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Sent by email: WaterQualityandAgricultureTeam@defra.gov.uk

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Dear Zoe

RE: Farming Rules for Water Regulatory Review

Thank you for the opportunity to provide feedback on the Farming Rules for Water and whether they are meeting their objectives to improve land management, reduce water pollution and soil erosion, and to improve resource efficiency.

Whilst in principle the Farming Rules should have been a positive development, in practice their ambiguity and the way in which they have now been interpreted by the Environment Agency is undermining each of these objectives and causing actual harm.

Specifically, EA's new interpretation of Rule 1 means that the Best Practicable Environmental Option for sludge use – treatment and recycling to land as biosolids – is effectively being banned. Use of biosolids improves soil condition, sequesters carbon, and delivers important nutrients to soils and crops on a slow release basis, minimising the risk of diffuse pollution. Preventing biosolids use during the autumn the EA risks pushing farm managers back toward potentially more polluting nutrient sources such as bagged artificial fertilisers, leaving water companies with no option but to incinerate sludge at huge cost to customers and the environment. Rather than the carbon content of sludge being sequestered in soil structures as organic matter, it will be released to the atmosphere when burnt.

Turning sludge into safe, sustainable biosolids should be an exemplar product of a net zero (indeed carbon positive) circular economy. Instead, EA's flawed application of *The Nutrient Management Guide (RB209)* will cause an increase in nitrate pollution of water courses, and damage crops and soil structures by requiring organic manures to be applied to wet soils during the growing season in the spring. RB209 provides recommendations regarding the scheduling of manufactured fertiliser use but this section is being



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inappropriately applied to organic manures. The underlying Farming Rules regulations do not specify that the nutrients need to be applied at the time crops need them, only that nutrient use should not exceed crop need. Biosolids have low readily available nitrogen content and as such will have little if any impact on diffuse pollution when applied and incorporated into the soil in the autumn.

Biosolids to agricultural land is carefully controlled through the relevant regulations and codes of practice, which are brought together under the UKAS-accredited Biosolids Assurance Scheme (BAS). The scheme includes limits on the application rate and return frequency of applications, as well as limits on where and how biosolids can be applied.

I recognise this is a complex issue with many moving parts. But it is clear that the new interpretation of Rule 1, applied before and without consultation, damages the interests of farmers, water companies and the environment alike. Farmers will see yields shrink as a result of crop damage or have to pay more for artificial fertilisers. Water customers will have to fund mitigation works to handle increased water and soil runoff, more nutrient pollution and eutrophication in our waterways, and the costs and nuisance of additional sludge storage and new incineration facilities.

Overall, this departure means any benefit that might arise from the Farming Rules are being more than lost, especially given the majority of the east of England already falls within a Nitrate Vulnerable Zone. The annex to this letter provides further feedback on the impact of the Farming Rules in this context.

I hope this regulatory review takes early, decisive action on Rule 1. At the very least EA should cease communications to farmers about restricting biosolids use until AHDB has completed its work to independently assess the impact of the change in interpretation.

I would be pleased to provide further information on this issue or discuss any aspect of our fuller response overleaf.

With every best wish,

A handwritten signature in blue ink, appearing to read 'S. Black'.

Simon Black

Head of Recycling Environmental Services
Chair of the water industry Biosolids Network

ANNEX: Response to Farming Rules for Water Regulatory Review

Your email of 10th December provided a set of five questions to guide our response. The following takes each of these in turn.

To what extent (if at all) do you think the Farming Rules for Water have been effective in reducing nutrient pollution from agriculture?

We believe the Farming Rules have had limited impact to date as many measures were already covered by existing regulations such as for Nutrient Vulnerable Zones, which cover most of the Anglian Water region. Ambiguous phrasing within the Rules also limits their impact and prevents water companies and other farm advisors being able to help raise the standard of land management practices being adopted.

Rule 1 in particular is now proving to be harmful as a result of how it has been interpreted and applied by the Environment Agency - preventing safe and sustainable use of biosolids on land. This will lead to higher nutrient pollution from agriculture at the expense of farmers and water company customers. Farmers and water companies were not consulted on this change before it began to be applied.

