



The revolutionary foliar fertiliser range

## Latest trials reinforce efficiency findings



Fertiliser Services

New trial data reinforces the efficacy of **PolyNPlus**, BFS's revolutionary foliar fertiliser, in significantly reducing the total nitrogen required for optimum crop performance. Formulated with ureic polymers, **PolyNPlus** eliminates nitrate losses and minimises ammonia emissions – a high priority for the UK government. When applied in a coordinated programme with soil-applied nitrogen, the result is high yields and increased grain protein content using less nitrogen than in standard farm practice. As **PolyNPlus** can be tank-mixed with crop protection products, it reduces the number of passes needed, saving time and application costs.

**Here are the main findings of a series of trials conducted in the UK during 2019 to test the efficacy of PolyNPlus:**

### Velcourt trial

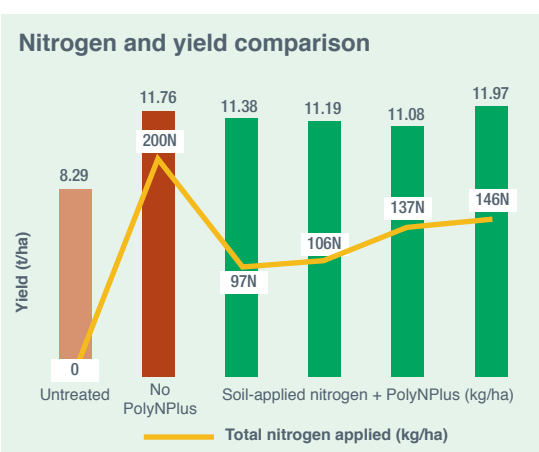
Velcourt, international farm managers and agronomists, conducted a trial on Crusoe winter wheat in Casthorpe, Lincolnshire. It measured the effects of different application rates and timings between soil-applied nitrogen only and soil-applied nitrogen with **PolyNPlus**. The study showed that, using **PolyNPlus**, significantly

lower levels of nitrogen were required to produce comparable or better yields.

Soil-applied nitrogen was used in late February and mid-March as a base, as shown in the table (below left). Subsequently, various amounts of **PolyNPlus** were applied as shown. The graph below shows the yield achieved from each crop.

Nitrogen per hectare	Late Feb	Mid March	Late April	Mid May	Mid June	Total N per hectare
Untreated	0	0	0	0	0	0
No PolyNPlus	40	80	80	0	0	200
Including PolyNPlus:						
- 97N	40	40	8.5	8.5	0	97
-106N	40	40	8.5	8.5	9	106
-137N	40	80	8.5	8.5	0	137
-146N	40	80	8.5	8.5	9	146

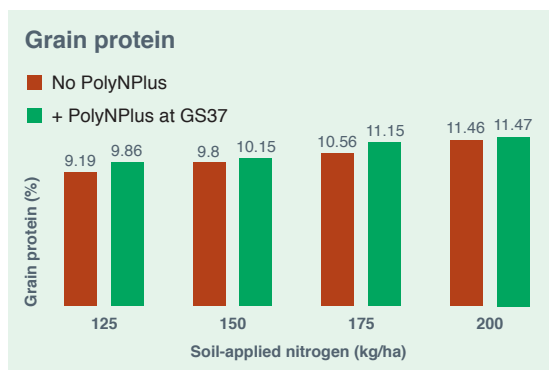
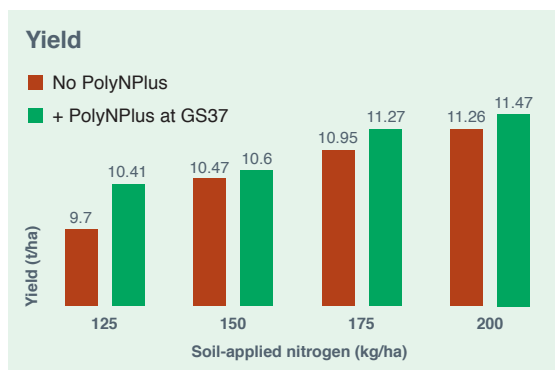
■ Kg/ha soil-applied N    ■ Kg/ha PolyNPlus



## NIAB TAG trial

NIAB, one of Britain's oldest agricultural research centres, conducted a series of trials which showed that **PolyNPlus** had positive effects on grain yield and protein content in

KWS Zyatt winter milling wheat. Significantly, as the yield chart (below left) shows, these were more pronounced when smaller quantities of soil-applied nitrogen were used.



