DairyCo

EBLEX

Maximising the benefits of weed control in grass and forage crops

The loss of clover safe herbicides could cost farmers an extra £180/ha. Reduced pesticide availability for arable farmers could also impact on livestock feed prices. It is therefore vital that all grass and forage producers use them correctly to ensure their continued availability.

This leaflet highlights the main reasons for concern over changes in pesticide availability and what can be done to prevent increased costs to farmers. Information is provided on:

- Why there is a problem
- How to reduce pesticide requirements through good management, and
- How to keep pesticides out of water.

1. Why is herbicide use under threat?

The contamination of water with agrochemicals and in particular herbicides means that unless these sprays are used more responsibly their use will be severely restricted or withdrawn. Just because livestock farmers tend to use less sprays than arable farmers it doesn't mean they should not be concerned, valuable weed control tools could be lost with negative impacts on crop yields and quality.

The main threats to the availability of pesticides:

1. Revision of Directive 91/414/EEC and Annex 1 approval (EU legislation associated with product safety)
2. The Water Framework Directive (WFD) aiming to improve water quality

2. What will happen if pesticides are not available?

Increased cost of grass and forage production

Worse case scenario losses:

- If non-clover safe herbicides have to be used, the loss of white clover in grass leys could cost an extra £180/ha to compensate for the lost nitrogen
- If red clover swards are sprayed with non-clover safe herbicides, loss of yield could cost up to £550/ha in red clover leys
- The loss of specific broadleaved weed herbicides could cost up to £95/ha in lost feed value in forage brassicas due to uncontrolled broadleaved and grass weeds
- Reduced fungicide availability could result in decreased foliar disease control in kale, costing up to £75/ha in lost feed value.

Animal feed costs will also increase

- The loss of specific broadleaved weed herbicides to oilseed rape production would significantly reduce the amount of oilseed rape produced, reducing the availability of home-grown rapeseed meal as a protein source
- The loss of specific herbicides in cereals would result in increased black-grass resistance and decreased yields. Combined with the loss of control in oilseed rape production this would result in decreased yields and reduced availability, or increased cost of feed wheat and barley
- The loss of specific herbicides used in pea and bean production would reduce the ability to control grass and broadleaved weeds and oilseed rape volunteers in pea and bean crops, reducing yields by up to 44%. This would put further pressure on UK protein crop production.

3. How pesticides get into water

Storage: pesticide stores hold concentrated chemicals; a fire or leak at the store can have a huge impact downstream.

Sprayer filling: Drips and spills of concentrated pesticides or pellets can have a big effect on water quality.

Over spray and drift: Spraying over watercourses, or too close to the top of banks, can kill aquatic life as well as jeopardising water quality. It can also concern neighbours.

Drain flow and surface run-off: Pesticides attached either to soil particles or in solution can reach water when drains are flowing or during soil erosion and in surface run-off. This is relevant on new sewings.

Cleaning: Large quantities of dilute spray solution are generated during container cleaning and sprayer washing; this can easily reach water through farm drains.

Disposal: Burying pesticide wastes in a tip is illegal and results in long-term damage to water quality.

4. How to keep pesticides out of water

✓ Clear up all spills, no matter how small immediately

✓ Never wash any spray or spills into farm drains or watercourses

Pay particular attention to the following:

- Protect all watercourses with 6m grass buffer strips, or 5m no-spray/spread, buffer zones
- Manage soils to avoid erosion and run-off
- Ensure all pesticide applications (sprays and pellets) are made by trained and qualified staff
- Ensure filling and container cleaning takes place well away from drains and watercourses
- Do not apply pesticides to dry, cracked or saturated soils
- Do not apply pesticides if heavy rain is expected within 48 hours of application
- Apply pesticides with care. Do not overspray watercourses
- Clean application equipment over a lined biobed or in a field away from watercourses and drains.

If in doubt, check it out. Consult a BASIS registered agronomist.

5. Reduce the need for pesticides through good management

Grass and Clover

- Regular grazing or frequent cutting:
  - reduces the impact of broadleaved weeds and reduces perennial weeds like thistles and nettles
  - can reduce disease build up; typically disease moves in when pasture grasses get long and laid
  - controls ergot by preventing flowering
- Maintain soil fertility to ensure grass can be competitive against weeds
- Avoid poaching, or other damage to the sward, around gateways, troughs and trees as bare ground allows weeds to germinate
- Check bought-in hay and straw for weeds, especially if feeding outside
- Cultivations
  - increase time between ploughing and drilling to six weeks to reduce frit fly damage to new leys. It also gives time to kill weed seedlings through stale seedbeds
  - where leatherjackets are a known problem drill early to get crop well established before winter
  - good cultivations will help reduce the population of wireworms
  - where previous ergot problems have occurred, deep ploughing will prevent air-borne spore release
- If clover safe herbicides become fewer, there is the option to drill new leys, treat with non-clover safe herbicides and then over-sow clover afterwards.

5. Annual forage crops (brassicas, maize, forage peas)

- Rotations and variety choice
  - avoid growing forage brassicas in close rotations with other brassicas, such as oilseed rape to reduce club root risk
  - plant club root resistant varieties (although new types of club root are starting to overcome resistance genes)
- Establishment
  - avoid spreading manures with high weed seed burden on land to be planted
  - very rapid early growth is brassicas' main strength. Ensure good establishment, anything which reduces this (drought, weed, pest or disease) will affect yield and increase the need for pesticides
  - drill brassica crops outside of the cabbage root fly's main egg laying period (May & June)
  - control club root through liming of soil (to reduce pH) prior to planting
- General
  - in row crops a mechanical weeder can be used to reduce weed competition
  - weed burdens that don't affect establishment, especially grasses may be tolerated as they can provide additional green matter to be grazed
  - improve drainage and reduce compaction to reduce footrots in pulses.

Useful links to additional information

Water Framework Directive
http://www.defra.gov.uk/environment/quality/water/wfd/index.htm

Directive 91/414/EEC
http://www.pesticides.gov.uk/approvals.asp?id=2310

The Voluntary Initiative (VI), established by the farming and crop protection industry in 2001, promotes responsible pesticide use to protect the environment. The best practice advice in this leaflet is taken from the materials on the VI website www.voluntaryinitiative.org.uk

For more advice on best practice visit the library section of the website to find Best Practice Guides on everything from sprayer filling to pesticide disposal. In addition the following publications which can also be found in the library are especially relevant:

- Pesticide use on livestock farms
- Grassland Sprays (A4 Poster)
- Keep sprays out of watercourses (Farmers Weekly Academy)
- H2OK? Keep it clean booklet - water protection advice for farmers and advisers 2009/10
- VI Best practice Guide - Grass buffer strips for water protection
- VI Best practice to protect water

HGCA Information Sheet - oilseed rape herbicides and protecting water (relevant for forage crops)
http://www.hgca.com/content.template/7/0/Crop%20Research/Crop%20Research/Crop%20Research%20Home%20Page.mspx

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The Voluntary Initiative
Promoting responsible pesticide use

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DairyCo and EBLEX commissioned a report from ADAS. The findings of this report are summarised in this factsheet which can be downloaded in full from the DairyCo and EBLEX websites. DairyCo and EBLEX are divisions of the Agriculture and Horticulture Development Board.