The new Rule 1 interpretation means that no organic manures (including, amongst others, biosolids and livestock manures which total over 90 million tonnes across the UK) may be applied in the autumn to any crop that does not have an autumn nitrogen requirement – this affects the vast majority of crops other than oilseeds and grass. *The Nutrient Management Guide (RB209)*, which is a guidance document produced by the Agricultural & Horticultural Development Board (AHDB), is incorrectly and inappropriately being used to define soil and crop needs.

The use of biosolids provides numerous other benefits including to provide organic matter (resulting in carbon sequestration), increasing water retention in soil, and reducing the risk of diffuse pollution. The application of biosolids in the autumn, including ahead of winter cereals, is best practice for maximising benefits and overall nutrient use efficiency (i.e. protecting soil, air and water quality) as well as minimising odour.

The implication of the EA's recent interpretation is that any remaining use of biosolids and other organic manures would take place in the spring. Doing so would be impractical, and if it were, it would damage crops and harm the environment. This means that in effect, EA is banning almost all use of biosolids through their interpretation of Rule 1.

It should be noted that the Nitrate Pollution Prevention Regulations (more commonly known as the Nitrate Vulnerable Zone (NVZ) Regulations) stipulates closed spreading

periods for high readily available nitrogen (i.e. 30% or greater of total nitrogen being present in a readily available form), particularly in the autumn and over winter, but still allow application in early autumn with no closed period for low readily available nitrogen (e.g. biosolids cake and farmyard manure). The Farming Rules and NVZ regulations should be based on the same science, and so should align.

Even if we consider in isolation the case to prevent biosolids application to most crops in the autumn, ignoring the perverse consequences caused by farmers having to use more potentially harmful inorganic fertilisers instead, the new approach to Rule 1 will:

- **Have little or no beneficial effect in terms of nitrate pollution:** suitably applied and incorporated material, particularly those with low readily available nitrogen content (such as biosolids) poses minimal environmental risk. Indeed, RB209 highlights that the amount of crop-available N supplied by an application of biosolids in the autumn and spring is the same, so it can reasonably be assumed that N losses to the environment over the full year are also the same regardless of when they are applied.
- **Negatively affect air quality:** applications before autumn- and winter-sown arable crops can be incorporated into soils, whereas applications in the spring cannot due to growing crops. This will cause an increase in ammonia emissions as well as other fugitive emissions and even odour nuisance.
- **Result in more organic manures being stored for longer and over the wet winter period:** increasing the possibility of losses to the water and air environments.
- **Reduce crop yields and reduce farmers' acceptance of these materials:** for solid/bulky organic manures (such as biosolids cake and farmyard manure) application in spring would involve damaging crops by driving over and applying onto them, as these materials cannot be applied from most arable tramlines. Fertilisers that can be applied from tramlines would be applied instead.
- **Result in increased soil compaction or even erosion from wetter soil conditions in the spring:** delaying applications until later in the spring could result in reduced nutrient use efficiency and even increase water pollution the following autumn.
- **Result in fewer organic manures being used:** reducing organic matter inputs and thereby negatively affecting soil health.

We are concerned that EA is looking at this issue in isolation and departing from the evidence that supports the safe and sustainable use of organic manures in the autumn.

What are the problems with complying with the rules in Catchments?

The single biggest challenge to compliance is the broad and ambiguous manner in which the Farming Rules have been written. The phrasing does not discriminate between compulsory and discretionary measures. Where a range of different examples are presented it is not clear if the expectation is that all, some, or just a single measure, would be sufficient to demonstrate compliance.

We have seen significant confusion and mixed interpretation of the Rules in different regions based on their various interpretations. As a result, the default approach adopted appears to be the most limited interpretation of the Rules rather than adopting more open, broader and more ambitious and innovative approaches to compliance.

Returning to Rule 1, complying with the new interpretation would require a considerable amount of biosolids in England to be stored over the wetter winter period for application in the spring. It is unlikely, however, that farmers would be willing to accept surface application of biosolids to growing crops (for the reasons outlined above) due to the resultant soil structural damage.

In theory, c.30% of biosolids production could be applied ahead of spring sown crops (dependent on local soil types and cropping), autumn sown oilseeds (where there is an immediate N requirement) and grassland. There would however be an increase in haulage distance due to greater competition from other materials (farmyard manures and other organic wastes), with the remaining tonnage (c.70% of biosolids production) requiring either an alternative outlet such as incineration, or drying to allow application to growing crops via conventional fertiliser spreading equipment and crop tramlines. However, at least some of the residual biosolids use may be displaced by farmyard manures that farmers will want to exploit before buying biosolids or other fertilisers.

