**BTS 3325**

**THE EARLY STARTER**

- Rhizomania tolerant
- High adjusted tonnes: 103.1%
- High sugar yield: 103.0%
- Very high sugar content: 18.3%
- Excellent ESB and NSB characteristics

**Breeders Comment:**

“Annually a small part of the national crop is drilled in the early part of March. Early Sown Bolting tolerance for varieties sown this early is a key characteristic and BTS 3325 has proven performance for this sector, both in trials and commercially in the UK. BTS 3325 has the potential to outyield many of the traditional varieties sown in the early sown group segment with the additional benefits of very high sugar content, superior rust and powdery mildew tolerance. Isn’t it time you moved on from your old favourite to BTS 3325?”

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**BTS 1140**

**RAISING THE BAR IN YIELD**

- Rhizomania tolerant
- Extremely high adjusted tonnes: 107.6%
- Extremely high sugar yield: 108.0%
- Very high root yield: 108.0%
- High sugar content: 18.0%
- For normal & late sowing; excellent NSB characteristics

**Breeders Comment:**

“The 2019 Recommended List shows that BTS 1140 yield potential is significantly above the most widely grown varieties in 2018. BTS 1140 has shown excellent bolting tolerance when sown from mid-March onwards, combined with good emergence characteristics and good tolerance to rust. BTS 1140 should be a strong consideration for your 2019 cropping programme. Be a part of the grower group which yet again raises the bar in sugar yield production.”

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**Sowing period**

- March
- April
RECOMMENDED LIST OF SUGAR BEET VARIETIES 2019
(Based on trials from 2015-2017)

RZ1 RHIZOMANIA VARIETIES

<table>
<thead>
<tr>
<th>Sabatina KWS</th>
<th>Salamanka KWS</th>
<th>Cayman</th>
<th>Aurora</th>
<th>Hornet</th>
<th>Haydn</th>
<th>Springbok</th>
<th>Daphna</th>
<th>BTS 1440</th>
<th>Karissa KWS</th>
<th>Cartona KWS</th>
<th>BTS S80</th>
<th>BTS 3225</th>
<th>Jura</th>
<th>Flitser</th>
<th>Degas</th>
<th>Guaguin</th>
<th>Fiethly</th>
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<tbody>
<tr>
<td>R</td>
<td>R</td>
<td>R (C)</td>
<td>R</td>
<td>R (C)</td>
<td>R (C)</td>
<td>R (C)</td>
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<td>PR1</td>
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<td>PR2</td>
<td>PR1</td>
<td>PR2</td>
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AYPR/BCN as claimed by the Breeder

| Adjusted Tonnes % of C=100%² | 113.7t/ha | 103.9 | 103.4 | 100.9 | 100.7 | 100.2 | 99.9 | 99.4 | 107.9 | 107.6 | 106.2 | 103.9 | 103.7 | 103.1 | 102.4 | 101.8 | 101.6 | 101.3 | 100.2 | 99.5 | 104.9 |
| Sugar Yield % of C=100%² | 17.3t/ha | 104.1 | 103.5 | 101.0 | 100.9 | 100.1 | 99.9 | 99.4 | 108.3 | 108.0 | 106.0 | 103.9 | 103.7 | 103.0 | 103.0 | 103.0 | 102.4 | 101.5 | 102.0 | 100.4 | 99.7 | 105.0 |
| Root Yield % of C = 100%² | 95.5t/ha | 105.7 | 104.0 | 101.7 | 102.7 | 99.2 | 100.2 | 99.0 | 110.4 | 108.0 | 107.0 | 103.8 | 103.3 | 102.2 | 105.0 | 105.0 | 106.0 | 100.9 | 104.0 | 101.7 | 100.8 | 106.0 |
| Sugar Content % | 18.1% | 17.8 | 18.0 | 18.0 | 17.8 | 18.3 | 18.1 | 18.2 | 17.8 | 18.0 | 17.9 | 18.1 | 18.2 | 18.3 | 17.8 | 17.5 | 18.2 | 17.7 | 17.9 | 17.9 |
| BOLTERS per 100,000 plants/ha | MEAN | 95% lsd | 99.9% lsd |
| Early Sowing, before 5 March³ | 4,689/ha | 6,709 | 8,476 | 7,750 | 8,863 | 3,699 | 6,186 | 5,887 | 8,078 | 5,442 | 7,570 | 7,185 | 4,188 | 3,256 | 5,109 | 7,091 | 2,846 | 3,365 | 2,221 | 15,482 |
| Normal Sowing | 54/ha | 138 | 198 | 40 | 33 | 28 | 52 | 52 | 30 | 79 | 84 | 14 | 0 | 99 | 26 | 19 | 9 | 14 | 30 | 23 | 30 | 0 | 117 |
| PRE-GAPPING ESTABLISHMENT⁴ | Control | 100% | 98.6 | 101.9 | 101.6 | 99.1 | 99.8 | 98.7 | 99.0 | 100.1 | 99.0 | 95.5 | 99.7 | 101.5 | 98.1 | 97.4 | 99.3 | 99.4 | 99.9 | 99.7 | 100.8 | 98.4 |
| Disease (1 = high leaf infection, 9 = very low leaf infection)⁵ | Rust | 5.0 | 6.4 | 5.7 | 4.5 | 4.9 | 5.6 | 3.9 | 5.6 | 6.1 | (5.2) | (8.8) | 6.0 | 5.8 | (6.6) | (7.2) | 2.8 | (5.6) | (4.0) | 2.9 | (4.7) | (3.4) |
| Powdery Mildew | (3.6) | (5.0) | (5.6) | (3.7) | (2.4) | (3.6) | (3.7) | (3.4) | (6.1) | - | (5.5) | (5.0) | (5.2) | - | (3.8) | (2.7) | - | (5.0) | (2.9) | - |

