

Fact sheet 3: silage making and storing, and effluent collection for silos

Are you planning to substantially alter your silage making or storage facilities, or add new ones?

This fact sheet will help you meet the requirements of the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010. These are commonly referred to as the SSAFO Regulations and apply in England.



The Reduction and Prevention of Agricultural Diffuse Pollution Regulations (England) 2018, (known as the Farming Rules for Water (FRfW)), define silage effluent as an organic manure. They require that where organic manures are stored, they must be stored at least 10 metres away from inland freshwaters or coastal waters, and at least 50 metres away from a spring, well or borehole. You should also consider the risk of agricultural diffuse pollution, such as field drains or connectivity via roads and ditches, when deciding where to store organic manure beyond the distances outlined above.

We have a duty to protect groundwater and ask that you avoid locating your system within a groundwater Source Protection Zone 1 or within at least 50 metres of a borehole, well, or spring used to supply drinking water. Where this is unavoidable you should contact us.

If after reading these notes you are still unsure about your silage or any other aspect of your farming operation which may be affected by the regulations, please contact us before starting any works. Mistakes can be expensive or result in additional works being required.

What silage facilities are covered by the SSAFO Regulations?

The SSAFO Regulations govern all methods of making and storing of silage crops. This fact sheet covers silage made or stored in a silo or clamp, and silage made or stored in compressed bales. See fact sheet 2 for information about silage made in fields, including non-baled silage in bulk bags.

There are requirements for compressed bales of silage:

- You must cover them with an impermeable wrapping or bag.
- You must not store or open them within at least 10 metres of any inland freshwaters or coastal waters that effluent could enter.

- You should store them at least 50 metres away from any spring, well or borehole.
- You should consider the risk of agricultural diffuse pollution, such as field drains or connectivity via roads and ditches, when deciding where to locate and store baled silage.

Field silage is dealt with separately. See fact sheet 2.

Tower silos built to meet BS 5061 satisfy the SSAFO Regulations with no further requirements.

How do the Regulations apply to silage making?

The SSAFO Regulations set design and construction standards for silos that are new, or substantially enlarged or reconstructed since 1991. They do not apply to temporary storage of silage in a vehicle, container, or trailer intended to transport it.

- You must notify us, ideally in writing, about any new, substantially enlarged or substantially reconstructed system at least 14 days before any construction begins.
- You must tell us about the type of structure and where it is to be used.
- We are likely to request details of the proposed design and construction.

Requirements that apply to silos

- The system must be impermeable, resistant to corrosion, and constructed to meet BS 5502: Part 22 1993. It must have a life expectancy of at least 20 years (with maintenance)
- No part of the system can be within at least 10 metres of inland freshwaters or coastal waters that silage effluent could enter.
- The base must have drainage collection channels around the outside. Where there are walls, the base of the silo must extend beyond them and be designed to collect any effluent at the perimeter. The walls must also be able to withstand any likely load placed upon them in accordance with BS 5502 Part 22 1993
- Collected effluent should be conveyed to a purpose-built effluent tank
- All parts of the system must comply with the regulations whenever it is used.
- Proper maintenance is therefore essential.

Note: "inland freshwaters" includes any stream, ditch or land drain, even if it flows for only part of the year.

Requirements that apply to silage effluent tanks

- Silage effluent tanks must be at least 10 metres away from inland freshwaters or coastal waters, and at least 50 metres away from a spring, well or borehole.
- You should consider the risk of agricultural diffuse pollution, when deciding where to store silage effluent beyond the distances outlined above.

- If any part of an effluent tank is below ground level it must be designed and constructed so that it is likely to remain impermeable and resistant to attack from silage effluent, for at least 20 years without maintenance. You need to confirm this when we ask you to fill out a completed installation form, by providing us with either the manufacturer's guarantee, or an endorsement by the installer.
- If all parts of the effluent tank are above ground level, the tank must be designed and constructed so that it is likely to remain impermeable and resistant to attack from silage effluent for at least 20 years with maintenance.
- For silos with a capacity up to 1,500 cubic metres the capacity of the effluent tank must be at least 20 litres for each cubic metre of silo capacity.
- For silos with a capacity exceeding 1,500 cubic metres the effluent tank must be at least 30 cubic metres, plus 6.7 litres for each cubic metre of silo capacity in excess of 1,500 cubic metres.

[1,000 litres = 1 cubic metre = 220 gallons. 1 litre = 0.22 gallons. Assume 1000 tonnes silage = 1,500 cubic metres.]

We have a duty to protect groundwater. We may object to the installation of any below ground silage effluent tanks within a drinking water Source Protection Zone 1, unless we agree to site-specific mitigation measures that minimise the risk to drinking water supplies.

Can I put my silage effluent into a slurry store?

You can store silage effluent and slurry together if your tank has enough capacity and is built to withstand both types of effluent. However, mixing slurry can give off gases that are lethal to humans and livestock and you must never put silage effluent into an underfloor slurry store.

The store is likely to require modification to meet the higher containment standards required for silage effluent storage. You need to discuss this with us.

What happens after I submit proposals to the Environment Agency?

We will assess your proposals and the site. In many cases we will visit the site and meet with you or your agent. We will usually make our assessment clear to you in writing.

If you do not hear from us within 14 days of our receipt of your notification you are free to make field silage providing you meet the requirements outlined above.

What happens if pollution occurs?

The responsibility for preventing pollution falls to the person with custody or control of the silage. Normally that is you, the farmer.

If pollution occurs you may be liable, even if we have agreed to the field heap site. Great care is essential in the selection of field silage sites.

If pollution occurs, you should report it. Call the Environment Agency incident hotline.
Telephone: 0800 80 70 60

Where can I find further help?

You can find further information on GOV.UK at [Storing silage, slurry and agricultural fuel oil - GOV.UK \(www.gov.uk\)](#)

To help identify any Source Protection Zones, look at [Groundwater source protection zones \(SPZs\) - GOV.UK \(www.gov.uk\)](#).

If you are unsure, please contact your local Environment Agency office via our general enquiries line. Telephone 03708 506 506