

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. The Environment Agency website has information on spreading waste on land which may be helpful.

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)

The Biosolids Assurance Scheme was established by the UK water industry. The scheme details comprehensive controls for the treatment and recycling of biosolids to ensure sewage sludge derived products are safe to use and pose no threat to the food chain, consumers and the environment.

Untreated sewage sludge has not been permitted on any agricultural land since 2006.

Treated sewage sludges can only be used under strictly controlled conditions. Prior to application the soil must be tested by the sludge supplier. Applications of sewage sludge to land must be in accordance with suppliers' instructions (i.e. the way the sludge has been treated may affect where and when the sludge can be applied).

Two types of treated sewage sludge are permitted by the scheme:

1. Conventionally treated sludge - has been subjected to defined treatment processes and standards that ensure at least 99% of pathogens have been destroyed. The most common form of treatment is anaerobic digestion.
2. Enhanced treated sludge - will be free from Salmonella and will have been treated so as to ensure that 99.9999% of pathogens present in the original sludge have been destroyed.

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.

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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		Treated Sewage Sludge	
	Application	Grazing/ harvest interval	Including animal by-products (ABP)	Not including animal by-products (ABP)	Conventional treated sewage sludge	Enhanced treated sewage sludge
Combinable crops (inc. homefed)	May be applied before and after drilling/planting	n/a	May be applied before and after drilling/planting	May be applied before and after drilling/planting	For all combinable crops may be applied before and after drilling/planting	For all combinable crops may be applied before and after drilling/planting
Grassland and forage – grazed	Recommended that applications are made in the spring and that rapid incorporation techniques are used	At minimum a 4 week no-graze interval applies. It is recommended that there is an 8 week no-graze interval for adult livestock and a 6 month no-graze interval for youngstock	A no-graze interval of 2 months for pigs and 3 weeks for other livestock applies	A no-graze interval of 3 weeks applies	A no-graze interval of 3 weeks applies and sludge must be deep injected or ploughed in	A no-graze interval of 3 weeks applies
Grassland and forage – harvested		A no-harvest interval of 4 weeks applies	A no-harvest interval of 2 months for pigs and 3 weeks for other livestock applies	A no-harvest interval of 3 weeks applies	A no-harvest interval of 3 weeks applies	A no-harvest interval of 3 weeks applies

Cropping Categories*

Combinable crops	Wheat, Barley, Oats, Rye, Triticale, Peas, Beans, Linseed/ flax, Oilseed rape, Sugarbeet, Sunflower, Borage
Grassland and forage – grazed	Grass, Forage swedes and turnips, Fodder mangolds, Fodder beet, Fodder kale, Forage rye and triticale, Turf
Grassland and forage – harvested	Grass silage, Silage maize, Haylage, Hay, Herbage seeds

*not an exhaustive list