OTHER CLAIMS

| AYPR (Aggressive rhizomania) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| BCN (as claimed by breeder) | - | - | - | Y | - | - | - | Y | - | Y | - | Y | - | Y | - | Y | - | - | - |

RL SYSTEM


BREEDER/UK CONTACT⁶

<table>
<thead>
<tr>
<th>Breeder</th>
<th>KWS</th>
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<td>STR</td>
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</tbody>
</table>

Mean of control values include Stingray which is no longer listed.
1. Newly listed varieties (PR1/PS1) have results from three years using approximately 2 kg breeders’ seed. Thereafter commercial seed should be used in RL trials. (See supplementary table).
2. Yields based on an average plant population of 108,000 plants/ha in these trials. Differences in yields of less than 3% should be treated with reserve.
3. The bolters from normal sowings are applicable for sowing after mid-March in most seasons.
4. Differences of 4% or less in the variety establishment scores are not statistically significant.
5. Observations taken from inoculated trials not taken to yield.
6. BTS = Betaseed, KWS = KWS UK Ltd, LG = Limagrain UK Ltd, STR = Strube Sugar Beet UK Ltd, SV = SESVanderHave UK Ltd, MH = MariboHilleshog
Full dataset available at www.bbro.co.uk
BTS 860
WORTH ITS WEIGHT IN SUGAR

- Rhizomania tolerant
- Very high adjusted tonnes & sugar yield: 103.7%
- Very high sugar content: 18.2%
- Top emergence characteristics
- For normal & late sowing; very good NSB characteristics

Breeders Comment:
"With one of the best emergence figures on the 2019 Recommended List, consistent top performance and its NSB characteristics, no wonder BTS 860 has been one of the most widely grown varieties both in 2017 & 2018. With a pedigree of performance, BTS 860 is again set to retain a wide following for the 2019 season".

Imagrain UK has analysed the 2019 BBRO Recommended List and produced a graph (see Chart 1 - next page) to help growers easily choose the right variety.

The varieties have been grouped in 3 categories by their yield potential (horizontal axis). The vertical axis shows the number of Early Sown Bolters, derived from data from Recommended List Early Sown Bolter trials sown before 5 March.

This visual matrix of bolting risk vs yield potential will help point to those varieties we suggest you focus on for your 2019 sugar beet cropping plan.

There are clearly also secondary considerations such as disease tolerance, sugar content etc. to take into account. These can be referred to in the Recommended List summary table on page 6/7 or on the full version on the BBRO web site at www.bbro.co.uk/sugar-beet-varieties/recommended-list

Bolting Risk vs. Yield Potential

Chart 1: Bolting Risk vs. Yield Potential

1. Is the yield potential of the older varieties still competitive? If in 2018 you’re growing a variety on the left side of the 100% adjusted tonnes yield potential line, ask yourself if you judge its yield potential high enough to continue with it in 2019 or switch to a higher yielding variety.

2. Do I plan to drill early? (see orange circle)
If drilling before Mid-March is essential, consider varieties shown below the red dotted line which shows varieties that the Recommended List suggests may be suited to drilling before 15 March. 3. Do I stick to my trusted variety again? (see purple box)
We estimate that two thirds of the 2018 UK sugar beet crop was grown with varieties in this group. Some of these varieties now have lower yield than newer varieties but the higher yielding varieties in this group may lend themselves for repeat sowing for the 2019 season.

4. Varieties for growers looking to progress their yield (see blue box)
This group shows yield potential in sugar beet is still increasing. The yield difference between some of the varieties in this group and all varieties in the other groups is significant, so growers should ensure they grow at least one variety out of this group to maximise their returns in 2019.

10000 9000 8000 7000 6000 5000 4000 3000 2000 1000
98 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

Crop Yield - Adjusted tonnes % of controls

Bolters per 100,000 plants/ha - early sowing before mid March

98 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

Kortessa KWS
KWS Salamanca
Sabatina KWS
Cantona KWS
Degas
Flixter
Cayman
Haydn
Bloodhound
Firefly
Jura
Gauguin
Springbok
Hornet
Aurora
Philina KWS (AYPR) = 104.9 Yield v 15482 Bolters

102 106 99 103 107 100 104

Chart 1: Bolting Risk vs. Yield Potential
VARIETY POSITIONING FOR YOUR CHOSEN ROUTE

**BTS 860**
EXCELLENT YIELD, RELIABLE & CONSISTENT. A MAINSTAY FOR THE UK CROP

**BTS 1140**
EXTREMELY HIGH YIELDING, PUSHING YIELD BOUNDARIES

**BTS 3325**
RELIABLE HIGH YIELDING VARIETY WITH VERY HIGH SUGAR CONTENT, SUITABLE FOR EARLY SOWING

BREEDERS SOWING PERIOD ADVICE

<table>
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<th>Variety</th>
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<th>April</th>
<th>May</th>
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Note: any rating shown in this publication has been extracted from the 2019 BBRO Sugar Beet Recommended List.