

# RECOMMENDED LIST OF SUGAR BEET VARIETIES 2021 (Based on trials from 2017-2019)



Rz1 rhizomania varieties				Daphna	Sabatina KWS	Cantona KWS	BTS 3325	Degas	BTS1915	Evalotta KWS	Kortessa KWS	BTS1140	Avvena KWS	Cafriona KWS	Eldorana KWS	Lightning	Sancha KWS	Lacewing	BTS4100	Conger	Vixen	Puffin	Philina KWS	Smart Rivetta KWS	Smart Janninka KWS	
Status: (C) = control variety <sup>1</sup>				R(C)	R(C)	R(C)	R(C)	R	PR1	PR1	PR3	PR3	PR2	PR1	PR1	PR2	PR1	PR1	PR1	PR2	PR2	PR2	PS3	PS1	PS1	
AYPR/BCN as claimed by the Breeder				BCN	-	BCN	-	-	-	-	-	-	-	-	-	-	-	BCN	-	-	-	-	AYPR	ALS	ALS	
<b>CROP YIELDS</b>	<b>MEAN</b>	95% lsd																								
Adjusted tonnes % of C=100% <sup>2</sup>	118.1 t/ha	100.0	2.8	102.6	99.9	99.1	98.4	96.7	108.1	103.0	101.9	101.8	101.1	100.7	100.6	100.5	100.4	100.4	100.1	98.5	98.3	96.6	101.4	92.5	88.7	
Sugar yield % of C=100% <sup>2</sup>	18.1 t/ha			102.8	100.2	98.9	98.3	96.7	108.2	103.0	102.2	101.8	101.1	100.8	100.5	100.9	100.3	100.2	99.6	98.9	98.9	96.7	101.5	92.7	88.9	
Root yield % of C=100% <sup>2</sup>	101.4 t/ha			104.3	101.7	98.0	97.3	96.8	108.8	102.9	103.5	102.4	100.3	101.5	99.5	103.8	99.8	99.1	97.1	100.3	101.0	97.4	102.4	93.6	89.6	
Sugar content %	18%			17.6	17.6	18.0	18.0	17.8	17.7	17.8	17.6	17.7	18.0	17.7	18.0	17.3	17.9	18.0	18.3	17.5	17.5	17.7	17.7	17.6	17.7	
<b>BOLTERS per 100,000 plants/ha</b>	<b>MEAN</b>	95% lsd		99.9% lsd																						
"X" Unsuitable for sowing BEFORE Mid March for new (2021) list				-	X	-	-	X	X	X	-	X	-	-	-	-	-	X	-	-	-	-	X	-	-	
Early sowing, before 5 March <sup>3</sup>	2,199ha	3,315	4,288	2,690	3,457	3,256	1,780	4,058	8,484	3,498	1,972	4,495	2,681	1,265	2,083	3,295	1,667	4,916	1,570	2,034	1,871	1,716	6,278	1,564	2,733	
Normal sowing	16/ha	59	89	9	16	7	9	50	0	0	7	35	9	0	0	0	0	9	0	0	9	0	26	67	0	
<b>PRE-GAPPING ESTABLISHMENT <sup>4</sup></b>																										
Control	100%			98.9	101.1	100.7	99.2	101.5	103.7	102.5	100.2	100.0	99.6	98.1	100.1	102.4	100.6	102.3	98.6	99.7	101.3	101.2	102.3	95.2	98.6	
<b>DISEASE (1 = high leaf infection 9 = very low leaf infection) <sup>5</sup></b>																										
Rust	4.3			4.3	4.9	4.3	3.8	6.0	(8.7)	(2.2)	7.7	5.0	(3.6)	(1.4)	(1.7)	(5.9)	(4.1)	(3.6)	(4.3)	(5.1)	(5.5)	(4.4)	3.0	(3.4)	(3.7)	
Powdery mildew	5.5			(5.6)	(5.0)	(5.8)	(5.5)	(2.5)	(4.2)	(4.2)	(5.7)	(4.6)	(3.6)	(5.6)	(5.1)	(4.8)	(3.9)	(4.0)	(2.9)	(5.1)	(3.7)	(4.2)	(4.6)	(5.4)	(3.0)	
<b>RL SYSTEM</b>																										
Year first listed				2017	2015	2016	2017	2017	2020	2020	2018	2018	2019	2020	2020	2019	2020	2020	2019	2019	2019	2019	2018	2020	2019	
<b>BREEDER/UK CONTACT <sup>6</sup></b>																										
Breeder				KWS	KWS	KWS	BTS	STR	BTS	KWS	KWS	BTS	KWS	KWS	KWS	SV	KWS	SV	BTS	SV	SV	SV	KWS	KWS	KWS	
UK Agent				KWS	KWS	KWS	LG	STR	LG	KWS	KWS	LG	KWS	KWS	KWS	SV	KWS	SV	LG	SV	SV	SV	KWS	KWS	KWS	

