



# MAIZE TRIALS 2024

# Trial 6: The use of different maturities of Maize to allow earlier harvesting in better conditions

Location: NIAB Morley, Norwich Norfolk

Drilled: 22 April 2024

Harvested: 18 September 2024

Population: 90,000 plants/ha

150kg N/ha

Cito 150

Faith 170

Bonnie 190

Emeleen 210

Jakleen 230

Traveller 250

Kilomaris 270





	Vigour	<i>Tasselling %</i>	Leaf Senescence	Height (cm)
Cito 150	5.7	19-Jul	3.7	177
Faith 170	6.7	24-Jul	6.0	213
Bonnie 190	7.0	24-Jul	6.7	207
Emeleen 210	5.3	26-Jul	7.0	213
Jakleen 230	6.3	31-Jul	7.0	220
Traveller 250	5.0	31-Jul	8.0	223
Kilomaris 270	4.7	2-Aug	7.3	220



Plant growth 7<sup>th</sup> July





	<b>Mean DM%</b>	<b>Mean Fresh Yield t ha<sup>-1</sup></b>	<b>Mean DM Yield t ha<sup>-1</sup></b>
Cito 150	47.3	31.6	14.9
Faith 170	45.4	34.4	15.6
Bonnie 190	43.3	34.1	14.8
Emeleen 210	36.3	39.5	13.2
Jakleen 230	36.2	38.1	13.8
Traveller 250	36.4	35.0	12.6
Kilomaris 270	34.2	33.1	11.2

