



Danish Preferred 

Stress test
Crop 2020

Results and summary

Committee meeting 24th February 2021.

Varieties for discussion

CB Concord

Applicant: Carlsberg

Breeder: Carlsberg

Special attributes: Null Lox 1 and 2, 0-DMS

CB Courage

Applicant: Carlsberg

Breeder: Carlsberg

Special attributes: Null Lox 1 and 2, 0-DMS

CB Score

Applicant: Carlsberg

Breeder: Carlsberg

Special attributes: Null Lox 1 and 2, 0-DMS, Pro-anthocyanin free, Non GN

LB Belcanto

Applicant: Nordic Seed

Breeder: Limagrain

Special attributes:

Summary

Dear Reader

On the 24th of February 2021, the Danish Preferred committee met. In this document the data for the four varieties; CB Concord, CB Courage, CB Score, LG Belcanto are presented compared to the two standard varieties RGT Planet and KWS Irina. Furthermore, the two varieties SY Scolar and SY Tungsteen are shown in the dataset. Syngenta decided to draw the two varieties before the committee meeting, therefore the data are shown but the variety have not been discussed by the committee.

On the meeting the committee discussed if the proteolytic activity of the varieties should affect the final score of the varieties. The committee decided to show the proteolytic activity values in relation to the calculated expected values in the Index scheme however, the proteolytic activity does not affect the final score, as this is to a high degree up to the maltsters' and brewers' preference.

The committee revised the Danish Preferred Approved list and decided to remove the following varieties from the list: Odyssey, Propino, Quench and Crossway. The varieties were removed for the list due to their decrease in growing area below the defined minimum of 50 ha. of multiplication.

Decisions

The committee recommends which varieties that can move on to industrial testing. Hereafter it is up to the applicant to take decision about continuation in Danish Preferred (Industrial Test). In other words, there is no automatic going forward in the program and the applicant must carefully consider based on yield potential, agronomic performance, barley, and malt quality as well as European coverage, whether the variety has commercial potential as malting barley in Denmark. Please note that before final approval as Danish Preferred variety, a multiplication acreage of minimum 500 hectares will be required.

In the evaluation of the committee, only the malt quality is considered. The attached Index sheet shows that the standard varieties are KWS Irina and RGT Planet. The attached Index sheet shows that the standard varieties KWS Irina and RGT Planet in averaged obtained an index score of 33.

The following varieties showed performance significantly better than the standards and are recommended:

CB Concord, CB Score and LG Belcanto

The following variety showed performance at similar level as the standards and are recommended:

CB Courage

Copenhagen 26. February 2021

On behalf of the committee:

Chairman of the committee Birger Eriksen

Director DAKOFO Asbjørn Børsting

Agronomy - Results from the Danish National Trials and Official Trials, 2019-2020

Variety	Relative Yield in the Mean 2019+2020	Yield Mean	Responses on fungicide (hkg/ha)	Kernel quality	Disease resistance		Earliness and straw characters		Nematodes Mean	I II
					2020	2019	Mean	Mean		
Blanding	100	100	10,2	11,0	94	75	68,0	0	13	9
KWS Irina	98	99	10,4	11,1	96	82	66,6	0	13	3
RGT Planet	101	102	10,0	10,4	97	84	67,8	0	11	6
CB Concord	100	99	101	10,9	98	84	67,9	0	5	6
CB Courage	99	99	98	10,8	97	87	67,3	0	2	6
CB Score	104	103	104	10,5	97	85	66,9	0	12	3
LG Belcanto	103	102	104	11,8	11,1	97	85	67,8	0	17
SY417021 Solar	104	103	104	12,3	10,6	97	86	67,8	0	18
SY Tungsten	104	104	12,2	10,6	97	82	68,1	0	13	8
KWS Irina OT		98		100	98		10,6	97	82	65,9
RGT Planet OT		101		102	101		10,4	96	83	67,2

