



Chopin Alveograph and Wet Gluten survey results (harvest 2020)

The annual AHDB Chopin Alveograph and Wet Gluten Survey uses samples of **ukp** and **uks** wheat varieties.

[Information on ukp and uks](#)

ukp and uks

The **ukp** and **uks** classifications make it easier for overseas customers to choose milling wheat, for bread or biscuits, at the required specification. The typical specifications are shown in the table, below.

	ukp 	uks 
Minimum specific weight (kg/hl)	76	75
Maximum moisture content (%)	14	14
Maximum admix (%)	2	2
Minimum Hagberg Falling Number (HFN; s)	250	220
Protein content (%)	11.0–13.0	10.5–11.5
W	170 (min)	70–120
P/L	0.9 (max)	0.55 (max)

ukp  = meets the specification for **ukp** bread wheat for export **uks**  = meets the specification for **uks** biscuit wheat for export

- The W and P/L values are determined by the Chopin Alveograph test, commonly used by overseas buyers
- W represents a measure of the baking strength of a dough. A higher number represents a stronger flour
- L represents the extensibility of the dough (time taken for a bubble to burst)
- P is the maximum pressure required
- A low P/L measure represents a dough which is very extensible with low strength

Varieties included in the survey

The varieties included in the 2020 survey were all on the *AHDB Recommended Lists (RL) for cereals and oilseeds 2020/21*.

[AHDB Recommended Lists](#)

Harvest 2020 results (ukp)

ukp varieties under test:

- Crusoe
- Extase
- KWS Lili
- KWS Siskin
- KWS Zyatt

Variety	Region	Wet Gluten	P	L	P/L	W	G	le
CRUSOE	BEDFORDSHIRE	25.2	47	111	0.42	169	23.4	56.0
CRUSOE	BEDFORDSHIRE	26.7	58	95	0.61	161	21.6	46.9
CRUSOE	BERKSHIRE	29.0	64	93	0.69	177	21.4	47.4
CRUSOE	BUCKINGHAMSHIRE	24.7	52	140	0.37	181	26.3	45.9
CRUSOE	CIRENCESTER	31.6	50	112	0.45	150	23.5	46.8
CRUSOE	DORSET	22.4	64	88	0.73	171	20.8	47.7
CRUSOE	ESSEX	27.3	64	131	0.49	228	25.4	49.1
CRUSOE	ESSEX	27.2	56	133	0.42	216	25.6	53.2
CRUSOE	GLOUCESTERSHIRE	30.8	51	114	0.45	155	23.7	46.8
CRUSOE	HAMPSHIRE	23.2	78	124	0.63	266	24.7	48.9
CRUSOE	HAMPSHIRE	23.6	58	110	0.53	181	23.3	48.0
CRUSOE	HAMPSHIRE	22.6	77	56	1.38	158	16.6	49.1
CRUSOE	HEREFORDSHIRE	27.7	49	127	0.39	177	25.0	50.7
CRUSOE	HEREFORDSHIRE	25.9	56	119	0.47	190	24.2	51.1
CRUSOE	LINCOLNSHIRE	26.1	98	75	1.31	234	19.2	46.6
CRUSOE	LINCOLNSHIRE	31.4	73	128	0.57	237	25.1	46.2
CRUSOE	MILTON KEYNES	24.0	69	137	0.50	250	26.0	48.7
CRUSOE	NORTHAMPTONSHIRE	28.8	79	140	0.56	297	26.3	50.4
CRUSOE	OXFORDSHIRE	23.8	72	85	0.85	209	20.5	53.8
CRUSOE	OXFORDSHIRE	27.8	66	92	0.72	197	21.3	52.0
CRUSOE	OXFORDSHIRE	25.4	67	88	0.76	196	20.8	53.9
CRUSOE	OXFORDSHIRE	24.7	70	76	0.92	184	19.4	53.0
CRUSOE	OXFORDSHIRE	23.1	76	64	1.19	177	17.8	52.2
CRUSOE	OXFORDSHIRE	21.9	74	68	1.09	186	18.3	55.6

