



Agrocote[®] Max

Trial results

Broccoli

(Brassica oleracea italica)

Conclusions

Higher yields - 8% increase in marketable yield = 1t / ha

Steered by soil temperature, nitrogen is released according to plant needs and improves marketable yield by an extra 1t / ha

Fewer applications – lower costs

A single application of Agrocote Max saves time and money, reducing the cost of labour and fuel by around £15 / ha per application

Higher Nitrogen Use Efficiency (NUE) - up by 30%

Agrocote Max is much more efficient than conventional N-fertilisers due to its controlled release technology. A 30% increase in NUE equals an extra 4kg of broccoli per kg of N applied

Positive ROI - extra £2104 / ha

Yield increase provides extra profit to growers and makes Controlled Release Fertilisers (CRF) a reliable solution to fertilise open field soil grown crops

N 44%

P 0% P₂O₅

K 0% K₂O





When

2022
Planting: July
Harvest: November



Where

Lincolnshire, UK



Crop

Broccoli
(var. Calabrese)



Soil type

Medium light

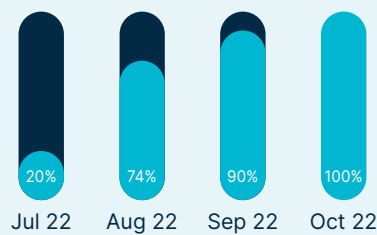


Measurements

- Total and marketable yield
- Nitrogen Use Efficiency

Cumulative monthly release of N during crop cycle

Controlled release of nitrogen reduces losses by leaching, volatilisation and denitrification thereby increasing its effectiveness to plants.



ICL's app – CRF Timer simulates the release of nitrogen, based on local weather conditions.

Try it yourself!



<http://icl-growingsolutions.com>



Objective

To evaluate the benefits of a single application of controlled release nitrogen, Agrocote Max, on Nitrogen Use Efficiency (NUE) and the yield of broccoli. This is compared to split applications of conventional nitrogen products which are frequently used as standard farm practice.

Trial station and set-up

OAT Ltd. randomised block design with 4 repetitions

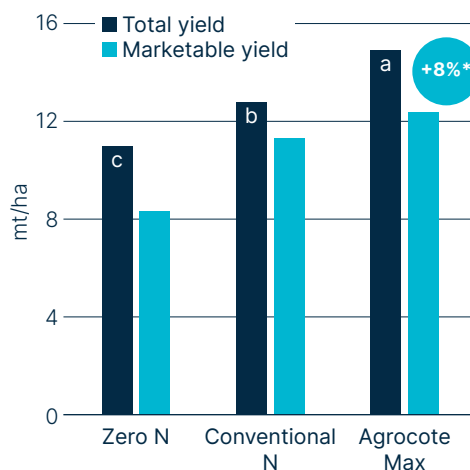
Treatments

Treatment	Product	N rate, kg/ha	Timing
Zero N	Zero nitrogen	-	-
Conventional N	Ammonium nitrate 34.5-0-0	150 75	Before planting 4-5 weeks after
Agrocote Max	Agrocote Max 44-0-0, 1-2M, 100% coated N	225	Before planting

Based on soil analysis, all treatments received the same level of P and K before planting

Results

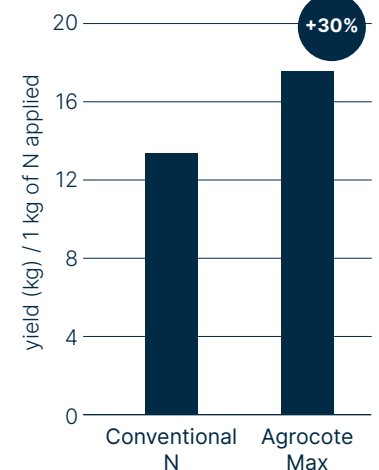
Yield



Statistically significant differences at $p=0.05$

* versus AN

Nitrogen Use Efficiency (NUE)



Economical evaluation

Differences	Gross income, £/ha	Extra cost of fertilisation, £/ha	Gross profit, £/ha
Agrocote Max vs Conventional-N	2144	40	2104

* + extra £15 / ha from fertiliser application savings

Gross profit was calculated based on broccoli market price of 2.33 £/kg and deducting extra fertilisation cost/ha. (Sources: ahdb.org.uk/GB-fertiliser-prices | fwi.co.uk/prices-trends/horticulture-prices) NUE, Nitrogen Use Efficiency, calculated as Agronomic Efficiency based on economical yield, $AE = (Y_f - Y_o) / F$.