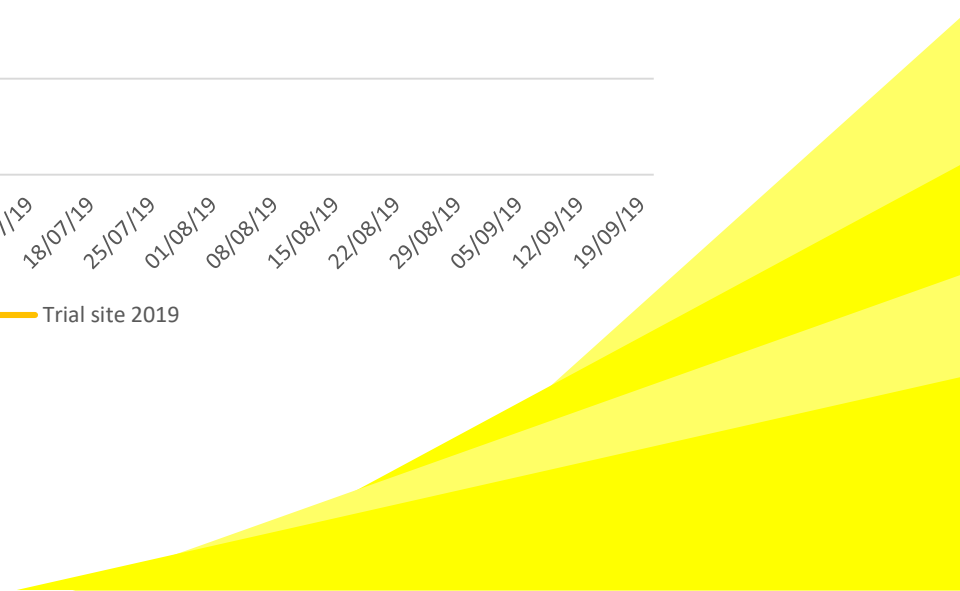
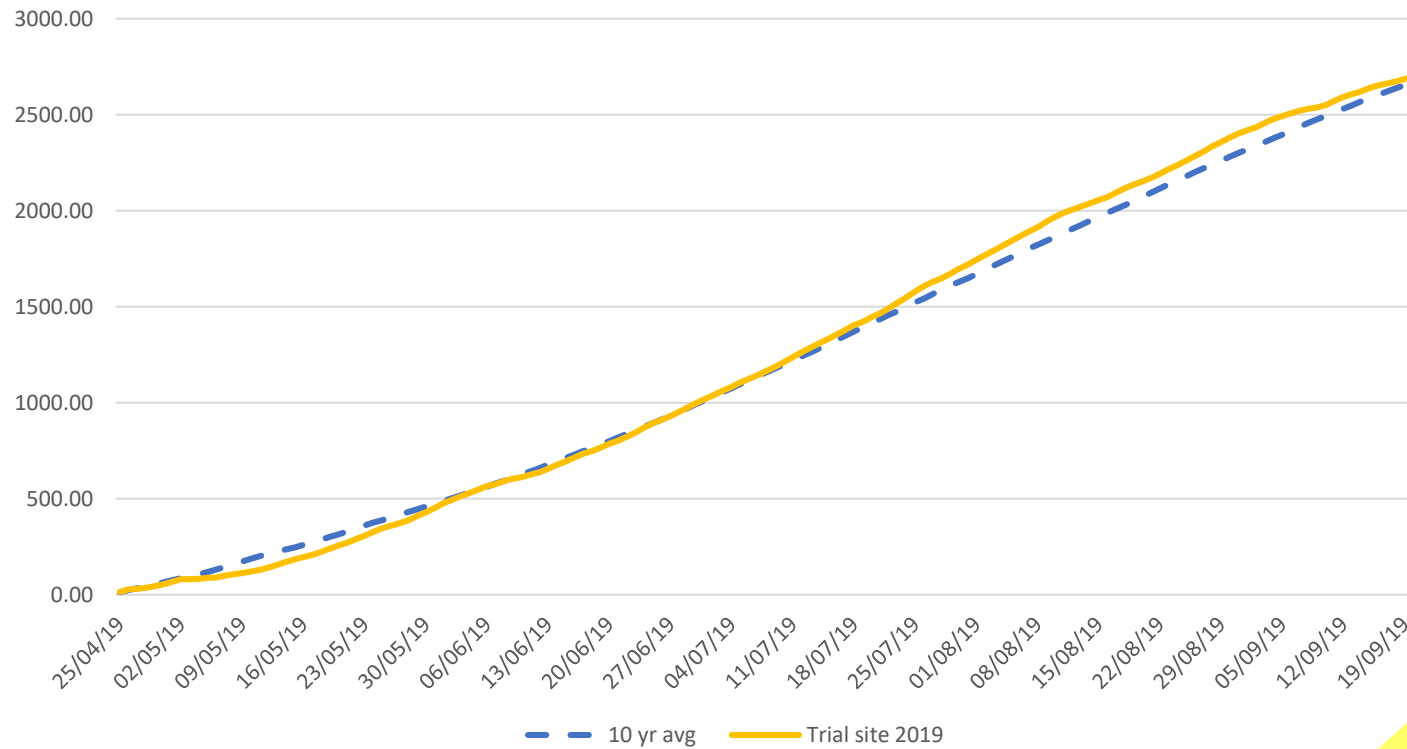