13% dry matter range

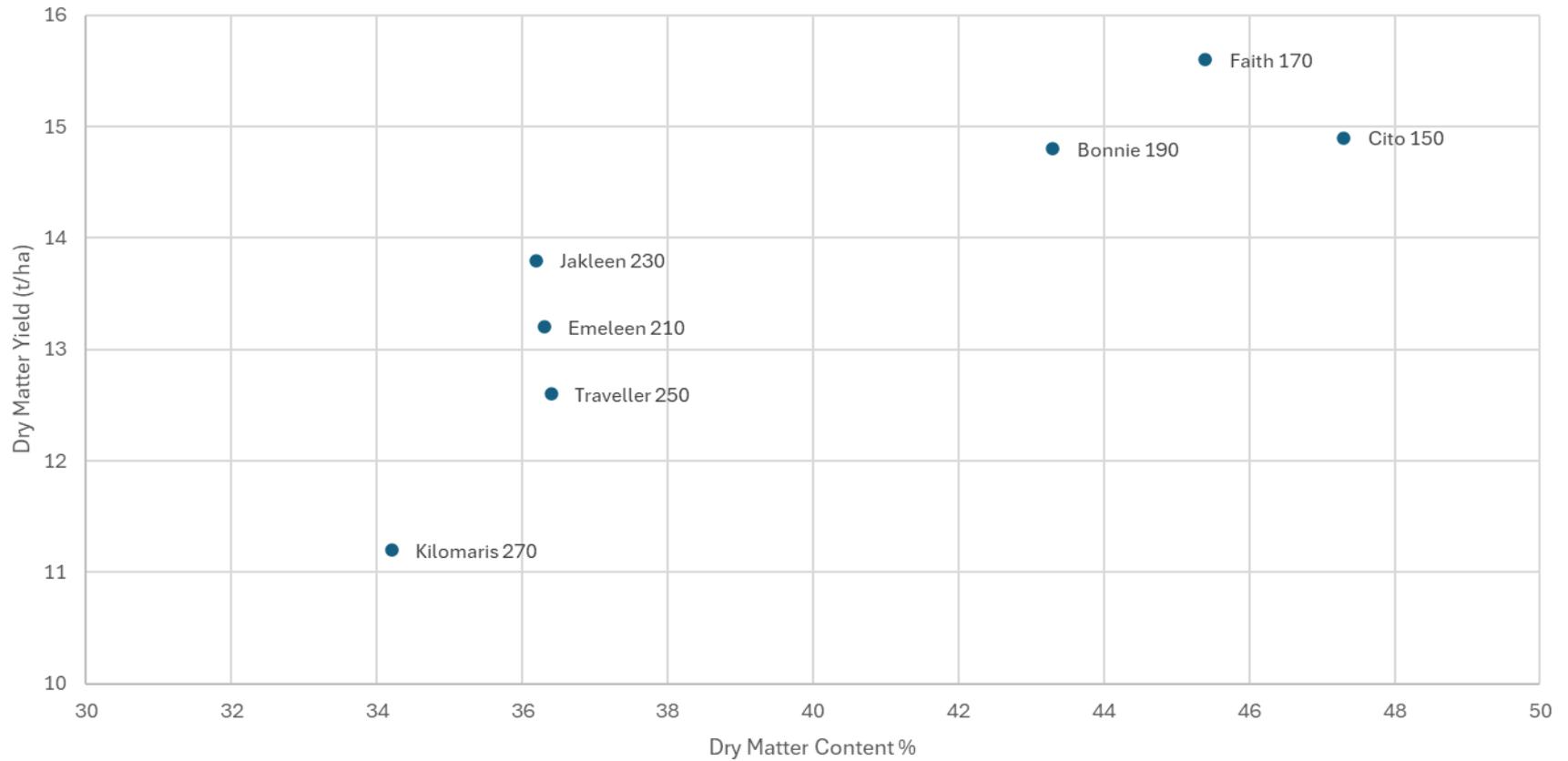
1 t fresh yield = £50/t

Latest maturing varieties didn't achieve highest yields

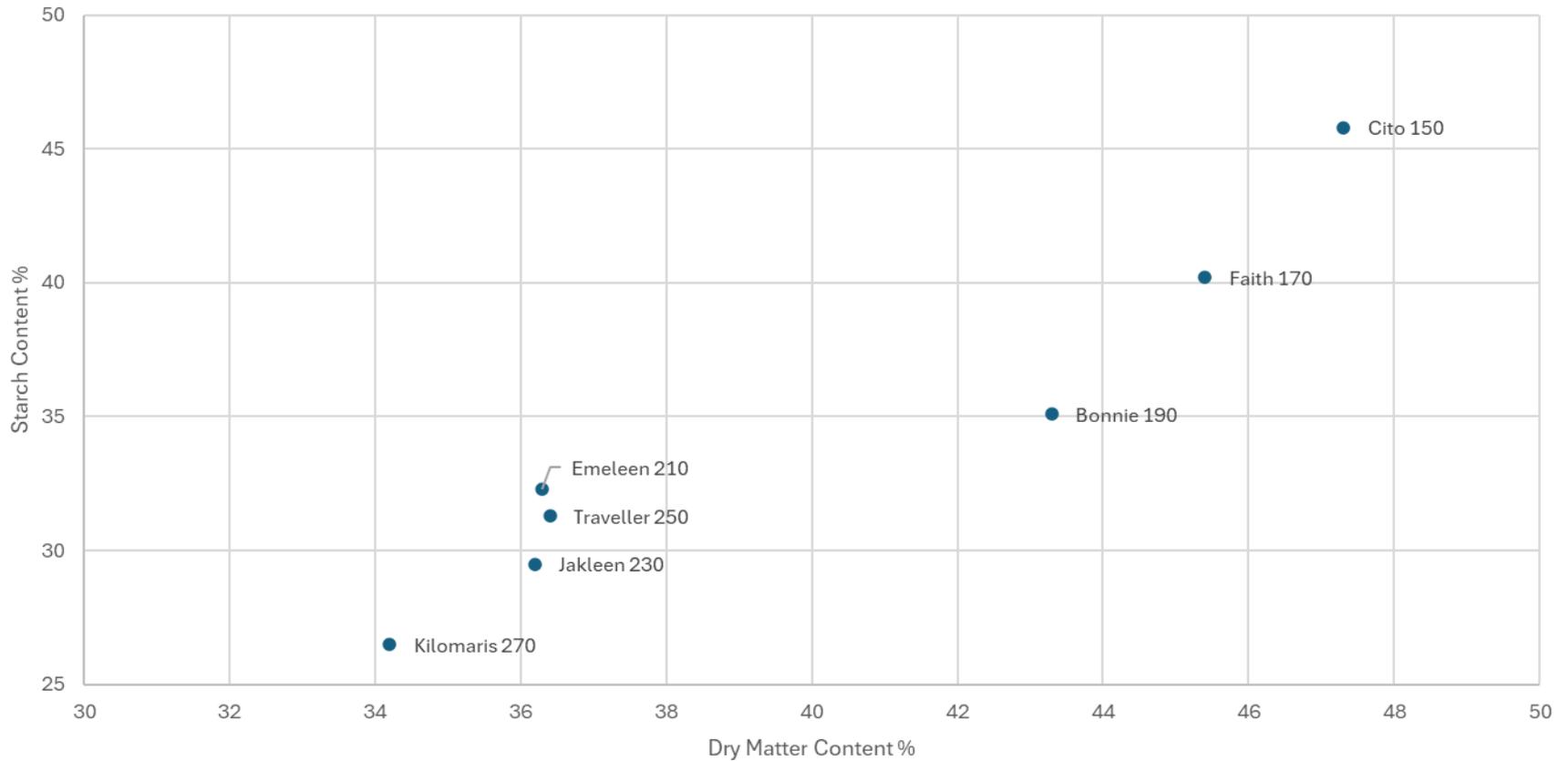
Earlier varieties had highest DM yields



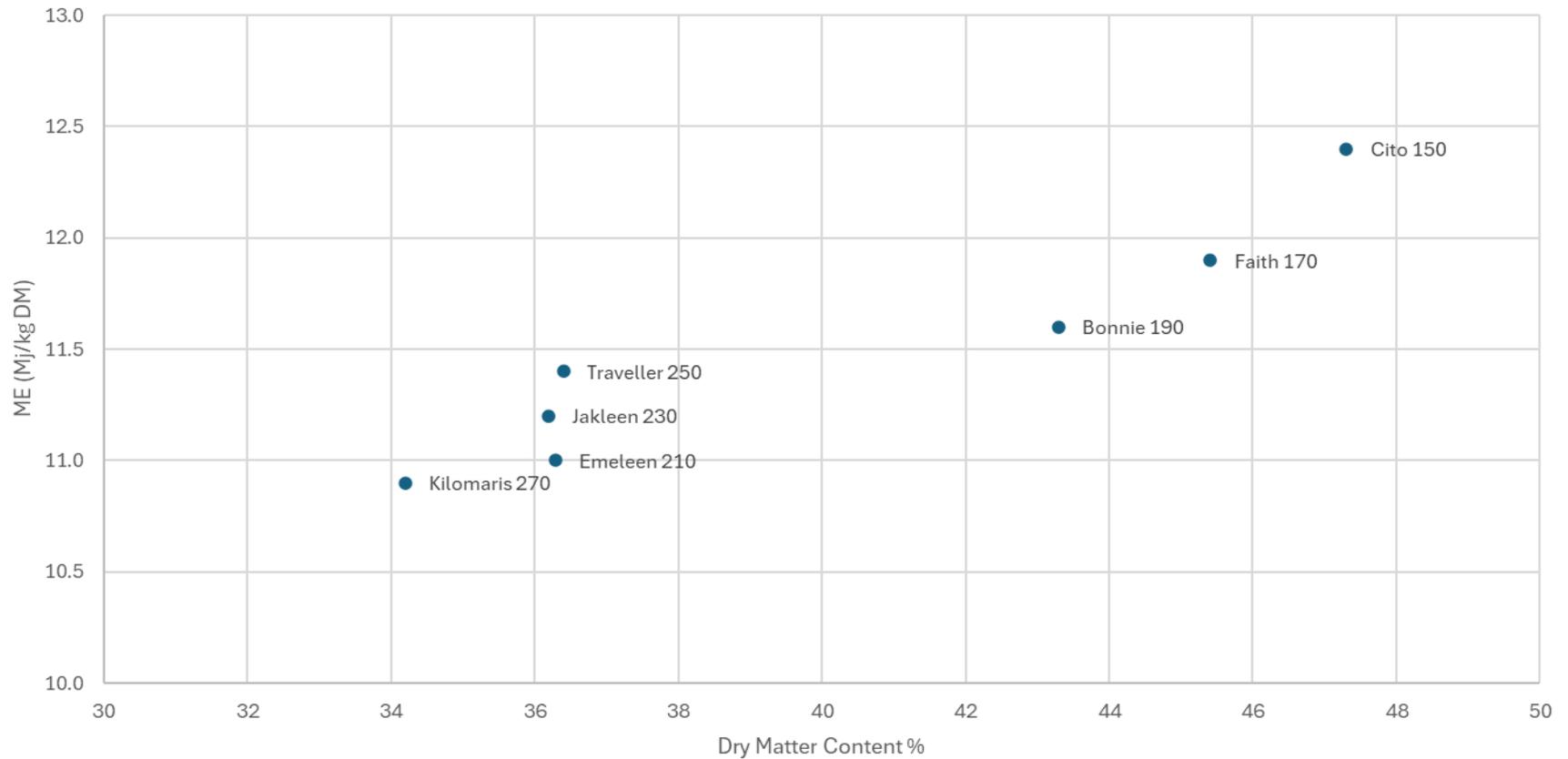
MGA FAO variety trial Norfolk 2024  
Population 90,000/ha Harvested 18.9.24  
DM% vs DMYLD



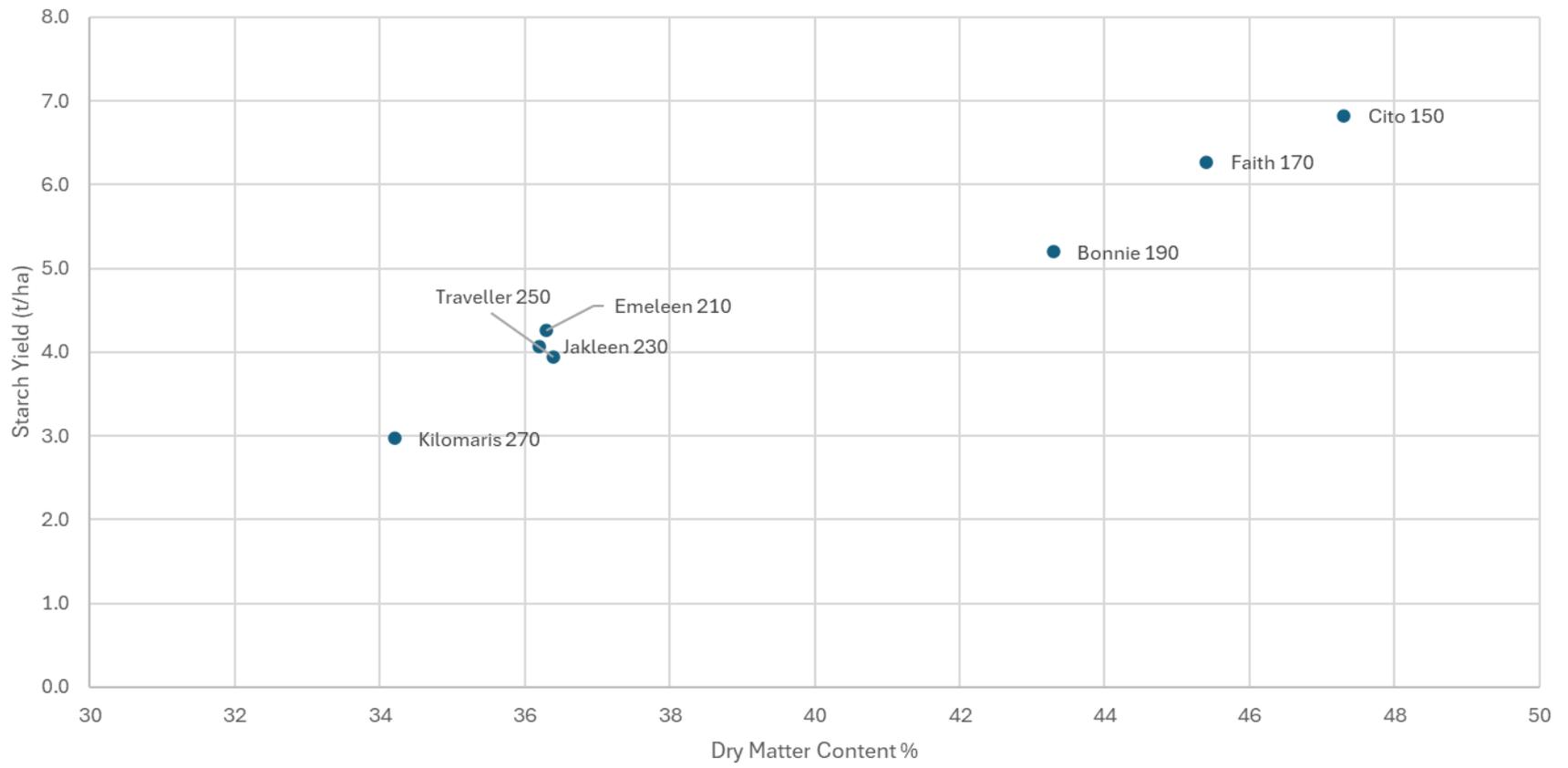
MGA FAO variety trial Norfolk 2024  
Population 90,000/ha Harvested 18.9.24  
DM% vs Starch



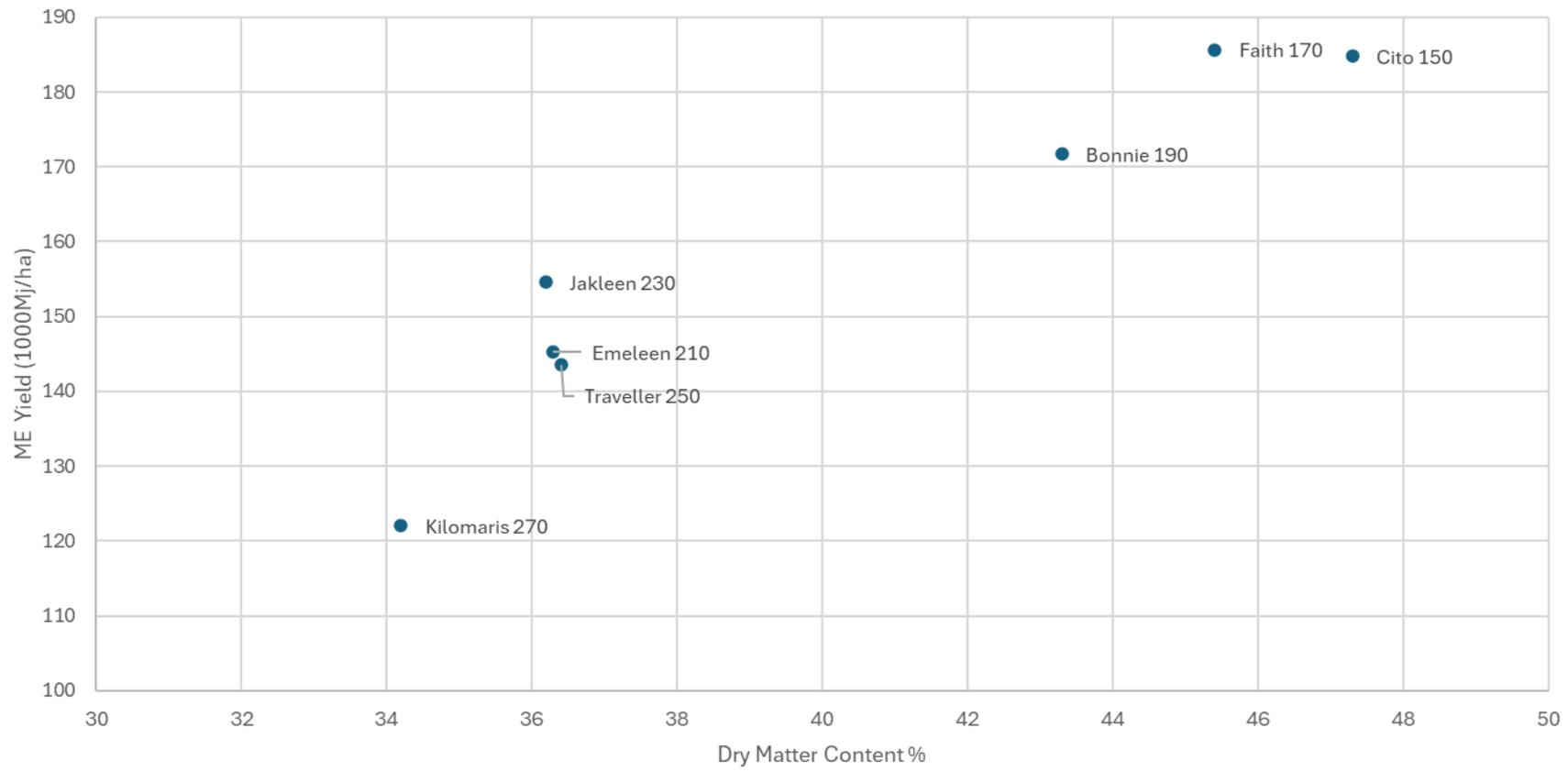
MGA FAO variety trial Norfolk 2024  
Population 90,000/ha Harvested 18.9.24  
DM% vs ME (Mj/kg DM)



MGA FAO variety trial Norfolk 2024  
Harvested 18.9.24  
DM% vs Starch Yield



MGA FAO variety trial Norfolk 2024  
Harvested 18.9.24  
DM% vs ME YLD





## Take home message:

On favorable sites all varieties can reach full maturity, selecting an appropriate variety will allow harvest to occur in September when field conditions are better.

