

Onion Data

18 commercial field trials over 3 years

- ✓ Average yields increased by **7.6%**
- ✓ Grower margins increased by **£400–£600 /ha**
- ✓ Maxstim are leading the way in **bioflavonoid and complex biostimulant technology**



2022/24

Maxstim completed 18 onion trials between 2022 and 2024

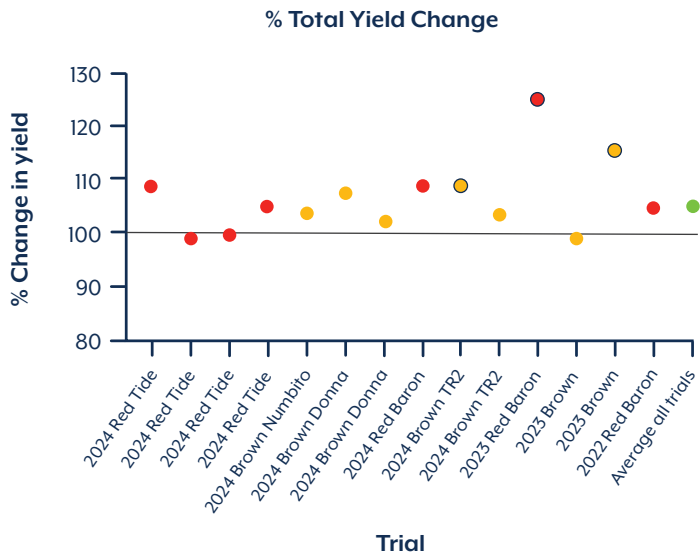
Test comparison:	Maxstim Agriculture+ and Cynosa vs Control
Assessments on:	Red onion varieties = Red Baron and Red Tide Brown onion varieties = Donna, Nation, Numbito and Julia
Yield plot assessments:	6 pairs of treated and control plots
Plot size:	3.66m ²
Onion grade size:	>80mm, 70-80mm, 60-70mm, 50-60mm, 40-50mm and <40mm
Onion data recorded:	Number of onions by grade, weight of onions per grade and total yield tonnes/ha
Marketable yield:	Defined as 50mm to 80+mm in size
Margins based on:	1. 50mm-80+mm yield 2. Identical cost of Maxstim Agriculture+ and Cynosa per treatment 3. Price per tonne received from each individual grower

Table 1: 14 Commercial Trials – Maxstim products v control

The red onion average increase in marketable yield (50-80+mm) was to 3.22 tonnes/ha or a 7.6% increase compared with standard farm practice. Yield increases produced £464/ha of extra margin after Maxstim product cost deducted.

The brown onion average increase in marketable yield (50-80+mm) was to 3.85 tonnes/ha or a 7.14% increase compared with standard farm practice. Yield increases produced £472/ha of extra margin after Maxstim product cost deducted.

All Trials Treated Using the Maxstim Protocol	Control Yield t/ha	Treated Yield t/ha	Increased Yield t/ha	Yield % Increase	% Increase in Margin after Cost of Products	Value of Margin £/ha
	50-80+mm Marketable Yield t/ha					
Red onions all years	30.8	33.3	2.5	8.1	2.5	£182
7 treatments	62.8	62.8	0.0	0.0	0.0	£0
	51.0	54.7	3.7	4.8	5.7	£787
	38.7	38.1	-0.6	-0.9	-6.0	-£556
	49.8	56.0	6.2	8.5	8.7	£957
	30.0	38.9	8.9	24.4	23.2	£1,533
	48.7	52.1	3.4	6.6	3.2	£347
Average for RED onions	44.5	48.0	3.4	7.4	5.3	£464
Brown onions all years	65.6	70.1	4.5	4.1	5.3	£797
7 treatments	55.2	60.3	5.1	7.4	5.5	£601
	31.9	33.5	1.6	1.9	-1.5	-£95
	62.2	69.5	7.3	10.4	8.6	£1,172
	63.0	64.4	1.4	3.7	-0.9	-£122
	33.1	32.5	-0.6	-1.1	-7.6	-£557
	43.6	51.3	7.7	15.0	15.8	£1,512
Average for BROWN onions	50.7	54.5	3.9	5.9	3.6	£472



Key

- Red onions
- Red onions (Statistically significant difference in yield)
- Brown onions
- Brown onions (Statistically significant difference in yield)
- Average

% Total yield change over 14 trials, 7 red and 7 brown onions.