MAIZE TRIALS 2019



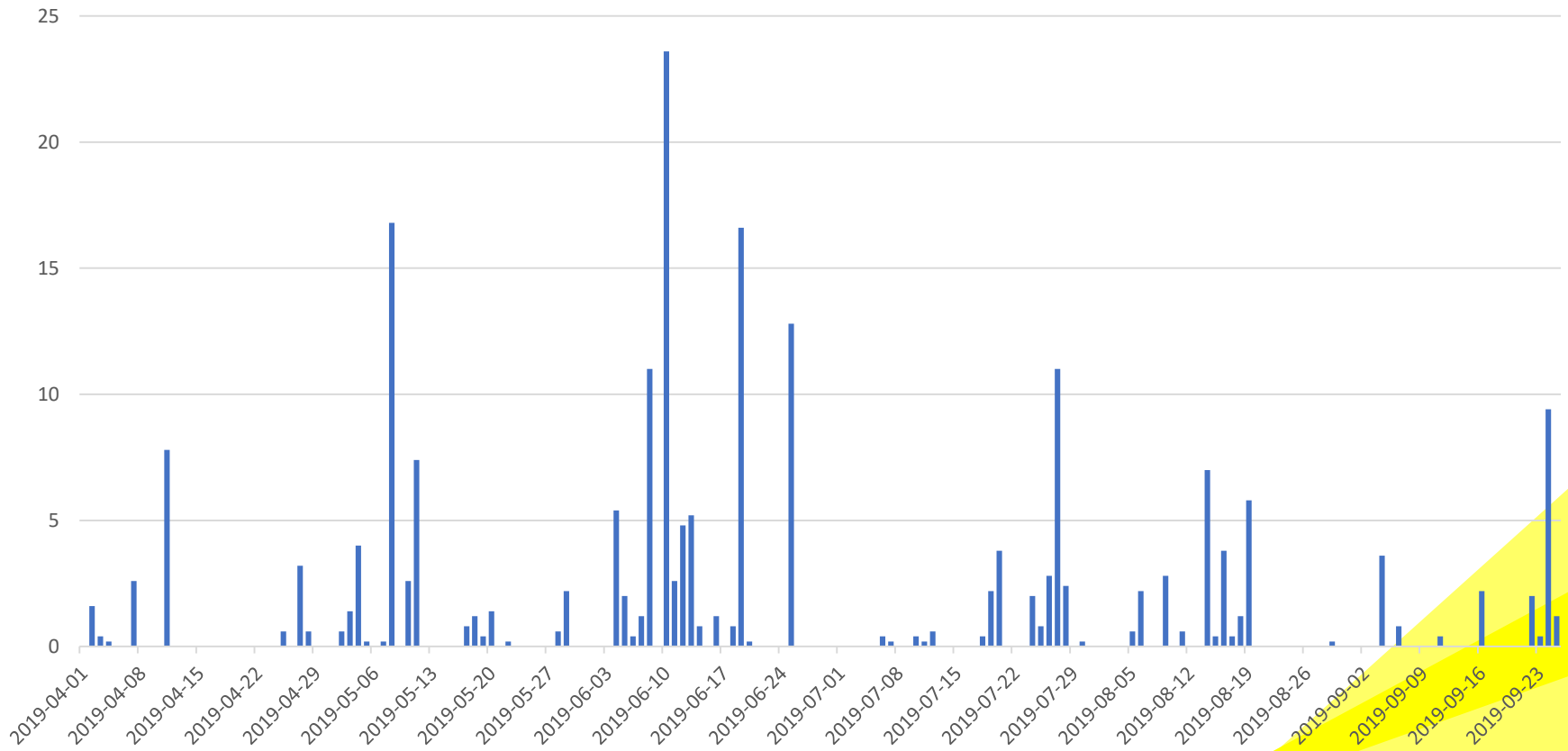
2019 Norfolk trial site heat units





2019 Norfolk trial site rainfall

April to October rainfall





Biostimulant and Placement Fertiliser trials 2019

Soil Analysis March 2019

LOCATION	PHOSPHATE	POTASSIUM	MAGNESIUM	PH
NORFOLK	1	0	1	7.6
LACKHAM	6	5	4	7.3
BROXTON	5	3	2	7.6



Fresh phosphate that can be applied:

