MGA Conference 2025

Trial results

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Weed control in maize 2024

2024 herbicide trials - Essex

1.6 mm of rainfall was recorded for the three weeks after pre-emergence treatments were applied.
No crop phytotoxicity or differences in vigour were detected between both pre & post emergence treatments.

Main weeds present:

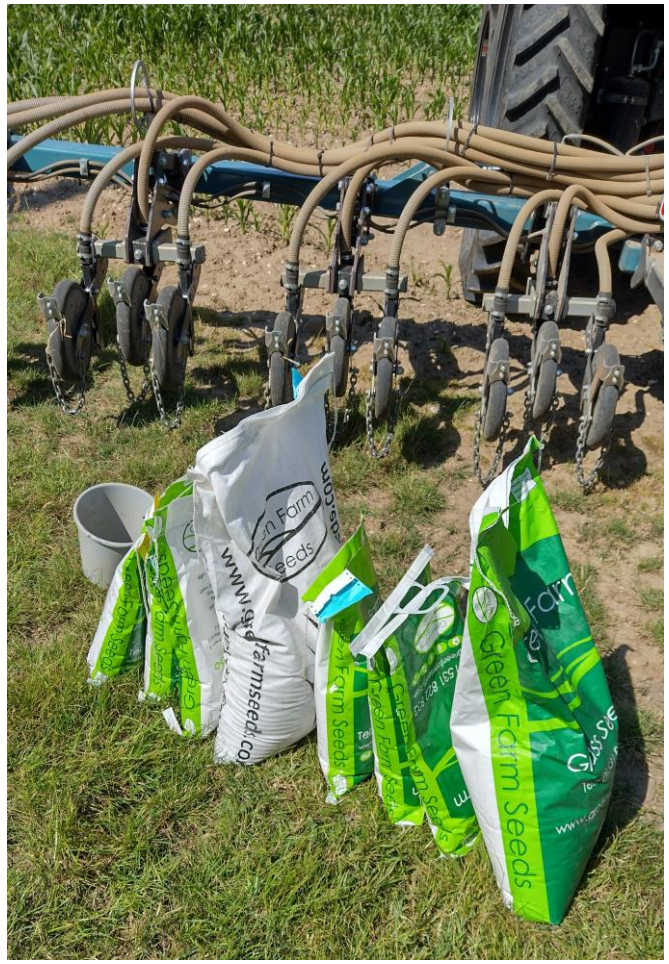
- *Bindweed*
- *Mayweed*
- *Fumitory*
- *Cranesbill*
- *Wild Chamomile*

Sequential maize herbicide trial results

No.	Name	Rate	Unit	A= Pre-em B= Post-em	Weed Control %
1	Pendimethalin	2.5	l/ha	A	89.5
	Maister	0.15	kg/ha	B	
	Mero	1	% v/v	B	
2	Pendimethalin	2.5	l/ha	A	86.9
	Maister	0.10	kg/ha	B	
	Mero	1	% v/v	B	
3	Pendimethalin	2.5	l/ha	A	95.8
	Diva	0.75	l/ha	B	
4	Pendimethalin	2.5	l/ha	A	96.8
	Diva	0.5	l/ha	B	
5	Pendimethalin	2.5	l/ha	A	95.5
	Calisto	0.5	l/ha	B	
	Milagro	0.25	l/ha	B	
6	Pendimethalin	2.5	l/ha	A	96.5
	Callisto	0.35	l/ha	B	
	Milagro	0.2	l/ha	B	
7	Pendimethalin	2.5	l/ha	A	94.5
	Callisto	0.5	l/ha	B	
8	Pendimethalin	2.5	l/ha	A	87.2
	Callisto	0.3	l/ha	B	
9	Pendimethalin	2.5	l/ha	A	97.3
	Callisto	0.75	l/ha	B	
	Milagro	0.5	l/ha	B	
10	Pendimethalin	2.5	l/ha	A	95.8
	GF3967	480	g/ha	B	
	Vivolt	0.2	l/ha	B	
11	Pendimethalin	2.5	l/ha	A	96.5
	GF3967	240	g/ha	B	
	Vivolt	0.2	l/ha	B	
12	Pendimethalin	2.5	l/ha	A	95.5
	GF3969	135	g/ha	B	
	GF1784	0.45	l/ha	B	
	Vivolt	0.2	l/ha	B	
13	Pendimethalin	2.5	l/ha	A	96.5
	GF3969	135	g/ha	B	
	Calisto	0.5	l/ha	B	
14	Stomp Aqua	2.5	l/ha	A	95.8
	GF1374	1.0	l/ha	B	
	GF4208	0.5	l/ha	B	

Untreated

Undersowing maize trials



Undersowing with an Alternative species trial

1. **Oats & Vetch – 35/5 kg/ha**
2. **Oats & clover – 35 /5 kg/ha**
3. **Italian ryegrass– 14 kg/ha**
4. **Westerwold – 10 kg/ha**
5. **Clover & IRG – 5/12 kg/ha**
6. **Linseed & IRG – 7/12 kg/ha**
7. **Chicory & IRG – 5/12 kg/ha**
8. **Forage rape & IRG – 5 /12 kg/ha**
9. **Forage rape & chicory – 7 /5 kg/ha**


