

# Submission

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**Date:** 01 October 2025

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## THE ACTION PROGRAMME FOR NITRATE VULNERABLE ZONES (SCOTLAND) REGULATIONS 2008: A REVIEW OF MEASURES

- NFU Scotland (NFUS) is the leading agricultural organisation in Scotland. Representing more than 9,000 farmers, growers, and crofters, our members provide and support thousands of jobs and deliver significant economic, social and environmental benefits across Scotland.
- Agriculture is the lynchpin of rural Scotland and is an important part of Scotland's booming food and drink industry. Scottish agriculture generates a gross output of £3.3 billion annually. The farming and crofting sector is committed to sustainable food production, enhancing biodiversity and helping to tackle climate change.
- We at NFU Scotland do not have evidence that supports changes to the Regulations. However, we would like to highlight proposed amendments from COPA, our European farming union colleagues, to 91/676/EEC, the Council Directive concerning the protection of waters against pollution caused by nitrates from agricultural sources. These refer to closed periods and livestock nitrogen manure loading limits.
- There is not a question in this consultation about the annual farm limit of nitrogen in livestock manures. We would like to highlight a proposed amendment from COPA to Article 2(g) in 91/676/EEC that relates to this. They have proposed a change that includes and defines "processed livestock manure" as livestock manure that has undergone one or more biological, chemical, or physical treatment processes (for example ReNuRe processes) which result in stable physical or chemical characteristics comparable to those of inorganic fertilisers, and which distinguish it from unprocessed livestock manure.

- These processed manures can be applied with greater precision than unprocessed livestock manures, reducing the risk of leaching and runoff while maintaining crop nutrient needs. This should enable these processed manures to comply with a 250 kg N /ha, rather than the current 170 kg N /ha, limit. Doing so could encourage a more circular economy approach to agriculture.

## REVIEW OF NITROGEN FERTILISER APPLICATION LIMITS

The NVZ Action Programme applies an Nmax limit to grassland, arable, and horticultural crops in Scotland to restrict the maximum application of nitrogen fertiliser based on published good farming practice.

The current Action Programme requires several criteria to be taken into consideration when carrying out an Nmax calculation, including previous crop, planned crop, and soil type.

These calculations align with the most recent nitrogen recommendations in the SRUC Technical Notes and the Scottish Government does not propose changing the maximum application of nitrogen fertiliser requirements outlined.

**Question 1. Do you agree with our review of the maximum application of nitrogen fertiliser requirements and our proposal that we do not change them at the current time?**

- Yes

**Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.**

- Not applicable

## LIVESTOCK MANURE NITROGEN (N) EFFICIENCY STANDARD VALUES

A key element of the Action Programme is the requirement for farmers to account for nitrogen (N) that will be available to crops following the application of livestock manure in their Nmax calculations. This requires farmers to use minimum nitrogen standard efficiency values set out in the Action Programme when calculating the amount of available nitrogen.

The nitrogen efficiency factors for cattle and pig slurry were increased following the 2013 review of the Action Programme. To support the review, ADAS was commissioned to conduct an assessment and update of manure N efficiency values on behalf of the UK administrations. The study supported the continuing use of current values used to calculate Nmax.

The Scottish Government is not aware of any scientific research that suggests that livestock manure nitrogen efficiency standard values require amending at the present time and do not propose to change them.

**Question 2. Do you agree with our review of the livestock manure N efficiency standard values and our proposal that we do not change them at the current time?**

- Yes

**Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.**

- Not applicable

## **NITROGEN FERTILISER APPLICATIONS – CLOSED SPREADING PERIODS**

The Action Programme sets closed periods for applying chemical and organic fertilisers to minimize nitrate loss. Specific dates are established for different NVZs, with exceptions for certain crops.

Previous trials work, funded by the Scottish Government, confirmed that there is no statistically significant response to autumn nitrogen applications on winter barley crops, even on sandy soils. Any manufactured nitrogen applied to winter barley and other winter sown cereals during this time will be poorly utilised by the crop. Any nitrogen that is not taken up by the crop poses a significant risk of being lost to the water environment.

The Scottish Government does not have any scientific evidence to support modifications to the closed periods for inorganic (i.e. manufactured) fertilisers and do not propose any changes.

**Question 3. Do you agree with our review of chemical/ manufactured fertiliser closed period measures and our proposal that we do not change them at the current time?**

- Yes

**Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.**

- While we do not have scientific research and evidence, we would like to highlight a proposed amendment to Annex III paragraph 1(1) in 91/676/EEC from the Committee of Professional Agricultural Organisations (COPA), which represents European farming Unions, and which NFU Scotland is a member of. They have proposed the following change. “1(1). Periods when the land application of certain types of fertilizers is prohibited, *defined flexibly according to climatic, pedological and cropping conditions*”.
- This amendment would introduce flexibility in defining periods when the land application of fertilisers is prohibited by taking into account local climatic, soil (pedological), and cropping conditions. This approach would ensure that restrictions are better adapted to regional variations, optimising fertiliser use while minimising environmental risks. Allowing such tailored timing supports both effective nitrogen management and agricultural productivity, ensuring that fertilisation practices are environmentally sustainable and agronomically appropriate. As climate change leads to more unpredictable weather and shifts in growing seasons, granting farmers greater flexibility will be essential for effective and sustainable nutrient management.
- While we do not expect that this will result in changes to closed periods in Scotland’s Action Programme for NVZ’s, we think it is important to highlight as we would like this to be considered in future.