In blue = results from Official Testing. In black data from National Trials

Barley quality of samples used for micromalting VLB 2020

Parameter	Koldkærgård*	Sejet*	Tystofte*	KWS Irina	RGT Planet	CB Concord	CB Courage	CB Score	LG Belcanto	SY 417021	SY Tungsten
Germination Energy (4ml) %											
Germination	24 hours (%)	69	59	64	72	65	67	55	48	62	73
Germination	48 hours (%)	98	95	98	97	96	97	99	96	98	98
Germination	72 hours (%)	98	97	99	97	98	98	99	98	99	99
Germination	120 hours (%)	98	97	99	98	97	98	99	98	99	97
Water sensitivity (8ml) %											
Germination	24 hours (%)	19	12	17	24	34	6	12	9	11	19
Germination	48 hours (%)	30	22	27	39	50	15	19	14	20	28
Germination	72 hours (%)	33	24	31	43	53	18	20	19	24	24
Germination	120 hours (%)	33	26	32	45	54	20	20	19	26	31
Moisture (%)											
Specific weight (kg/hl)	12,7	13,5	13,2	13,2	13,1	13,2	13,1	12,8	13,1	13,0	13,4
Protein (% dm)	71,3	73,6	70,5	70,53	72,17	72,27	71,37	71,90	71,60	72,17	72,33
Screening >2.8 mm (%)	86,5	89,0	79,2	83,3	87,2	84,5	88,6	86,3	81,5	89,5	78,3
Screening II > 2.5 mm (%)	97,8	98,6	97,2	97,7	98,5	98,0	98,1	97,7	97,5	98,5	97,0
Screening III > 2.2 mm (%)	99,8	99,7	99,9	99,8	100,0	99,9	99,9	99,9	99,8	99,9	99,8
Screening IV < 2.2 (%)	0,2	0,3	0,1	0,2	0,0	0,1	0,1	0,1	0,2	0,1	0,2
Skinned Grains (%)	13,1	9,2	6,9	14,4	7,9	5,9	9,6	12,0	7,3	7,5	13,2

*Average of all 8 varieties for each location, intended to determine how the location affect the results

Maltningsegenstaber V765, Spring barley 2020

Breeders reference	Variety	Viscosity, mPa's			β-glucan, mg/l			Extract			Protein Content			Soluble nitrogen			Kolbach Index, %			Friability, %			Limit of attenuation, %			FAN, β-amylase,												
		Tyskofte			Koldkarlsgård			Tyskofte			Koldkarlsgård			Tyskofte			Koldkarlsgård			Tyskofte			Koldkarlsgård			Tyskofte												
		Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average										
KWS 09320	KWS Irma	1.62	1.50	1.54	1.55	399	218	301	306	83.7	83.5	84.5	83.9	9.1	9.1	8.1	8.8	653	687	677	672	45.0	47.0	52.0	48.0	91.0	93.0	92.3	3	3	3							
LSE0769-3306	RGT Planet	1.58	1.51	1.51	1.53	232	215	160	202	82.8	83.8	84.4	83.7	9.7	9.3	8.7	9.2	744	734	714	731	48.0	49.0	51.0	49.3	86.0	83.0	96.0	91.7	85.8	84.8	84.0	84.9	126	126	141	131	
CB17-5063	CB17-5063 (CB Courage)	1.57	1.49	1.53	1.53	231	268	188	229	82.9	82.4	84.7	83.3	9.7	9.0	8.7	9.1	739	669	685	698	48.0	46.0	49.0	47.7	89.0	88.0	90.0	89.0	85.0	85.1	85.1	85.1	137	122	120	126	
CB18-6024	CB18-6024 (CB Concord)	1.52	1.48	1.49	1.50	122	148	77	116	82.8	82.3	83.6	82.9	9.9	9.9	9.2	8.7	9.3	756	680	720	719	48.0	46.0	52.0	48.7	86.0	94.0	98.0	92.7	85.2	86.2	85.7	85.7	133	123	147	134
CB17-2021	CB17-2021 (CB Score)	1.62	1.48	1.52	1.54	453	250	336	346	83.6	84.0	86.2	84.6	9.7	9.1	8.4	9.1	708	794	684	729	46.0	55.0	51.0	50.7	82.0	89.0	91.0	87.3	85.3	84.5	82.2	84.0	139	155	137	144	
LBN15018-36	LG Belcanto	1.49	1.48	1.46	1.48	122	182	123	142	84.0	83.3	85.0	84.1	9.3	9.4	8.5	9.1	771	697	697	722	52.0	47.0	51.0	50.0	93.0	96.0	97.0	95.3	84.0	85.2	85.7	85.0	140	128	141	136	
SY 416728	SY Tungsten	1.57	1.52	1.54	1.54	275	269	271	272	84.1	83.4	85.5	84.3	9.3	8.8	8.2	8.8	735	682	689	702	49.0	48.0	52.0	49.7	88.0	94.0	94.0	92.0	85.9	83.0	84.2	84.4	123	115	129	122	
SY 417021	SY Solar	1.51	1.47	1.48	1.49	136	96	88	100	83.3	82.7	84.7	83.6	9.5	8.9	8.9	9.1	687	675	733	698	45.0	47.0	52.0	48.0	93.0	95.0	97.0	95.0	83.1	85.4	85.0	84.5	116	116	139	124	