Oats & Vetch

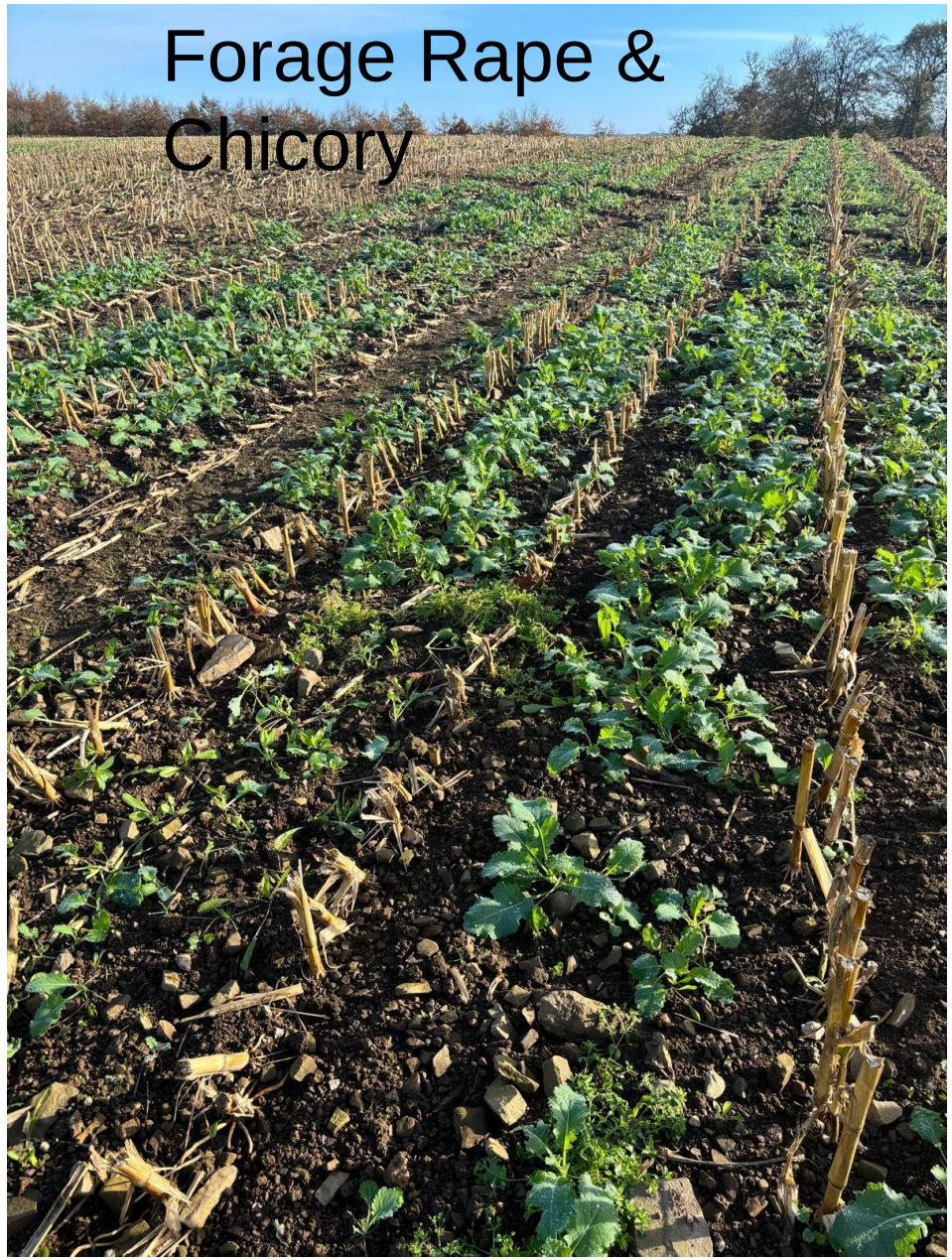

Westerwold


Chicory & IRG


Clover & IRG


Linseed & IRG


Forage Rape & IRG


Forage Rape &
Chicory

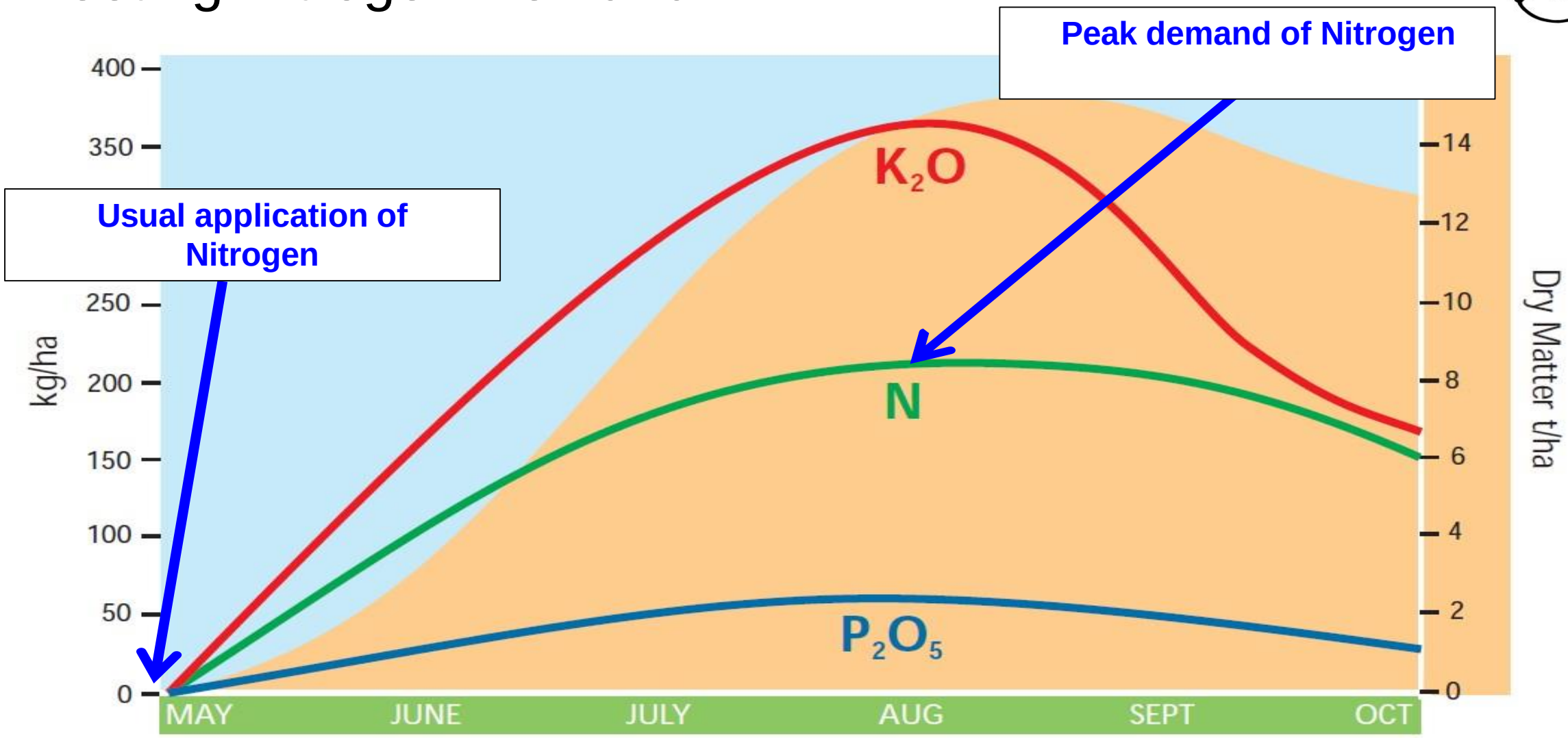

Forage Rape &
IRG

Talking points

Conclusion;

- Italian Ryegrass and Westerwold grew very well
- Forage rape provided decent ground cover- further mixes required