CRUSOE	OXFORDSHIRE	25.6	67	98	0.68	222	22.0	57.0
CRUSOE	SUFFOLK	25.3	62	137	0.45	225	26.0	48.9
CRUSOE	WEST SUSSEX	28.0	81	146	0.55	320	26.8	51.3
CRUSOE	WEST SUSSEX	29.2	80	149	0.54	335	27.1	53.0
CRUSOE	WILTSHIRE	26.6	84	92	0.91	241	21.3	51.1
CRUSOE	WILTSHIRE	20.3	63	101	0.62	188	22.3	49.5
AVERAGE		26.0	66.8	107.6	0.7	209.3	22.9	50.4
EXTASE	DORSET	20.0	47	87	0.54	129	20.7	49.1
EXTASE	GLOUCESTERSHIRE	26.9	45	77	0.58	97	19.5	38.5
EXTASE	HAMPSHIRE	23.3	60	165	0.36	258	28.5	50.6
EXTASE	KENT	25.4	61	122	0.50	201	24.5	48.0
EXTASE	KENT	25.1	49	112	0.44	161	23.5	49.5
EXTASE	NORTHAMPTONSHIRE	23.8	50	97	0.52	137	21.9	45.9
EXTASE	NORTHAMPTONSHIRE	25.4	53	82	0.65	130	20.1	44.6
EXTASE	NORTHAMPTONSHIRE	27.6	48	165	0.29	172	28.5	42.4
EXTASE	SHROPSHIRE	20.9	57	52	1.10	107	16.0	45.7
EXTASE	SUFFOLK	32.1	64	149	0.43	268	27.1	53.2
EXTASE	WILTSHIRE	23.4	69	99	0.70	220	22.1	53.9
AVERAGE		24.9	54.8	109.7	0.6	170.9	22.9	47.4
KWS LILI	OXFORDSHIRE	23.5	82	100	0.82	223	22.2	44.1
KWS LILI	LINCOLNSHIRE	26.6	65	58	1.12	118	16.9	37.0
KWS LILI	HAMPSHIRE	24.9	60	146	0.41	203	26.8	43.5
AVERAGE		25.0	69.0	101.3	0.8	181.3	22.0	41.5
KWS SISKIN	KENT	21.3	47	73	0.64	103	19.0	42.9
KWS SISKIN	BEDFORDSHIRE	21.8	34	112	0.30	102	23.5	44.7
KWS SISKIN	BEDFORDSHIRE	22.9	39	97	0.40	97	21.9	41.0
KWS SISKIN	BEDFORDSHIRE	24.6	43	131	0.33	135	25.4	43.2
KWS SISKIN	BEDFORDSHIRE	25.7	47	81	0.58	122	20.0	47.7
KWS SISKIN	CAMBRIDGESHIRE	22.7	35	116	0.30	106	23.9	44.8
KWS SISKIN	CAMBRIDGESHIRE	23.3	40	95	0.42	112	21.6	46.9
KWS SISKIN	CAMBRIDGESHIRE	19.5	37	90	0.41	90	21.1	41.0
KWS SISKIN	ESSEX	23.9	39	156	0.25	129	27.7	39.9

KWS SISKIN	ESSEX	24.1	41	156	0.26	131	27.7	39.0
KWS SISKIN	ESSEX	25.2	48	111	0.43	145	23.4	46.1
KWS SISKIN	ESSEX	22.5	46	103	0.45	129	22.5	44.0
KWS SISKIN	ESSEX	24.4	54	116	0.47	167	23.9	45.7
KWS SISKIN	ESSEX	23.0	47	138	0.34	156	26.1	43.2
KWS SISKIN	GLOUCESTERSHIRE	24.4	37	137	0.27	113	26.0	41.8
KWS SISKIN	HAMPSHIRE	21.8	69	128	0.54	213	25.1	43.4
KWS SISKIN	HAMPSHIRE	22.3	60	54	1.11	108	16.3	40.2
KWS SISKIN	HEREFORDSHIRE	24.1	53	85	0.62	129	20.5	44.0
KWS SISKIN	KENT	24.6	53	78	0.68	126	19.6	45.6
KWS SISKIN	NORTHAMPTONSHIRE	24.9	60	92	0.65	162	21.3	47.3
KWS SISKIN	NORTHAMPTONSHIRE	25.7	72	70	1.03	151	18.6	41.1
KWS SISKIN	NORTHAMPTONSHIRE	25.0	58	63	0.92	115	17.6	40.3
KWS SISKIN	NORTHAMPTONSHIRE	24.0	65	80	0.81	161	19.9	47.0
KWS SISKIN	NORTHAMPTONSHIRE	23.7	66	69	0.96	142	18.4	43.1
KWS SISKIN	WILTSHIRE	23.7	64	82	0.78	168	20.1	49.5
AVERAGE		23.6	50.2	100.5	0.6	132.5	22.0	43.7
KWS ZYATT	BEDFORDSHIRE	24.7	44	117	0.38	156	24.0	53.0
KWS ZYATT	BEDFORDSHIRE	26.8	42	105	0.40	125	22.7	47.7
KWS ZYATT	BEDFORDSHIRE	29.2	65	86	0.76	167	20.6	46.5
KWS ZYATT	BEDFORDSHIRE	29.1	54	136	0.40	181	25.9	45.7
KWS ZYATT	BERKSHIRE	26.8	62	110	0.56	208	23.3	52.2
KWS ZYATT	BERKSHIRE	26.7	74	129	0.57	260	25.2	49.3
KWS ZYATT	CAMBRIDGESHIRE	32.5	58	105	0.55	176	22.7	49.3
KWS ZYATT	CAMBRIDGESHIRE	26.3	51	164	0.31	218	28.4	49.7
KWS ZYATT	CAMBRIDGESHIRE	28.4	63	139	0.45	222	26.2	47.3
KWS ZYATT	CAMBRIDGESHIRE	25.5	66	109	0.61	225	23.2	54.1
KWS ZYATT	CAMBRIDGESHIRE	29.3	60	152	0.39	225	27.4	47.0
KWS ZYATT	DORSET	21.3	64	72	0.89	151	18.8	47.6
KWS ZYATT	EAST SUSSEX	21.8	60	77	0.78	156	19.5	51.2
KWS ZYATT	ESSEX	28.8	58	141	0.41	225	26.4	50.3
KWS ZYATT	ESSEX	27.3	50	89	0.56	148	20.9	53.6