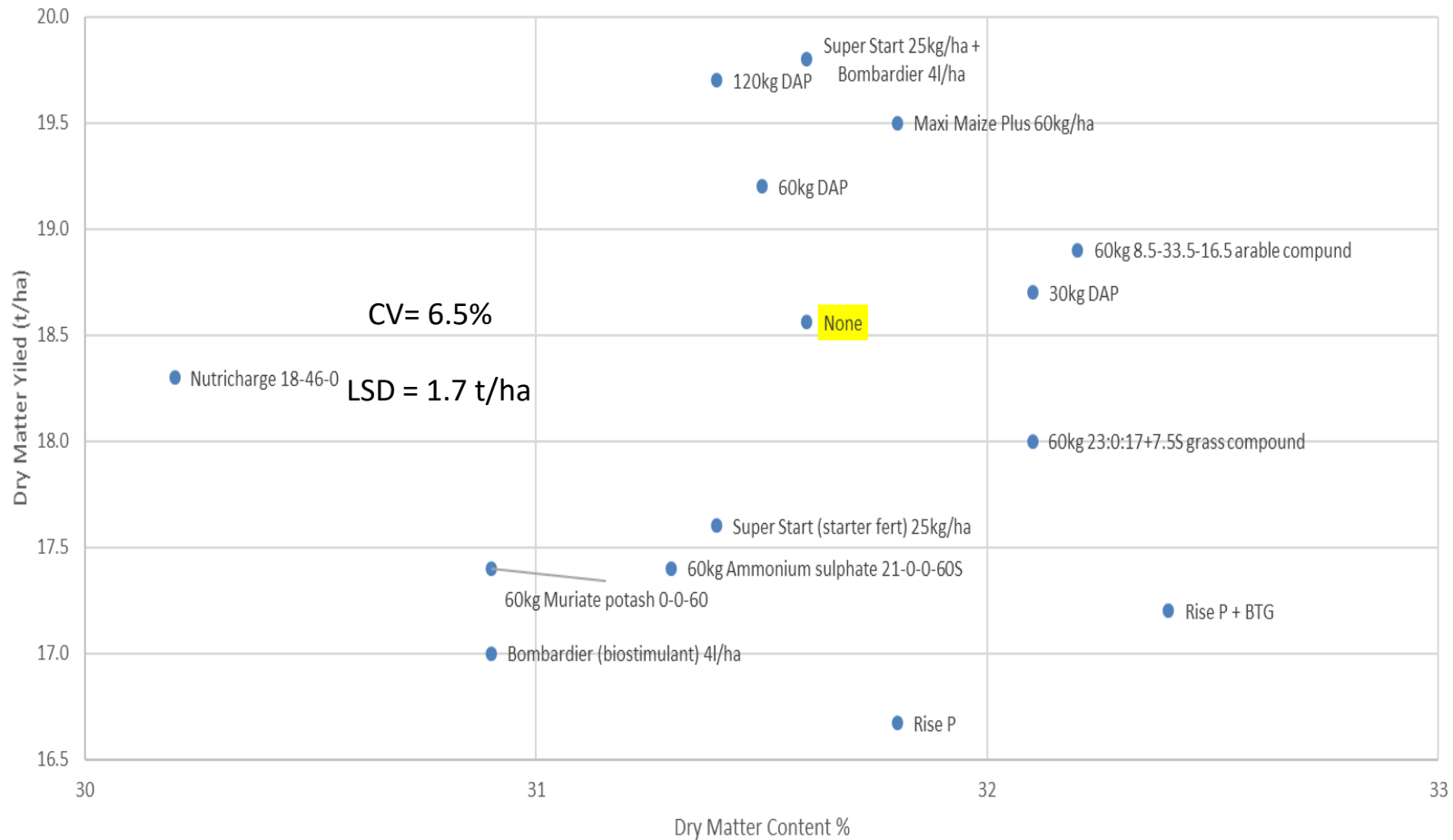
- Index 4 or more = 0
- Index 3 = 20
- Index 2 or less = 56