- Oats initially grew well, then died back
- Clover mixed with a grass provided an added benefit
- Vetch & linseed did not add value

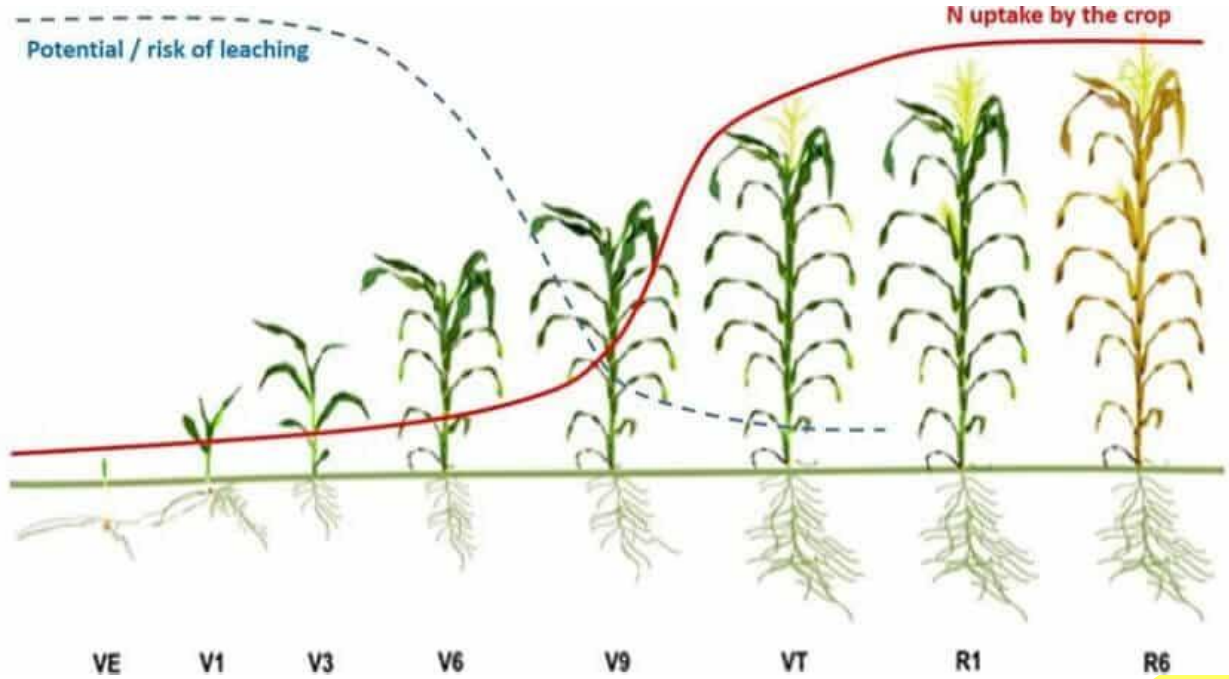
Meeting Nitrogen Demand



Maize Nitrogen uptake

- Over 60% of the nitrogen requirement is from V9
- Delaying nitrogen top dressing will minimise the risk of leaching in the early stages