Later varieties are slower to establish and care needs to be taken if drilling very early.



# Trial 7: Effect of plant population on maturity

Location: NIAB Morley, Norwich Norfolk

Drilled: 22 April 2024

Harvested: 18 September 2024

Variety: Emeleen = FAO 200

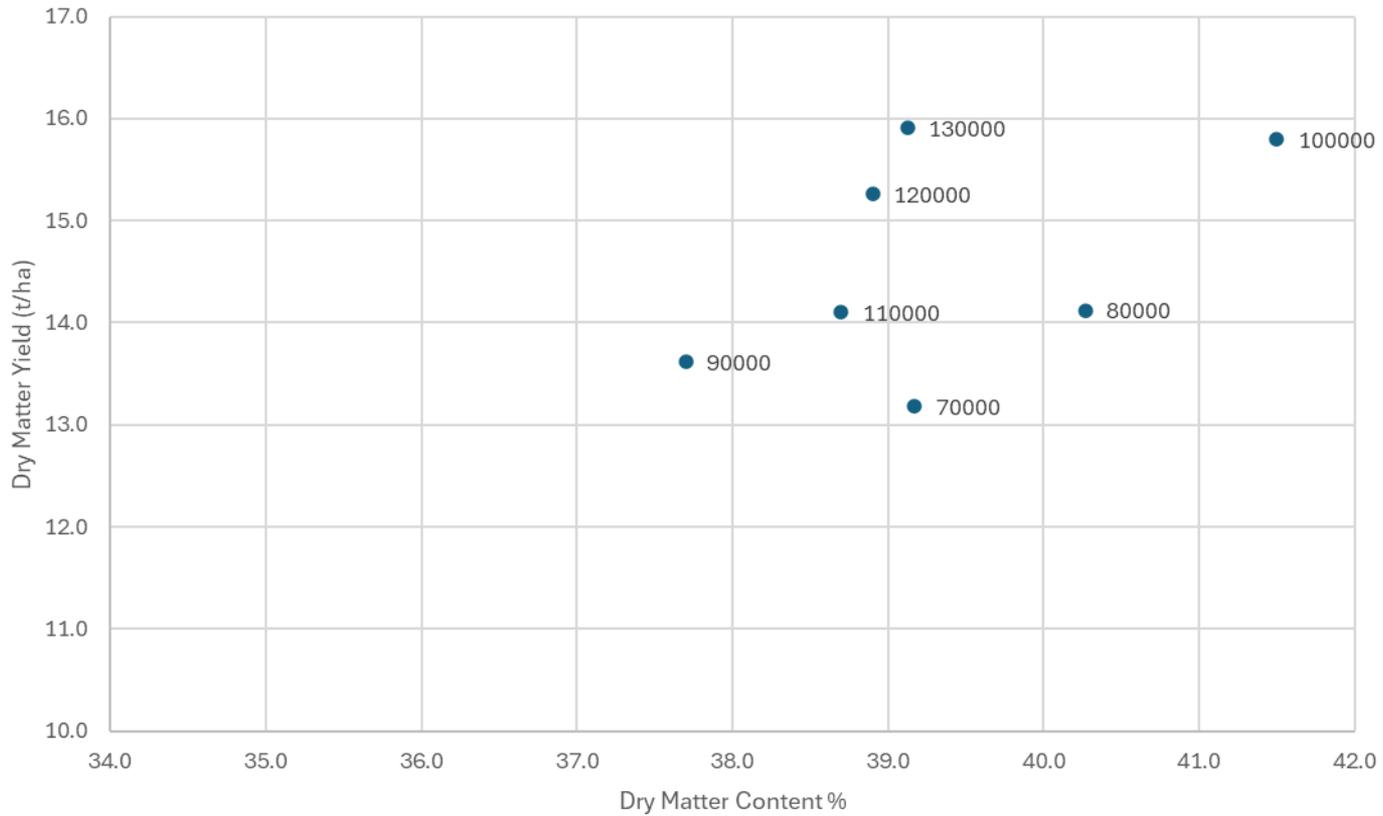
150kg N/ha

Treat No	Seed rate	Seed space cm
1	70,000	18.1
2	80,000	15.8
3	90,000	14.1
4	100,000	12.7
5	110,000	11.5
6	120,000	10.6
7	130,000	9.7



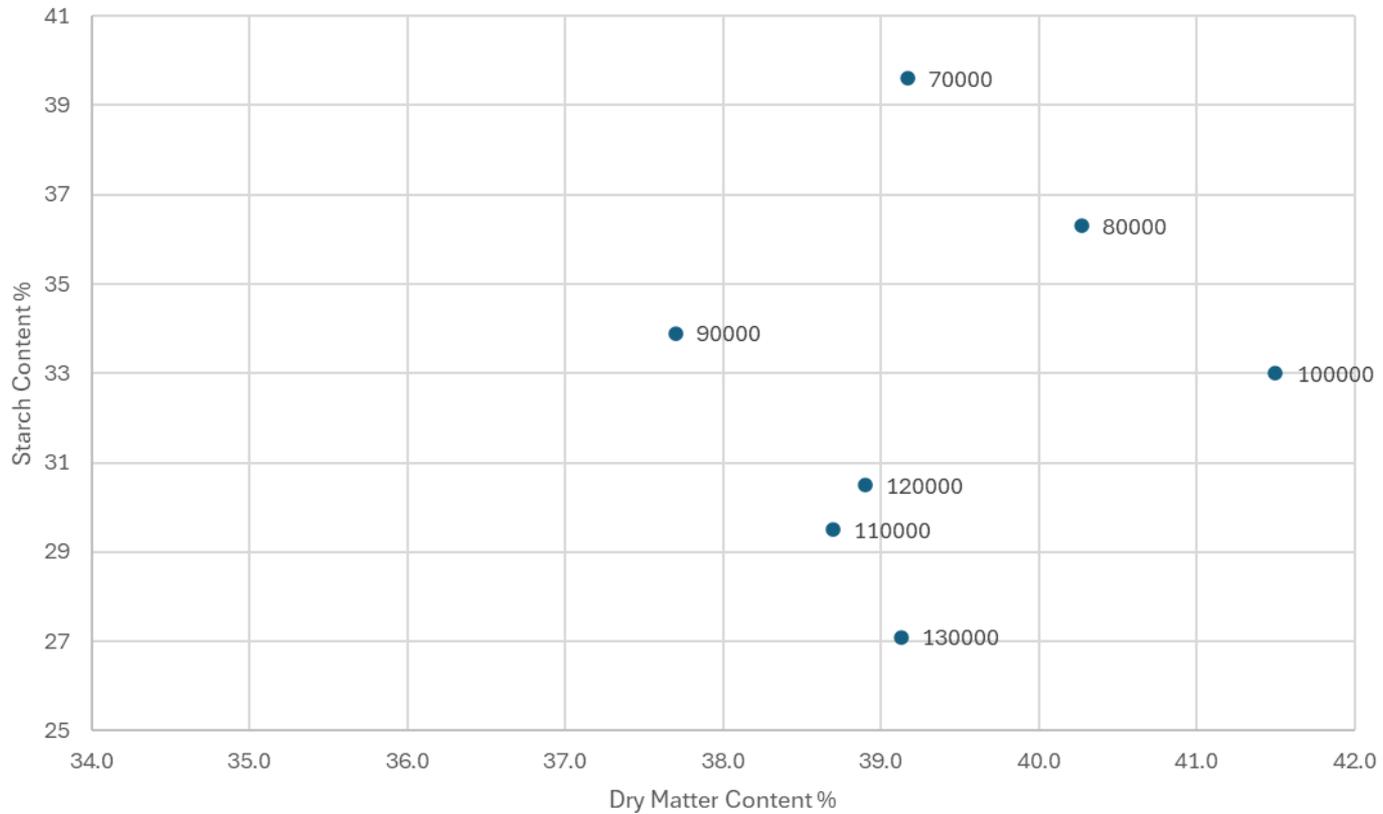


MGA Plant Population Trial Norfolk 2024  
Variety Emeleen. Harvested 18.09.24  
DM% vs DMYLD



