

Triticale: Big Yields, Big Potential

www.triticale.net

Triticale is a crop with untapped potential. Recent research has shown triticale to significantly out yield wheat in trials and on-farm. With its greater take-all resistance than wheat it is a good 2nd cereal option, and has potential to go into feed and bioethanol markets.

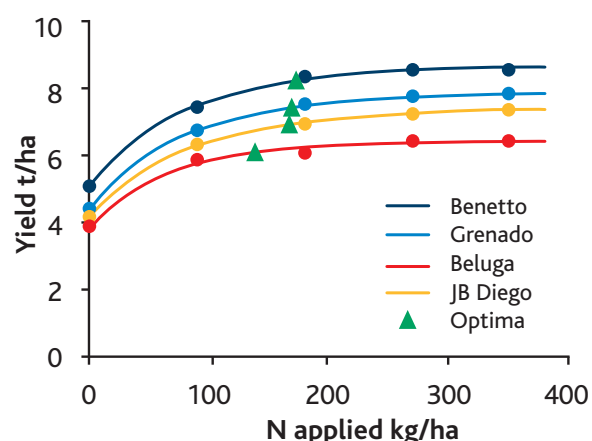
Triticale out yields wheat

Triticale has significantly out yielded wheat in 70% of 26 experiments carried out between 2009 and 2014.

Triticale gave an average yield advantage over wheat of:

- 3% as a 1st cereal (0.24 t/ha)
- 8% as a 2nd cereal (0.71 t/ha)

The optimum N rate of triticale has not been shown to be less than wheat, but the yield advantage when grown as a 2nd cereal is clear at all N rates:



Triticale out yields wheat because it has:

- Greater biomass production
- Greater take-all resistance
- Longer grain filling
- Greater light interception
- More N taken up

On-farm performance

In the 2013/14 season growers planted triticale and wheat side-by-side in the same field to compare their performance under the same management (four fields in total). In each case the triticale out yielded the wheat.

James and Sam Daw farm near Rugeley, Staffs. They compared triticale on two fields (light and heavy soils) and measured yields using yield mapping and a weighbridge.

On the light-land field James reported that 'the triticale got ahead quicker and was always more advanced than the wheat'. They compared the triticale to a breadmaking wheat in this field, and gave it 70 kg/ha less N, but the triticale gave 1.2 t/ha more yield with James commenting 'I've never seen so much straw'.

When compared to feed wheat on the heavy land as a 2nd cereal there was no evidence of take-all and the crops were both treated exactly the same. On this field the triticale out yielded the wheat by 1.1 t/ha.

James and Sam found no particular disease problems in the triticale, despite high pressure in the wheat, and they applied the same PGR programme to both species.

Optimising inputs

Most agrochemicals that are applied to wheat have full or off-label approval for triticale. Inputs that may need particular consideration when growing triticale include:

- **Nitrogen** – the Fertiliser Manual recommends N levels much lower than that of wheat. Work has shown that N rates should be similar to wheat to optimise yield but to reduce lodging risk, rates could be reduced by ~40 kg N/ha compared to wheat applications.
- **PGR** – triticale has a higher lodging risk compared to wheat because of its height and larger ears. A robust PGR programme should be applied in higher risk situations.
- **Fungicides** – triticale is less prone to *Septoria tritici* and take-all than wheat. However, some varieties are prone to yellow rust and/or mildew so any fungicides should target this.

Markets

There are two main potential markets for triticale:

- **Feed** – triticale is known for its high Lysine content which is good for pigs. This has been confirmed by recent studies and along with higher yields and a lower cost can lead to advantages for rations.
- **Bioethanol** – ongoing work will result in certification that will allow triticale to be accepted as a bioethanol feedstock in the UK. It is already routinely used in Eastern Europe.

Gross Margins

When you compare triticale and wheat grown as a 2nd cereal the advantage from growing triticale is >£60/ha, despite a lower grain price.

This comes from an improved yield of grain and straw as well as lower input costs, meaning unit costs of production for triticale are lower than wheat.

	2nd Wheat	Triticale
Grain yield (t/ha)	7.5	8.1
Grain price	£130	£120
Grain output (£/ha)	£975	£972
Straw output (£/ha)	£140	£151
Seed & treatment	£70	£70
N fertiliser (£/ha)	£174	£139
Other fertilisers	£80	£86
Fungicides	£100	£70
Insecticides/ herbicides	£70	£70
PGRs	£15	£20
Total variable costs (£/ha)	£509	£455
Gross margin (£/ha)	£606	£668
Triticale advantage		£62

Find out more...

For more details, visit the website

www.triticale.net

This leaflet contains
information from research
co-funded by

Innovate UK
Technology Strategy Board

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