

**SUPPLEMENTARY DATA - RECOMMENDED LIST OF SUGAR BEET VARIETIES 2022 (Based on trials from 2018-2020)  
UNTREATED DATA from 2 trials in 2018, 2 trials in 2019 and 3 trials in 2020**

<b>Rz1 rhizomania varieties</b>				Daphna	BTS1140	Kortessa KWS	BTS1915	BTS5770	Kajjana KWS	BTS3020	Wren	Evalotta KWS	BTS4100	Sancha KWS	Advena KWS	Lacewing	Philina KWS	Maruscha KWS	Smart Rixta KWS	Smart Janninka KWS	
<b>Status: (C) = control variety <sup>1</sup></b>				R(C)	R (C)	R (C)	PR2	PR1	PR1	PR1	PR1	PR2	PR2	PR1	PR3	PR2	S (C)	PS1	PS1	PS1	
<b>AYPR/BCN/ALS/virus as claimed by the Breeder</b>				BCN	-	-	-	-	BCN	-	-	-	-	-	-	BCN	AYPR	Virus <sup>6</sup>	ALS	ALS	
<b>CROP YIELDS</b>		<b>MEAN</b>				<b>95% lsd</b>															
Adjusted tonnes % of C=100% <sup>2</sup>		97.2 t/ha	100.0	6.5	102.0	101.1	100.7	108.4	104.9	102.8	101.7	99.3	98.4	97.7	97.2	95.9	95.9	96.2	91.4	93.5	85.4
Sugar yield % of C=100% <sup>2</sup>		15.6 t/ha			102.0	101.1	100.7	108.4	104.9	102.8	101.7	99.3	98.4	97.7	97.2	95.9	95.9	96.2	91.4	93.5	85.4
Root yield % of C=100% <sup>2</sup>		91.9 t/ha			102.3	100.6	99.0	108.1	101.8	101.7	100.0	103.1	98.1	93.6	95.4	94.2	94.7	98.1	89.8	93.6	86.3
Sugar content %		17.0%			17.0	17.1	17.3	17.1	17.5	17.2	17.3	16.5	17.0	17.7	17.3	17.3	17.2	16.8	17.3	17.0	16.9
<b>BOLTERS per 100,000 plants/ha</b>		<b>MEAN</b>				<b>99.9% lsd</b>															
Normal sowing <sup>3</sup>		28 /ha		195	0	42	35	74	5	5	42	5	45	0	47	35	30	35	5	54	38
<b>PRE-GAPPING ESTABLISHMENT <sup>4</sup></b>																					
Control		100%			98.9	97.2	99.9	103.1	98.5	101.5	100.0	104.8	100.4	98.6	99.9	100.7	102.6	104.0	98.2	104.8	101.6
<b>TOTAL MEASURED IMPURITIES (IMP/100G SUGAR)</b>		<b>15% above mean of C</b>																			
Control		4.13	4.75		4.21	3.75	4.26	4.34	3.74	3.49	4.16	4.49	4.30	3.56	3.87	3.97	4.01	4.30	4.36	4.34	4.63
<b>RL SYSTEM</b>																					
Year first listed				2017	2018	2018	2020	2021	2021	2021	2021	2021	2020	2019	2020	2019	2020	2018	2021	2021	2019
<b>BREEDER/UK CONTACT <sup>6</sup></b>																					
Breeder				KWS	BTS	KWS	BTS	BTS	KWS	BTS	SV	KWS	BTS	KWS	KWS	SV	KWS	KWS	KWS	KWS	KWS
UK Agent				KWS	LG	KWS	LG	LG	KWS	LG	SV	KWS	LG	KWS	KWS	SV	KWS	KWS	KWS	KWS	KWS

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 102,000 plants/ha in these trials. Differences in adjusted tonnes of less than 6.5% should be treated with reserve.