European maize meeting papers 2019

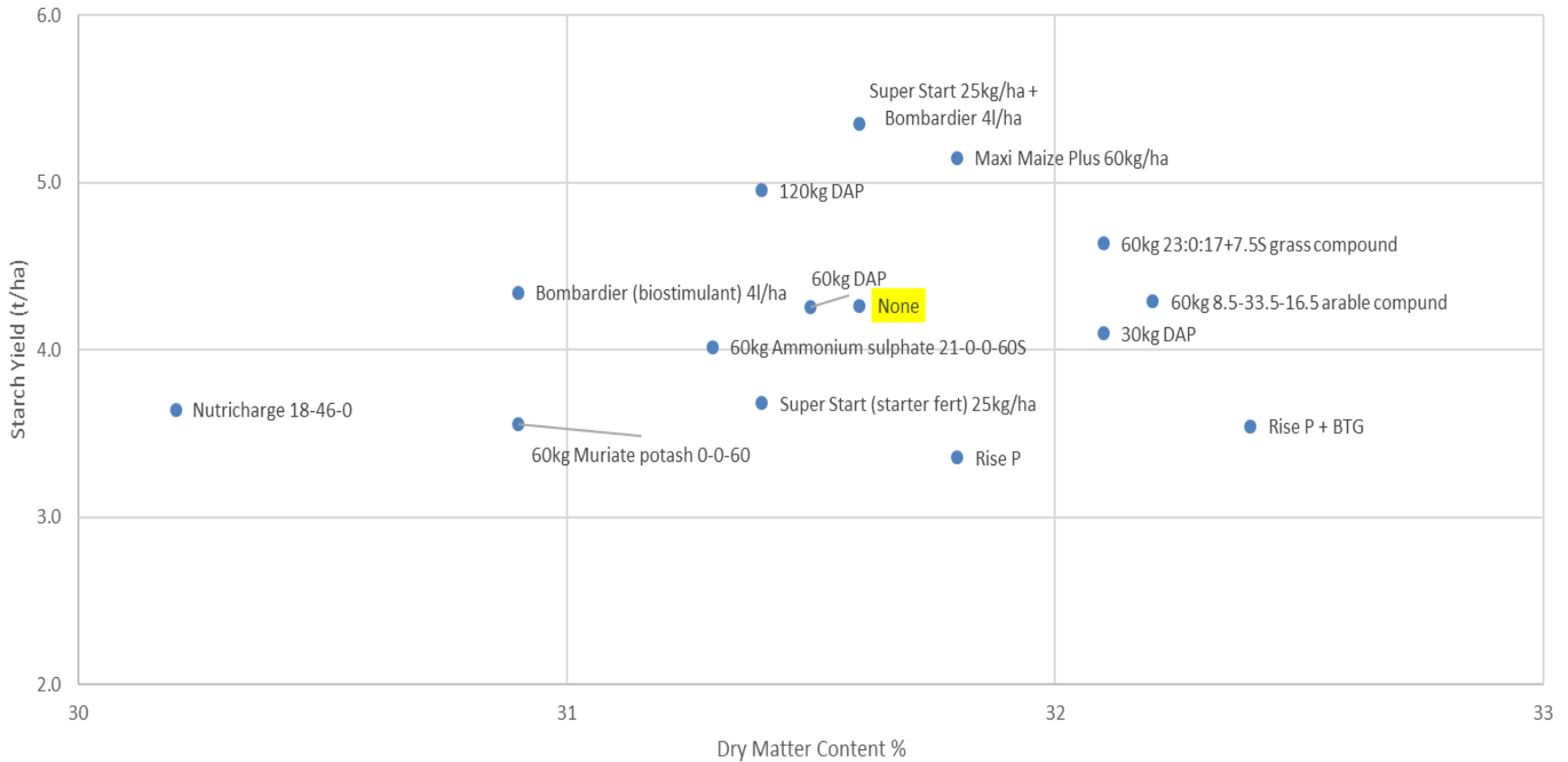
Danish work 2003 -2017

Dry matter yield curve tops out at 20 to 25 kg of fresh Phosphate per Hectare

MGA Placement Fertiliser - Norfolk
 Drilled 18 April 2019
 Harvested 10 September 2019



MGA Placement Fertiliser - Norfolk
 Drilled 18 April 2019
 Harvested 10 September 2019
 Starch Yld

