



**OSR Herbicides?  
Think Water**

# Reducing drainflow losses

**Oilseed rape plays a valuable part in many farm rotations as a break and 'cleaning' crop, especially where black-grass is a problem. However, keeping herbicides out of drinking water sources is key to preventing restrictions on use, or even loss of the products.**

## Why does reducing drainflow matter?

UK farmland is some of the most extensively drained in the world. While this is mainly an advantage for crop production, it also poses an increased risk of rapid movement of herbicides in soil water solution to watercourses. Research suggests that over 90% of all field losses can occur through drainflow. These losses may not always cause the peaks associated with a spill or a run-off event, but through the winter there is steady loss from fields while drains are flowing. Even so heavy rainfall can cause a 'flush through effect'.

Effective drainage with good soil structure reduces the risks of waterlogging and compaction, thus reducing risk of run-off. However, where dry soils have deep cracks, by-pass flow to drains can accelerate pesticide movement to watercourses.

### THE KEY HERBICIDES

**carbetamide  
clopyralid  
metazachlor  
propyzamide  
quinmerac**

## Soil management

To minimise the risk of losses from drainflow follow soil management and cultivation advice contained in this series of information sheets.

### For more information see:

<https://cereals.ahdb.org.uk/media/725158/g68-ahdb-field-drainage-guide.pdf>

## Pre-cultivation operations

Operations before field cultivation, can improve drainage. However, careful attention must be paid to soil and weather conditions to avoid damaging soil structure or causing compaction.

Mole draining is only suited to soils with at least 30% clay content. The subsoil needs to be sufficiently moist for a stable channel to be formed, but the upper soil profile should be sufficiently dry for cracking to occur.

**Do not mole drain before an oilseed rape crop as the risk of pesticides moving to water is high.**

### For more information see:

AHDB field drainage guide, pages 14-15:  
<https://cereals.ahdb.org.uk/media/725158/g68-ahdb-field-drainage-guide.pdf>

Subsoiling in correct conditions can be used to restore soil structure and improve permeability.

**Avoid subsoiling before an oilseed rape crop unless there is a serious soil pan to address, as the risk of pesticides moving to water is high.**

### For more information see:

AHDB field drainage guide, pages 6-7:  
<https://cereals.ahdb.org.uk/media/725158/g68-ahdb-field-drainage-guide.pdf>

Think soils <https://www.gov.uk/guidance/managing-soil-types>

A Guide to Better Soil Structure  
<http://www.landis.org.uk/downloads/>



## Monitor drainflow

When field capacity is reached within soils, drains begin to flow and the risk of pesticides being transported to surface waters increases sharply.

Identify some representative field drains which are easy to monitor.

**Do not apply oilseed rape herbicides if drains are running or close to running.**

Wait at least 48 hours after drainflow has stopped before applying oilseed rape herbicides.

## Monitor rainfall

Delay applying any plant protection product when heavy rainfall has occurred or is forecast within 48 hours. This is particularly important if the land has been mole drained.

**Do not apply oilseed rape herbicides if heavy rain is forecast within 48 hours of application.**

## Use this check list to review your actions

Objective	Detailed actions or issues	YOUR ASSESSMENT				
		I'm doing this	Maybe I could do this	Not doing this	I will investigate	Not applicable
Reduce drainflow losses	Avoid mole draining and subsoiling prior to sowing OSR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Monitor drainflow in representative drains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Avoid applying OSR herbicides if drains are running or close to running.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Avoid applying OSR herbicides if heavy rain is forecast within 48 hours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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