3 The ratings from normal sowings are applicable for sowing after mid-March in most seasons.

4 Differences in establishment of less than 7.5% should be treated with reserve.

5 BTS = Betaseed, KWS = KWS UK Ltd, LG = Limagrain UK Ltd, SV = SESVANDERHAVE UK Ltd

6 Breeder claims are for tolerance to some of the yellowing viruses

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**UNTREATED DATA from 2 trials in 2018, 2 trials in 2019 and 3 trials in 2020**

<b>Rz1 rhizomania varieties</b> 3-year data					Daphna	BTS1140	Kortessa KWS	BTS1915	BTS5770	Katjana KWS	BTS3020	Wren	Evalotta KWS	BTS4100	Sancha KWS	Advena KWS	Lacewing	Philina KWS	Maruscha KWS	Smart Rixta KWS	Smart Janninka KWS
<b>STATUS (C) = control variety</b>					R(C)	R (C)	R (C)	PR2	PR1	PR1	PR1	PR1	PR2	PR2	PR1	PR3 (C)	PR2	S (C)	PS1	PS1	PS1
<b>AYPR/BCN/ALS/virus as claimed by the Breeder</b>					BCN	-	-	-	-	BCN	-	-	-	-	-	-	BCN	AYPR	Virus	ALS	ALS
<b>ADJUSTED TONNES (Gapped Trials)</b>		T's per ha	Control	95% Isd																	
<b>% Mean of (C)</b>	Mean	97.2	100.0	6.5	<b>102.0</b>	<b>101.1</b>	<b>100.7</b>	108.4	104.9	102.8	101.7	99.3	98.4	97.7	97.2	95.9	95.9	<b>96.2</b>	<b>91.4</b>	93.5	85.4
	2020	102.2			<b>102.2</b>	<b>101.1</b>	<b>99.9</b>	<b>105.8</b>	102.9	100.3	99.6	97.8	<b>93.8</b>	<b>95.1</b>	96.5	<b>92.1</b>	<b>93.8</b>	<b>96.7</b>	<b>94.2</b>	91.6	<b>84.9</b>
	2019	112.4			<b>102.2</b>	<b>100.9</b>	<b>100.7</b>	108.6	103.1	102.1	100.7	97.8	99.6	97.6	98.5	<b>96.6</b>	95.6	<b>96.1</b>	<b>85.9</b>	93.5	84.7
	2018	75.9			<b>101.4</b>	<b>101.1</b>	<b>102.3</b>	113.3	-	-	-	-	106.0	103.0	97.0	102.5	100.9	<b>95.2</b>	-	-	87.7
<b>SUGAR YIELD (Gapped Trials)</b>																					
<b>% Mean of (C)</b>	Mean	15.6			<b>102.0</b>	<b>101.1</b>	<b>100.7</b>	108.4	104.9	102.8	101.7	99.3	98.4	97.7	97.2	95.9	95.9	<b>96.2</b>	<b>91.4</b>	93.5	85.4
	2020	16.4			<b>102.2</b>	<b>101.1</b>	<b>99.9</b>	<b>105.8</b>	102.9	100.3	99.6	97.8	<b>93.8</b>	<b>95.1</b>	96.5	<b>92.1</b>	<b>93.8</b>	<b>96.7</b>	<b>94.2</b>	91.6	<b>84.9</b>
	2019	18.0			<b>102.2</b>	<b>100.9</b>	<b>100.7</b>	108.6	103.1	102.1	100.7	97.8	99.6	97.6	98.5	<b>96.6</b>	95.6	<b>96.1</b>	<b>85.9</b>	93.5	84.7
	2018	12.1			<b>101.4</b>	<b>101.1</b>	<b>102.3</b>	113.3	-	-	-	-	106.0	103.0	97.0	102.5	100.9	<b>95.2</b>	-	-	87.7
<b>ROOT YIELD (Gapped Trials)</b>																					
<b>% Mean of (C)</b>	Mean	91.9			<b>102.3</b>	<b>100.6</b>	<b>99.0</b>	108.1	101.8	101.7	100.0	103.1	98.1	93.6	95.4	94.2	94.7	<b>98.1</b>	<b>89.8</b>	93.6	86.3