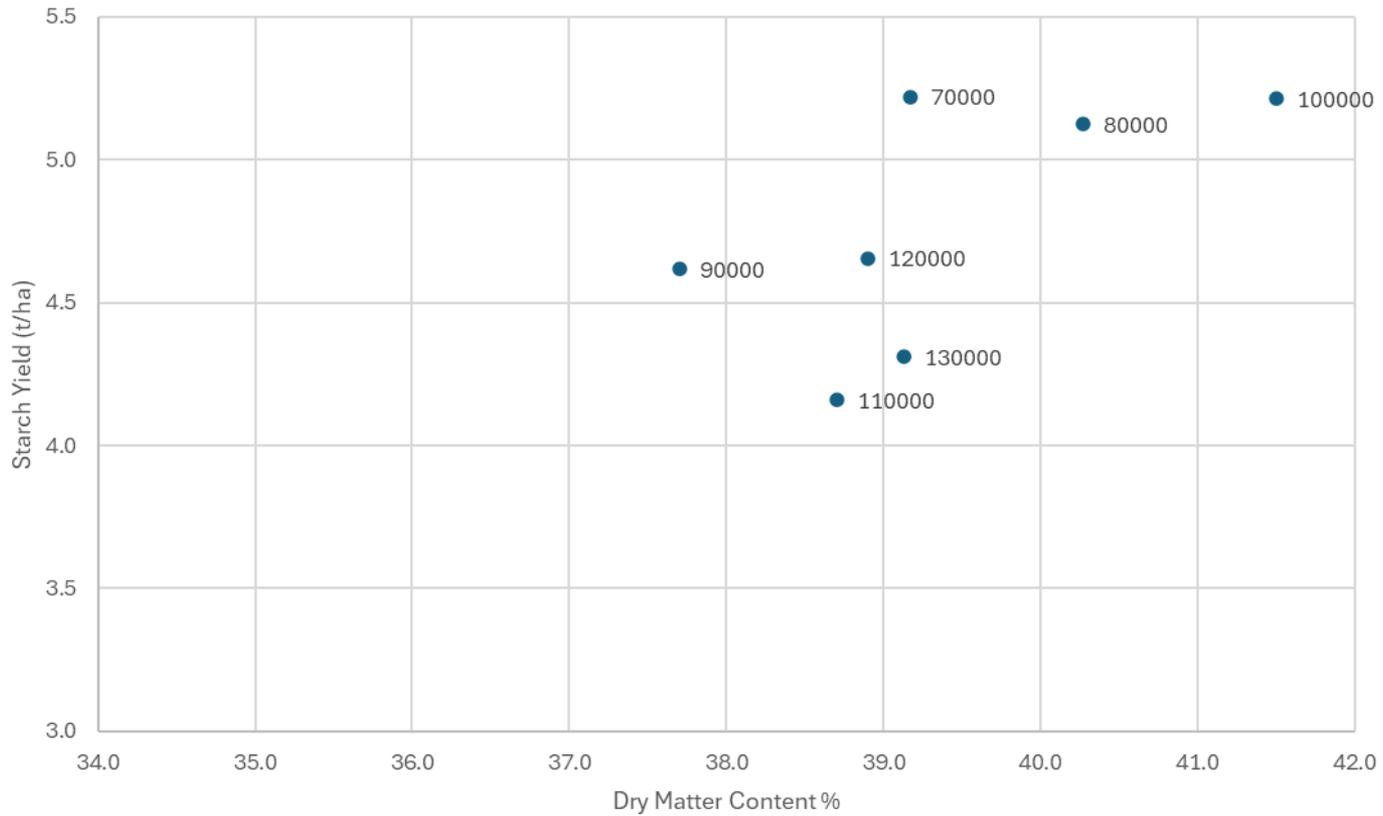


MGA Plant Population Trial Norfolk 2024  
Variety Emeleen. Harvested 18.09.24  
DM% vs Starch %

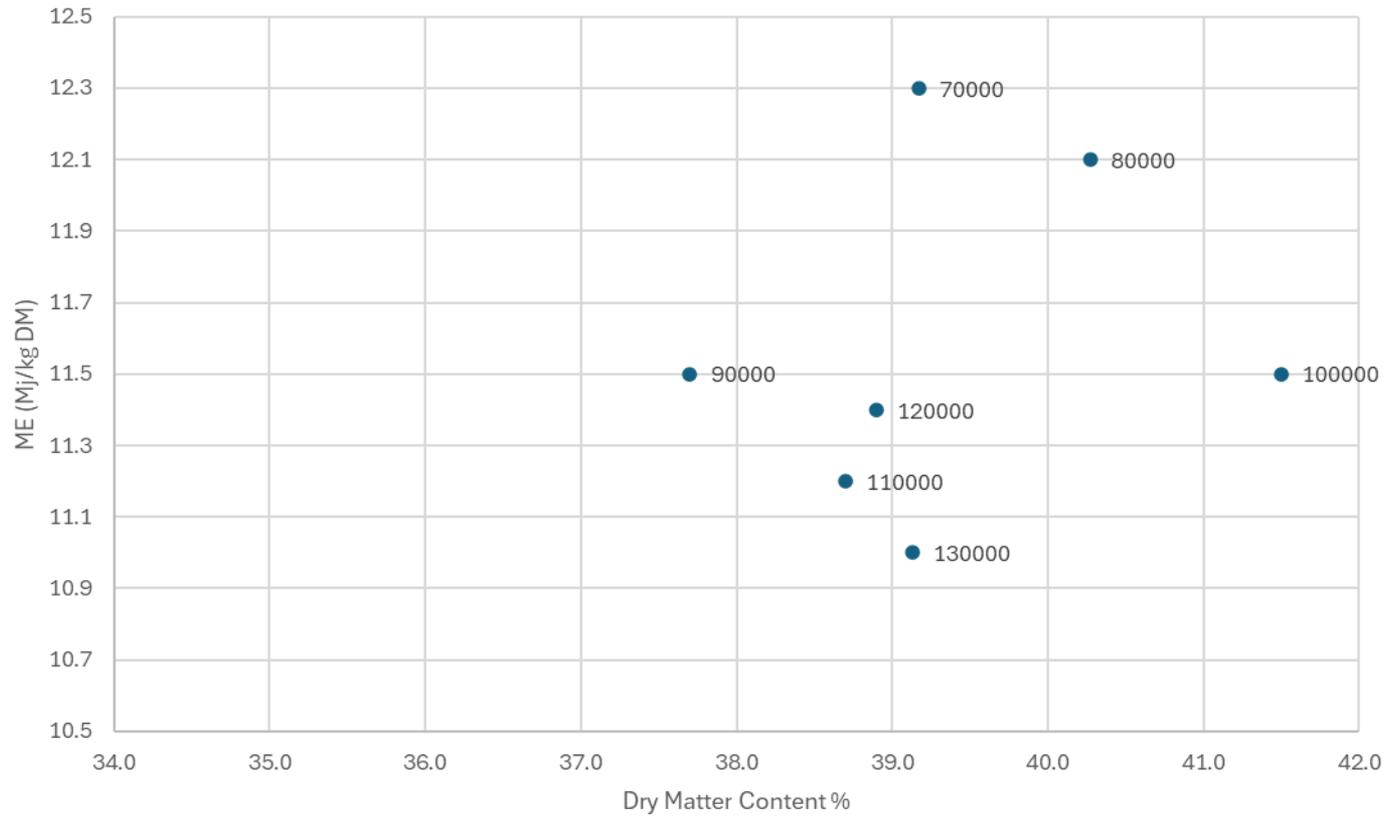




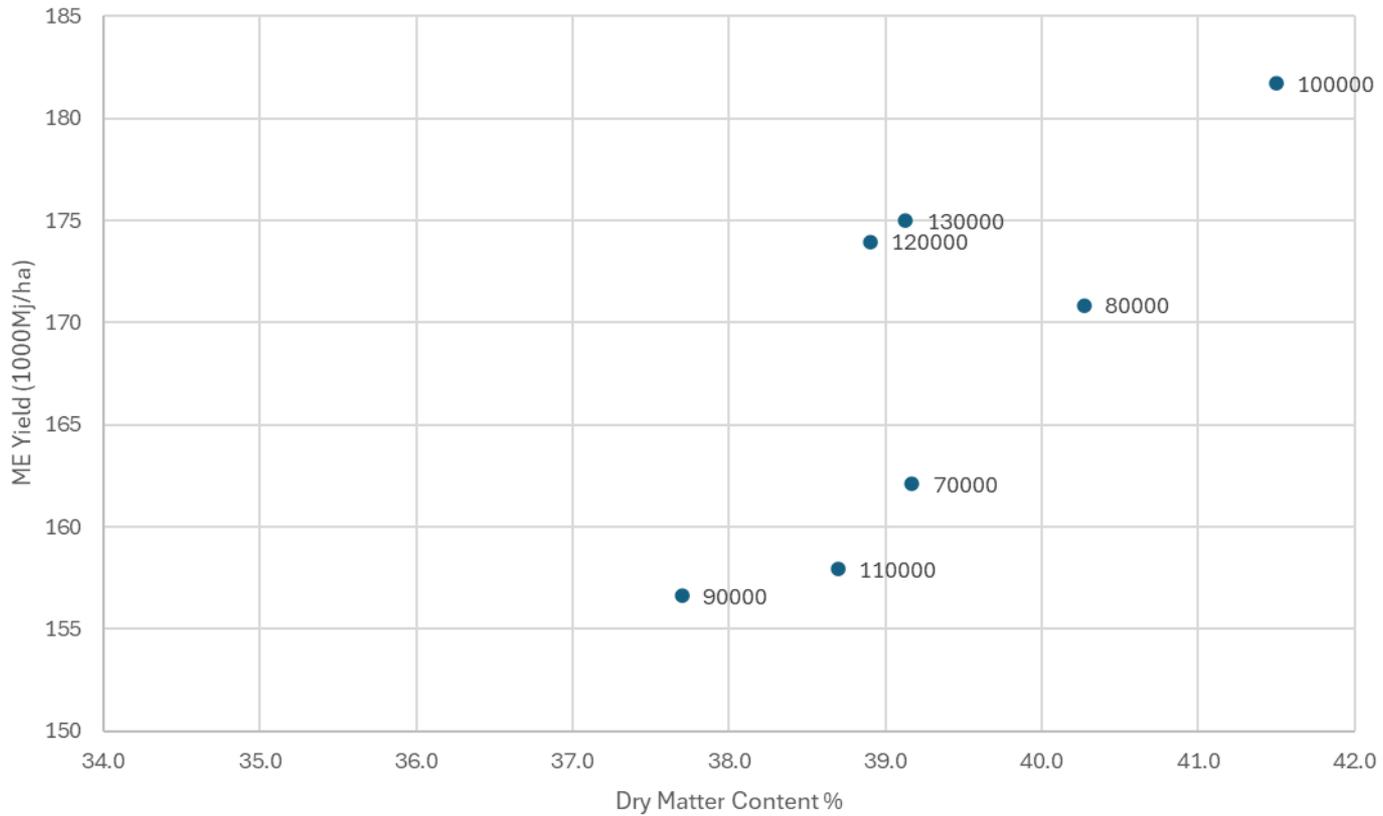
MGA Plant Population Trial Norfolk 2024  
Variety Emeleen. Harvested 18.09.24  
DM% vs Starch YLD



MGA Plant Population Trial Norfolk 2024  
Variety Emeleen. Harvested 18.09.24  
DM% vs ME Mj/kg DM



MGA Plant Population Trial Norfolk 2024  
Variety Emeleen. Harvested 18.09.24  
DM% vs ME YLD





Take home message:

Lower established plant populations will increase starch content which can be useful to ensure quality silage is clamped in areas with less heat units

Provided silage achieves 30% dry matter then ME yield will drive production for both cattle and AD



