

Recommended list of sugar beet varieties 2019 (based on trials from 2015-2017)



Rz1 rhizomania varieties			Sabatina KWS	Salamanca KWS	Cayman	Aurora	Hornet	Haydn	Springbok	Daphna	BTS1140	Kortessa KWS	Cantona KWS	BTS 860	BTS 3325	Jura	Flixter	Degas	Gauguin	Firefly	Bloodhound	Philina KWS	
Status: (C) = control variety ¹		Control Value	R	R	R(C)	R	R(C)	R(C)	R(C)	PR2	PR1	PR1	PR3	PR3	PR2	PR1	PR1	PR2	PR1	PR3	PR2	PS1	
AYPR/BCN as claimed by the Breeder			-	-	-	BCN	-	-	-	BCN	-	-	BCN	-	-	BCN	BCN	-	BCN	-	-	AYPR	
CROP YIELDS	MEAN																						
Adjusted tonnes % of C=100% ²	113.7 t/ha	100.0	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	17.3 t/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	102.4	101.5	102.0	100.4	99.7	105.0	
Root yield % of C=100% ²	95.5 t/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	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	17.9	
BOLTERS per 100,000 plants/ha	MEAN	95% lsd	99.9% lsd																				
"X" Unsuitable for sowing BEFORE Mid March			X	X	-	-	X	-	X	-	X	-	X	-	-	-	X	-	-	-	-	X	
Early sowing, before 5 March ³	4,689/ha	6,709	8,476	7,750	8,863	3,699	6,499	7,650	3,295	6,816	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 ESTABLISHMENT ⁴																							
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)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	
BCN (as claimed by the Breeder)			-	-	-	Y	-	-	-	Y	-	-	Y	-	-	Y	Y	-	Y	-	-	-	
RL SYSTEM																							
Year first listed			2015	2015	2011	2015	2014	2013	2013	2017	-	-	2016	2016	2017	-	2016	2017	-	2016	2017	-	
BREEDER/UK CONTACT ⁶																							
Breeder			KWS	KWS	SV	SV	SV	STR	SV	KWS	BTS	KWS	KWS	BTS	BTS	SV	MH	STR	STR	SV	SV	KWS	
UK Agent			KWS	KWS	SV	SV	SV	STR	SV	KWS	LG	KWS	KWS	LG	LG	SV	MH	STR	STR	SV	SV	KWS	

BTS Betaseed
KWS KWS UK Ltd
LG Limagrain UK Ltd
STR Strube Sugar Beet UK Ltd
SV SESVanderHave UK Ltd
MH MariboHilleshög

Mean of control values include Stingray which is no longer listed

- 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)
- 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
- The bolters from normal sowings are applicable for sowing after mid-March in most seasons
- Differences of 4% or less in the variety establishment scores are not statistically significant
- Observations taken from inoculated trials not taken to yield