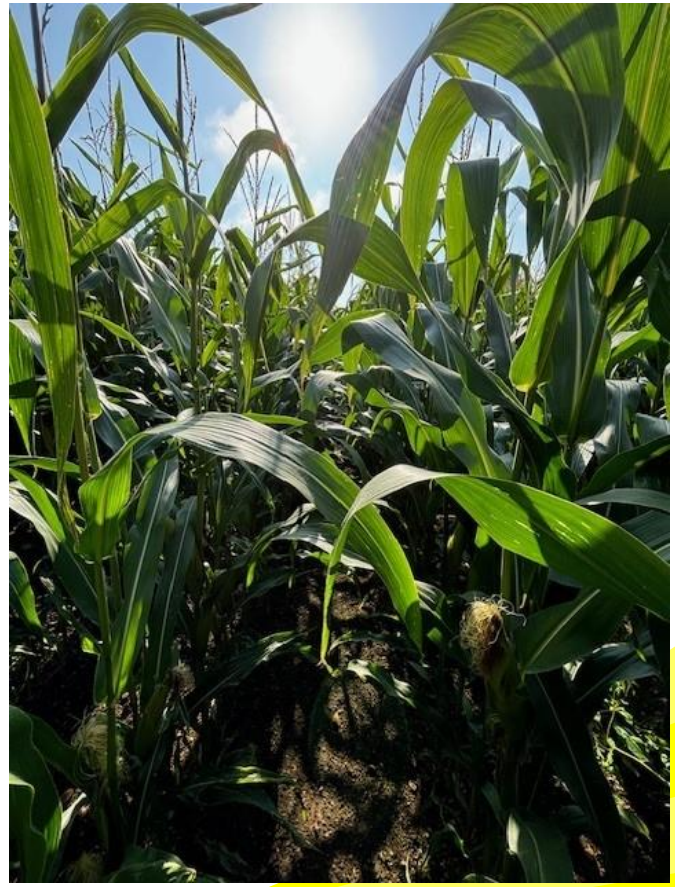
➢ The potential of foliar nitrogen, to reduce the volume of inorganic N could be a big opportunity…..



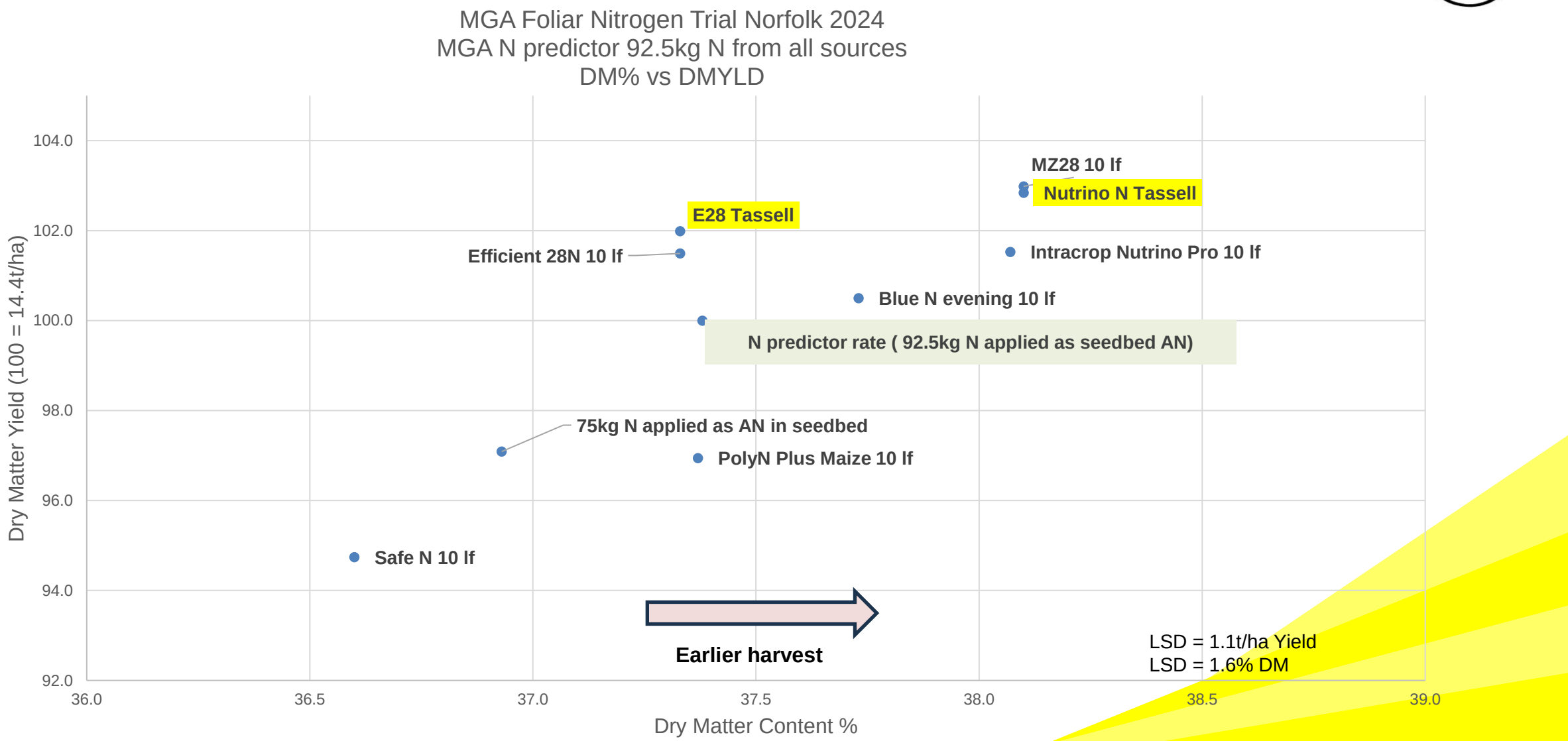
MGA trial - *The effect of foliar-applied nitrogen on the yield and quality of maize*

- This trial examines if foliar N applied at the time when crop nitrogen uptake is at its peak, replaces a larger volume of artificial fertiliser applied at the time of emergence.

