

Paythorne Farm Trial - Case Study

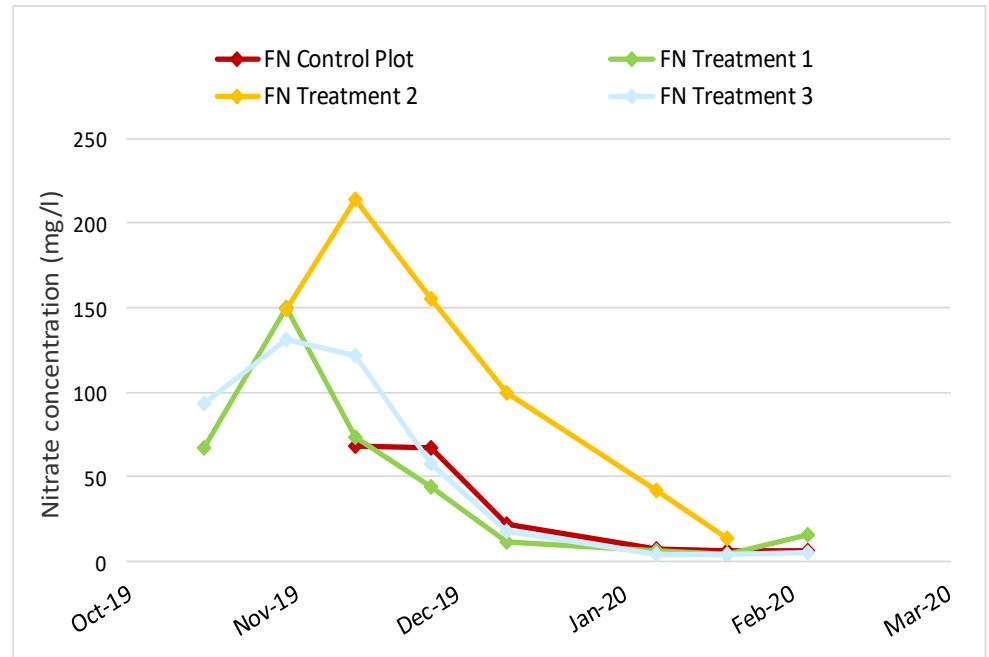
Managed by David Ellin, Farm
Manager for BD Harris Farm
Trust



Traditional mixed livestock
and arable

625 ha, of which
approximately half grass and
half arable

Winter wheat, spring barley,
oilseed rape, peas/beans



Soil Mineral Nitrogen (SMN) Sampling Results by Foliar N treatment

Foliar N (FN) treatment 1: 136.53kg N / ha, of which 28kg applied as foliar

FN treatment 2: 148.5 kg N / ha, of which 21kg applied as foliar

FN treatment 3: 213.75 kg N / ha, of which all granular

Control field (standard practice on farm): 177.63kg N / ha, of which 7kg applied as foliar

The Trial

David is hosting TAP's foliar N trial.

Traditional granular nitrogen fertiliser may only be 40-50% efficient, with the rest being lost through leaching or to the atmosphere. Nitrogen applied to the leaf of a crop may be closer to 100% efficient, which could reduce nitrates leaching to the aquifer. David has been using foliar N for a few years so he is familiar with the product and was an ideal candidate to host the trials.

David acknowledges that farmers need to understand more about soils and farming sustainably, learning about what's happening under the surface, whether that's the plant roots or the chalk aquifer. Working with TAP was an opportunity to involve more science in the process, using enhanced monitoring like tissue analysis to really understand what's happening over the growing season and identify potential improvements.

“No farmer wants to be putting on more fertiliser than they need to”

Changes to farming practices as a result of the trial

Further data is needed before making any big changes based on the results. If the foliar N is shown to be more cost effective in producing a crop, and benefits to the aquifer are evident, then David could look to use it more widely across the farm.

Advantages

David takes a practical approach to farming, acknowledging that in many ways land management over the years has been driven by policy and subsidies. As we move away from subsidies from the EU, working with TAP has enabled the farm to form a good relationship with Southern Water, which is planning to invest to protect water sources. David appreciates the opportunity to understand the priorities of the TAP partners; but it's a two-way street and TAP is also learning from local farmers.

Potential savings per year

The results of the trial so far show that using high amounts of foliar N is not the most cost effective way to grow wheat. However, if further data shows foliar N can reduce nitrate leaching, Southern Water may offer to part-fund the product as a way of protecting the aquifer.

Future Plans

The farm is currently involved in a 'field lab' run through Innovative Farmers. The small-scale trial will look at whether grassland productivity can be improved through application of bio-stimulants, which are a by-product of the biodiesel industry. The theory being tested is that this treatment will increase diversity of the sward, and potentially make the grassland more resistant to drought.

As with many farms, they are also planning to diversify into a tourism enterprise on a small part of the farm in summer 2021 – Watch this space!

Other grants taken up

David has recently completed a new sprayer filling area using Southern Water's Farm Capital Grant Scheme, complete with bunded concrete pad and a biofilter to treat any washings. The farm is also taking part in Southern Water's N reduction scheme, which included payments for over-winter cover crops and nil-input grassland.



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