# Trial 2: Effect of Biostims on Yield and Maturity

Location: NIAB Morley, Norwich Norfolk

Drilled: 22 April 2024

Harvested: 18 September 2024

Variety: Emeleen = FAO 200

110kg N/ha

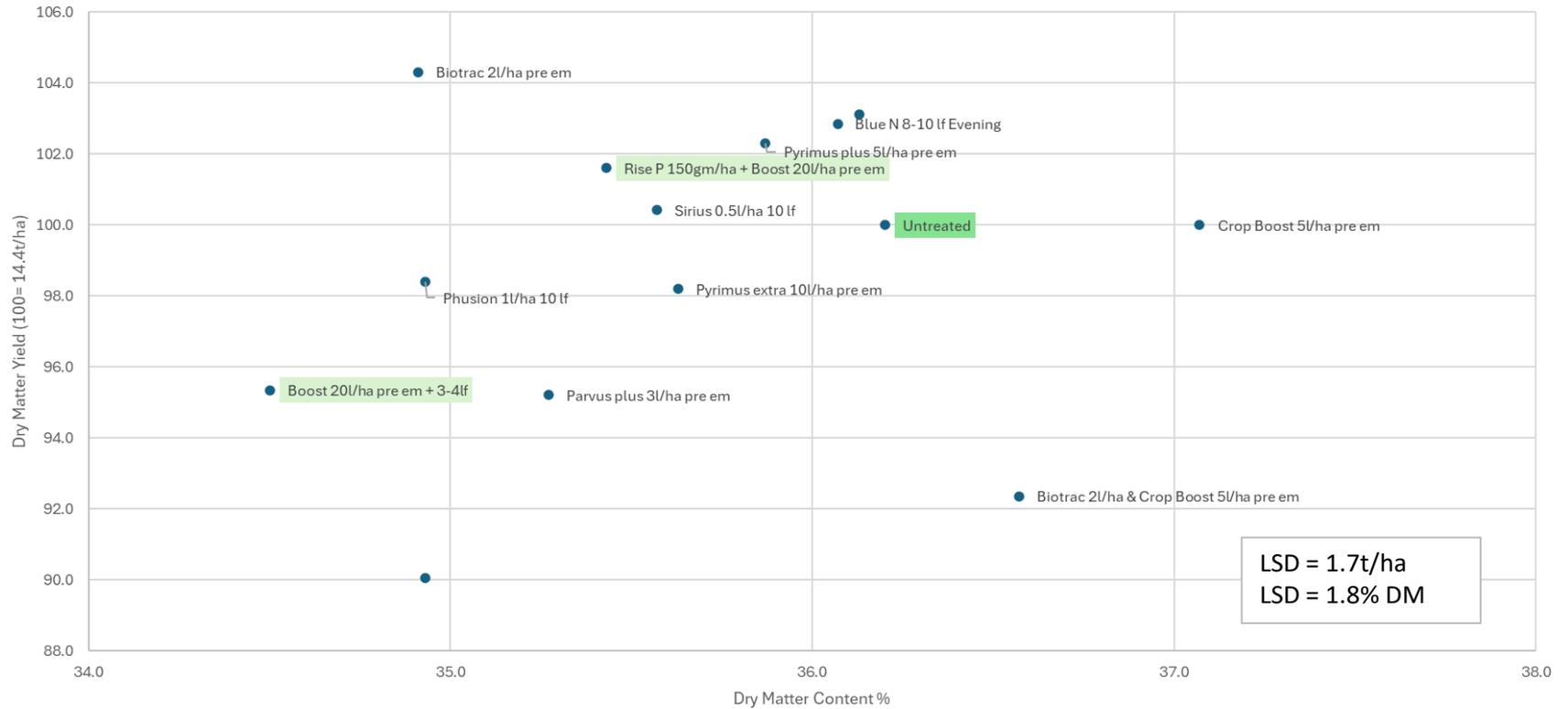
Untreated	
Boost 20l/ha pre em + 3-4lf	Molasses providing sugars and nitrogen to support growth of soil microbes
Rise P 150gm/ha + Boost 20l/ha pre em	Rise P contains beneficial bacteria that helps the plant rhizosphere releasing P and increasing root mass
Parvus plus 3l/ha pre em	
Pyrimus plus 5l/ha pre em	
Pyrimus extra 10l/ha pre em	
Crop Boost 5l/ha pre em	Essential micro nutrients for maize containing P, Zn, Mg & K from Yara
Biotrac 2l/ha pre em	Contains N, K, B & Zn + Carbon
Biotrac 2l/ha & Crop Boost 5l/ha pre em	
Blue N 8-10 lf Evening	Nitrogen fixing bacteria tha colonises the leaf to fix N in the plant leaf
Sirius 0.5l/ha 10 lf	3-28-19 + 3% Silicon (Monosilicic form)
Phusion 1l/ha 10 lf	21% bio available Silicon (Monosilicic form)

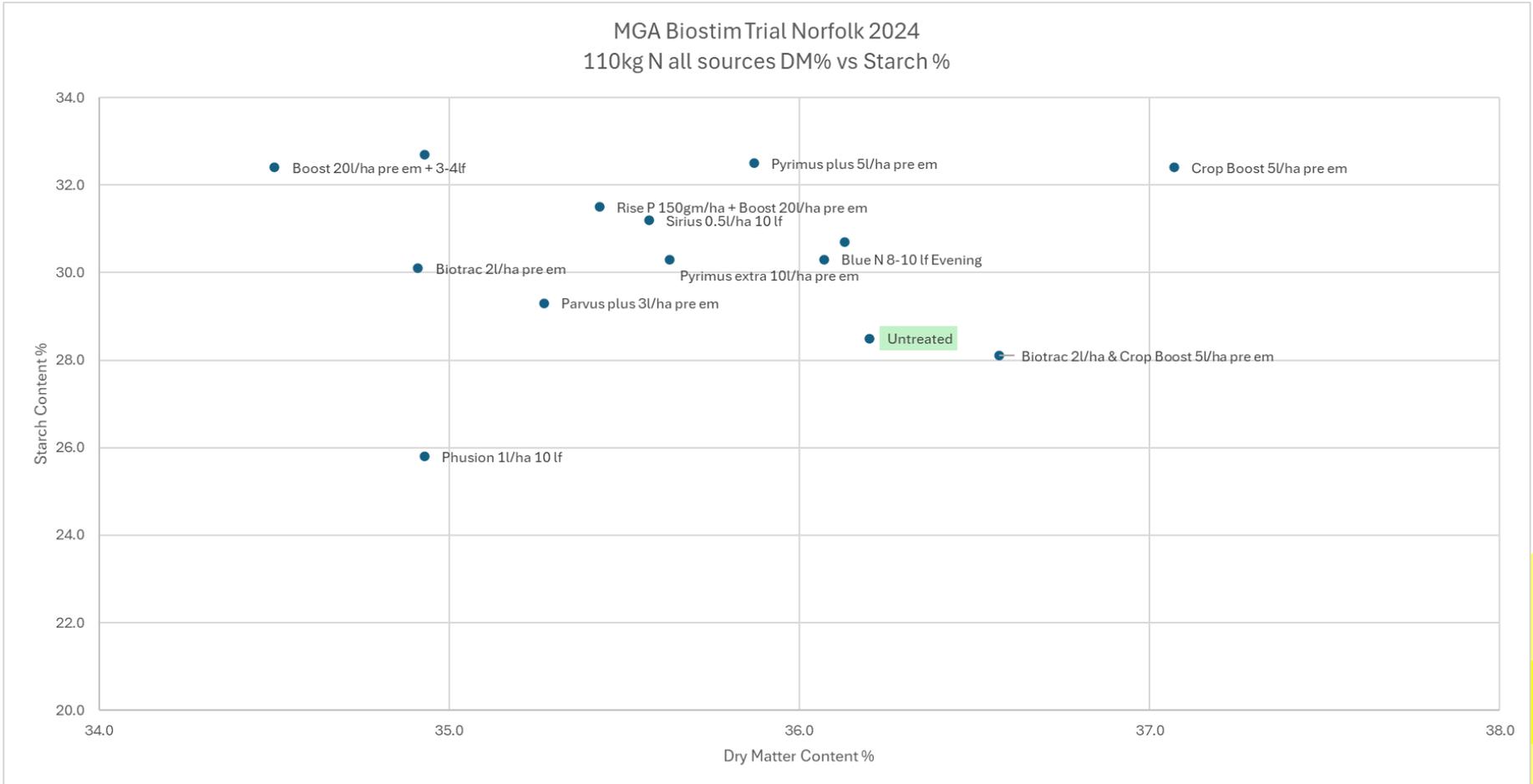


Trial was conducted with 110kg N from all sources

	Vigour 25/6/24	Plant height (cm) 5/7/2024
<i>Untreated</i>	6	54.3
<i>Boost 20l/ha pre em + 3-4lf</i>	6	54.7
<i>Rise P 150gm/ha + Boost 20l/ha pre em</i>	6	63.7
<i>Parvus plus 3l/ha pre em</i>	6	60.0
<i>Pyrimus plus 5l/ha pre em</i>	6	57.3
<i>Pyrimus extra 10l/ha pre em</i>	6	58.3
<i>Crop Boost 5l/ha pre em</i>	6	56.0
<i>Biotrac 2l/ha pre em</i>	6	54.0
<i>Biotrac 2l/ha &amp; Crop Boost 5l/ha pre em</i>	6	55.3
<i>Blue N 8-10 lf Evening</i>	6	59.0
<i>Sirius 0.5l/ha 10 lf</i>	6	55.7
<i>Phusion 1l/ha 10 lf</i>	6	57.7