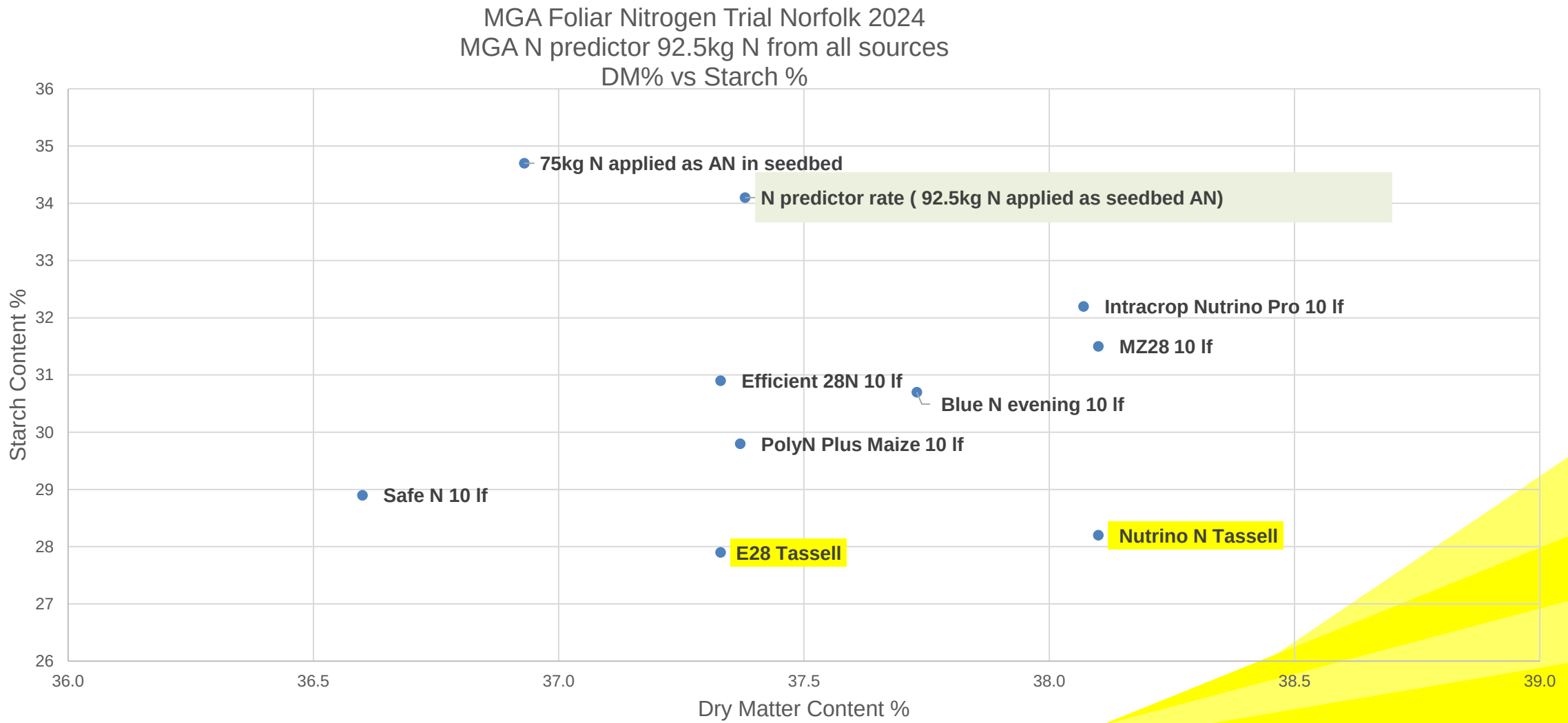
- Products applied when the crop is between the 8 to 12 leaf stage or based on the manufacturer's recommendation.