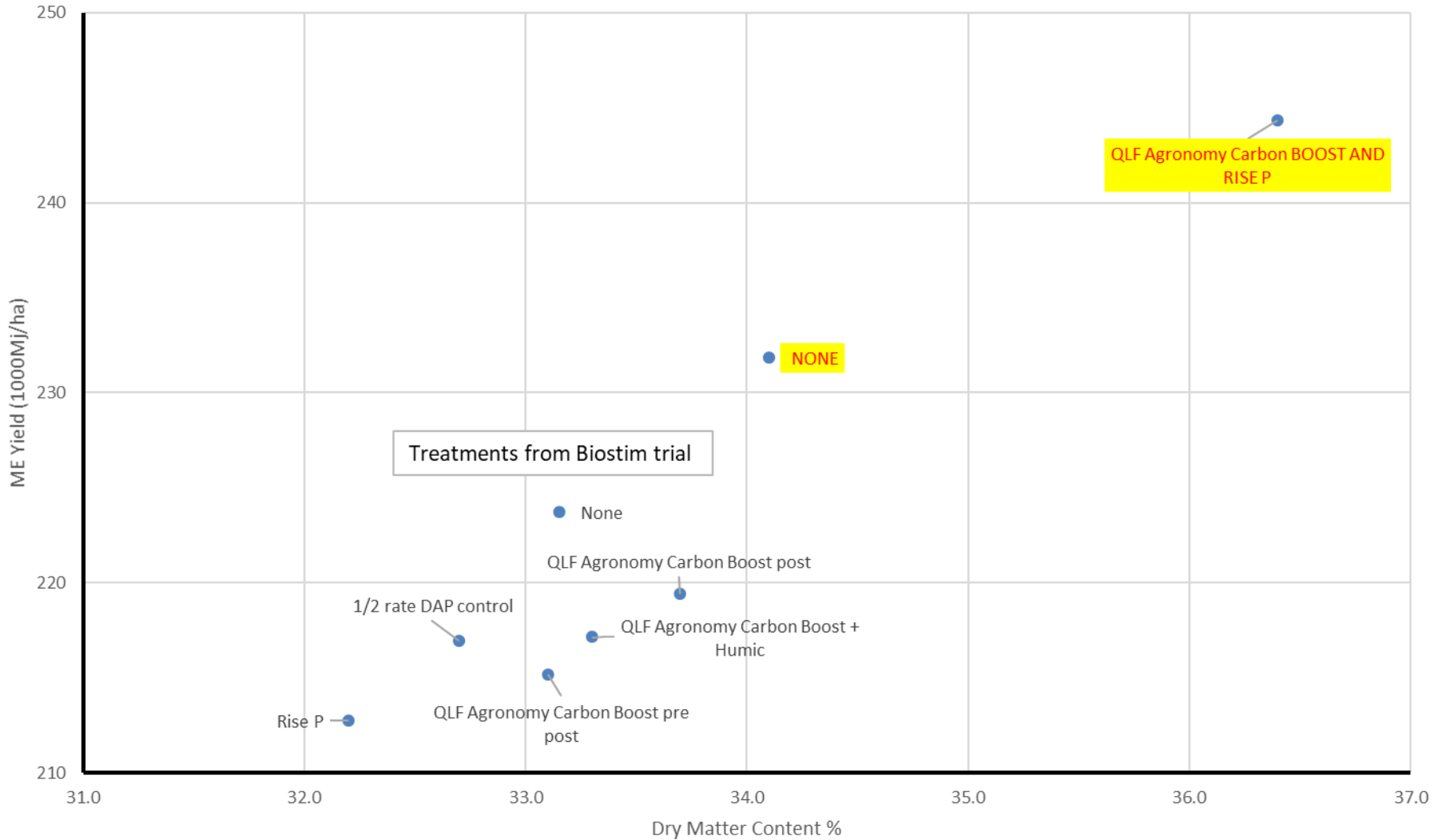




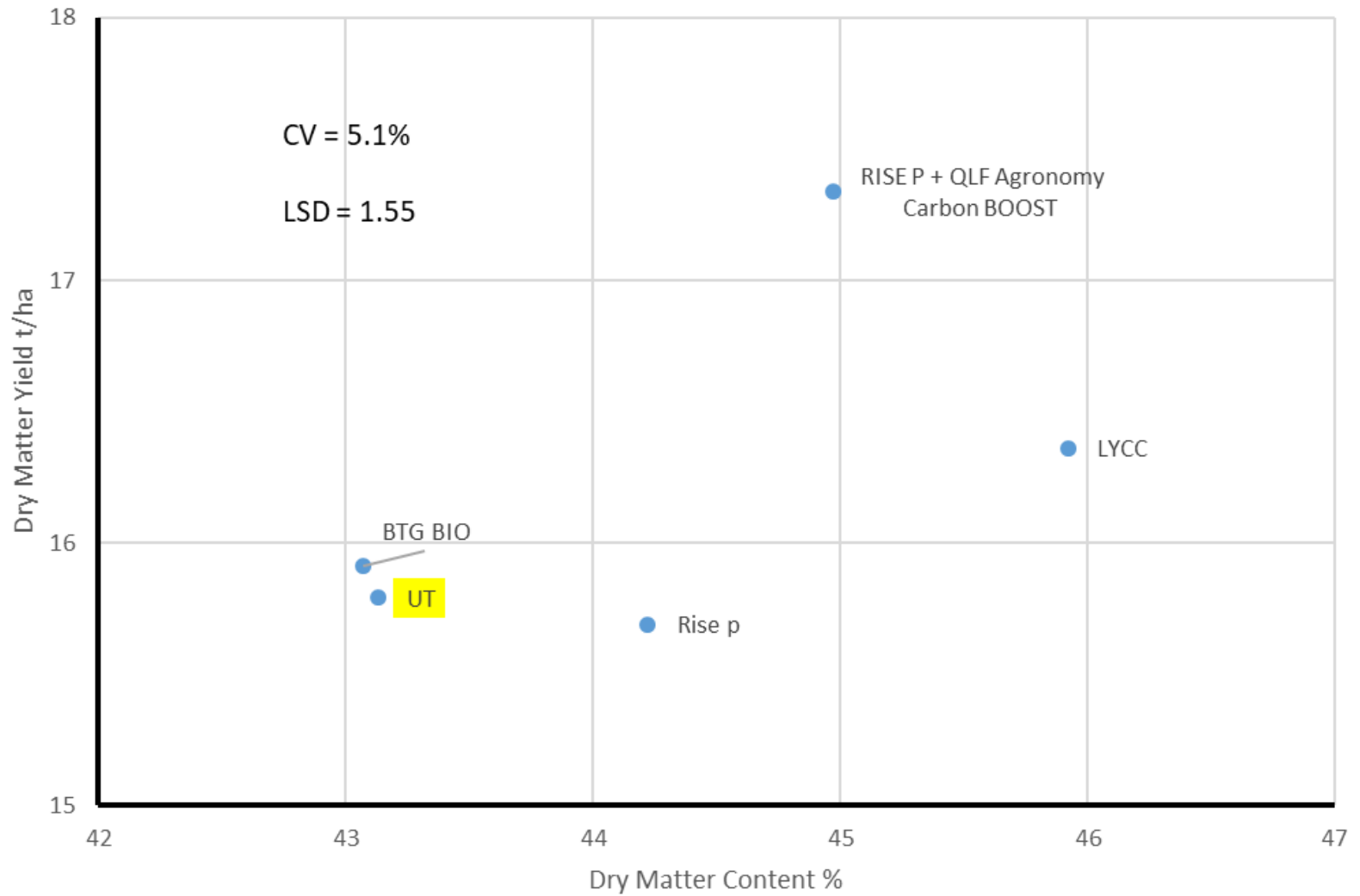
Product	Kg of N	Kg of P	Kg of K	MgO	Others	Trace elements	Humic Fluvic Acids	Bacteria
125kg of DAP	22.5	57.5	0	0	0	0		
62kg of DAP	11.25	28.5	0	0	0	0		
Maxi-Maize Plus 60 kg	11.78	25	0	0.3	0.6 CaO	Wolftrax Zn Bo Cu		
Superstart granules 25kg	2.5	8.75	0	0.5	1.25 S	0.5 Zn		
Bombardier 4 litres/ha	some	none					Yes + fermented sugar	
Rise P	none	none						Bacillus (IT45amyl)
QLF Agronomy Carbon Boost	4%	0%	4%					



