

Supporting guidance for Pesticide Handling Facilities

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Introduction

This item provides a contribution towards the costs of providing or improving pesticide handling facilities on the farm. This could involve the creation of a bunded concrete washdown and pesticide handling area where the drainage can be collected for disposal or for transfer to a biobed or biofilter for treatment. Funding for the purchase of portable bunds, drip trays and spill kits is also available through this item.

Benefits

Pesticide losses from pesticide handling and washdown areas can be a major source of water pollution. Research has shown that a significant proportion of pesticides reaching water come from pesticide handling areas.

Putting in place measures and taking action to reduce the potential for pesticide losses during pesticide handling and washdown activities can have significant benefits for water quality.

What needs to be done?

The first step to improving the pesticide handling facilities on the farm should be to review current practices, identify risks and determine where improvements can be made.

Review current pesticide handling facilities

Pesticide pollution risks are greatest where run-off and drainage from the handling and washdown area can reach clean water drains, ditches or burns etc. Handling areas on impermeable ground where the run-off is not managed, or areas trafficked by other machinery, can also present significant risks.

Handling areas within fields are acceptable provided there is sufficient soil depth (at least 60 centimetres of topsoil and subsoil) and are at least 10 metres from any watercourses or drains and at least 50 metres from any wells or springs used for drinking water. Compacted areas or areas which are heavily trafficked (such as near gateways) should not be used.

Identify a site for the new pesticide handling area or improvements for the existing area

From a practical and convenience point of view, the best location for a pesticide handling area is close to the pesticide store and the water and electricity supply. Other factors to take into account include:

- other traffic – avoid areas which are likely to be used by other machinery, livestock or people; significant quantities of pesticide can be carried away on tyres for example
- location of nearby watercourses, clean water drains and wells, springs etc – it is important to ensure there are no watercourses or open drain within at least 10 metres of the handling area. Consider where run-off from the area will ultimately end up
- sufficient area – the handling area should be large enough to accommodate the size of the sprayer (transport width and length) and provide sufficient working room. Where a biofilter or biobed is also to be incorporated, thought should be given as to how the drainage from the handling area can be conveyed
- rainfall and run-off – the handling area should be positioned so to minimise the collection of additional rainfall or run-off from other areas of the steading. This could be by using existing roofed areas, using kerbs or bunds to prevent run-off flowing over the handling area and checking guttering on nearby buildings

Managing drainage from the pesticide handling area at the steading

There are a number of options as to how the drainage from a pesticide handling area can be managed. First, it is important that the drainage from the area is adequately contained and collected. This could be achieved by constructing a bunded concrete area with a sump or storage tank or constructing a lined drive-over biobed.

Where a bunded concrete area is used the collected drainage from the area could be:

- conveyed to an off-set biobed or biofilter
- disposed of to land under a [licence](#) issued by the Scottish Environment Protection Agency under the Water Environment (Controlled Activities) (Scotland) Regulations 2011
- collected by a waste disposal contractor

Minimising accidental pesticide losses

Even where good handling facilities exist, pesticide pollution risks can be minimised through using drip trays, spill sumps and spill kits.

Drip trays can catch and contain spills and splashes when measuring chemicals and filling the sprayer, which can then be disposed of direct into the sprayer. They are also useful when using handheld equipment.

Closed transfer pesticide filling systems can be used to transfer the necessary amount of a pesticide from its container to the equipment applying it in a closed system. This avoids the need for measuring and pouring and reduces the risks of spills and splashes. When empty, the container can then be rinsed directly into the sprayer.

Design guidelines

All pesticide handling areas must not be located within 10 metres of a watercourse (ditch, burn etc) or a clean water drain, or within 50 metres of any spring or uncapped well or borehole that supplies water for human consumption.

Concrete bunded areas

This involves the construction of a bunded concrete apron together with drainage collection facilities and a storage tank or sump. The run-off collected from the drainage area can then be conveyed to a biobed or biofilter for treatment, disposed of to land under an authorisation issued by the Scottish Environment Protection Agency or uplifted by a waste disposal contractor.

The loading area must be impermeable and a collection facility must be provided to collect run-off. This could be achieved by creating a concrete apron with a fall and a side bund or kerb to contain liquids within the area and to prevent the entry of run-off from outside the handling area. A bund height of at least 100 millimetres will ensure run-off is contained within the handling area and discourage other traffic from using the area. The collection facility could be a grated channel or drain within the bunded area that drains via a sediment trap to an adjacent tank or sump. The capacity of the tank or sump should take into account the volumes of liquid produced during washdown and the likely amount of rainfall the area may collect.

