



Knowledge grows

# OSR Starter Fertilizers



Banding fertilizer at the time of drilling OSR can help to:

- Provide key nutrients (N & P) close to the seed
- Improve the establishment of oilseed rape
- Increase the efficiency of nutrient uptake
- Meet NVZ autumn N restrictions without compromising crop production

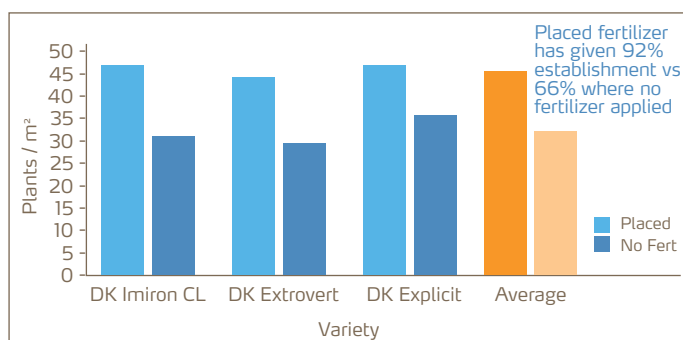
## Principle of Fertilizer Banding

The principle behind banding fertilizer at drilling is to target applications close to the seed.

This concept allows lower rates to be applied as the application is concentrated near to where the seed is placed and not applied to bare soil between the rows. This is of greater importance for phosphate, which does not move in soil to the same extent as nitrogen, therefore its proximity to emerging seedling roots is important to optimise efficiency.

Yara's most recent autumn nitrogen work in oilseeds highlighted an optimum rate of 60-70kgN/ha, returning a 0.54t/ha yield response where broadcast onto the surface, but this optimum fell to 25-30kgN/ha when placed. In autumn 2014 the differences in establishment where fertilizer has been placed compared to where no fertilizer was applied were marked, as can be seen from the 3x3 site at Saxilby in the graph below.

Placed Yara Fertilizer Improves Early Establishment by 40%  
Plant population assessment six weeks after drilling (3x3 Saxilby, 2014)



At Flawborough Farms in Nottinghamshire the difference in crop from where the placement fertilizer was missed in autumn 2014 was very visual from emergence right through to flowering, as can be seen from the images below.

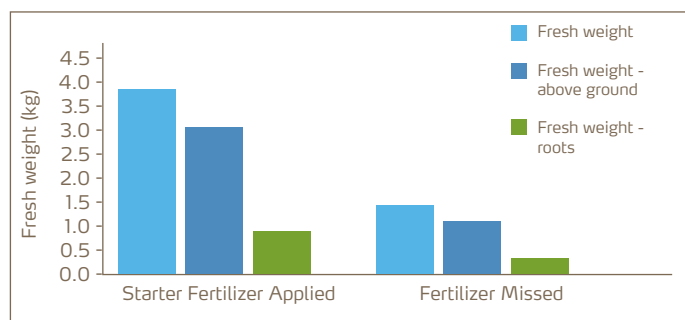


Flawborough Farms 2015

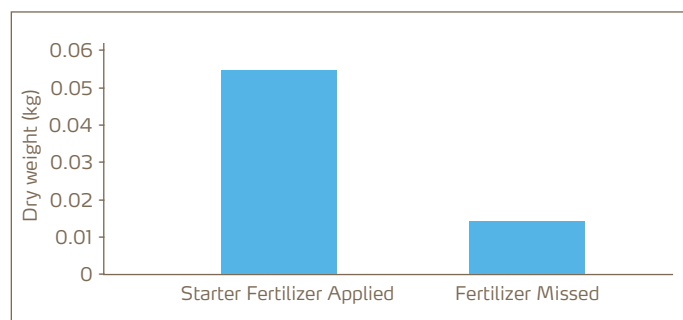
This showed an increase in above ground fresh matter of over 300%, whilst there was an increase in root dry weight of nearly 400%.

# OSR Starter Fertilizer

Analysis of fresh weight



Analysis of dry weight



## Fertilizer Options

Low application rates are required to prevent compromising work rates, therefore fertilizer quality is a key component - Yara's liquid fertilizers are clear solutions, formulated from the highest quality ingredients.

Boron is also an important nutrient for oilseed crops in the autumn. Where severe autumn weather conditions might restrict field operations it may be beneficial to include a low rate of YaraVita Bortrac 150 in the mix. Trials in 2012 showed a 0.32t/ha increase from including boron at drilling.

## Product Recommendations

Yara produces over 350 different liquid NPKS grades. Popular 'starter' grades include the following:

| Starter Fertilizer                 | App. rate l/ha | Nutrients supplied kg/ha |                               |                  |                |
|------------------------------------|----------------|--------------------------|-------------------------------|------------------|----------------|
|                                    |                | N                        | P <sub>2</sub> O <sub>5</sub> | K <sub>2</sub> O | Trace elements |
| Chafer™ 25-12.5-0                  | 100            | 25                       | 12.5                          |                  |                |
| Chafer™ 16-16-0                    | 125            | 20                       | 20                            |                  |                |
| Chafer™ 8-24-0                     | 125            | 10                       | 30                            |                  |                |
| Chafer™ 16.5-33-0                  | 91             | 15                       | 30                            |                  |                |
| Chafer™ 18-27-0                    | 111            | 20                       | 30                            |                  |                |
| Starter Solution Plus 11-38-3+TE's | 105            | 12                       | 40                            | 3                | Cu, Mn, Zn     |

When banding nutrients, care should be taken to ensure fertilizer is not left too close to the seed. High nutrient concentrations close to the seed may impact germination.

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