

SAFE APPLICATIONS TO LAND

All applications to land must be carried out in accordance with the 'Safe Applications to Land Matrix' and legislation. Environmental Permits or exemptions must be held where applicable. 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) – 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.

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.

For all fruit and vegetable crops information about the feedstock should be built into your risk assessment. Particular hazards might include potential foreign bodies arising from contamination of feedstocks with glass, metal or hard plastic especially when the material is used on land used for potatoes and root crops.

Biostimulants

Some biostimulants 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.

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Safe Applications to Land Matrix

	Anaerobic Digestate (PAS 110 and pasteurised);	Anaerobic Digestate (PAS 110, not pasteurised) Anaerobic Digestate (not assured) Raw manure/ slurry	Composts (including PAS100 and non-assured; green and green/food) Treated manure/ slurry	Conventional treated sewage sludge	Enhanced treated sewage sludge	Land where immediate previous use has been as grazing land
Fresh produce	Category 1	Any time before drilling/ planting	Any time before drilling/ planting ¹	Not within 30 months of harvest	Not within 10 months of harvest	Not within 12 months of drilling/ planting
	Category 2	Any time before drilling/ planting	Not within 12 months of harvest and at least 6 months before drilling/ planting	Not within 30 months of harvest	Not within 10 months of harvest	Not within 12 months of harvest and at least 6 months before drilling/ planting
	Category 3	Any time before drilling/ planting	Any time before drilling/ planting	Not within 12 months of harvest	Not within 10 months of harvest	Any time before drilling/ planting

NB. The Safe Application to Land Matrix isn't applicable to Category 0 crop practices

Notes

1. Target of zero and absolute limit of <0.1% (m/m dry weight) glass must be achieved
2. Green compost (PAS100 assured) may be applied as mulch

Cropping Categories

Fresh produce	Category 0 (those you can eat raw and have a significant risk or history of pathogen contamination)
	Category 1 (those you can eat raw and which do not have a protective skin that is removed before eating; they may also have a significant risk or history of pathogen contamination)
	Category 2 (those you can eat raw and which either have a protective skin or grow clear of the ground, or that have no history of pathogen contamination)
	Category 3 (those that the customer always cooks)

An up-to-date list of the crop categories can be found on the Red Tractor website.



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Further Information

A web-based tool, developed by HDC and the FSA, is available to help growers assess the risks from faecal wastes as soil conditioners and fertilisers. (<http://freshproducetool.foodstandards.gov.scot/>)

FSA (2009) Managing Farm Manures for Food Safety – Guidelines for growers to reduce the risks of microbiological contamination of ready-to-eat crops (<http://food.gov.uk/multimedia/pdfs/manuresguidance.pdf>)

FSA Report B17007 (2009) A review of the published literature describing foodborne illness outbreaks associated with ready to eat fresh produce and an overview of current UK fresh produce farming practices (http://www.foodbase.org.uk/results.php?f_report_id=340)

FSA Report B05003 (2004) Pathogens in organic wastes: their levels and survival both during storage & following application to agricultural land (www.foodbase.org.uk/results.php?f_category_id=&f_report_id=23)

FSA Report B17002 (2002) Assessment of the risks to food safety associated with spreading of animal manure and abattoir waste on agricultural land (www.foodbase.org.uk/results.php?f_category_id=&f_report_id=195)