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Good land management key in protecting water

Teagasc equine specialist **Wendy Conlon** and the Agricultural Sustainability Support and Advisory Programme (ASSAP) have advice for land owners on improving and protecting water quality

UNDER the Water Framework Directive, Ireland has been set a target of achieving 'good status' for all waters.

The Agricultural Sustainability Support and Advisory Programme (ASSAP), a government/industry collaborative initiative, is part of a national approach aiming to work with all sections of society to improve water quality for all our benefit. The programme offers a free support and advisory service aiming to improve water quality through working with farmers in 190 priority areas across the country where water quality improvements need to be made, and participation is voluntary.

All farms can play their part in improving and protecting water quality.

Organic fertiliser management

Good management when applying organic fertiliser to grassland is recommended to maximise grass growth, while at the same time minimising nutrient and gaseous losses to water and the atmosphere.

Slurry, farmyard manure (FYM), spent mushroom compost (SMC) and poultry litter are sources of organic nutrients that can damage our environment if not managed correctly. They are also a valuable resource and can help reduce the farm fertiliser cost.

In order to maximise the efficiency of organic fertilisers, it is recommended to apply them in accordance with a nutrient management plan. This ensures organic manures are targeted to fields that have sub-optimal fertility. Improved utilisation of organic manures can help reduce chemical fertiliser requirements.

Benefits of optimising organic fertiliser usage

Reduces the risk of diffuse loss of nutrients to water.

- Helps address soil fertility deficits.
- Helps reduce chemical fertiliser expenditure.
- Matches nutrient applications to

grass growth rates.

- Helps maximise grass production.

Five tips to improve FYM and slurry management

- 1. Ensure the capacity of organic manure stores, at a minimum, is sufficient to meet the storage requirements for the county. Ideally there should be a buffer of two to four weeks additional storage.
- 2. Prepare and implement a nutrient management plan to ensure the nutrients in slurry/FYM are targeted to where they are most needed, (consult your advisor).
- 3. Apply slurry in spring where ground conditions are suitable and soil temperature is consistently greater than six degrees celsius.
- 4. Organic manure application rates must match grass growth rates to maximise nutrient uptake.
- 5. Apply a 5m buffer zone from drains and watercourses when spreading organic fertilisers (increase this to 10m if spreading in January or October).

Managing risks

Heavy rainfall when organic fertiliser is applied increases the risk of surface run-off and leaching of nutrients. This risk increases where organic fertilisers are applied on critical source areas (CSA), for example, land sloping towards drains or watercourses.

Do not apply to saturated soils as this increases the risk of soil compaction and surface run-off of nutrients. Ensure the tractor operator is aware of waterbody locations when spreading organic fertilisers and observes relevant buffer zones.

Grassland herbicide use and water quality

Herbicide used to control grassland weeds, for example docks, thistles, and rushes have the potential to be lost to surface or ground water. These chemicals

are used in the management of grassland swards. However, herbicides need to be applied very carefully to prevent losses and impact on water quality and drinking water supplies.

Point sources are losses in the farmyard: leaks from storage and spills from handling. Diffuse sources are losses in the field due to spray drift, surface run-off and drainage. Monitoring of groundwater, streams and rivers continue to show the presence of herbicide chemicals such as MCPA, 2, 4-D, fluroxypyr. These chemicals are also in drinking water supplies across the country and levels detected frequently exceed drinking water standards.

How to reduce reliance on chemicals

- Use mechanical control of weeds, topping or mulching.
- Reduce soil compaction due to machinery or out-wintering practices.
- Where appropriate maintain or improve drainage (consult with an advisor before carrying out any works).
- Improve Soil fertility by liming, and correct applications of P and K levels (based on soil test results).
- Ensure good grassland management practices, e.g., rotational grazing.
- Maintain dense sward cover by avoiding poaching and over-grazing.

Tips to reduce the risks to water quality when using herbicides

- 1. Assess if spraying is needed – can the weed problem be resolved by non-chemical methods (see above).
- 2. Ensure the sprayer is tested, calibrated and in good working order and the operator is a registered professional user.
- 3. Use the appropriate product and follow label recommendations on use.
- 4. Apply herbicide when weeds are actively growing and at the right stage of growth.
- 5. Ensure the sprayer operator is aware of the location of all nearby water bodies (ditches, streams, ponds, rivers, lakes and springs, drinking water abstraction points).
- 6. Do not perform handling operations (filling, mixing or washing the sprayer) near water bodies, open drains or well heads.
- 7. Do not fill sprayer directly from a stream, drain, lake or pond.
- 8. Apply all herbicides in suitable



When spraying, make sure you are aware of the location of all nearby water bodies



weather conditions (no rainfall forecast, calm day with a morning or evening application in hot weather).

- 9. Consider using drift-reducing nozzles when spraying.
- 10. Used pesticide containers should be triple-rinsed, washings added to the sprayer tank and empty containers should be disposed of correctly.
- 11. Clean and wash down the sprayer in a suitable field, well away from any water bodies or open drains.

Rushes and MCPA

Data from the Environmental Protection Agency (EPA) in 2019 show there were 82 exceedances above the limit in 27 drinking water supplies.

Fifty-two of these (63.4%) were in relation to MCPA. MCPA products can be used to control rushes. MCPA is water soluble and takes several weeks to break down. Rushes thrive in poorly drained areas (with a water table near the surface), which are prone to run-off to nearby water bodies. Control using mechanical methods if possible.

Apply to fresh, green and growing rush to increase effectiveness of chemical applied. Observe a non-spray buffer of 5m for MCPA.

Apply using boom sprayer only, weed lickers are not to be used. Do not exceed maximum spray rate as per label. The prohibited period for spraying MCPA is October to February.

Grassland herbicides are an important part of good grassland management for many farmers.

However, misuse can lead to impacts on water quality. Farmers should try to avoid using herbicides where possible by applying good grassland husbandry techniques. Where herbicide use is necessary, best practice advice should be followed to ensure minimal losses to water.

For more information please visit www.teagasc.ie/water-quality.

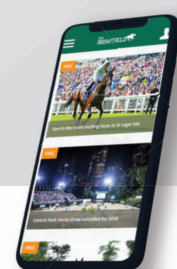
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