Mean of control values include BTS 860 which is no longer listed.

1 Newly listed varieties (PR1/PS1) have results from three years using approximately 2 kgs breeders' seed. Thereafter commercial seed should be used in RL trials. (See supplementary table).

2 Yields based on an average plant population of 103,100 plants/ha in these trials. Differences in adjusted tonnes of less than 2.8% 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 3.7% should be treated with reserve.

5 Observations for rust taken from inoculated trials that are not taken to yield. Powdery mildew data taken from main series using 2018 & 2019 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

Brackets indicate figure derived from fewer than 3 years of data

# RECOMMENDED LIST OF SUGAR BEET VARIETIES 2021 (Based on trials from 2017-2019)



Rz1 rhizomania varieties 3-year data					Daphna	Sabatina KWS	Cambrona KWS	BTS 3325	Degas	BTS1915	Evalotta KWS	Kortessa KWS	BTS1140	Advana KWS	Catrina KWS	Eldorana KWS	Lightning	Sancha KWS	Lacewing	BTS4100	Conger	Vixen	Puffin	Philina KWS	Smart Rivetta KWS	Smart Janninka KWS
STATUS (C) = control variety					R(C)	R(C)	R(C)	R(C)	R	PR1	PR1	PR3	PR3	PR2	PR1	PR1	PR2	PR1	PR1	PR1	PR2	PR2	PR2	PS3	PS1	PS1
AYPR/BCN as claimed by the Breeder					BCN	-	BCN	-	-	-	-	-	-	-	-	-	-	-	BCN	-	-	-	-	AYPR	ALS	ALS
ADJUSTED TONNES (Gapped Trials) T's per ha			Control	95% lsd																						
% Mean of (C)	Mean	118.1	100.0	2.8	102.6	99.9	99.1	98.4	96.7	108.1	103.0	101.9	101.8	101.1	100.7	100.6	100.5	100.4	100.4	100.1	98.5	98.3	96.6	101.4	92.5	88.7
	2019	118.6			101.5	100.5	99.0	97.5	96.3	108.0	101.9	99.6	102.9	99.9	98.1	98.5	99.9	100.7	100.7	101.8	98.3	96.2	93.8	101.4	90.8	89.9
	2018	106.7			101.8	98.2	99.4	99.5	97.7	107.9	103.3	101.3	98.9	103.3	102.6	101.2	101.7	100.1	101.1	99.8	98.3	99.8	96.5	99.0	92.3	89.7
	2017	129.8			104.0	101.0	99.0	98.1	96.0	108.4	103.6	104.4	103.6	100.1	100.9	101.7	99.7	100.5	99.5	99.0	99.0	98.7	98.7	103.6	94.0	86.9
SUGAR YIELD (Gapped Trials)																										
% Mean of (C)	Mean	18.1			102.8	100.2	98.9	98.3	96.7	108.2	103.0	102.2	101.8	101.1	100.8	100.5	100.9	100.3	100.2	99.6	98.9	98.9	96.7	101.5	92.7	88.9
	2019	18.3			102.1	100.9	98.7	97.4	96.6	108.3	101.7	100.1	102.8	100.1	98.4	98.7	100.5	100.7	100.3	100.9	99.1	97.9	94.2	101.8	91.0	90.2
	2018	16.3			101.9	98.5	99.1	99.5	97.6	108.0	103.4	101.6	99.2	103.1	102.7	100.9	102.1	99.8	100.8	99.5	98.4	99.9	96.7	99.1	92.7	90.0
	2017	19.7			104.2	101.2	98.9	97.9	95.9	108.4	103.6	104.4	103.6	100.0	100.9	101.6	100.2	100.6	99.5	98.8	99.2	98.7	98.7	103.6	94.1	86.9
ROOT YIELD (Gapped Trials)																										
% Mean of (C)	Mean	101.4			104.3	101.7	98.0	97.3	96.8	108.8	102.9	103.5	102.4	100.3	101.5	99.5	103.8	99.8	99.1	97.1	100.3	101.0	97.4	102.4	93.6	89.6
	2019	108.2			103.6	102.2	98.1	96.5	97.7	109.1	101.4	102.0	103.0	100.7	99.8	99.6	102.5	100.5	98.8	97.6	101.9	102.9	95.4	103.2	91.7	90.8
	2018	90.8			103.3	100.2	97.7	98.9	97.9	109.0	103.9	103.1	100.1	102.0	103.0	98.9	104.8	98.3	99.6	97.5	99.3	101.0	98.5	99.8	94.5	91.0
	2017	106.9			105.7	102.6	98.3	96.5	94.9	108.5	103.4	105.2	104.0	98.3	101.6	100.0	103.9	100.8	98.9	96.3	99.9	99.5	98.3	104.2	94.3	87.2
SUGAR CONTENT (Gapped Trials) %																										
Sugar %	Mean	17.8			17.6	17.6	18.0	18.0	17.8	17.7	17.8	17.6	17.7	18.0	17.7	18.0	17.3	17.9	18.0	18.3	17.5	17.5	17.7	17.7	17.6	17.7
	2019	16.9			16.7	16.7	17.0	17.1	16.7	16.8	17.0	16.6	16.9	16.8	16.7	16.8	16.6	16.9	17.2	17.5	16.4	16.1	16.7	16.7	16.8	16.8
	2018	18.0			17.8	17.8	18.3	18.2	17.9	17.8	18.0	17.8	17.9	18.2	18.1	18.4	17.6	18.3	18.2	18.4	17.8	17.8	17.7	17.9	17.7	17.8
	2017	18.5			18.2	18.2	18.6	18.7	18.6	18.5	18.5	18.3	18.4	18.8	18.4	18.7	17.8	18.5	18.6	19.0	18.3	18.3	18.6	18.4	18.4	18.4

