Written evidence submitted by Mr Julian Gibbons (FR0081)
Consultation on Farming Rules for Water

In considering the recent decision by government to ban autumn applications of all organic manures for crops without a proven requirement under the Farming Rules for Water three points come to mind…

Firstly, the recently announced Sustainable Farming Incentive stated that under the Arable and Horticultural Soils Standard, farmers in the introductory payment rate are expected to test for soil organic matter (OM) every 5 years and increase soil organic matter on a minimum of 10% of land entered into the standard every year. In addition, farmers in the advanced payment rate will have to increase their soil OM on a minimum of 20% of land. Of course, the first source of increasing soil OM, as stated in the SFI documentation, is organic manures. Applying the required rates of organic manures in order to produce a noticeable rise in soil OM can not be restricted to spring applications. Many spring crops on an arable farm are legumes and no requirement for nitrogen. A large area of spring barley will be grown for malting and distilling markets, where the uncontrollable nutrient release of organic manures can be deleterious to achieving market specifications. In the case of biosolids, these are in many cases contractually banned on spring malting barley by the maltsters and distillers. Spring soils are wet soils that are becoming drier they are therefore more prone to damage then late summer autumn soils that generally are dry soils getting wetter.

Government is also trying to encourage the integration of arable with livestock farming, as mixed farming practices show evidence of greater sustainability. The grazing of sheep and cattle results in fertiliser deposits of similar nutrient levels compared to the application of organic manures.

Secondly, although crops may not have an autumn nutrient requirement for nitrogen fertiliser, this does not mean that they will not utilise it. Winter wheat crops that have had late summer application of farmyard manure (FYM) or biosolids will utilise the fertiliser by increasing shoot number and leaf number resulting in higher tiller. This is seen in crops grown after peas and beans that leave significant amounts of N for the succeeding winter cereal. This then results in lower levels of spring applied inorganic N.

The table below shows winter wheat plant and shoot (tiller) counts taken early spring 2021

Field	Plants	Tillers	Previous crop
Park	210	840	Peas
Brickiln	262	1050	Peas
Pond	214	963	Peas
Redhill	214	749	Oats
Old Pauls	275	1375	Beans
Severals	288	1588	Beans
Ashes	206	515	Oats
Middle Field	261	1174	Beans
Lukes Common	220	990	Beans
Peaked Common	248	1113	Bean

Gaston Common	179	805	Beans
Grahams	206	1031	Beans

The tiller counts behind oats with low residual nitrogen levels are significantly lower

Finally, large areas of the country are subject to Nitrate Vulnerable Zone rules including our own farm and another I advise on. This correctly restricts the use of slurries and manures with high levels of available nitrogen. Except in the case of poultry manures these are generally slurries (including digestate from Anaerobic digesters). There are well developed application techniques that are available for spreading onto growing crops in the spring that utilise the "tramlines" used for pesticide and other fertiliser applications. These are not available for solid applications that need to be incorporated into the soil. It could be that restrictions for poultry manures and slurries could be brought in on non-NVZ land. This could be based on drilling date of the following crop and/or soil type to reduce risk of diffuse pollution.

Existing established good practise that are reflected in farm assurance standards prevents spreading of any manures and slurries when heavy rain is expected, requires prompt incorporation and must comply with no spreading areas (water courses, boreholes,wells)

Because biosolids contain a similar amount of available Nitrogen to FYM, any derogation granted to water companies would unfairly penalise FYM. However not granting a derogation would leave the water industry needing to find a different method of disposal as the land would not be available in the spring. They have looked at thermally dried sewage sludge that produces a material that can be spread with a conventional fertiliser spreader, however the production uses a lot of energy and can be unreliable. It would also come with a high carbon footprint.

In conclusion:

- Autumn applications to winter cereals of low available N solid manures are utilised by crop by boosting biomass production
- Valuable way to increase soil organic matter in line with government policy
- Applies manures when the soil is at it's most resilient
- Existing NVZ rules and good practise for soil, water and air already cover the largest risks for diffuse pollution from organic nitrogen. The risk could be lowered by extending controls on highly available N slurries and manures depending on soil type risk.
- Solid manures with low N availability have similar amounts of available N to Biosolids and previous crop residues such as peas and beans
- The EA's interpretation of the Farming Rules for Water has to many unforeseen consequences such that the downsides significantly outweigh the perceived benefits and run counter to the developing policies (SFI and ELMS) of government
- Insist on a manure plan drawn up by a Facts Qualified Advisor. This would also encourage farmers to take the training themselves, which would help to up skill the industry.

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