The bunded area must be at least two metres wider and at least 1.5 metres longer than the transport width of the sprayer. This is to ensure adequate working room around the sprayer and to help ensure all drips and splashes are contained within the area.

Detailed guidance on the construction and maintenance of a pesticide handling area is provided by the [Pesticide Handling Area and Biobed Manual](#) (The Voluntary Initiative, March 2013).

The payment rate for concrete bunded area includes a contribution towards the costs of creating a bunded concrete apron with drainage collection facilities and storage tank.

Biobeds

Biobeds are lined pits one to 1.3 metres deep filled with a biomix material consisting of approximately 50 per cent straw, 25 per cent soil and 25 per cent peat-free compost and turfed over. They are designed to collect and treat pesticide residues arising from pesticide handling or washdown activities carried out at the steading.

Biobeds can be 'off-set' or 'drive-over'. With off-set biobeds all pesticide and handling activities take place on a bunded handling area and the drainage is then conveyed to the biobed for treatment. With a drive-over biobed the pesticide handling activities take place on a reinforced steel grid directly over the biobed.

Detailed guidance on the [construction and maintenance of a biobed](#) is provided by the Pesticide Handling Area and Biobed Manual (The Voluntary Initiative, March 2013).

Prior to use, a waste exemption must be registered with the Scottish Environment Protection Agency under Waste Management Licensing (Scotland) Regulations 2011. Exemptions can be registered online or via your local Scottish Environment Protection Agency office and are free.

The waste exemption allows the reuse or recovery of the liquid residue from the biobed. Examples of such re-use options may include crop / grassland irrigation or subsequent washdown activities etc. Where the liquid is irrigated to land, this should not be within 10 metres of any burns or ditches or 50 metres of any wells or springs.

The waste exemption also allows the spreading to land of the waste bio-mix material when it comes to the end of its working life, providing it has been allowed to compost for at least 12 months outside the biobed.

To maintain effectiveness it is important that the biobed is maintained, this should include:

- cleaning out sediment traps – sediment removed should be added to the biobed
- keeping the biobed topped up with biomix material on an annual basis; aim to maintain a minimum depth of one metre
- keep the turf in good condition; this may require watering the turf during dry periods
- the biomix material should be replaced approximately every five years

Biofilters

On some sites where space is limited or volumes are smaller a biofilter may be a more appropriate option. A biofilter has a similar function to a biobed and is typically made up of three intermediate bunded containers stacked vertically and filled with biomix. The pesticide washings or run-off are added at the top and are collected at the bottom.

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To maintain effectiveness it is important that the biofilter is maintained, this should include:

- cleaning out sediment traps – sediment removed should be added to the biofilter
- keeping the biofilter topped up with biomix material on an annual basis
- the biomix material should be replaced approximately every five years
- check regularly for leaks and repair as required

Closed-transfer pesticide filling system

These are proprietary systems which can be used within pesticide handling areas to reduce the risk of spills, drips and splashes of pesticide when the pesticide is being added to the sprayer.

Systems should comply with BS 6356-9, Specification for closed-transfer of liquid formulation systems.

Drip trays and portable bunds

There are a range of products available that come in various sizes and forms. Generally they are mobile and can be used on a temporary basis at different sites for the containment of spillage from a range of containers and operations, including temporary storage and handling (filling and mixing) of pesticides.

What your application should include?

Where the proposal is to construct a pesticide handling area, biobed or biofilter, a simple map of the steading should be provided clearly showing the location of the proposed feature together with the location of any clean water drains, wells, ditches or other watercourses within 100 metres of the area.

Further information

[Farm and Water Scotland Know the Rules Guide](#) – the pesticide handling area must comply with the General Binding Rules 23 of the Water Environment (Controlled Activities) (Scotland) Regulations 2011, as amended. A summary of these requirements can be found in the following Farm and Water Scotland Know the Rules Guides: 'Using Pesticides' and 'Purchase and Storage of Pesticides'

[The Prevention of Environmental Pollution From Agricultural Activity \(PEPFAA\) Code of Good Practice](#)

[The Voluntary Initiative](#) website

[Pesticides: Code of Practice for Using Plant Protection Products in Scotland](#)