Whilst drying biosolids would allow application to growing crops via conventional fertiliser spreading equipment and crop tramlines, uptake by farmers is likely to be limited as the application rate and thus level of trafficking through the crop would be significantly higher than for manufactured nitrogen/phosphate fertilisers. There is also an increased risk of 'kick back' from food chain stakeholders and the public regarding the application of biosolids to food crops during the growing season. Drying sewage sludge is an energy intensive process, with high maintenance costs due to the abrasive nature of sludge, and there is careful management needed to avoid explosive conditions (dust).

Alternative combustion and energy recovery options for sludge are incompatible with the water industry's commitment to achieve net zero greenhouse gas emissions operationally

by 2030, and the government's and farmers' desire to protect and improve soil structures to maximise yields, sequester more carbon in soils, and to help restore the environment.

Are there ways that compliance could be increased through increased catchment management?

As mentioned above, it would be helpful to clearly state in the Rules which measures are compulsory and which are discretionary. Where a range of different measures are described, the Rules should state the minimum regulatory baseline to demonstrate legal compliance. This would help water companies and other advisors help farmers to meet minimum standards in all cases, but also to encourage farmers to strive for higher standards given the wider societal and environmental benefits of doing so.

Regarding Rule 1, we understand the problem is not as a result of any failure to comply with the Biosolids Assurance Scheme. Instead the issue is caused by EA's re-interpretation of Rule 1. Water quality will not be improved as a result of the new interpretation for the reasons already described.

Do the rules effectively regulate the use of fertilisers on agricultural land?

No, they do not. The phrasing of the Rules and extensive use of subjective terms such as "reasonable" can be interpreted in many ways by different parties based on experience, financial resources and farming motivations. In contrast, the definitive prescriptions within NVZs provide greater clarity and certainty on expected measures.

For example, a farmer wanting to maximise yield might feel it entirely reasonable to use as much fertilizer as legally possible, rather than take the risk of compromising yields by reducing its use even when advisors or inspectors might consider it beneficial.

On Rule 1, the Farming Rules were introduced to "...require good farming practice, so that farmers manage their land both to avoid water pollution and to benefit their business. Other rules safeguard water quality by requiring farmers to judge when it is best to apply fertilisers, where to store manures and how to avoid pollution from soil erosion." Most of the requirements were already covered by good practice (e.g. farming codes) and were already requirements of the Biosolids Assurance Scheme. For example, BAS specifies no application within 10 metres of a watercourse, and no application to waterlogged soil or land that is flooded, snow covered or frozen for 12 hours in the previous 24 hours.

Clause 4(1)(a) of the [underlying regulations](#) ('Rule 1'), states "A land manager must ensure that, for each application of organic manure or manufactured fertiliser to agricultural land, the application is planned so that it does not:

- Exceed the needs of the soil and crop on the land, or
- Give rise to significant risk of agricultural pollution.”

The regulation does not specify that nutrients must be applied at the time they are needed by the crop. The EA’s initial interpretation of the FRfW, where the regulations mandated good agricultural practice, appeared to be pragmatic and sensible, with the “needs of the soil and crop” relating to the duration of the growing season. However, EA’s new interpretation of Rule 1 places unnecessary timing restrictions on the use of biosolids and other manures that present minimal risk due to their slow release properties.

Have the rules shown been effective in improving water quality?

It is difficult to quantify the practical impact of the Farming Rules principally because most of the Anglian Water region is already in a NVZ so the measures presented were already in place. Ambiguity within the Rules on what is a statutory requirement has significantly restricted opportunities for water companies and private advisors to work with farmers to improve land management approaches beyond basic minimum standards.

Overall, we do not believe the Farming Rules for Water have improved water quality. This is in part because of a lack of consistent communication to farmers, and a lack of enforcement. As discussed above, the recent changes to Rule 1 will undermine any gains that have been achieved. The interpretation cuts across good agricultural practice and the latest agronomic research, and will result in greater use of manufactured fertilisers at the expense of soil condition, the ecological health of waterbodies, and greenhouse gas emissions from land use and wastewater treatment.