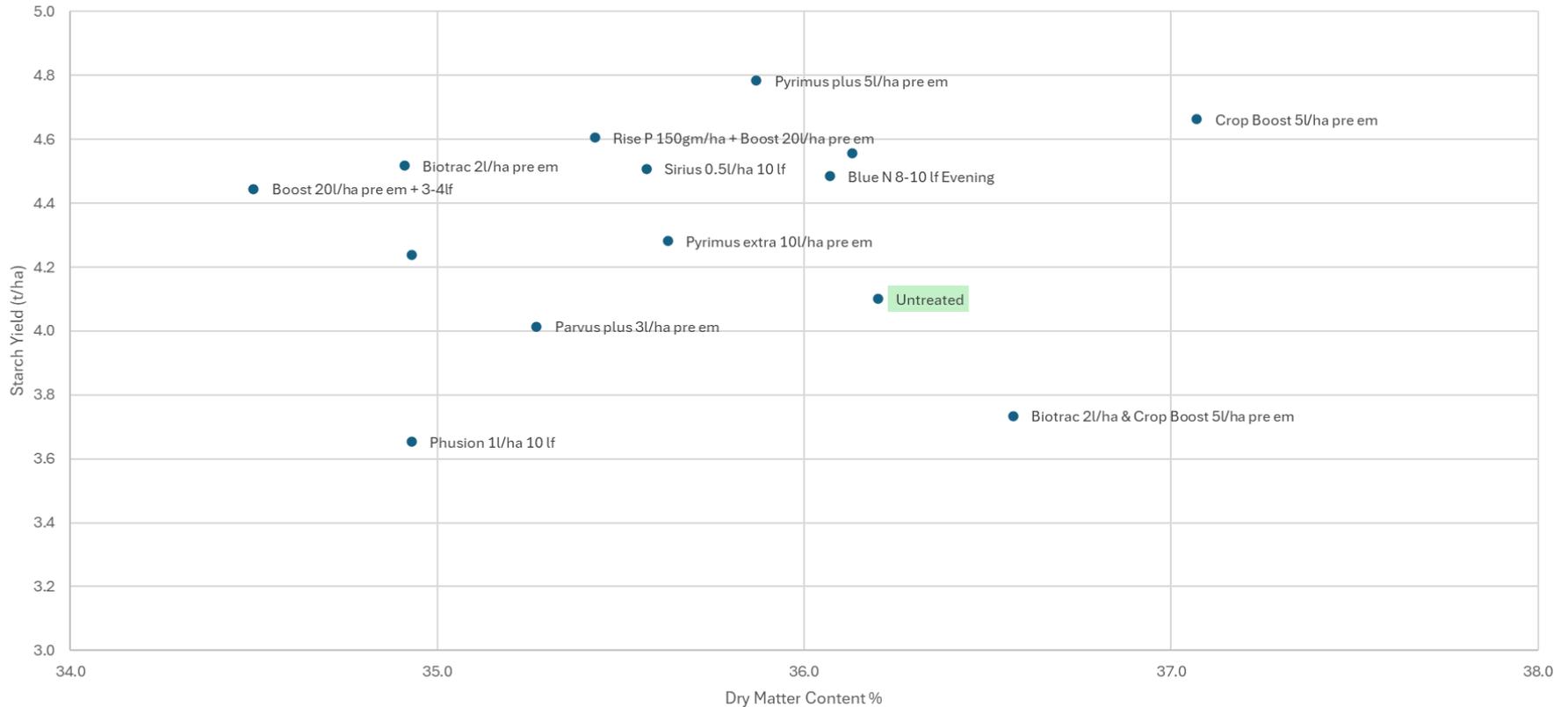
MGA Biostim Trial Norfolk 2024  
110kg N all sources DM% vs DM Yield





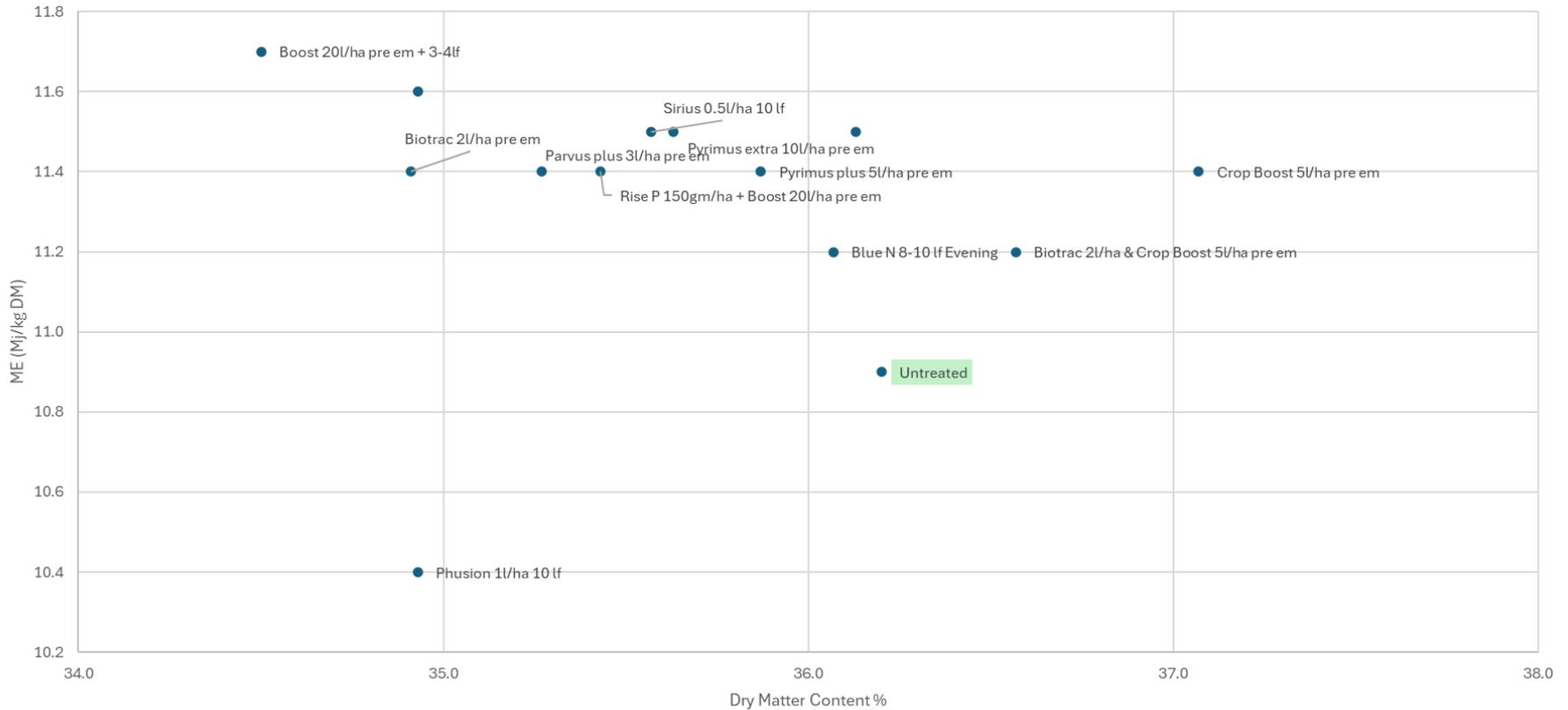
+4% starch from 3 of the products giving useful quality improvements

MGA Biostim Trial Norfolk 2024  
110kg N all sources DM% vs Starch Yield



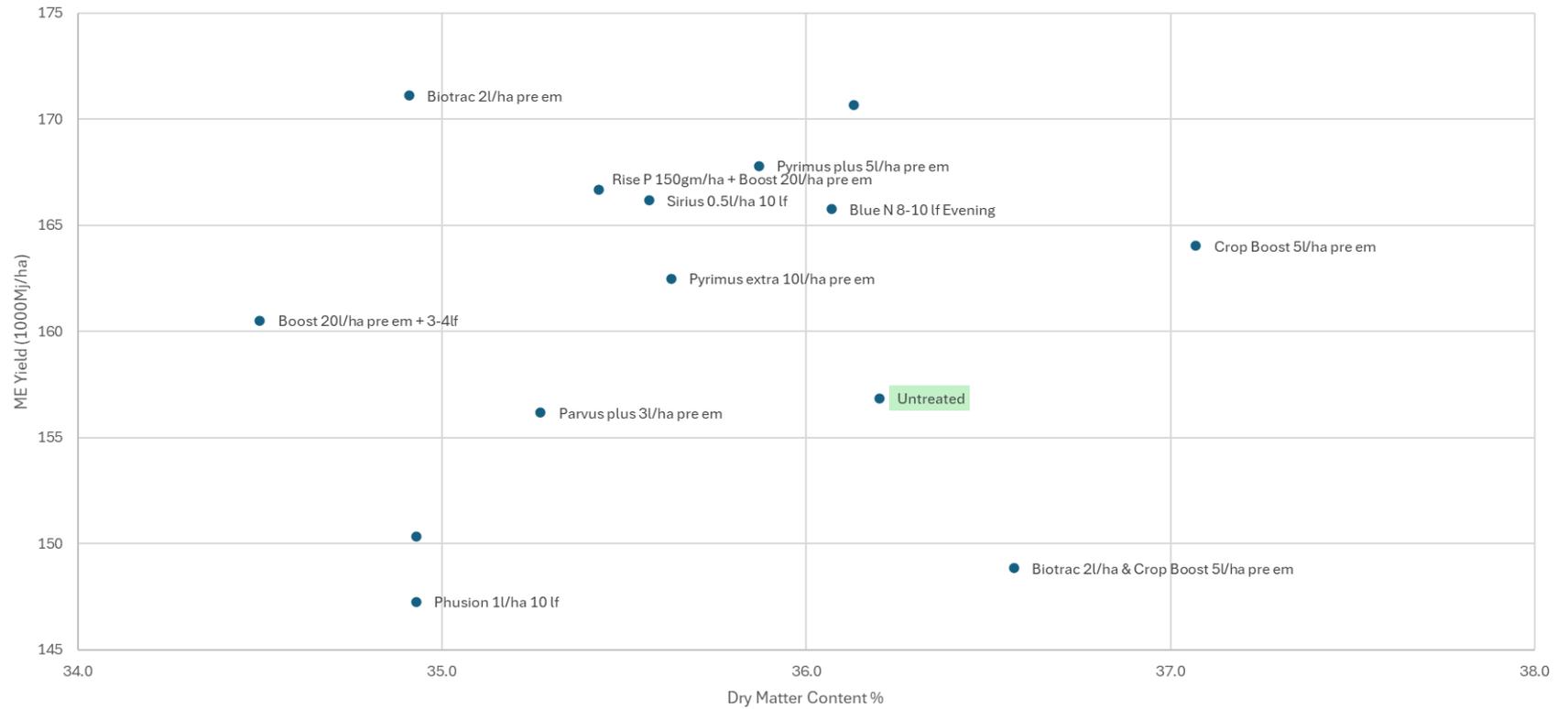
+4% starch from 3 of the products giving useful quality improvements resulting in 0.5t/ha starch yield

