Preventing agricultural pollution - exceptional dry weather

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Environment Agency advice during exceptional dry weather – slurry and milk spreading on agricultural land

Speak to the Environment Agency before spreading

Environment Agency advice:

The Environment Agency’s focus is to avoid or minimise soil damage and/or water pollution that can occur if slurry is spread in unfavourable soil and/or weather conditions. It is also important that stores do not overspill and become a point-source of water pollution.

If your store is at risk of causing pollution and you cannot avoid spreading when you think there is a risk of slurry runoff, run-through to land drains or leaching, or that you risk breaching a legal requirement farmers are urged to contact the Environment Agency as soon as possible to discuss options.

You should also contact the Environment Agency well in advance if you think this scenario is likely to happen at any time when soil conditions are still unlikely to have sufficiently recovered to enable safe slurry spreading.

Our national customer contact centre will be able to discuss your situation on a case-by-case basis and advise on what actions you can take, and make a referral to the local agriculture officer where necessary and/or requested.

The Environment Agency may come to an agreement to allow emergency measures for slurry spreading or temporary storage if lagoon/tanks are likely to be compromised, or are at risk of overflowing. This may require a discussion with your local agriculture officer, who will also discuss and agree an action plan with you, if necessary, to help avoid future problems.

Please call 03708 506 506 to speak to our National Customer Contact Centre.

Out of hours, or in an emergency, call the incident hotline on 0800 80 70 60.

More information on spreading during dry weather can be found at <https://www.gov.uk/guidance/manage-water-on-land-guidance-for-land-managers>

NB:- Legal requirements include but are not limited to NVZ1, SSAFO2 or the new Farming Rules for Water3

Supporting advice and technical guidance

Planning for exceptional weather events

To avoid regulatory breaches and causing pollution in exceptional weather circumstances farmers need to have a contingency plan. Under assurance schemes (e.g. Red Tractor) it is a common requirement for farmers to plan and document actions to be taken in such events.

What are exceptional weather conditions?

Exceptional weather conditions are those that surpass what is common or usual, or can be reasonably expected. For example, wetter than average winter rainfall is not exceptional and would be expected to be catered for in a farms available slurry storage capacity (e.g. SAFFO2 and NVZ1 legislation requires 'likely' and 'any' rainfall to be included in their respective storage calculation, not 'average' rainfall). Whereas a considerably more severe event that can’t realistically be planned for can be. For example, a longer term exceptionally dry period as experienced in 1976 and in 2018.

What is the Environment Agency regulatory approach for exceptional weather?

When exceptional weather events genuinely prevent a farmer from being able to comply with legislation (e.g. SSAFO1, NVZ2 or FRfW3) and guidance (e.g. CoGAP4) and spreading is the only viable option, and can be done without causing pollution, the Environment Agency, subject to conditions, may recommend not to take enforce action.

Regardless of any such recommendation, as with normal compliance, the farmer remains responsible for any pollution caused.

Recommendation not to take enforcement of legislation only applies subject to:

* an exceptional weather event;
* the Environment Agency being notified by the farmer and spreading is agreed to be the last resort option available to the farmer;
* no more is spread than is required to alleviate the risk of pollution;
* spreading is carried out at a rate ≤ 20m3/ha and on the lowest risk land available (including export to another farm);
* spreading is the best option available to avoid causing pollution, including if a regulation was enforced;
* before, during and after spreading the farmer considers the risk of pollution, including regular checks to ensure pollution is not happening.

What action should farmers take?

1. Measures should be taken to reduce the amount of slurry (including lightly fouled water) produced on a daily basis, such as:
* washing down a dairy parlour with a low volume hose system (0.6 cubic metres per cow per month or 20 litres per cow per day), where it would not compromise milk hygiene standards. Removing excess dung with a brush or squeegee before hosing down will help reduce the amount of wash water needed.
* keeping animals on straw if possible, to produce solid manure (FYM) rather than slurry.
* diverting uncontaminated surface water away from dirty yard areas, and;
* keep/move livestock onto the minimum yard area necessary
* install/maintain/repair gutters and downpipes, especially on roofs that drain onto dirty yard areas
* consider covering exposed fouled yard areas.
1. Farmers should consider in advance contingency arrangements for their business using the following hierarchy of options:



1. Additional practical advice on storage and landspreading of slurry and milk:

SAFETY NOTE: Mixing milk with slurry can increase the risk of lethal or explosive gases, for example methane, carbon dioxide, ammonia, and hydrogen sulphide.

* Slurry and milk must only be spread on land with the lowest run-off risk.
* Low run-off risk land:
	+ has an average slope of less than 3 degrees;
	+ does not have land drains (other than sealed impermeable pipes);
	+ in the last 12 months, has not been pipe drained, mole drained, or sub-soiled;
	+ does not have a shallow soil (<30 cm) above fissured rock;
	+ has a sufficient depth and suitable type of soil above groundwater to prevent pollution;
	+ is not within a designated groundwater Source Protection Zone 1;
	+ is at least 50 metres from surface water or a conduit leading to a surface water, and at least 50 metres from springs, wells and boreholes where groundwater is used for human consumption;
	+ doesn’t have compacted soil or a soil surface which is capped (e.g. only spread where the soil is permeable and has a good structure) or where a compact soil itself may result in runoff;
* Doesn’t have a cracked soil above a land drainage system and/or groundwater.
* Slurry or milk should be spread thinly and widely, at an application rate not exceeding 20 m3/hectare. A lower application rate should be used if there is a risk/evidence of run-off that could enter surface water.
* No more slurry must be spread than is absolutely necessary (e.g. to prevent a store from overflowing; and in case of fertilizing a crop to meet the crop requirement).
* Where slurry or milk is spread to land, the activity must be regularly monitored, including checking adjacent watercourses, to ensure pollution is not happening and is not likely to happen.
* Milk should only be land spread when a U10 waste exemption5 has been registered with us, which is free (<https://www.gov.uk/guidance/waste-exemption-u10-spreading-waste-to-benefit-agricultural-land>).
1. Farmers should ensure all staff/contractors working on their behalf are fully aware of the pollution risks, and regularly update their risk plans. To avoid pollution this should include a prior field inspection to consider the risk of slurry getting into a surface water and/or groundwater. The activity should be monitored then during and after spreading to ensure pollution is not happening (e.g. runoff and inspection of land drainage outfalls to surface water).
2. Farmers should work whenever possible with neighbouring farmers as part of contingency planning to avoid a breach of legislation and/or causing pollution, e.g. where their neighbour has capacity to store slurry and has lower risk land where slurry can be spread.