Black circled dots indicate, statistically significant difference in yield.

The data set as a group shows a positive effect of Maxstim Agriculture+ and Cynosa application at a highly significant level ($p < 0.01$).

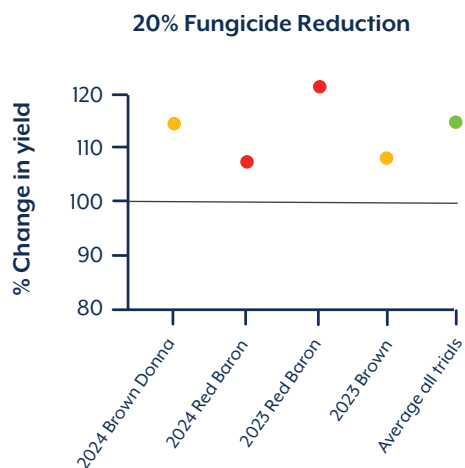
Table 2: Commercial Trials – Maxstim products + 20% reduction in fungicide v control

2023 and 2024 season trials included fungicide reductions across 4 trials to understand the impact on yield and margin with a total 20% reduction in fungicide active ingredient.

The table shows some large yield increases and impressive margins.

Trials carried out in 2023 and 2024 using the Maxstim protocol less 20% growers fungicide input. Margin increase does not include the saving of fungicide costs.

All Trials Treated Using the Maxstim Protocol, with a 20% Reduction in Growers' Fungicide use	Control Yield t/ha	Treated Yield t/ha	Increased Yield t/ha	Yield % Increase	% Increase in Margin after Cost of Products	Value of Margin £/ha
Conventional Irrigation	50-80+mm Marketable Yield t/ha					Reduction in fungicide inputs by 20%
2023 Red Baron	30.0	37.8	7.8	21.9	20.18	£1,334
2024 Red Baron	49.8	54.4	4.6	6.8	5.89	£645
2023 Brown	33.1	35.3	2.2	7.5	1.34	£98
2024 Brown	31.9	38.7	6.8	13.6	15.36	£979



Key

- Red onions
- Brown onions
- Average

Trials in 2023 and 2024 where the grower reduced the total active ingredient of fungicide applied to the crop, with a full protocol applied of Maxstim Agriculture+ and Cynosa.

Yield and margin remained positive over the control.

Tables 3 & 4: Commercial Trials – Results using alternative mechanisms and technology

The data tables below show trial results from Tape Irrigation and also Ecorobotix precision spray application. These methods help with application efficiency and input reduction, delivering directly to the root and leaf of the plants.