	2020	101.2			<b>102.9</b>	<b>100.1</b>	<b>97.3</b>	<b>105.7</b>	100.6	99.0	98.9	100.9	<b>93.7</b>	<b>91.6</b>	94.6	<b>91.6</b>	<b>92.5</b>	<b>99.7</b>	<b>92.8</b>	91.8	<b>86.1</b>
	2019	106.8			<b>101.5</b>	<b>101.3</b>	<b>99.7</b>	107.6	99.1	101.2	97.5	101.1	98.7	92.7	96.3	<b>93.7</b>	93.6	<b>97.4</b>	<b>84.1</b>	93.5	84.8
	2018	66.5			<b>102.0</b>	<b>100.4</b>	<b>101.9</b>	113.9	-	-	-	-	107.1	100.0	96.2	101.1	101.7	<b>95.7</b>	-	-	89.8
<b>SUGAR CONTENT (Gapped Trials)</b>																					
<b>Sugar %</b>	Mean	17.0			<b>17.0</b>	<b>17.1</b>	<b>17.3</b>	17.1	17.5	17.2	17.3	16.5	17.0	17.7	17.3	17.3	17.2	<b>16.8</b>	<b>17.3</b>	17.0	16.9
	2020	16.1			<b>16.0</b>	<b>16.3</b>	<b>16.6</b>	<b>16.2</b>	16.5	16.3	16.2	15.6	<b>16.1</b>	<b>16.7</b>	16.3	<b>16.2</b>	<b>16.3</b>	<b>15.6</b>	<b>16.4</b>	16.0	<b>15.9</b>
	2019	16.8			<b>16.9</b>	<b>16.8</b>	<b>16.9</b>	17.0	17.5	17.0	17.4	16.3	17.0	17.8	17.2	<b>17.4</b>	17.2	<b>16.6</b>	<b>17.2</b>	16.9	16.9
	2018	18.2			<b>18.1</b>	<b>18.3</b>	<b>18.3</b>	18.2	-	-	-	-	18.1	18.8	18.4	18.6	18.1	<b>18.2</b>	-	-	17.9
<b>NORMAL SOWN BOLTERS</b>					Mean of (C)		99.9% Isd														
<b>Bolters/ha (per 100,000 plants)</b>	Mean	28		195	<b>0</b>	<b>42</b>	<b>35</b>	74	5	5	42	5	45	0	47	35	30	<b>35</b>	<b>5</b>	54	38
	2020	21		273	<b>0</b>	<b>86</b>	<b>0</b>	<b>86</b>	0	0	0	0	<b>94</b>	<b>0</b>	119	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	84	<b>74</b>
	2019	26		202	<b>0</b>	<b>0</b>	<b>107</b>	0	0	0	96	0	0	0	0	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	0	<b>0</b>
	2018	54		1 trial only	<b>0</b>	<b>0</b>	<b>0</b>	205	-	-	-	-	0	0	0	225	199	<b>233</b>	-	-	<b>0</b>
<b>PRE-GAPPING ESTABLISHMENT *</b>					Mean of (C)																
<b>Plant population as % mean of (C)</b>	Mean	156			<b>98.9</b>	<b>97.2</b>	<b>99.9</b>	103.1	98.5	101.5	100.0	104.8	100.4	98.6	99.9	100.7	102.6	<b>104.0</b>	<b>98.2</b>	104.8	101.6
	2020	99			<b>101.1</b>	<b>96.5</b>	<b>99.3</b>	<b>102.0</b>	99.5	99.7	98.4	105.0	<b>99.4</b>	<b>97.4</b>	98.5	<b>97.0</b>	<b>102.2</b>	<b>103.2</b>	<b>100.8</b>	101.0	<b>100.2</b>
	2019	209			<b>99.0</b>	<b>97.4</b>	<b>98.9</b>	102.4	96.5	101.3	99.6	103.7	99.7	100.5	96.0	<b>102.3</b>	103.3	<b>104.8</b>	<b>95.2</b>	105.9	99.3
	2018	167			<b>97.1</b>	<b>97.5</b>	<b>101.5</b>	105.0	-	-	-	-	102.0	96.8	105.6	101.4	102.2	<b>103.9</b>	-	-	105.4

Data in bold from commercial seed.

\*- denotes insufficient or no data

\* Note 2020 trials drilled to stand.