

## Appendix EC.9

### SAFE APPLICATIONS TO LAND

This appendix provides guidance on making applications to land. All applications to land must be carried out in accordance with legislation. Environmental Permits or exemptions must be held where applicable. If your farm is in an NVZ you must also follow NVZ rules.

Note: Producers should always check with buyers to ensure that any applications of sludge, compost, digestate and other materials originating outside the farm are acceptable to customers.

#### Sewage Sludge (biosolids)

For further information, including the Biosolids Assurance Scheme (BAS) Standard, refer to <https://assuredbiosolids.co.uk/>.

Evidence of BAS Certified Biosolids should be provided by your biosolids supplier and can be verified in the Certification section of the BAS website.

#### Farmyard Manure (FYM) and Slurry – Fresh, Stored or Treated

Batch storage of solid manures and slurries for at least 6 months (that is with no additions of fresh manure made to the store during this period) or ‘active’ treatment, are effective methods of killing pathogens. Composting of solid manures is a particularly effective method of controlling microbial pathogens, but for best results the process needs to be actively managed. The manure should be treated as a batch and turned regularly (at least twice within the first 7 days) either with a front-end loader or preferably with a purpose-built compost turner. This should generate high temperatures over a period of time (e.g. above 55°C for 3 days) which are effective in killing pathogens and this temperature should be monitored. Allow the compost to mature as part of the treatment process. The whole process should last at least 3 months.

Lime treatment of slurry (addition of quick lime or slaked lime to raise the pH to 12 for at least 2 hours) is an effective method of inactivating bacterial pathogens. Allow the slurry to mature as part of the batch treatment process for at least 3 months prior to land spreading.

Although pathogens can be killed by exposure to sunlight, you should incorporate manures into the soil as soon as is practicable. This will reduce the potential for direct crop contamination as well as reduce odour and ammonia emissions.

#### Compost, Digestates and other Recycled Materials

It is recommended that digestates and composts sourced from external contractors for application to land have been produced to the relevant PAS specification (PAS 110 for digestate, PAS 100 for compost) and are applied following the associated quality protocol. The specifications and quality protocols provide safeguards on the feedstock materials, the processing stages and end product quality.

Where anaerobic digestate is produced from an energy crop feedstock (e.g. maize) and there is no pasteurisation step there is a risk that plant pathogens, for example *Fusarium* spp., may be present. It is recommended that energy crop digestate is ploughed in before drilling a subsequent cereal crop.

#### Biostimulants

Some biostimulant products are derived from mammalian tissue by-products, including pork and beef material. It is essential to check the acceptability of their use with your trade customers or buyers.

#### Safe Applications to Land Matrix

	Manure and slurry	Compost and Anaerobic Digestate		Biosolids	
		Including animal by-products	Not including animal by-products	Conventionally treated	Enhanced treated
Combinable crops (inc. homefed)	May be applied before and after drilling/planting				