Maltningsegenstaber V765, Spring barley 2019

Breeders reference	Variety	Viscosity, mPa's			β-glucan, mg/l			Extract			Protein Content			Soluble nitrogen			Kolbach Index, %			Friability, %			Limit of attenuation, %			FAN, β-amylase,											
		Tyskofte			Koldkarlsgård			Tyskofte			Koldkarlsgård			Tyskofte			Koldkarlsgård			Tyskofte			Koldkarlsgård			Tyskofte											
		Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average	Selekt	Eskilstup	Average									
KWS 09320	KWS Irma	1.54	1.53	1.52	1.53	360	300	330	330	83.2	83.4	82.5	83.0	9.1	9.9	10.0	9.7	614	650	673	646	42	41	42	42	88	83	87	86	85.5	84.8	84.9	85.1	120	124	127	124
LSE0769-3306	RGT Planet	1.45	1.47	1.50	1.47	123	166	216	168	84.5	83.1	84.3	84.0	8.4	9.9	9.8	9.4	646	656	677	660	48	41	43	44	96	87	90	91	87.1	85.7	85.0	85.9	122	120	122	121
LBN15018-36	LG Belcanto	1.45	1.45	1.42	1.44	137	132	50	106	85.0	84.4	83.7	84.3	9.1	9.9	10.0	9.7	692	699	769	720	47	44	48	46	94	93	98	95	85.2	85.3	86.2	85.6	133	133	149	138
SY 416728	SY Tungsten	1.49	1.50	1.47	1.49	223	231	162	205	84.9	83.7	82.6	83.7	9.1	9.6	9.9	9.5	634	633	724	664	44	41	46	44	93	89	94	92	84.5	84.7	84.7	84.6	117	117	130	121
SY 417021	SY Solar	1.46	1.45	1.45	1.45	105	85	52	81	85.0	83.4	84.9	84.4	8.9	9.7	9.8	9.5	642	621	684	649	45	40	44	43	95	94	97	95	85.4	85.2	84.6	85.1	126	138	128	131