MGA Biostim Trial Norfolk 2024  
110kg N all sources DM% vs ME



Digestibility improved for all of the products

MGA Biostim Trial Norfolk 2024  
110kg N all sources DM% vs ME Yield





# Trial 2: Effect of Biostims on Yield and Maturity

Location: Harper Adams University, Shropshire

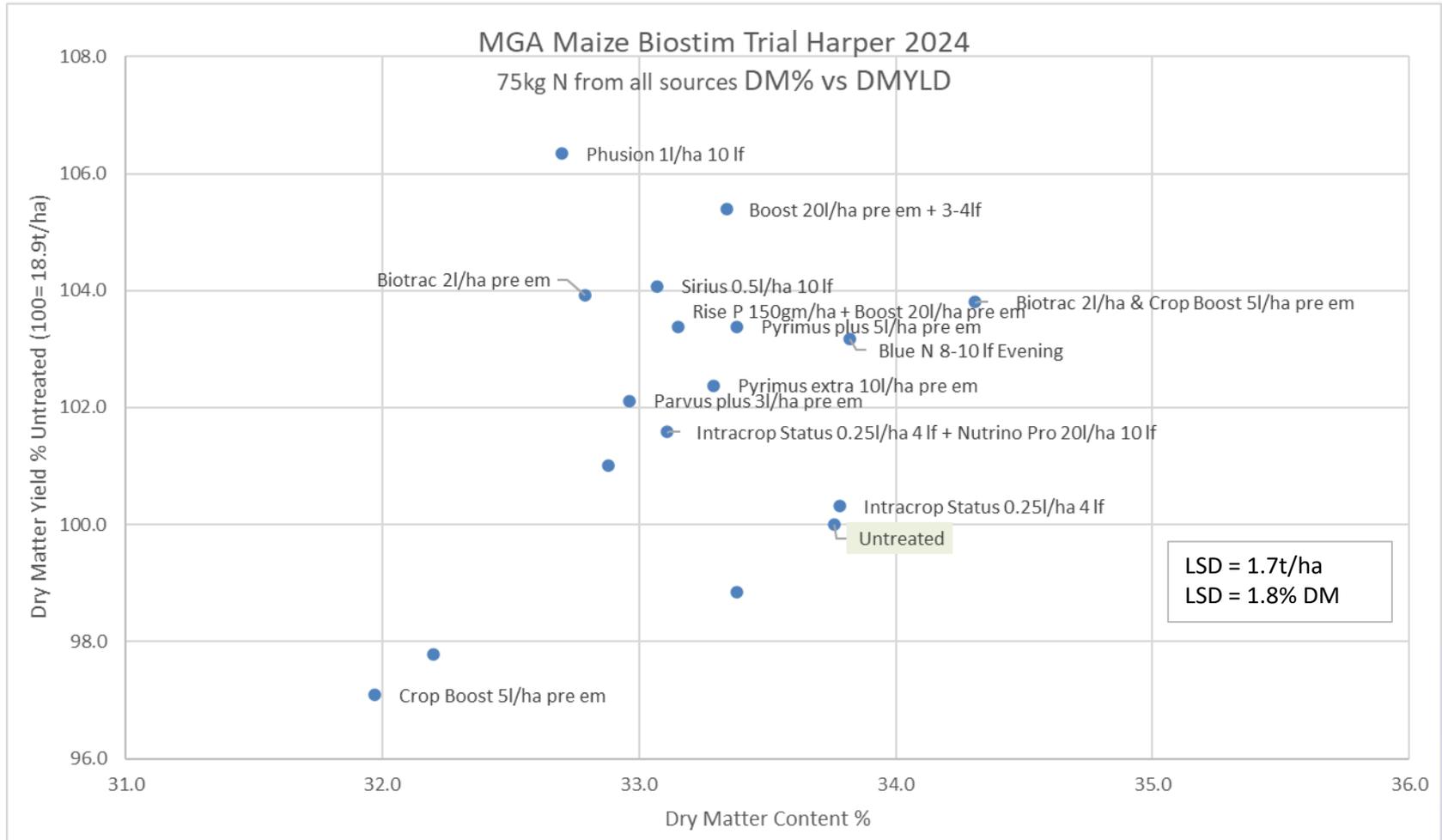
Drilled: 29 April 2024

Harvested: 25 October 2024

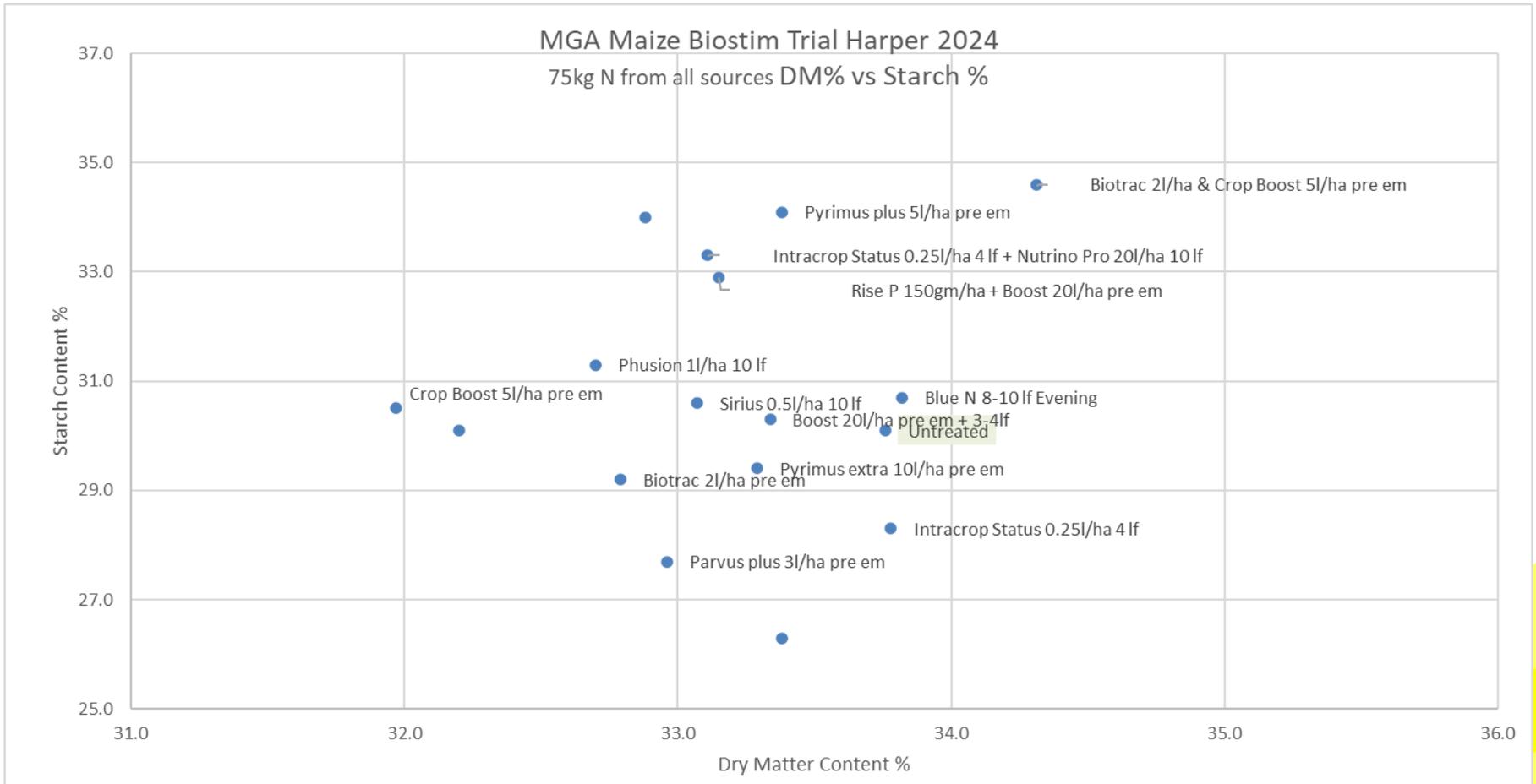
Variety: Emeleen = FAO 200

110kg N/ha

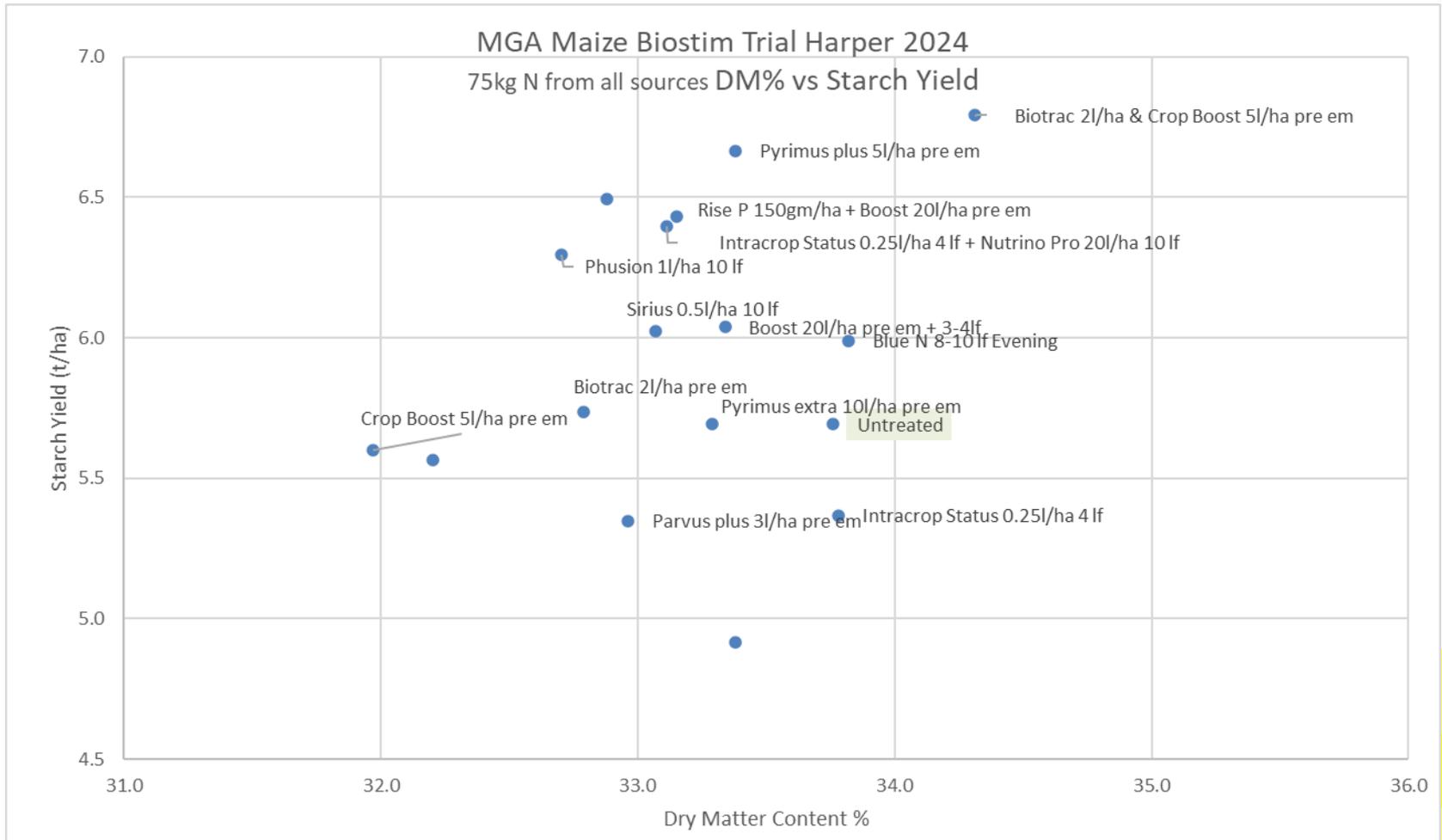
Untreated	
Boost 20l/ha pre em + 3-4lf	Molasses providing sugars and nitrogen to support growth of soil microbes
Rise P 150gm/ha + Boost 20l/ha pre em	Rise P contains beneficial bacteria that helps the plant rhizosphere releasing P and increasing root mass
Parvus plus 3l/ha pre em	
Pyrimus plus 5l/ha pre em	
Pyrimus extra 10l/ha pre em	
Crop Boost 5l/ha pre em	Essential micro nutrients for maize containing P, Zn, Mg & K from Yara
Biotrac 2l/ha pre em	Contains N, K, B & Zn + Carbon
Biotrac 2l/ha & Crop Boost 5l/ha pre em	Combines both Biotrac & Crop boost
Intracrop Status 0.25l/ha 4 lf	MTU & Pidolic acid to increase photosynthesis and N assimilation
Intracrop Status 0.25l/ha 4 lf + Nutrino Pro 20l/ha 10 lf	+ foliar N, Mg & S
Blue N 8-10 lf Evening	Nitrogen fixing bacteria tha colonises the leaf to fix N in the plant leaf
Sirius 0.5l/ha 10 lf	3-28-19 + 3% Silicon (Monosilicic form)
Phusion 1l/ha 10 lf	21% bio available Silicon (Monosilicic form)