## ORGANIC MANURES

The existing NVZ Action Programme prohibits the spreading, at certain times of the year, of organic manures that have a high readily available N content. These manures include slurry, poultry manure and liquid digested sewage sludge.

These periods are at times of the year when the risk of nitrate loss is high. The organic manure closed periods requirements aim to strike a balance between suitable and sufficient time for manure and slurry to be applied and the need to minimise nitrate losses.

The Scottish Government does not have any scientific evidence to support modifications to the closed periods for organic manures that have a high readily available N content and do not propose any changes.

**Question 4. Do you agree with our review of organic manures that have a high readily available N content closed period measures and our proposal that we do not change them at the current time?**

- Yes

Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.

- Not applicable

## FARMYARD MANURES – CLOSED PERIOD

The Scottish Government has previously considered proposals to introduce a closed period for Farmyard Manure (FYM). The risk of causing water pollution by spreading FYM is lower than for slurries. In consideration of the low risk to the water environment, the Scottish Government does not propose to introduce closed periods for farmyard manures.

**Question 5. Do you agree with our proposal that we do not add a closed period for farmyard manure measure to the NVZ Action Programme?**

- Yes

Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.

- Not applicable

## ANNUAL FARM LIMIT OF NITROGEN IN LIVESTOCK MANURES

The Nitrates Directive limits nitrogen from livestock manure to 170 kg per hectare per year. This limit has been consistently implemented in Scotland since the introduction of the NVZ Action Programme. No changes to this annual limit are under review at this time.

## STORAGE REQUIREMENTS FOR SLURRY, SILAGE, AND OTHER MANURES

The Action Programme outlines specific storage requirements for various types of manure. These requirements aim to prevent runoff and seepage that could lead to nitrogen pollution.

Given measures introduced by the Water Environment (Controlled Activities) (Scotland) Amendment Regulations 2021 updated current best practice, the Scottish Government does not propose further changes to the storage requirement for slurry, silage or materials associated with energy production from anaerobic digestion.

**Question 6 Do you agree with our review of storage requirements for slurry, silage, poultry manure and farmyard manure and our proposal that we do not change them at the current time?**

- Yes

**Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.**

- Not applicable

## **IN-FIELD TEMPORARY STORAGE OF SOLID MANURES**

Current regulations govern the temporary storage of solid manures in fields. For example, manure must not be stored in certain high-risk areas or for extended periods. The existing measures are considered adequate, and no changes are proposed.

**Question 7. Do you agree with our review of infield temporary storage of solid manure requirements and our proposal that we do not change them at the current time?**

- Yes

**Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.**

- Not applicable

## **OTHER NITROGEN MANAGEMENT**

The NVZ Action Programme includes various measures to manage nitrogen fertiliser applications. For example, fertilisers cannot be applied under specific adverse conditions to protect water quality. The Scottish Government does not propose new measures at this time, focusing instead on existing regulations.

**Question 8. Do you agree with our review of nitrogen fertiliser application requirements and our proposal that we do not change them at the current time?**

- Yes

Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.

- Not applicable

## CATCH (COVER) CROPS

The Scottish Government considered the proposal for an NVZ Action Programme measure to introduce catch (cover) crops following the harvest of the main crop to utilise any residual nitrogen in the soil amongst other benefits.

Whilst, the Scottish Government encourages the use of catch crops by farmers on voluntary basis, it does not consider it feasible to introduce it as a statutory requirement in Scotland, as the farming calendar, climate and farming methods are not suitable to implement such a measure.

Utilising cover crops successfully in Scotland is challenging as the window for drilling and successful establishment is so slim because of our later harvests. The Scottish Government therefore, does not propose to introduce a catch crop mandatory measure into the NVZ Action Programme.

**Question 9. Do you agree with our proposal that we do not introduce NVZ Action Programme measures for catch (cover) crops at the current time?**

- Yes

Where appropriate, please provide scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions to support your view.

- Not applicable

**Question 10. In order to support the development of future NVZ Action Programme measures, please, make us aware of any relevant current research likely to be completed by 2029 and /or provide recommendations for future research areas on existing or new measures to reduce nitrogen pollution from agricultural activities based on scientific research and evidence taking account of Scotland's agricultural, soil and climatic conditions.**

- None known