Rz1 rhizomania varieties 3-year data (continued)					Daphna	Sabatina KWS	Cantona KWS	BTS 3325	Degas	BTS1915	Evalotta KWS	Kortessa KWS	BTS1140	Advena KWS	Catriona KWS	Eldorana KWS	Lightning	Sancha KWS	Lacewing	BTS4100	Conger	Vixen	Puffin	Philina KWS	Smart Rivetta KWS	Smart Janninka KWS
EARLY SOWN BOLTERS "X" Unsuitable for sowing BEFORE Mid March		Mean of (C) (excluding X)	95% lsd	99.9% lsd	-	X	-	-	X	X	X	-	X	-	-	-	-	-	X	-	-	-	-	X	-	-
Bolters/ha (per 100,000 plants) Sown on or before 5th March	Mean	2,199	3,315	4,288	<b>2,690</b>	<b>3,457</b>	<b>3,256</b>	<b>1,780</b>	<b>4,058</b>	8,484	3,498	1,972	4,495	2,681	1,265	2,083	3,295	1,667	4,916	1,570	2,034	1,871	1,716	6,278	1,564	2,733
	2019	4,200	6,551	8,728	<b>6,096</b>	<b>10,298</b>	<b>7,035</b>	<b>2,819</b>	<b>13,859</b>	12,152	7,590	<b>5,653</b>	<b>10,695</b>	<b>7,091</b>	2,581	2,811	<b>6,870</b>	3,831	3,732	2,837	<b>6,727</b>	<b>6,962</b>	<b>4,675</b>	<b>8,863</b>	3,943	6,691
	2018	858	1,864	2,843	<b>832</b>	<b>1,193</b>	<b>1,582</b>	<b>884</b>	<b>1,350</b>	8,661	2,020	<b>718</b>	<b>1,410</b>	1,350	641	1,138	1,065	462	6,447	914	901	472	919	<b>3,315</b>	652	1,570
	2017	2,516	4,370	6,161	<b>3,009</b>	<b>2,698</b>	<b>2,793</b>	<b>2,083</b>	<b>2,802</b>	6,047	2,673	1,339	5,124	1,748	1,004	2,733	3,955	1,754	4,998	1,344	923	1,061	892	8,247	1,118	1,716
NORMAL SOWN BOLTERS		Mean of (C)	95% lsd	99.9% lsd																						
Bolters/ha (per 100,000 plants)	Mean	16	59	89	<b>9</b>	<b>16</b>	<b>7</b>	<b>9</b>	<b>50</b>	0	0	7	35	9	0	0	0	0	9	0	0	9	0	26	67	0
	2019	12	76	123	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>	0	0	23	50	26	0	0	0	0	0	0	<b>0</b>	<b>28</b>	<b>0</b>	<b>54</b>	79	0
	2018	9	69	112	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>	<b>26</b>	0	0	0	50	0	0	0	0	0	26	0	0	0	0	<b>0</b>	86	0
	2017	35	99	145	<b>28</b>	<b>57</b>	<b>26</b>	<b>0</b>	<b>109</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	30	0
PRE-GAPPING ESTABLISHMENT		Mean of (C)																								
