



# Agrocote<sup>®</sup> Max

## Trial results

# Broccoli

*(Brassica oleracea italica)*

### Conclusions

#### Higher yields - up by 8%

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

#### Fewer applications – lower costs

A single base fertilization with Agrocote Max eliminates the need for multiple fertilizer applications thus saving costs of labor and fuel.

#### Higher NUE - up by 30%

Compared to conventional N-fertilizers, Agrocote Max reduces losses caused by leaching, volatilization and denitrification. Therefore, it increases nitrogen use efficiency. In this experiment by 30% - extra 4 kg of broccoli for each kg of N applied

#### Positive ROI - extra 2104 £/ha

Yield increase brings extra profit to growers and makes Controlled Release Fertilizers (CRF) a reliable solution to fertilize open field soil grown crops

---

**N** 44%

---

**P** 0% P<sub>2</sub>O<sub>5</sub>

---

**K** 0% K<sub>2</sub>O

---





## 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



## Objective

To evaluate the impact of a single application of fully coated nitrogen, like Agrocote Max, on Nitrogen Use Efficiency 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. Randomized block design with 4 repetitions

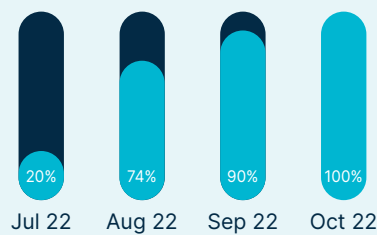
## Treatments

| Treatment      | Product                                  | N rate, kg/ha | Timing                             |
|----------------|--|---------------|------------------------------------|
| Zero N         | Zero nitrogen                            | -             | -                                  |
| Conventional N | Ammonium nitrate 34.5-0-0                | 150<br>75     | Before planting<br>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

## Cumulative monthly release of N during crop cycle

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



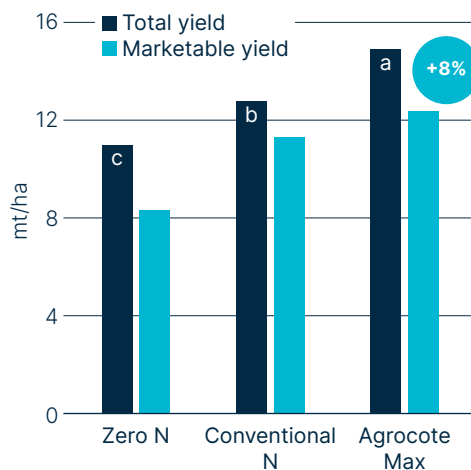
ICL's app – CRF Timer simulates the release of nitrogen, based on local weather conditions.

Try it yourself!

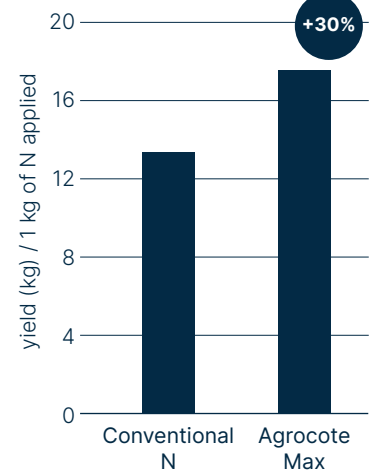


## Results

### Yield



### Nitrogen Use Efficiency



Statistically significant differences at  $p=0.05$

## Economical evaluation

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

Gross profit was calculated based on broccoli market price of 2.33 £/kg and deducting extra fertilization cost/ha. (Sources: [ahdb.org.uk/GB-fertiliser-prices](http://ahdb.org.uk/GB-fertiliser-prices) | [fwi.co.uk/prices-trends/horticulture-prices](http://fwi.co.uk/prices-trends/horticulture-prices)) NUE, Nitrogen Use Efficiency, calculated as Agronomic Efficiency based on economical yield,  $AE = (Y_F - Y_0)/F$ .



[www.icl-growingsolutions.com](http://www.icl-growingsolutions.com)