rich in nitrogen, phosphate, potash and many trace elements (*sodium, iron, manganese, zinc, copper, calcium*) and can improve the physical and biological properties of the soil.

USES

- As fresh manure applied to grassland or arable land
- Used for electricity production producing ash which can be used as a phosphate and potash rich fertiliser e.g. fibrophos
- As biochar which can be applied to bean and maize crops as fertiliser
- As a compost



Composting poultry manure creates a product which is a predictable and reliable source of nitrogen and phosphate which remains as available to the crop as it was when fresh. When combined with other feedstocks e.g. woodchippings, straw and grass clippings it becomes a very good soil improver with better carbon:phosphate and carbon:nitrogen ratio's and good organic matter content. An *added benefit* is the removal of pathogens e.g. botulism due to the high temperatures needed during the composting process.

Poultry manure on farm

How good a fertiliser is it?

Compared to farm yard manure at the same dry matter (25% DM), poultry manure has almost double the total nitrogen, three times the phosphate, similar potash, and double the sulphur and magnesium content (RB209; Section 2, Organic materials pp 15-18). In general broiler litter can be around 60% DM and layer manure around 30% DM: composition does vary so getting the manure analysed will make nutrient management planning much more effective.



The *availability* of these nutrients to the crop however depends on soil type, rainfall and the time of the year when they are applied. Typically 30% of the nitrogen, if surface applied (compared to 10% or less for FYM) is crop available and around 60% of the phosphate and 90% of the potash is crop available (RB209; Section 2 Organic materials pp 15-18).

Because poultry manure is so high in available nitrogen there is a restriction on how much can be spread in nitrate vulnerable zones – **check the details** on how much organic manure you can use.

On any farm it is wise to check the soil phosphate, potash and magnesium indexes and draw up a nutrient management plan when considering the use of poultry manure as these indexes will be quick to rise under regular applications to the land. Spreading location and time of application should be carefully considered to minimise any risk of nutrient leaching to watercourses or via run-off. Equipment such as spreaders should be checked to ensure that the manure is evenly spread.

Regulations governing poultry manure mean that it has to pass standards and have approval from the Animal and Plant Health Agency before being sold. Farmers may freely spread it on their own land or supply other farmers without charge providing it does not contain dead birds, large quantities of feathers and cracked eggs which all pose a risk of spreading botulism.



Further information:

READ:

Poultry manure management by Dr Will Stiles, IBERS, Aberystwyth University

OTHER RESOURCES:

The **Farm Crap App**

Nutrient Management Software: **MANNER** NPK and **PLANET**

RB209 **The Nutrient Management Guide**

NVZ regulations