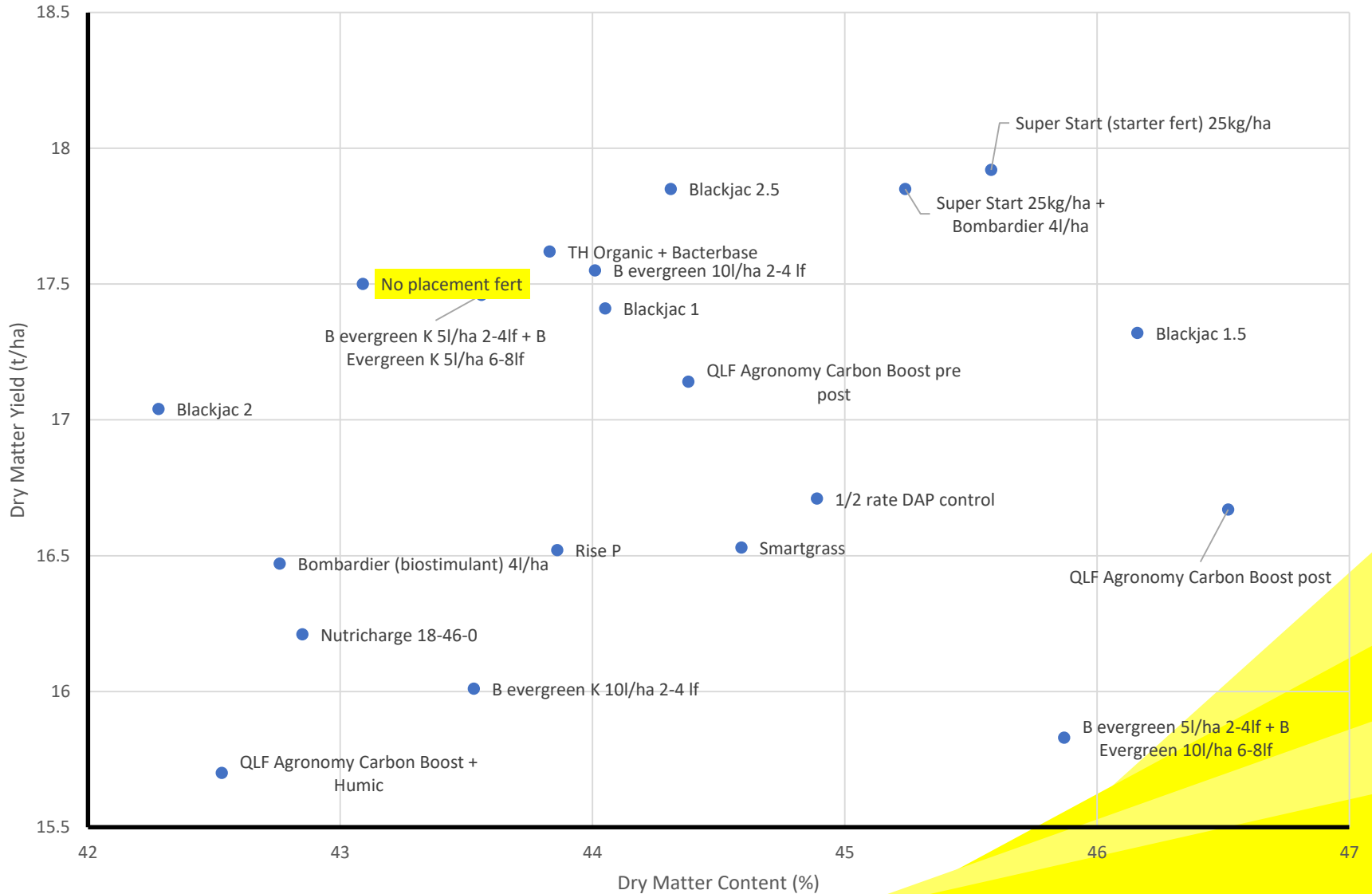
MGA Biostimulant Trial Norfolk
Drilled 18 April 2019
Harvested 10 September 2019



