

Option 2- Reducing Nitrogen Application (on Winter Wheat crops)



Fertiliser Spreader

Aim of this initiative- To help reduce nitrate leaching into the Fell Sandstone drinking water aquifer in North Northumberland. **(NB: This is a one year option and limited to 50ha across the farm).**

Environmental benefits of applying less inorganic nitrogen fertiliser- There are several reasons not to apply more nitrogen fertiliser, than the crop can take up. These include:

- Excess nitrogen can leach through the soils and into groundwater.
- Drinking water can become negatively impacted.
- Nitrogen is very soluble in water and can run-off quickly, polluting rivers, streams, lakes and ponds
- Freshwater wildlife can be adversely impacted by nutrient enrichment. Ponds for example, can become dominated by algal blooms, harming amphibians such as frogs and newts.
- River systems can become choked with weeds that grow quickly, on the nitrate run-off. This can reduce oxygen levels in rivers, harming fish and other wildlife.

Example of reducing inorganic nitrogen fertiliser application- A farmer decides to base his bid to the Fell to Wells online auction on the N-max rules derived from the NVZ regulations. The farmer has identified a field of winter wheat which yields 8t/ha, which is the standard crop yield for winter wheat stated under the N-max rules. The N-max limits state he can apply 220 kg N/ha to meet this standard 8t/ha yield, but following agronomic advice he chooses to submit a bid on the Fell to Wells reverse auction platform of reducing his nitrogen inputs by 20%. This means that he will only apply 176 kg N/ha to this field of wheat. The bid he submits to the online auction reflects the reduction in yield anticipated by reducing fertiliser inputs by 20%.

(NB- With respect to Nitrogen application, specialist advice from an agronomist is recommended).

Ways to reduce nitrate leaching to groundwater- This project seeks to encourage farmers to reduce the amount of nitrogen applied to Winter Wheat. Things to consider:

- Reducing the amount of nitrogen applied directly (i.e. kg/ha saved).
- Payments per hectare, for reduced yield.
- This will apply to growing season 2020-21.
- A minimum reduction of at least 10% in nitrogen application, is required. More weighting will be given to schemes which deliver the most nitrogen reduction.

NB- It will be left to the farmer applicant to determine the level of reduction he/she wishes to make, in nitrogen applied to the crop.

Record keeping & verification- A diary or record should be kept (for checking purposes if requested) including:

- Evidence for amount of reduction in nitrogen fertiliser applied to the crop in the growing season 2020-21 (compared to the previous 3 year average).
- Records showing the previous 3 year average nitrogen fertiliser applied to the crop may be requested.
- Part or entire fields overlying the Fell Sandstone are eligible (even if they only overlie the Fell Sandstone area in part.)

Further information- More information on how to improve your fertiliser use efficiency, can be obtained from your agronomist. More information on the environmental benefits of reducing nitrogen application, can be obtained from the project partner & facilitator:

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Project Partners