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References

 Nitrate Pollution Prevention Regulations 2015 (SI 668) (NVZ)

2 Water Resources (Control of Pollution) (Silage Slurry and Agricultural Fuel Oils) (England) Regulations 2010 as amended 2013 (SSAFO)

3 The Reduction and Prevention of Agriculture Diffuse Pollution (England) Regulations 2018 (FRfW)

4 Protecting our Water Soil and Air, (A code of good agricultural practice for farmers, growers and land managers) Defra 2009 (CoGAP)

5 Spreading waste on agricultural land to confer benefit (U10)

Appendix

Advice on temporary slurry storage

Introduction

Short term extra storage may be provided on a farm or group of farms. Options could include:

* Re-using/reinstating disused stores on farms, including tanks reclaimed from elsewhere;
* Installing new tanks or lagoons;

Regulatory matters

* Farmers should check with the Local Planning Authority for any planning requirements, making clear that this is a temporary arrangement.
* For temporary installations we can consider reduced requirements for slurry storage compliance with the SSAFO Regulations, as described in the guidance below.
* Farmers must de-commission all temporary facilities as soon as the current difficulties are resolved.
* If farmers intend to retain the store for long term use it must be re-assessed for full SSAFO compliance, and planning approval (if that is appropriate).
* Farmers must protect the H&S of all users. HSE sheet AIS9 provides advice on safety fencing.

Practical matters

* If a farmer needs new or additional permanent storage, then it needs careful planning, e.g. to avoid wasting money.
* We anticipate that earth bank lagoons, lined lagoons or possibly slurry bags will be the most likely installations for temporary storage.
* For shared facilities:
	+ Farmers will need to consider any biosecurity risks;
	+ The management arrangements, and where the ultimate responsibility lies, must be agreed between the parties and written down;
	+ Farming organisations may be able to help to broker shared facilities.

Regulatory position

Facilities that store slurry must normally comply with the SSAFO Regulations. However, the full requirements can be waived for stores that will be used for less than twelve months. Temporary stores are expected to meet the requirements set out below.

Requirements:

* the Environment Agency must be notified before construction
* temporary storage must only be considered where existing facilities are inadequate
* each individual location must be agreed with us (although generic designs may be used)
* tanks, liners and slurry bags must be installed to manufacturer’s instructions
* the base of earth bank lagoons must be above the water table – it is recommended that there is at least one metre of clay subsoil beneath the proposed base
* a trial pit is required to confirm the depth of the clay layer; the resulting hole must be backfilled and puddled in
* liners must be used where there is any doubt about soil permeability
* lower grade liners should suffice for temporary storage (provided the site is not a high groundwater risk area). Use higher grade liners for high risk areas. (See also ‘permeability and liners’ below.)
* careful initial monitoring must confirm the integrity of the store.
* site stores at least 10 metres from watercourses and land drains, and 50 metres from groundwater sources. Temporary trial trenches are recommended if there is any doubt about the presence of land drains.

Permeability and liners

Refer to the Construction Industry Research and Information Association (CIRIA Report C759b (section 7)) for detailed guidance. Generally, soil needs to have a clay content of at least 20% to be suitably impermeable. An initial assessment of soil suitability can be made by digging test pits (filled in immediately after sampling), or by using a narrow-bore soil auger or similar device.

Clay content can be assessed by hand texturing, however it is recommended that soil texture is assessed by a person with adequate experience and training, or samples are sent to an approved soil testing laboratory.

There are a wide range of liners available for lining storage lagoons. Plastic liners such as polythene or PVC are widely available, and generally cheaper than the butyl rubber alternatives.

The thickness of liner used needs to be appropriate to the particular on-site conditions (site sensitivity, soil porosity and so on). CIRIA C759b recommends a minimum of 1.5 millimetre thickness for plastic liners, but this is for liners expected to perform for several years. Liner thicknesses in the range of 0.5 to 1.0 millimetre thickness should be suitable in most cases for temporary stores.

Where sheets have to be joined to cover a large area, the supplier can advise on minimum thickness and methods to ensure that joints are properly sealed. Take extra care during installation of thinner liners. Thin liners are more susceptible to puncturing, so they must be laid on top of approximately 50 millimetres of sand, or a geotextile membrane. Treat soil with weed killer prior to installation to prevent puncturing from below.

Above ground storage

Unless earth banks are fully engineered, filling earth bank stores above the original ground level is best avoided. In any case, a 750 millimetres freeboard must be maintained.

CIRIA C759a and b is available via: <https://www.ciria.org/resources/free_publications/farms.aspx>