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Rz1 rhizomania varieties 3-year data				Sabatina KWS	Salamanca KWS	Cayman	Aurora	Hornet	Haydn	Springbok	Daphna	BTS1140	Kortessa KWS	Cantona KWS	BTS 860	BTS 3325	Jura	Flixtor	Degas	Gauguin	Firefly	Bloodhound	Philina KWS	
Status: (C) = control variety				R	R	R(C)	R	R(C)	R(C)	R(C)	PR2	PR11	PR1	PR3	PR3	PR2	PR1	PR1	PR2	PR1	PR3	PR2	PS1	
AYPR/BCN as claimed by the Breeder				-	-	-	BCN	-	-	-	BCN	-	-	BCN	-	-	BCN	BCN	-	BCN	-	-	AYPR	
ADJUSTED TONNES (Gapped Trials)		T's per ha	Control Value																					
% Mean of (C)	Mean	113.7	100.0	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	
	2017	121.7		107.7	106.8	101.5	101.6	101.1	99.5	98.7	110.9	110.5	111.3	105.6	104.4	104.6	101.9	102.9	102.4	101.9	100.5	99.2	110.5	
	2016	105.6		102.3	101.2	100.9	101.2	100.5	98.1	100.7	105.9	107.5	103.8	102.5	102.9	102.6	102.8	101.2	102.3	102.1	100.3	99.2	100.9	
	2015	114.1		101.5	102.1	100.4	99.2	98.9	102.1	98.7	106.8	104.7	103.1	103.6	103.8	102.1	102.6	101.3	100.0	99.8	99.9	100.0	103.1	
SUGAR YIELD (Gapped Trials)		T's per ha																						
% Mean of (C)	Mean	17.3		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	102.4	101.5	102.0	100.4	99.7	105.0	
	2017	18.5		107.9	106.8	101.5	101.8	101.0	99.7	98.6	111.1	110.5	110.4	105.5	104.3	104.5	102.1	103.3	102.3	102.1	100.6	99.3	110.6	
	2016	16.1		102.5	101.5	100.9	101.5	100.4	98.1	100.9	106.5	107.8	104.2	102.5	103.0	102.6	103.3	102.2	102.2	102.4	100.5	99.5	101.4	
	2015	17.4		101.7	102.1	100.6	99.4	98.8	102.0	98.6	107.1	104.7	103.2	103.6	103.7	102.0	103.0	101.8	100.0	100.2	100.2	100.2	103.2	
ROOT YIELD (Gapped Trials)		T's per ha																						
% Mean of (C)	Mean	95.5		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	106.0	100.9	104.0	101.7	100.8	106.0	
	2017	100.1		109.5	106.6	101.8	104.0	100.0	100.6	97.8	112.9	111.0	112.8	105.0	103.5	103.1	103.4	105.9	101.4	103.7	101.4	100.2	111.3	
	2016	90.0		104.4	103.2	101.5	103.4	99.7	98.4	100.9	109.5	108.9	106.7	102.8	103.6	102.8	106.1	107.3	101.8	104.3	102.1	101.3	103.4	
	2015	96.9		103.1	102.0	101.7	100.8	97.8	101.6	98.3	108.9	104.9	103.1	103.6	102.8	100.8	104.6	104.9	99.5	102.8	101.5	101.0	103.8	
SUGAR CONTENT (Gapped trials)		Mean of (C)																						
Sugar %	Mean	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	17.9	
	2017	18.5		18.2	18.5	18.4	18.1	18.7	18.3	18.6	18.2	18.4	18.3	18.6	18.7	18.7	18.2	18.0	18.6	18.2	18.4	18.3	18.4	
	2016	17.9		17.6	17.6	17.8	17.6	18.0	17.9	17.9	17.4	17.7	17.5	17.8	17.8	17.9	17.4	17.1	18.0	17.6	17.6	17.6	17.5	
	2015	17.9		17.7	18.0	17.8	17.7	18.1	18.0	18.0	17.7	17.9	18.0	18.0	18.1	18.2	17.7	17.4	18.1	17.5	17.7	17.8	17.9	
EARLY SOWN BOLTERS		Mean of (C) (excluding X)	95% lsd	99.9% lsd																				
"X" unsuitable for sowing BEFORE mid-March							X	X	-	-	X	-	X						X					X
Bolters/ha (per 100,000 plants) Sown on or before 5 th March	Mean	4,689	6,709	8,476	7,750	8,863	3,699	6,499	7,650	3,295	6,816	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
	2017	1,582	2,936	4,239	2,698	3,121	879	2,707	1,917	1,410	1,761	3,009	5,124	1,339	2,793	3,093	2,083	845	2,251	2,802	172	742	426	8,247
	2016	8,441	13,191	17,715	11,560	11,764	4,834	9,351	13,622	5,776	12,122	8,226	17,880	13,322	14,382	11,388	8,506	7,035	8,977	12,836	8,183	6,834	4,585	29,409
	2015	7,851	12,521	17,028	16,140	20,677	10,402	11,618	17,880	4,445	15,181	8,795	5,982	8,750	11,647	11,445	4,297	5,138	6,998	10,695	5,699	6,345	3,943	16,906
NORMAL SOWN BOLTERS		Mean of (C)	95% lsd	99.9% lsd																				
Bolters/ha (per 100,000 plants)	Mean	54	138	198	40	33	28	52	52	30	79	84	14	0	99	26	19	9	14	30	23	30	0	117
	2017	64	180	266	67	0	0	0	33	99	30	33	0	0	30	72	0	35	0	130	59	0	0	33
	2016	40	161	252	16	21	47	0	19	19	89	189	33	0	127	0	26	0	35	0	0	19	0	119
	2015	69	297	479	54	84	30	189	130	0	117	0	0	0	140	28	28	0	0	0	28	84	0	205
PRE-GAPPING ESTABLISHMENT		Mean of (C)																						
Plant population as % mean of (C) Seed sown at 9cm spacing	Mean	194		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	
	2017	187		99.9	98.1	99.0	96.7	103.3	99.9	96.5	99.2	100.7	96.7	100.5	100.1	96.0	94.8	100.1	100.4	97.9	99.5	98.7	97.7	
	2016	194		97.0	102.3	101.9	99.4	98.2	98.6	101.5	100.5	99.0	100.5	99.3	105.0	98.7	99.6	100.8	100.6	97.3	100.1	101.0	99.2	
	2015	200		99.2	104.9	103.7	101.0	98.2	97.6	98.8	100.6	97.3	89.0	99.4	99.0	99.5	97.5	97.1	97.1	104.7	99.6	102.4	98.1	
RUST		Mean of (C)																						
% leaf infection Natural & inoculated trials (means re-transformed)	Mean	11		7	9	13	11	9	16	9	7	10	2	8	8	6	5	24	9	15	23	12	19	
	2017	24		8	15	29	22	15	41	15	16	19	5	14	16	14	9	58	14	28	31	18	35	
	2016	6		7	6	8	10	3	8	4	3	-	-	4	4	3	-	15	6	-	14	9	-	
	2015	13		7	9	13	10	13	14	11	-	-	-	8	9	-	-	20	-	-	25	-	-	
POWDERY MILDEW		Mean of (C)																						
% leaf infection Natural & inoculated trials (means re-transformed)	Mean	7		3	2	6	14	7	6	7	1	-	-	2	3	2	-	6	12	-	3	10	-	
	2017	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2016	65		20	13	58	85	75	61	65	11	-	-	15	12	19	-	43	79	-	22	69	-	
	2015	2		1	0	2	5	2	2	3	-	-	-	0	1	-	-	2	-	-	0	-	-	