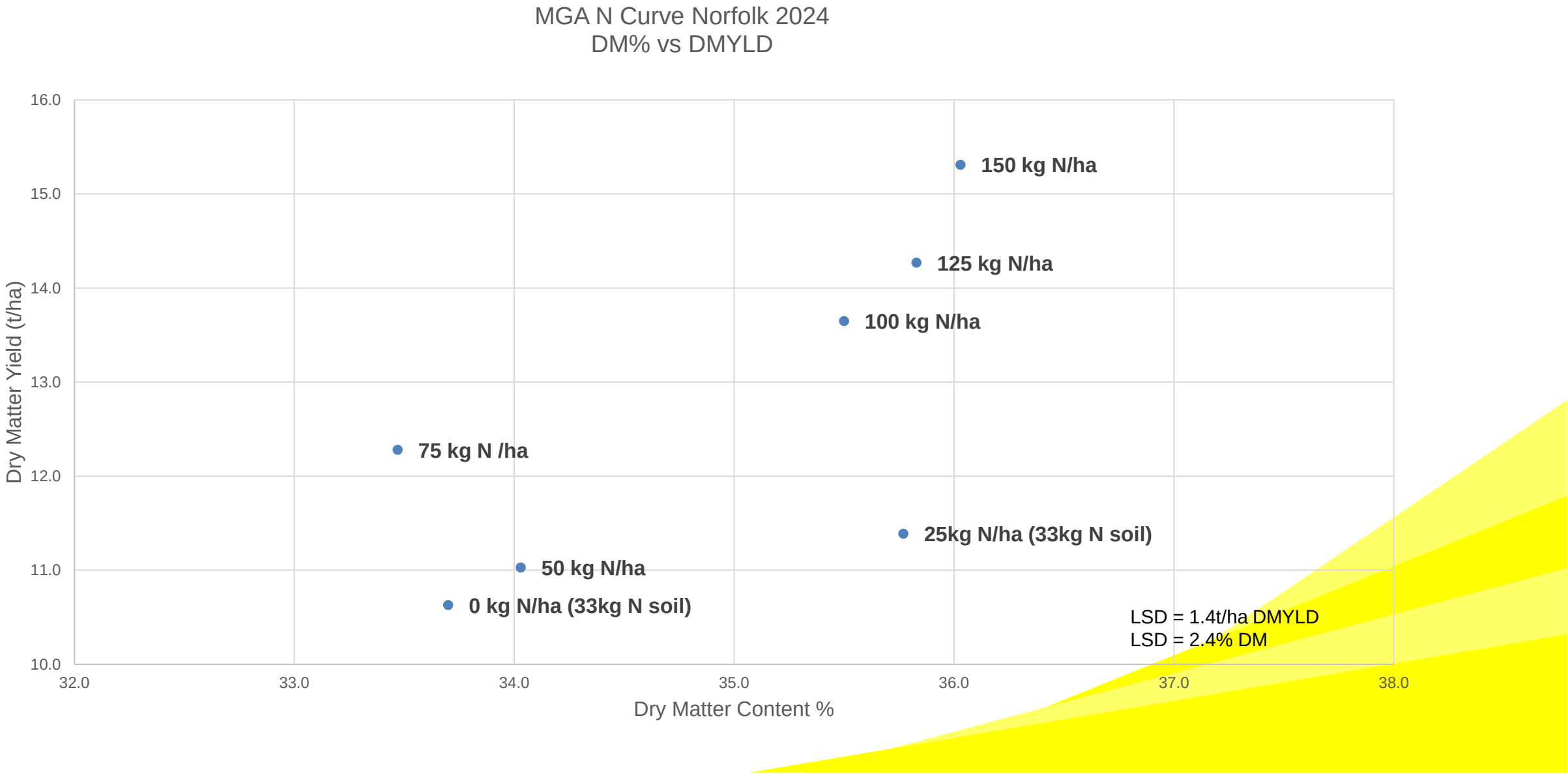
Foliar Nitrogen trial- Yield



Foliar Nitrogen trial- Starch



Nitrogen response curve



Talking points

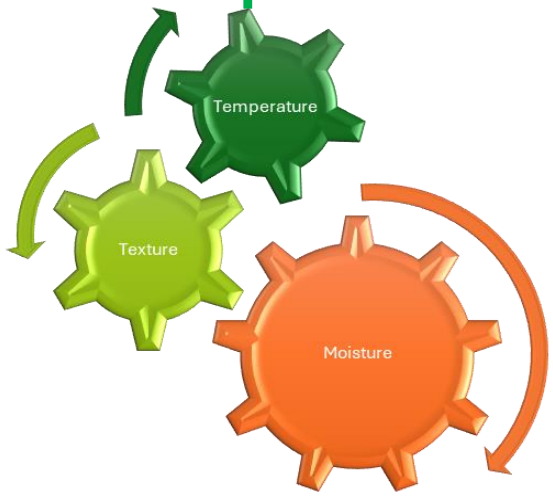
Conclusion;