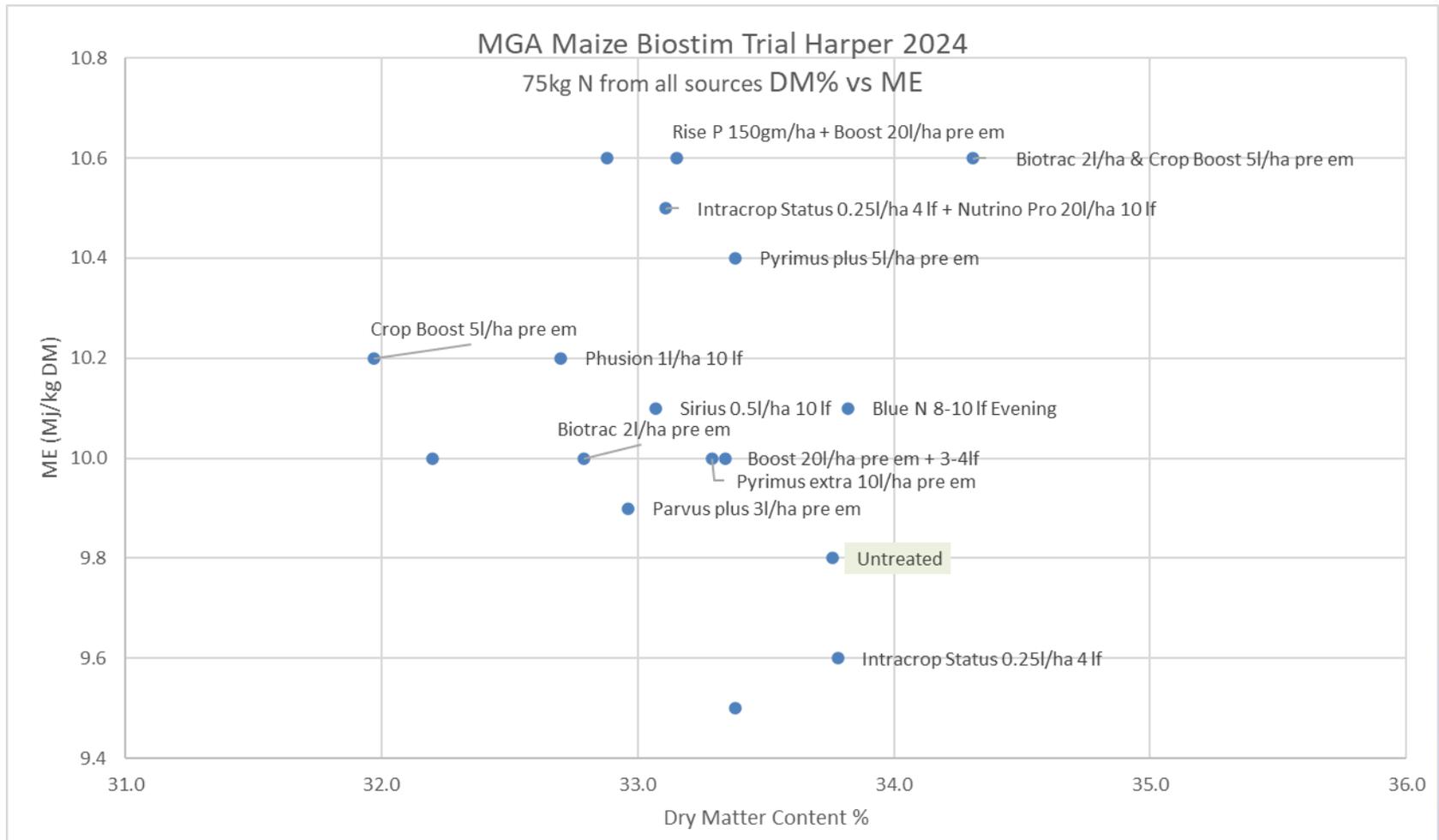
Statistical no improvement in DM Yield,  
but + 5% yield is good



+4% starch from 2 of the products giving useful quality improvements



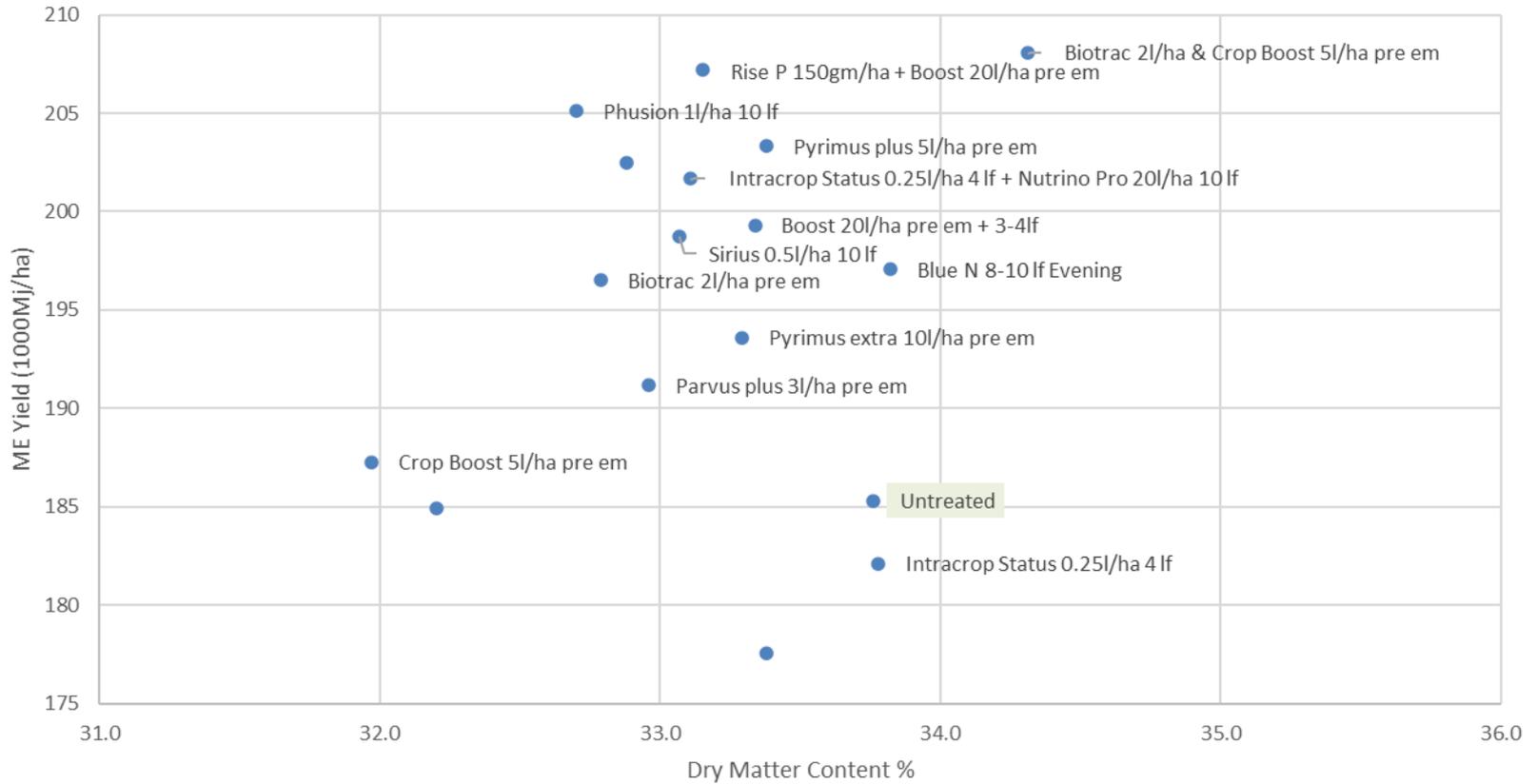
+4% starch from 2 of the products giving useful quality improvements resulting in an extra 1t starch/ha



Again ME improvements in most of the products

### MGA Maize Biostim Trial Harper 2024

75kg N from all sources DM% vs ME Yield





Take home message:

Biostimulants do not produce increased plant growth (crop height) in the field but they can improve DM Yield and silage quality

MGA control treatments with Boost continue to perform  
Blue N shows promise for 2<sup>nd</sup> year of MGA testing

Biotrac, Phusion and Sirrus worth repeating this year