Data in bold from commercial seed

Additional data tables for impurities and vernalisation days experienced by the early sown bolting trials are available in the variety section of the BBRO website (bbro.co.uk)

Provenance of sugar beet 2015-2017

Supplementary data for the sugar beet RL varieties for 2019

SEED PROVENANCE			Sown 2015		Sown 2016		Sown 2017	
Variety	STATUS (C) = control variety	AYPR/BCN as claimed by the breeder	2016 RL rating	Provenance	2017 RL rating	Provenance	2018 RL rating	Provenance
Sabatina KWS	R	-	PR1	Commercial bulk	PR2	Commercial bulk	PR3	Commercial bulk
Salamanca KWS	R	-	PR1	Commercial bulk	PR2	Commercial bulk	PR3	Commercial bulk
Cayman	R(C)	-	R(C)	Commercial bulk	R(C)	Commercial bulk	R(C)	Commercial bulk
Aurora	R	BCN	PS1	Commercial bulk	PS2	Commercial bulk	PR3	Commercial bulk
Hornet	R(C)	-	PR2	Commercial bulk	PR3(C)	Commercial bulk	R(C)	Commercial bulk
Haydn	R(C)	-	PR3	Commercial bulk	R(C)	Commercial bulk	R(C)	Commercial bulk
Springbok	R(C)	-	PR3(C)	Commercial bulk	R(C)	Commercial bulk	R(C)	Commercial bulk
Cantona KWS	PR3	BCN	Year 3	Breeder's seed	PS1	Commercial bulk	PR2	Commercial bulk
BTS 860	PR3	-	Year 3	Breeder's seed	PR1	Commercial bulk	PR2	Commercial bulk
Firefly	PR3	-	Year 3	Breeder's seed	PR1	Commercial bulk	PR2	Commercial bulk
Flixter	PR1	BCN	Year 3	Breeder's seed	PS1	Breeder's seed	PR2	Breeder's seed
Daphna	PR2	BCN	Year 2	Breeder's seed	Year 3	Breeder's seed	PR1	Commercial bulk
BTS 3325	PR2	-	Year 2	Breeder's seed	Year 3	Breeder's seed	PR1	Commercial bulk
Bloodhound	PR2	-	Year 2	Breeder's seed	Year 3	Breeder's seed	PR1	Commercial bulk
Degas	PR2	-	Year 2	Breeder's seed	Year 3	Breeder's seed	PR1	Commercial bulk
BTS1140	PR1	-	Year 1	Breeder's seed	Year 2	Breeder's seed	Year 3	Breeder's seed
Kortessa KWS	PR1	-	Year 1	Breeder's seed	Year 2	Breeder's seed	Year 3	Breeder's seed
Philina KWS	PS1	AYPR	Year 1	Breeder's seed	Year 2	Breeder's seed	Year 3	Breeder's seed
Jura	PR1	BCN	Year 1	Breeder's seed	Year 2	Breeder's seed	Year 3	Breeder's seed
Gauguin	PR1	BCN	Year 1	Breeder's seed	Year 2	Breeder's seed	Year 3	Breeder's seed

BOLTING EARLY SOWING TRIALS (sown on or before 5 th March)			
Year	Site	Sowing date	Number of vernalisation days
2017	Beal	21 Feb	31.2
2017	Beal	02 Mar	25.7
2017	Saxham	17 Feb	24.2
2017	Saxham	24 Feb	22.5
2017	Cranwell	20 Feb	27.9
2017	Cranwell	27 Feb	25.8
2017			26.2
2016	Beal	25 Feb	41.1
2016	Beal	03 Mar	35.0
2016	Brooms Barn	25 Feb	40.3
2016	Cranwell	19 Feb	49.5
2016	Cranwell	26 Feb	45.0
2016			42.2
2015	Beal	25 Feb	52.1
2015	Beal	05 Mar	45.0
2015	Docking	05 Mar	29.7
2015	Cranwell	21 Feb	42.0
2015	Cranwell	26 Feb	38.3
2015			41.4

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