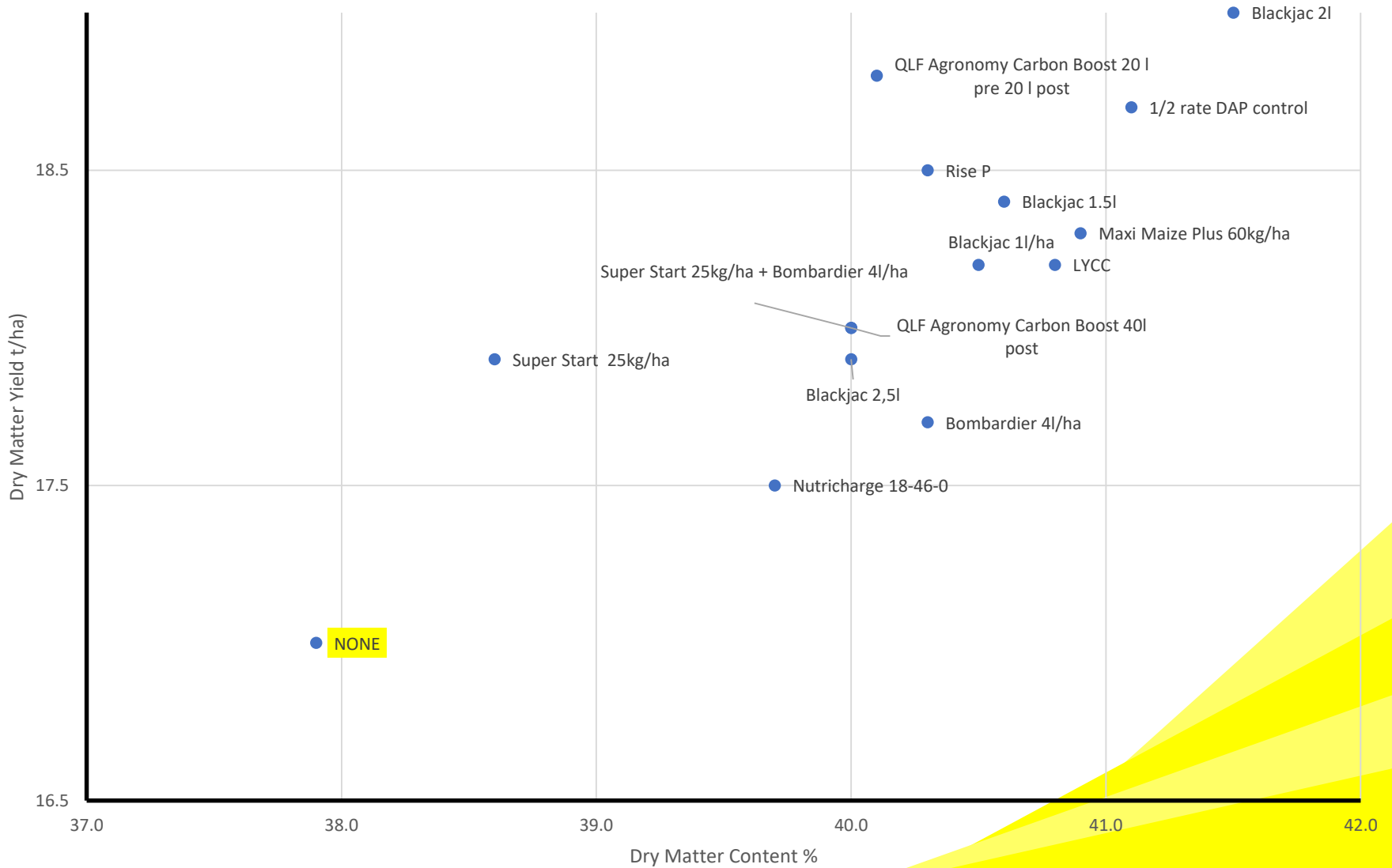
Rise P Trial - Broxton
Drilled 14 May
Harvested 25 October