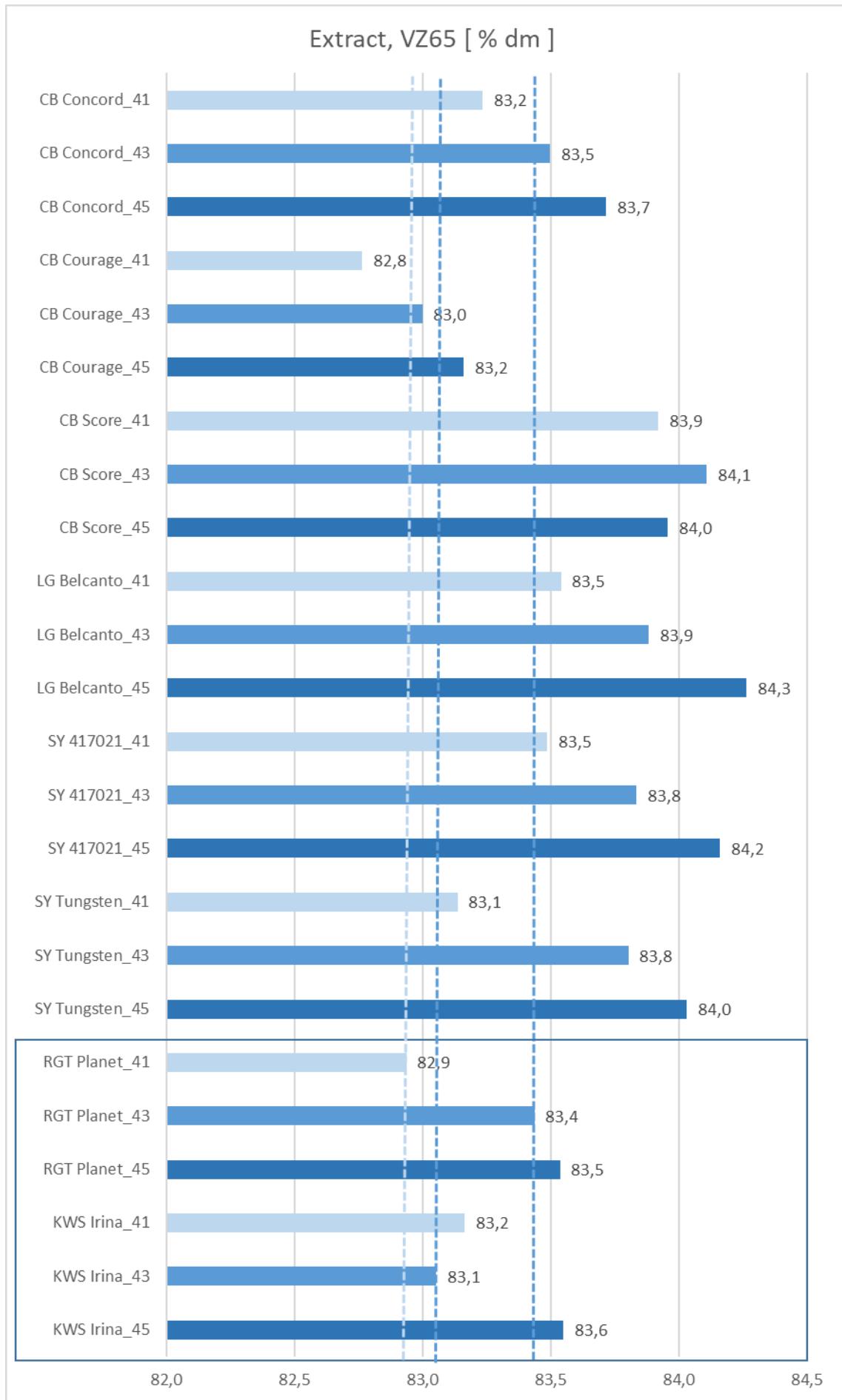
Index Result

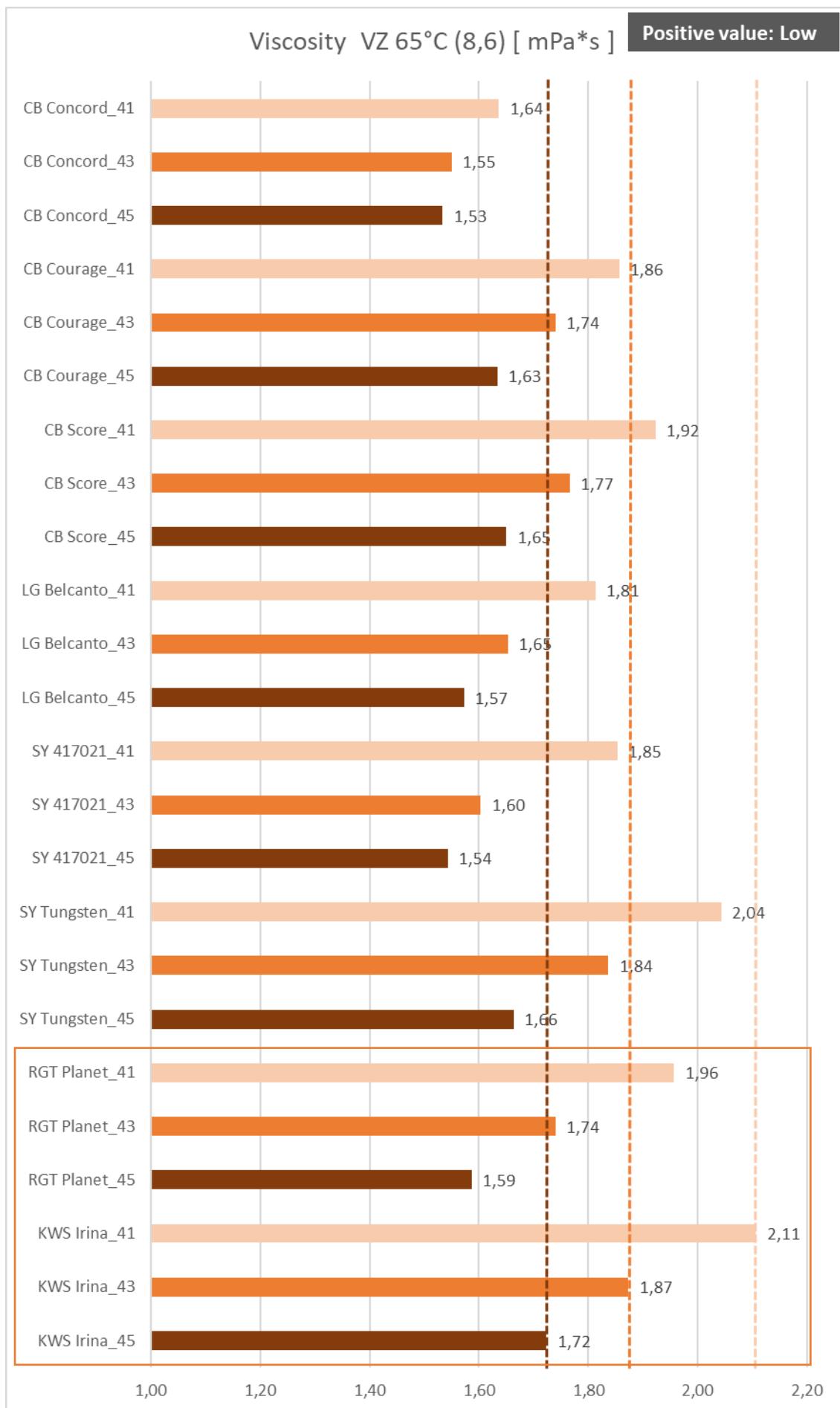
Explanation to the color indications: the best of the standards is for each parameter and steeping degree assigned light green. Values lower than best standard are marked with increasingly intens green color.

