



AHDB Duxford Monitor Farm

Summer Meeting, 8 June 2021

The summer Monitor Farm walk hosted by Tom Mead, covered the trials taking place on-farm this year, including topics such as nitrogen use efficiency, nutrition and sap analysis and the Fungicide Challenge, as well as discussions around break crops and carbon calculator findings.

MF Mead & Son Harvest 2021 Cropping

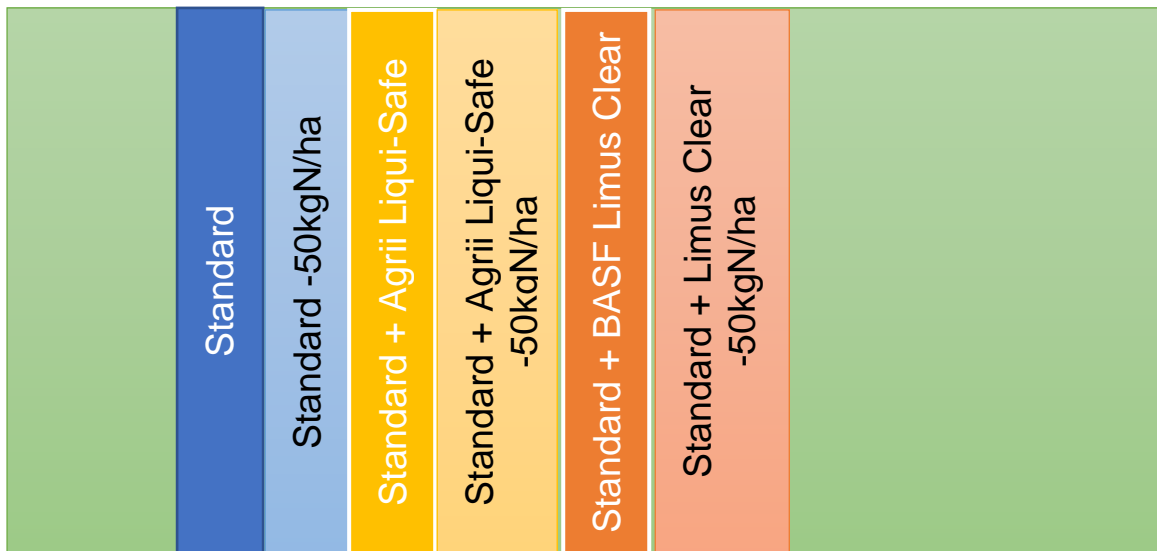
- Winter wheat: 120 ha
- Winter barley: 43 ha
- Sugar beet: 28 ha
- Oats: 48 ha
- Peas: 12 ha
- Spring Barley 20 ha
- Winter Beans 8 Ha

Nitrogen use efficiency try-out

With an interest in looking to reduce nitrogen rates, linked with improving carbon emissions and profitability, whilst retaining yield, Tom has set-up a tramline try-out to look at nitrogen use efficiency.

The farm standard rate of nitrogen is 220kg/ha and the fertiliser used was N35 + 7SO3 at a cost of 71p/kg. The try-out will be yield mapped at harvest and grain samples taken from each plot from post-harvest analysis.

Layout



Costings

	Standard	Standard - 50kgN/ha	Standard + Agrii Liqui-Safe	Standard + Agrii Liqui-Safe - 50kgN/ha	Standard + BASF Limus Clear	Standard + Limus Clear - 50kgN/ha
Nitrogen cost (£/ha)	£156	£120	£156	£120	£156	£120

Product cost (£/ha)			£16	£10.24	£8.80	£5.63
Total cost (£/ha)	£156	£120	£172	£130.24	£164.80	£125.63

Fungicide Challenge

The AHDB ADAS Fungicide Challenge is taking place across the country for 2021 and encourages farmers to develop crop management strategies that maximise gross margin rather than just yield alone.

The East site, hosted by Tom Mead, is a second winter wheat crop of Skyfall, drilled on 15 October 2020 at 400 seeds/m². Only septoria has been seen in the crop to-date – 0.1% and 5.75% leaf area affected for leaves 4 and 5, respectively.

The strategies by the entrants so far are:

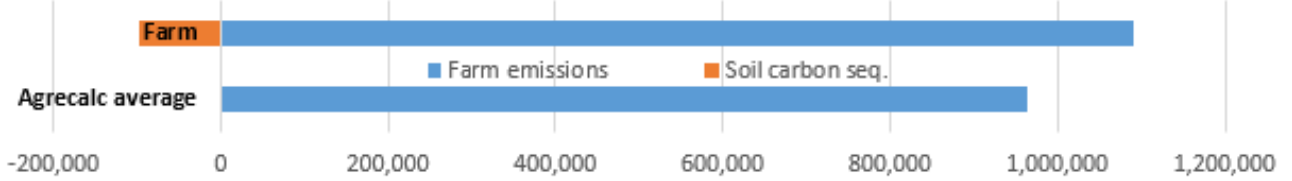
Treatment	T0 (GS30)	T1 (GS32)	T2 (GS39)
1	Untreated	Untreated	Untreated
2	Cyflamid 0.35 + Sunorg pro 0.5 + Comet 200 0.6	Revystar XE 1.25 + Elatus Era 0.6 + Arizona 1.5	Revystar XE 1.5 + Arizona 1.5
3	Legend 0.5	Aviator 0.625 + Arizona 1.0	Revystar XE 0.75
4	Untreated	Ascra Xpro 0.6	Revystar XE 0.375
5	Legend 0.4	Ascra Xpro 0.8	Revystar XE 0.75
6	Legend 0.25	Aviator 0.6	Revystar XE 0.5
7	Legend 0.5	Ascra 1.0 + Legend 0.5	Revystar XE 1.0 + Arizona 1.0
8	Untreated	Ascra Xpro 0.8 + Legend 0.5	Revystar XE 0.5
9	Legend 0.5	Legend 0.75	Univoq 1.25 + Comet 200 0.3
10	Legend 0.5	Aviator 0.8	Revystar XE 1.0
11	Legend 0.8	Sunorg Pro 0.75 + Amistar 0.5 + Arizona 1.0	Elatus Era 0.6 + Arizona 1.2
12	Untreated	Ascra Xpro 0.8	Revystar XE 0.75
13	Legend 0.75	Elatus Era 0.7	Revystar XE 0.9 + Legend 0.43
14	Untreated	Legend 0.75 + Amistar 0.5	Revystar XE 0.5 + Arizona 1.0 + Amistar 0.5
15	Legend 0.3	Ascra Xpro 1.0 + Arizona 1.0	Univoq 1.25

**Plots 1 & 2 are managed by the ADAS team as an untreated control and a blockbuster programme*

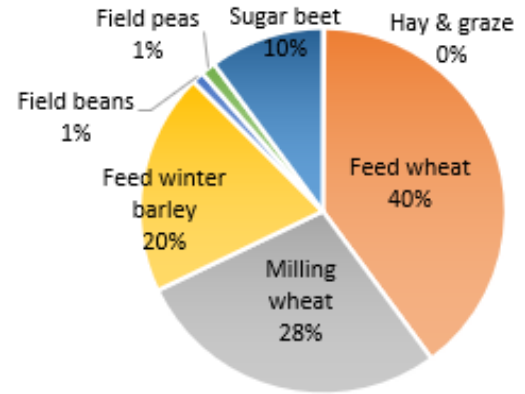
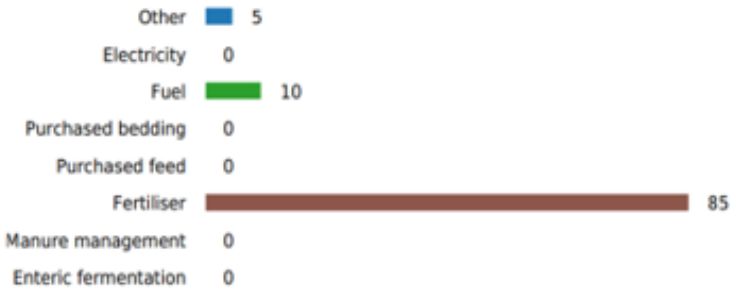
Carbon review

Tom has had a carbon review carried out for the MF Mead & Son business, using the SRUC Agrecalc tool. This showed that the whole farm operational emissions for the year ending November 2020 totalled 1,060,227 kg CO₂e. This represents 9.2% more than typical farms with the same enterprises in the Agrecalc database. Soil carbon sequestration of 97,388 kg CO₂e was sufficient to offset 9% of the farm’s operational emissions. High levels of imported organic matter and the use of reduced tillage helped achieve this. There was no woodland for further carbon sequestration.

Farm emissions compared to Agrecalc averages (kg CO₂e)



Whole-farm emission by source (%) Emissions by enterprise



Opportunity level for reduced carbon footprint by enterprise:

	Hay	Feed wheat	Milling wheat	Feed winter barley	Field beans	Field peas	Sugar beet
Manure and fertiliser	Low	Medium	High	Medium	Medium	Low	Medium
Lime	Low	Low	Low	Low	Low	Low	Low
Fuel	Medium	Low	Low	Low	Medium	Medium	High
Electricity	Low	Low	Low	Low	Low	Low	Low
Other	Low	Low	Low	Low	Low	Low	Low
Total emissions	Low	Medium	High	Medium	Medium	Medium	Low
Farm product kgCO₂e/kg	0.05	0.46	0.54	0.40	0.22	0.15	0.04
Benchmark Avg. kgCO₂e/kg	0.20	0.41	0.42	0.39	0.19	0.12	0.05
<i>Farm compared to Average</i>	<i>-76%</i>	<i>12%</i>	<i>29%</i>	<i>3%</i>	<i>14%</i>	<i>28%</i>	<i>-1%</i>

The results from all of the trials and discussions will be shared through the Monitor Farm meetings in autumn/winter 2021/22.

Further information

For more details, please visit: <https://ahdb.org.uk/farm-excellence/duxford>

Follow Tom on Twitter: @meadsfarm