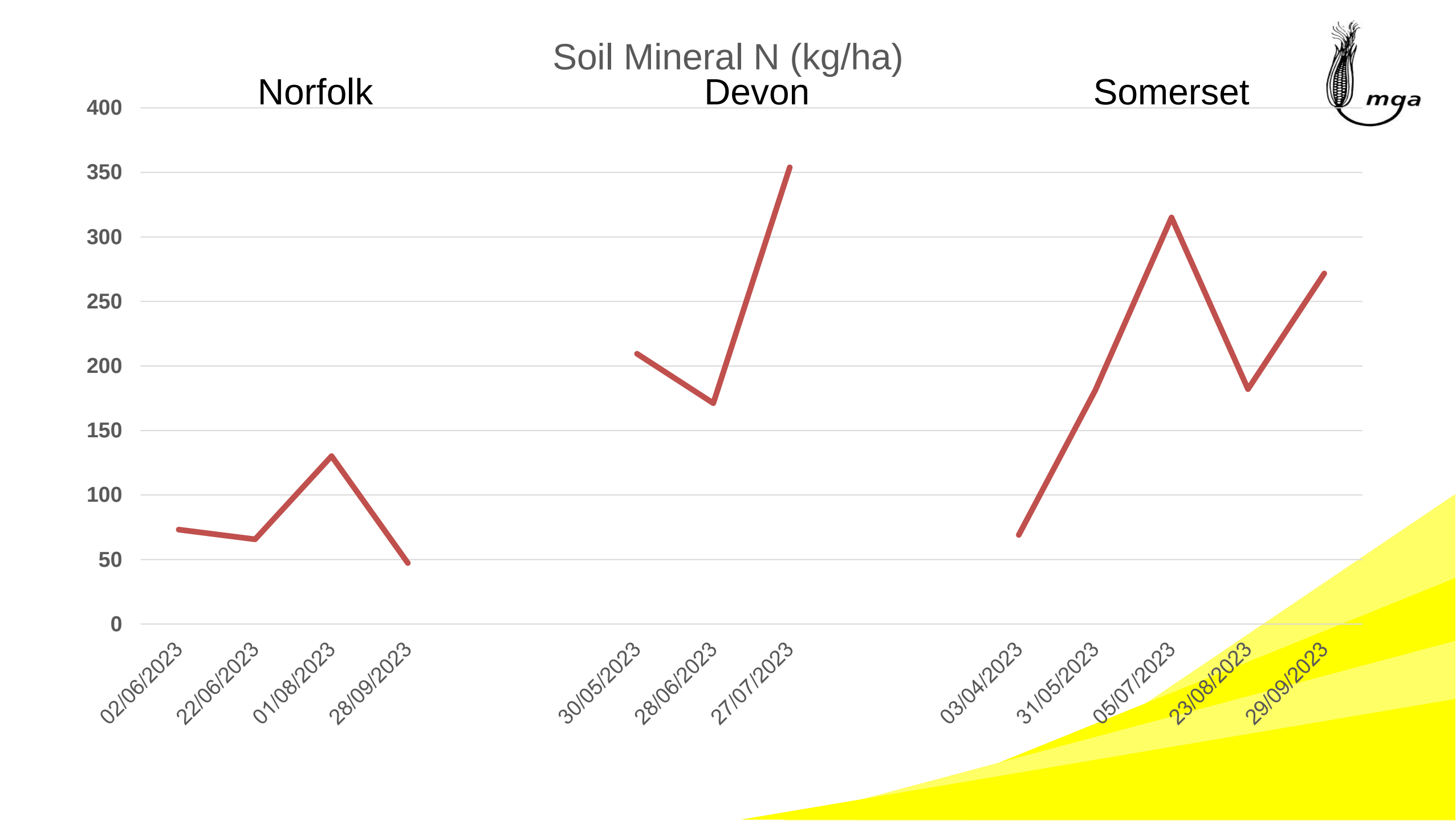
- Nitrogen response curve showed that the crop yield continued to response up to 150kg/ha of N
- Using foliar nitrogen produced a positive yield response
- However, the quality was higher when all the nitrogen was applied in the seedbed- *crop short in nitrogen in the foliar plots…*
- Applying Foliar N at tasselling resulted in lower starch vs applying at 10 leaf stage - *crop continued to be short in nitrogen and the delay compounded this quality reduction*

Soil Nitrogen Supply (SNS) through the growing season

Aim is to better understand the release of Soil Nitrogen

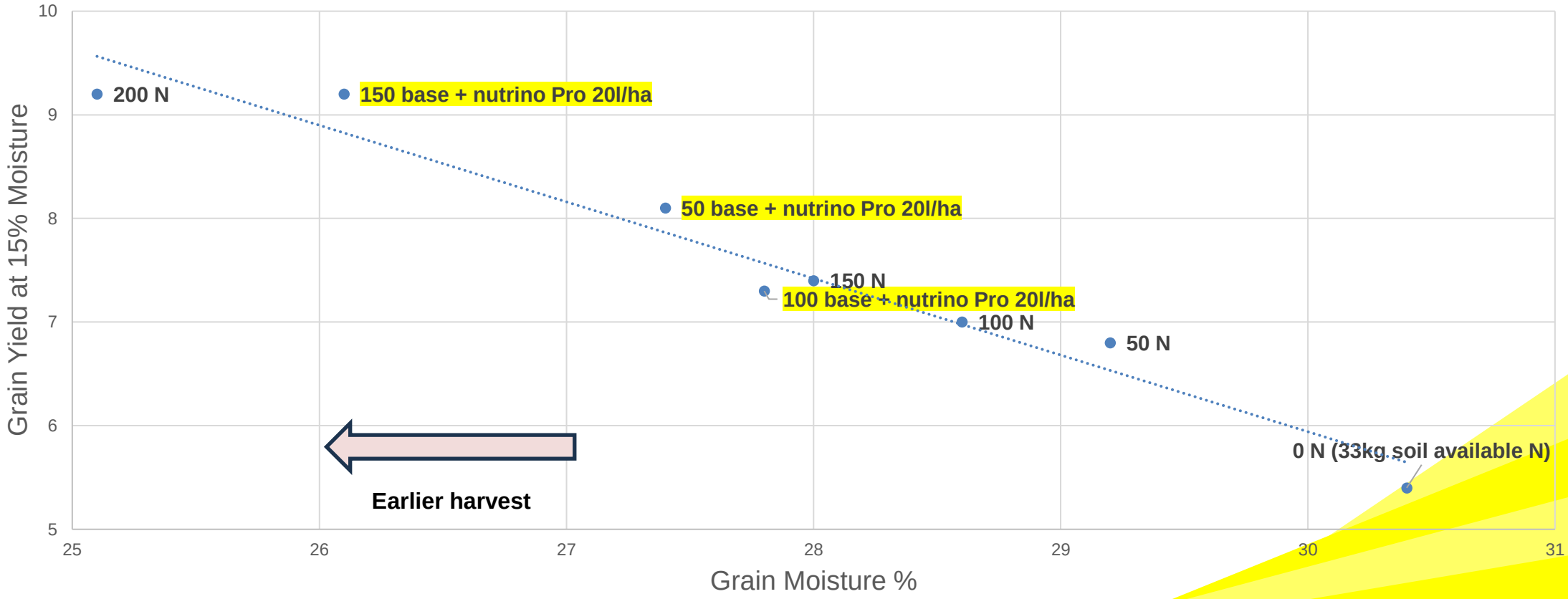
- Deep soil Nitrogen Testing
  - Different sites – soil type & weather
- Tissue (leaf) testing on each site
- Literature review of relevant data
- First report available to members via the office
- **Updated Nitrogen Predictor**



