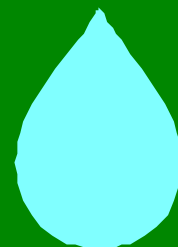


Before Spraying

Pesticide Handling Areas



Why Pesticide Handling Areas are Important

Up to 70% of pesticides reaching ground and surface water may come from pesticide handling areas. Yard runoff is vulnerable from tiny splashes and spills that occur when filling the sprayer and when rinsing containers. Inappropriate sprayer wash-down, cleaning and disposal can also contaminate water. Just one dropped foil seal can contain enough pesticide to increase residues above the 0.1 µg/l standard in 30 km of stream if 1m wide. In one study it was possible to reduce the pesticide residues coming from the handling area by 99%. A key step to achieving this change was to review the site and the surface used for filling and wash down.

Pesticide users and sprayer operators must therefore not only look carefully at the design and surfaces used in the handling area, but should also review their own filling and cleaning practices.



H₂OK?
Think Water

Keep Water Clean
Prevent spills & use a spill/drip tray = portable bund
Clear up immediately & dispose of waste safely

H₂OK?
Think Water

Reviewing the Site

Siting and design of pesticide handling areas was developed over the years for operational convenience rather than pollution control. Research shows that a poorly managed concrete filling area is potentially the worst surface for handling pesticides especially when the water from the concrete pad drains into a local ditch or yard drain. However a well-managed bunded concrete filling area with drainage water intercepted and taken for treatment through a Lined Biobed or Biofilter is one of the best options OR potentially to a sump for disposal on an area with a groundwater permit – see <https://www.gov.uk/government/publications/application-for-an-environmental-permit-part-b7-groundwater> if in England but elsewhere contact local Environment Officers

Changing the site, its layout and surface to improve the management of waste liquid and run-off can reduce pesticide load of 1,000-100,000 fold. Through The Voluntary Initiative, all pesticide users and spray operators are encouraged to review their current sites and to consider solutions and practices which can prevent, control, retain and degrade pesticide residues and significantly reduce the risk of pesticides reaching water.

Planning Ahead

Before making any changes to your existing arrangements you should consider carefully two factors:

1 Local Water Priorities

Establish if and how local water sources may be affected by what you do at your handling area. Advice and information on water quality risks is available from your local Environment Agency office. They can also advise you if you are in a Groundwater Protection Zone as well as giving you background information on local hydro-geology. In any event, you should ensure that the pesticide handling area is sited:

- At least 10m away from any watercourse or vulnerable site; At least 50m away from any borehole spring or well;
- Away from existing farmyard flash flood routes, rain water outlets and gutter outfalls; Away from/ downslope of farmyard drains and in fields, not near any tile or mole drains;
- Aside from main business traffic routes;
- On well structured soil with at least 1.6m depth of soil and sub-soil before bedrock;

Soakaways are not an acceptable option as they can pollute groundwater

Ensure as far as practical that any water with pesticide residues is handled separately from other drainage water. Use a bund (an 8-12cm concrete lip) to keep the handling area water within the area.

1 Handling Area Purpose

All handling areas should allow the operator to work safely and efficiently. The handling area should also contain any contamination such as drips and splashes and run-off from rainfall. (Note: Any significant spillages should be picked up from a spill/ drip tray underneath the induction hopper and tipped in to the hopper, or if in an uncontained area soaked up and removed for separate disposal). However, consider if the handling area will be used just for sprayer filling or whether washdown activities will also take place in the area. If the sprayer is being washed down it will increase the amount of waste liquid. This means that for some solutions a larger biobed area may be required. Ideally a biobed or if indoors a biofilter is likely to be the most appropriate solution. See <https://voluntaryinitiative.org.uk/water/biobeds/> For more information on permitting, see: https://bit.ly/EA_permitting

💧 Pesticide Handling Area Solutions

Portable Bund

A portable bund with a suitable lip and made from non-absorbent material can be used to trap spills and splashes. The bund can be washed down and then drained back into the sprayer for application to the “crop” or treated area.

Advantages

Low cost and simple
Ideal for handheld equipment
Easy clean up of spills and splashes
Compatible with other solutions

Disadvantages

Not suitable for wash down of large application equipment
Bund not proven with sulfonyl ureas
May not be practical for regular use
Risk of soil contamination

Grass & Soil – filling away from watercourses, if applying to crop approved on label

Move handling area to grass reinforced with a grid or gravel. This is only suitable for filling, mixing and sprayer maintenance. Periodic movement of the area selected is advised. Note: Do not remove top soil when installing grid; a thin layer of gravel may be placed above the top soil to improve surface stability. Not recommended for heavy clay soils due to compaction risks.

Advantages

Low cost
Easy to establish

Disadvantages

Not convenient for services and sprayer storage
Grass/soil will become compacted over time

Fully Contained System

Full system with sump and tank for storage of all waste water. Liquid waste collected by a licensed waste disposal contractor or sprayed out on a site with a Para B7 permit – in England EA permission will be required but if in Scotland refer to [Section 9: pesticides - Prevention of environmental pollution from agricultural activity: guidance - gov.scot \(www.gov.scot\)](https://www.gov.scot/topics/pesticides-prevention-of-environmental-pollution-from-agricultural-activity-guidance)

Suitable for filling, mixing and sprayer wash down.

Advantages

No requirement for a GWP if contractor used
Suitable for both handling and wash down

Disadvantages

Major changes may be required to existing handling site
Higher cost to build and operate,

Management of Lined Biobeds or Biofilters

Biobeds are a specially excavated lined pit filled with a mixture of straw, soil and peat-free compost and turfed over linked to an outdoor filling area; a biofilter is similar in a stack of IBCs but the filling area should be covered. Research has shown that these are very effective at retaining and degrading pesticide residues which can arise from drips and splashes when filling sprayers and mixing pesticides. Biobeds or biofilters can also be used for the disposal of interior and exterior sprayer washings.

Either need to be registered with the local Environment Agency (see below).

Under the <https://www.gov.uk/guidance/waste-environmental-permits>, all Lined Biobeds or Biofilters require an environmental permit exemption. Farmers in England and Wales need first to read the EA Guidance and then register their locations with the EA (T32- see <https://www.gov.uk/guidance/waste-exemption-t32-treatment-of-waste-in-a-biobed-or-biofilter> – such permits are free. Further advice can be obtained from the Environment Agency Tel. **03708 506 506** / email: enquiries@environment-agency.gov.uk

CAUTION
Seek regulatory permission
before building
a Lined Biobed

Different waste regulations apply in Scotland and Northern Ireland, exemptions for Lined Biobeds are available subject to local agreement from SEPA and NI-EA.

For more advice on Lined Biobeds please refer to: Best Practice Guide on Lined Biobeds; EA's Guidance on Lined Biobeds, the Lined Biobed Design Manual and www.biobeds.info

The advice in this Guide was originally prepared after consultation with the UK environment agencies and leading researchers into pesticide handling areas. The advice has been updated with the help of Defra, The Environment Agency, Catchment Sensitive Farming and CropLife UK, April 2022.

The Voluntary Initiative is a programme of measure agreed by Government to minimise the environmental impact of pesticides.

www.croplife.uk

www.voluntaryinitiative.org.uk