KWS ZYATT	HAMPSHIRE	25.2	56	136	0.41	198	25.9	47.4
KWS ZYATT	HEREFORDSHIRE	28.1	47	91	0.52	123	21.2	45.6
KWS ZYATT	HEREFORDSHIRE	26.3	39	126	0.31	140	24.9	50.6
KWS ZYATT	HERTFORDSHIRE	25.7	58	117	0.50	200	24.0	51.9
KWS ZYATT	HERTFORDSHIRE	24.9	36	117	0.31	122	24.0	50.3
KWS ZYATT	HERTFORDSHIRE	26.6	36	131	0.27	134	25.4	51.6
KWS ZYATT	HERTFORDSHIRE	23.7	47	146	0.32	169	26.8	45.6
KWS ZYATT	HERTFORDSHIRE	25.5	56	108	0.52	166	23.1	46.4
KWS ZYATT	HERTFORDSHIRE	26.7	55	137	0.40	192	26.0	46.8
KWS ZYATT	HERTFORDSHIRE	24.1	50	150	0.33	181	27.2	45.4
KWS ZYATT	HERTFORDSIRE	24.8	62	112	0.55	182	23.5	44.5
KWS ZYATT	KENT	22.8	59	67	0.88	140	18.2	51.8
KWS ZYATT	KENT	27.5	58	132	0.44	203	25.5	47.9
KWS ZYATT	KENT	24.5	57	93	0.61	171	21.4	52.2
KWS ZYATT	KENT	23.5	64	87	0.74	177	20.7	50.1
KWS ZYATT	NORTHAMPTONSHIRE	30.6	75	74	1.01	183	19.1	49.3
KWS ZYATT	OXFORDSHIRE	32.0	63	107	0.59	217	23.0	54.7
KWS ZYATT	SOMERSET	24.9	67	122	0.55	226	24.5	48.2
KWS ZYATT	SOUTH YORKSHIRE	24.6	67	94	0.71	184	21.5	47.6
KWS ZYATT	STEVENAGE	23.9	39	104	0.38	130	22.6	53.6
KWS ZYATT	SUFFOLK	26.2	44	107	0.41	147	23.0	54.0
KWS ZYATT	SURREY	24.2	50	91	0.55	135	21.2	46.9
KWS ZYATT	WARWICKSHIRE	26.9	58	88	0.66	165	20.8	51.5
KWS ZYATT	WILTSHIRE	25.9	58	97	0.60	168	21.9	48.8
KWS ZYATT	WEST SUSSEX	27.9	63	97	0.65	188	21.9	51.6
AVERAGE		26.3	55.9	111.6	0.5	177.1	23.3	49.5

ukp AVERAGE (109 samples)	Wet Gluten	P	L	P/L	W	G	le
	25.4	57.8	107.6	0.6	175.1	22.8	47.9

Harvest 2020 results (uks)

uks varieties under test:

- KWS Barrel
- Bennington
- Elicit
- Firefly
- Leeds
- Revelation
- Zulu

Variety	County	Wet Gluten	P	L	P/L	W	G	le
KWS BARREL	BEDFORDSHIRE	25.5	28	110	0.25	71	23.3	37.9
KWS BARREL	CAMBRIDGESHIRE	24.4	35	83	0.42	72	20.2	35.4
KWS BARREL	BEDFORDSHIRE	27.8	35	148	0.24	98	27.0	34.6
KWS BARREL	NORFOLK	24.8	23	116	0.20	64	23.9	39.6
KWS BARREL	BUCKINGHAMSHIRE	23.4	27	119	0.23	71	24.2	37.7
KWS BARREL	BUCKINGHAMSHIRE	25.3	32	114	0.28	86	23.7	40.0
KWS BARREL	BUCKINGHAMSHIRE	24.1	28	110	0.25	73	23.3	39.3
KWS BARREL	CAMBRIDGESHIRE	23.3	30	137	0.22	84	26.0	36.3
KWS BARREL	BERKSHIRE	24.6	31	110	0.28	82	23.3	39.7
KWS BARREL	OXFORDSHIRE	23.6	34	63	0.54	58	17.6	32.5
KWS BARREL	ESSEX	23.8	27	134	0.20	79	25.7	38.3
KWS BARREL	ESSEX	25.2	25	93	0.27	50	21.4	30.0
KWS BARREL	KENT	24.5	25	115	0.22	62	23.8	36.7
KWS BARREL	HAMPSHIRE	25.8	34	124	0.27	96	24.7	39.8
AVERAGE		24.7	29.6	112.6	0.3	74.7	23.4	37.0
BENNINGTON	ESSEX	27.7	43	131	0.33	118	25.4	37.6
AVERAGE		27.7	43	131	0.33	118	25.4	37.6
ELICIT	ESSEX	25.4	33	103	0.32	65	22.5	29.0
ELICIT	NORFOLK	23.1	36	147	0.24	90	26.9	31.7
ELICIT	SURREY	25.8	31	122	0.25	73	24.5	32.6
ELICIT	BERKSHIRE	25.3	38	68	0.56	68	18.3	33.4
FIREFLY	NORTHAMPTONSHIRE	23.5	21	94	0.22	46	21.5	35.5
FIREFLY	SUFFOLK	23.3	27	81	0.33	60	20.0	40.4

FIREFLY	EAST YORKSHIRE	21.0	45	81	0.56	103	20.0	42.0
FIREFLY	NORFOLK	23.5	26	116	0.22	64	23.9	35.2
FIREFLY	CAMBRIDGESHIRE	26.9	24	99	0.24	51	22.1	31.8
FIREFLY	BUCKINGHAMSHIRE	25.4	32	116	0.28	87	23.9	39.6
FIREFLY	ESSEX	21.4	23	99	0.23	53	22.1	35.6
FIREFLY	ESSEX	27.2	23	121	0.19	57	24.4	34.2
FIREFLY	HAMPSHIRE	24.7	33	102	0.32	84	22.4	39.8
FIREFLY	SUFFOLK	23.1	26	111	0.23	61	23.4	34.1
FIREFLY	NORFOLK	27.0	28	124	0.23	81	24.7	40.0
FIREFLY	NORFOLK	26.8	21	128	0.16	65	25.1	43.0
FIREFLY	HAMPSHIRE	23.5	30	101	0.30	79	22.3	42.1
FIREFLY	WEST SUSSEX	23.8	28	118	0.24	81	24.1	41.4
FIREFLY	BERKSHIRE	23.6	26	124	0.21	72	24.7	38.1
FIREFLY	WILTSHIRE	23.0	27	103	0.26	76	22.5	44.3
AVERAGE		24.4	28.9	107.9	0.3	70.8	23.0	37.2
LEEDS	SUFFOLK	23.1	30	92	0.33	63	21.3	33.3
AVERAGE		23.1	30	92	0.33	63	21.3	33.3
REVELATION	SUFFOLK	24.0	26	98	0.27	47	22.0	26.5
REVELATION	SUFFOLK	23.7	30	97	0.31	61	21.9	30.8
REVELATION	SUFFOLK	28.8	47	94	0.50	108	21.5	37.0
REVELATION	SUFFOLK	22.0	26	78	0.33	47	19.6	29.6
REVELATION	BERKSHIRE	23.9	36	100	0.36	73	22.2	30.0
AVERAGE		24.5	33.0	93.4	0.4	67.2	21.4	30.8
ZULU	KENT	21.0	21	107	0.20	60	23.0	44.1
ZULU	WILTSHIRE	31.2	44	100	0.44	113	22.2	40.4
AVERAGE		26.1	32.5	103.5	0.3	86.5	22.6	42.3

uks AVERAGE (43 samples)	Wet Gluten	P	L	P/L	W	G	le
	24.6	30.1	107.5	0.3	73.1	22.9	36.4

While the Agriculture and Horticulture Development Board seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.