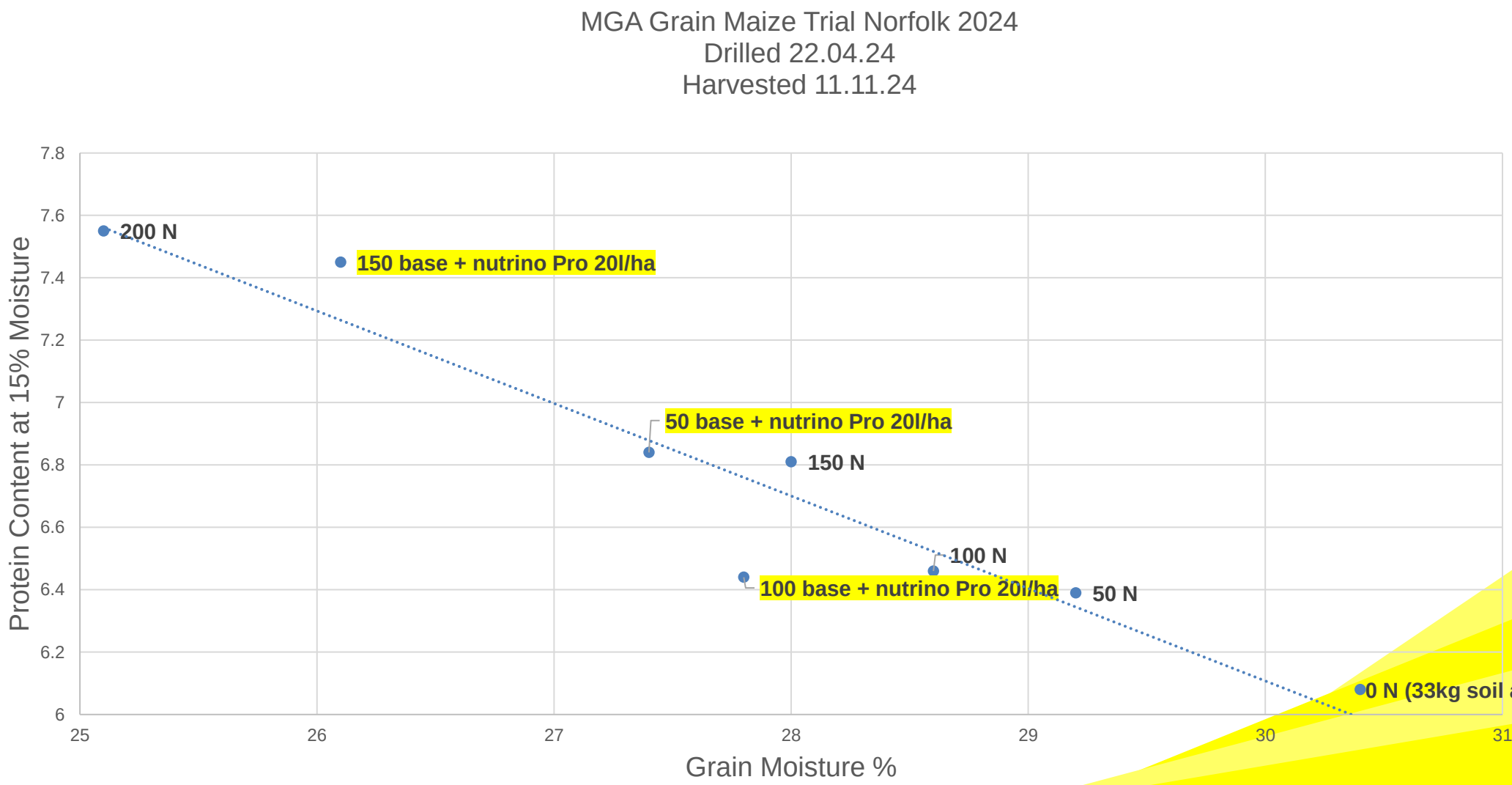

Soil Mineral N (kg/ha)
Norfolk
Devon
Somerset
400
350
300
250
200
150
100
50
0
02/06/2023
22/06/2023
01/08/2023
28/09/2023
30/05/2023
28/06/2023
27/07/2023
03/04/2023
31/05/2023
05/07/2023
23/08/2023
29/09/2023

Grain maize – Nitrogen rate trial

MGA Grain Maize Trial Norfolk 2024
Drilled 22.04.24
Harvested 11.11.24



Grain maize – Protein content trial



Talking points

Conclusion;

- Increasing nitrogen drove a yield increase and a reduction in cob moisture
- Foliar nitrogen provided a yield boost when used in conjunction with soil applied nitrogen
- Protein content improved with extra nitrogen

First year of data, two further years to be trialed

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Thank you for your time.