## The key findings

The data from the trials shows that:

- Provided adequate soil-applied nitrogen is used in the first two applications before growth stage 32, two applications of **PolyNPlus** can replace the third application of soil-applied nitrogen. As a result, high yields can be achieved with less total nitrogen.
- **PolyNPlus** potentially will increase the functional protein (glutenin and gliadin) in the grain of milling wheat thus improving the baking quality of flour such as dough elasticity. Further trials will be conducted to quantify the increase in protein.
- **PolyNPlus** is safe to apply direct to the leaf. No phytotoxicity or scorch was noticed during trials.
- **PolyNPlus** is particularly useful during dry spells when a crop's uptake of soil-applied nitrogen is low.
- Since **PolyNPlus** is extremely efficient, there is no risk of nitrate losses and minimal risk of ammonia emissions.

In addition, **PolyNPlus** can be tank-mixed with crop protection products, thus reducing the number of passes needed and saving application costs.

## About PolyNPlus

**PolyNPlus** contains molecules of variable chain lengths. The shorter chains are immediately available to the plant while the less soluble, longer chains become available gradually over several weeks. As a result, **PolyNPlus** is at its most effective and contributes to the plant's nutritional needs over a longer period during the growing phase. The **PolyNPlus** range includes standard popular mixes such as: 30-0-0-18SO<sub>3</sub>+MgO+Mn. However, BFS is uniquely able to formulate **PolyNPlus** to meet the specific trace element requirements of each individual crop.

## Applying PolyNPlus improves the efficiency of nitrogen usage (NUE)

The **PolyNPlus** range of products represents a significant breakthrough in the industry's efforts to improve the efficiency of nitrogen usage by changing the way farmers use fertilisers. These products anticipate regulations the government is expected to introduce to reduce the agricultural industry's ammonia emissions following on from its Clean Air Strategy 2019.

### How to use PolyNPlus as a soil-applied fertiliser replacement

- Use adequate soil-applied fertiliser at the start of the growing season and before GS32.
- Once there is enough crop biomass/canopy to retain the **PolyNPlus** foliar spray, use 25 litres of **PolyNPlus** diluted in water to make 150 to 200 litres and apply two doses – once at GS39 and once at GS59 – to replace 40 to 60kg/ha of soil-applied nitrogen.

### Note

Local conditions, such as SMN (soil mineral nitrogen) and SNS (soil nitrogen supply), as well as PAN (potential available nitrogen), soil structure, soil moisture and organic matter, should be taken into consideration when using **PolyNPlus** as part of a nitrogen programme. Where any of these are sub-optimal, the response to **PolyNPlus** will be greater.

### PolyNPlus - more to come

The 2019 trials demonstrate that, when used as part of a nitrogen programme, **PolyNPlus** can significantly reduce the total nitrogen requirement as well as saving time and money. Further trials are being undertaken in 2020 to

determine how farmers can use **PolyNPlus** to maximum effect. We would welcome feedback from farmers using **PolyNPlus**.

Please contact BFS Fertiliser Services to find out how to improve the efficiency of your nitrogen usage.

### PolyNPlus in practice

Berkshire farmer Nick Philp has used **PolyNPlus** as part of his nitrogen programme for the last three years with very positive results. In 2019, he used it for both feed and milling wheat. Having used soil-applied nitrogen early in the growing season, Mr Philp subsequently applied **PolyNPlus** up to three times, combined with a variety of fungicides and growth regulators.

*“I found using PolyNPlus to be a cost-effective way of improving yield. On a poor land site, I had the best yields ever. I only used 184 kg/ha of soil-applied nitrogen and two 10 litre PolyNPlus applications at growth stages 32 and 42.”*

Mr Philp also believes that **PolyNPlus** potentially provides greater green leaf retention over a longer period.



### **BFS Fertiliser Services**

BFS has been pioneering new ideas in the crop nutrition industry ever since Anthony Cecil started the business in 1948, constantly developing new formulae to add to its increasingly wide range of fertilisers. Over the years, it has built an unrivalled reputation for innovation and reliability in formulation, production and distribution, and prides itself on the quality of its service. Working alongside leading agronomists, BFS specialists design bespoke programmes for farmers and growers.

Since 2000, BFS has invested heavily in new plant at Ilgars, its five-acre site at Woodham Ferrers in Essex, providing it with a substantial manufacturing and formulation capability. The company has a dedicated transport fleet, operated by its locally-based drivers who deliver our products directly to the farm. BFS has Fertiliser Industry Assurance Scheme (FIAS) accreditation and is a member of the Agricultural Industries Confederation (AIC).



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