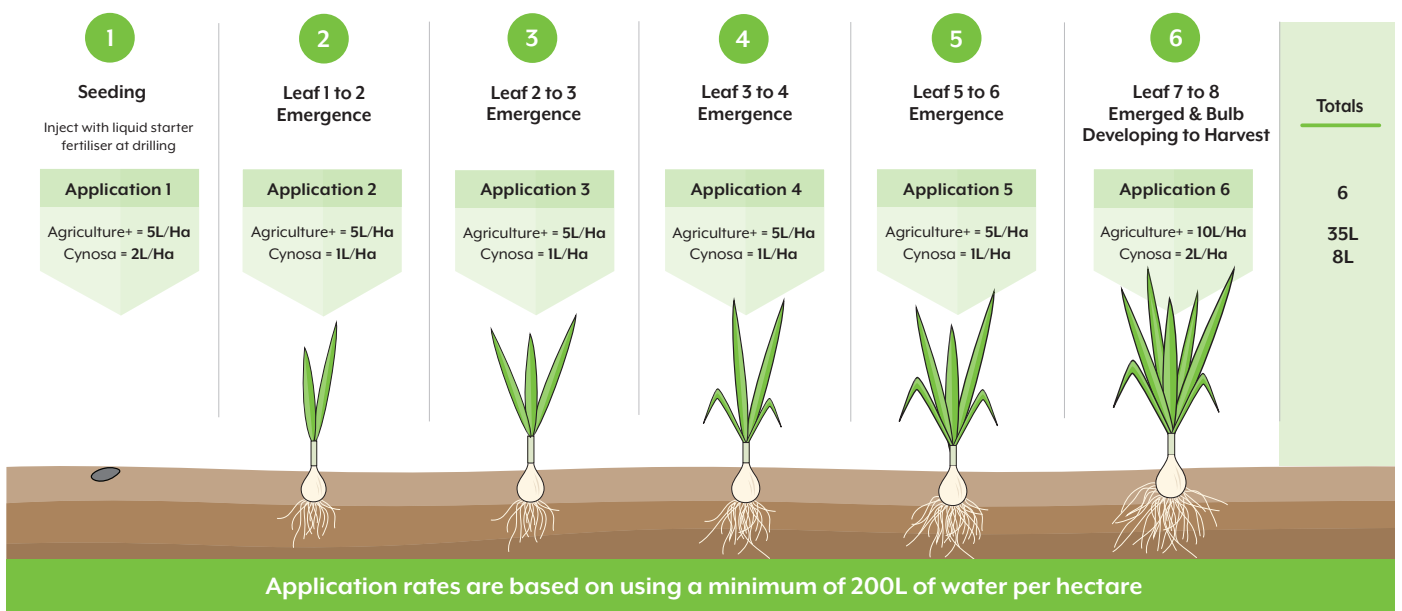
Data shows a yield increase on tape of 8.5t/ha and increased margin by £1512/ha.

Ecorobotix increased yield by 4t/ha and margin close to £800/ha.

REDUCED RATE MAXSTIM PROTOCOL	Control Yield t/ha	Treated Yield t/ha	Increased Yield t/ha	Yield % Increase	% Increase in Margin after Cost of Products	Value of Margin £/ha
Tape Irrigation	50-80+mm Marketable Yield t/ha					
Brown - Reduced protocol application rates	43.6	52.1	8.5	15.0	15.76	£1,512
Brown - 1 application at sowing	43.6	46.1	2.5	6.1	5.28	£507

REDUCED RATE MAXSTIM PROTOCOL	Control Yield t/ha	Treated Yield t/ha	Increased Yield t/ha	Yield % Increase	% Increase in Margin after Cost of Products	Value of Margin £/ha
Ecorobotix Precision Spraying	50-80+mm Marketable Yield t/ha					
Red - Reduced protocol application 2024	51.0	54.7	3.7	4.8	5.72	£787
Brown Numbito - Reduced protocol application 2024	65.6	70.1	4.5	4.1	5.28	£797

Conventional spray application protocol



Tape Irrigation and Ecorobotix precision spraying protocol guides are also available.

For more information on how you can incorporate Maxstim complex biostimulants into your crop maintenance program please call one of our experts:

Tim Cannon
 Email: tim.cannon@maxstim.com
 Mobile: 07884 586191

Phil Kingsmill
 Email: phil.kingsmill@maxstim.com
 Mobile: 07860 269996

Leanne Coleman
 Email: leanne.coleman@maxstim.com
 Mobile: 07552 097554

Tony Kelly
 Email: tony.kelly@maxstim.com
 Mobile: 07974 435417

www.maxstim.com

Maxstim
 Creating New Standards in Biostimulants

Maxstim™ is a trademark of Maxstim Ltd.