Plant population as % mean of (C) Seed sown at 9cm spacing	Mean	198			<b>98.9</b>	<b>101.0</b>	<b>100.7</b>	<b>99.2</b>	<b>101.5</b>	103.7	102.5	100.2	100.0	99.6	98.1	100.1	102.4	100.6	102.3	98.6	99.7	101.3	101.2	102.3	95.2	98.6
	2019	192			<b>98.2</b>	<b>101.7</b>	<b>100.5</b>	<b>100.4</b>	<b>102.0</b>	105.7	103.1	<b>100.4</b>	<b>97.4</b>	<b>101.5</b>	97.6	102.3	<b>101.2</b>	98.7	102.7	97.5	<b>102.1</b>	<b>101.1</b>	<b>100.6</b>	<b>104.3</b>	97.0	101.6
	2018	214			<b>98.6</b>	<b>100.5</b>	<b>100.3</b>	<b>100.1</b>	<b>101.4</b>	103.7	102.9	<b>102.3</b>	<b>101.0</b>	99.2	96.4	100.4	104.2	102.3	102.1	98.6	98.9	103.2	100.8	<b>103.5</b>	95.4	97.0
	2017	185			<b>100.1</b>	<b>100.8</b>	<b>101.4</b>	<b>96.8</b>	<b>101.2</b>	101.7	101.3	97.5	101.5	98.0	100.5	97.4	101.6	100.5	102.0	99.8	97.9	99.3	102.4	98.5	92.9	97.3
RUST		Mean of (C)																								
% leaf infection Natural & inoculated trials (means re-transformed)	Mean	17			<b>17</b>	<b>15</b>	<b>17</b>	<b>20</b>	<b>11</b>	4	32	6	14	22	41	37	11	19	22	18	14	12	17	25	23	21
	2019	19			<b>17</b>	<b>20</b>	<b>20</b>	<b>18</b>	<b>6</b>	4	26	5	9	20	33	32	10	16	19	16	<b>12</b>	<b>15</b>	<b>14</b>	<b>24</b>	23	18
	2018	27			<b>23</b>	<b>24</b>	<b>20</b>	<b>43</b>	<b>24</b>	-	-	<b>13</b>	<b>27</b>	22	-	-	12	-	-	23	17	10	36	<b>21</b>	-	24
	2017	14			<b>16</b>	<b>8</b>	<b>14</b>	<b>14</b>	<b>14</b>	-	-	5	19	-	-	-	-	-	-	-	-	-	-	35	-	-
POWDERY MILDEW		Mean of (C)																								
% leaf infection Natural & inoculated trials (means re-transformed)	Mean	1			<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>28</b>	5	5	1	3	10	1	2	3	7	6	19	2	9	5	3	1	18
	2019	1			<b>2</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>32</b>	18	8	<b>1</b>	<b>5</b>	<b>18</b>	1	7	7	11	11	22	<b>3</b>	<b>10</b>	<b>5</b>	<b>8</b>	2	18
	2018	2			<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>28</b>	0	3	<b>0</b>	<b>2</b>	4	1	0	1	3	2	18	0	18	10	0	0	17
	2017	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Data in bold from commercial seed.