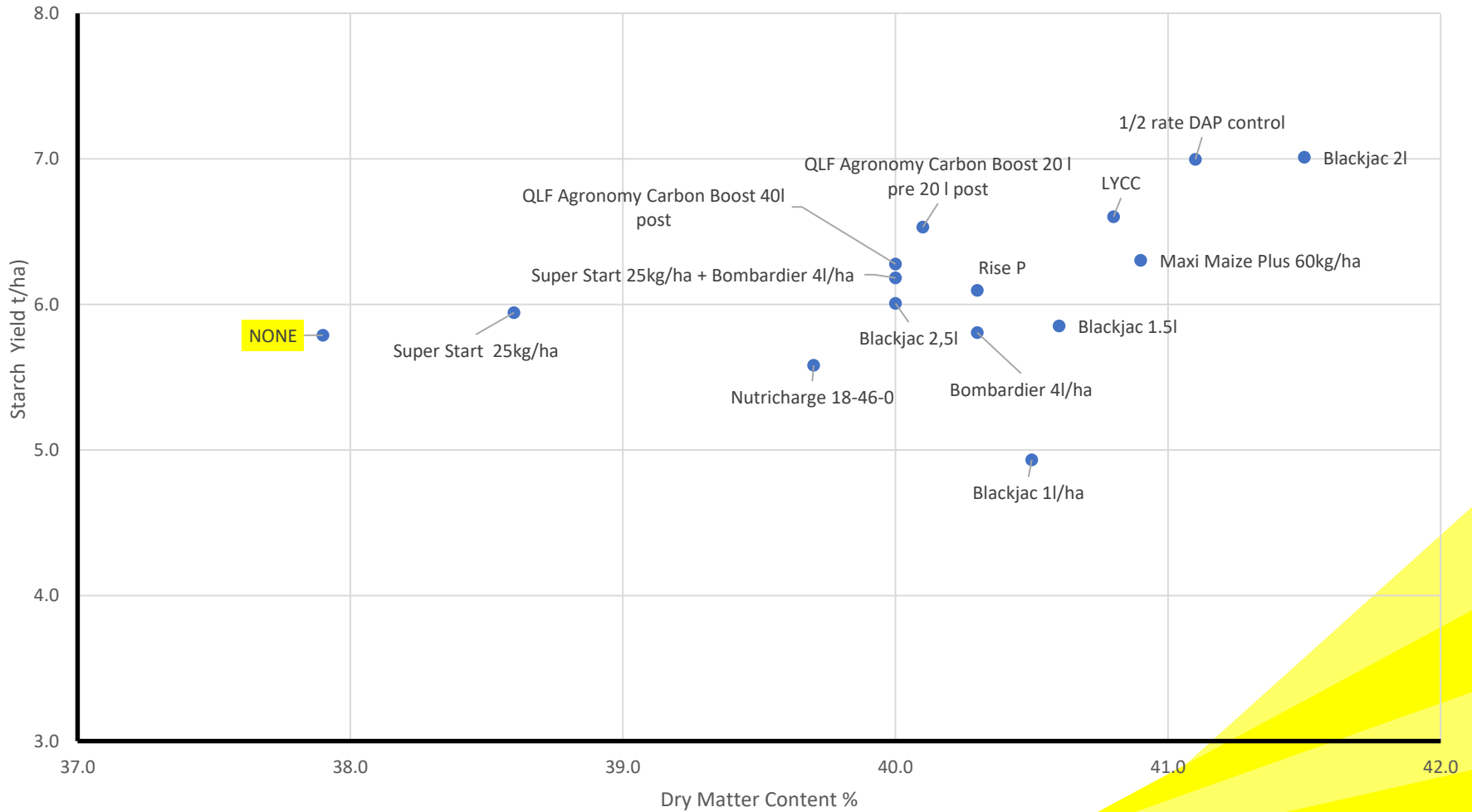
MGA Biostimulant Trial - Broxton
 Drilling 14 October 2019
 Harvest 25 October 2019



MGA Biostimulant Trial - Lackham, Wiltshire
Drilled 30 April 2019
Harvested 18 September 2019



MGA Biostimulant Trial - Lackham, Wiltshire
Drilled 30 April 2019
Harvested 18 September 2019
Starch Yield



Farming rules for water:



Rule	Proving and checking compliance
<p>Organic and manufactured fertiliser management, storage and management</p> <p>1a) Application of organic manures and manufactured fertilisers to cultivated land must be planned in advance to meet soil and crop nutrient needs and does not exceed these levels</p>	<p>Compare farm fertiliser records with crop nutrient requirements. Farmers can demonstrate compliance after visit by providing soil test results, cropping plans and evidence of nutrient application.</p>
<p>1b) Soil testing must be carried out for Phosphorus, Potassium, Magnesium, pH and Nitrogen levels at least every 5 years, for cultivated land.</p>	



Conclusions

- Phosphate is needed close to maize roots to support growth
- Phosphate is a significant potential pollutant
- UK phosphate soil levels mean that inorganic phosphate could be reduced
- Maize fields often receive more phosphate than is required
- New regulations must be observed
- Look at your crop offtake for the whole rotation
- Fully account for phosphate applied via organic manures
- If you have an index of 4 or over your crops do not need phosphate.
- We will continue to trial phosphate and non phosphate alternatives.