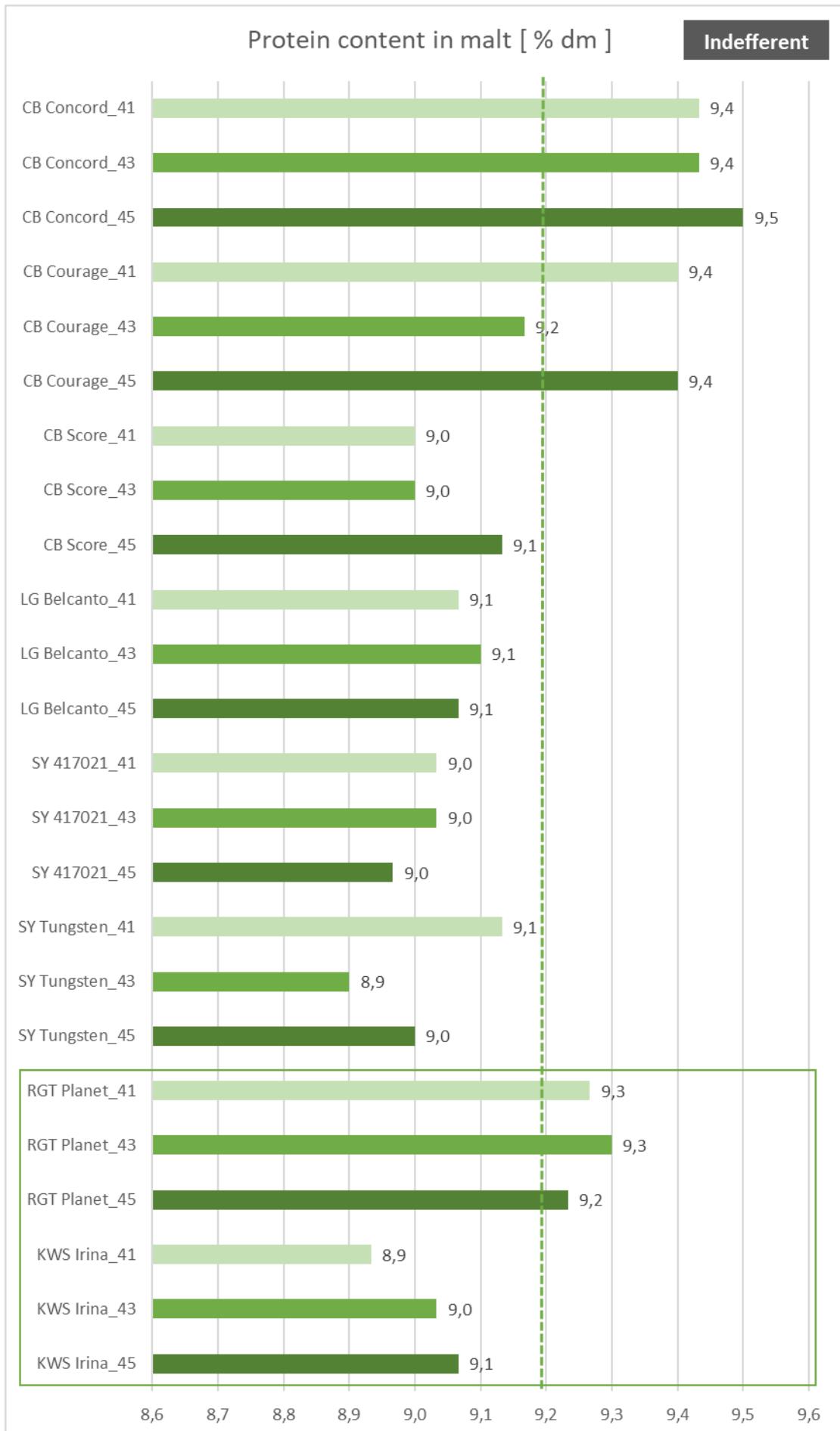
Red is used for values being two points higher than best standard, the higher value the more intense red.

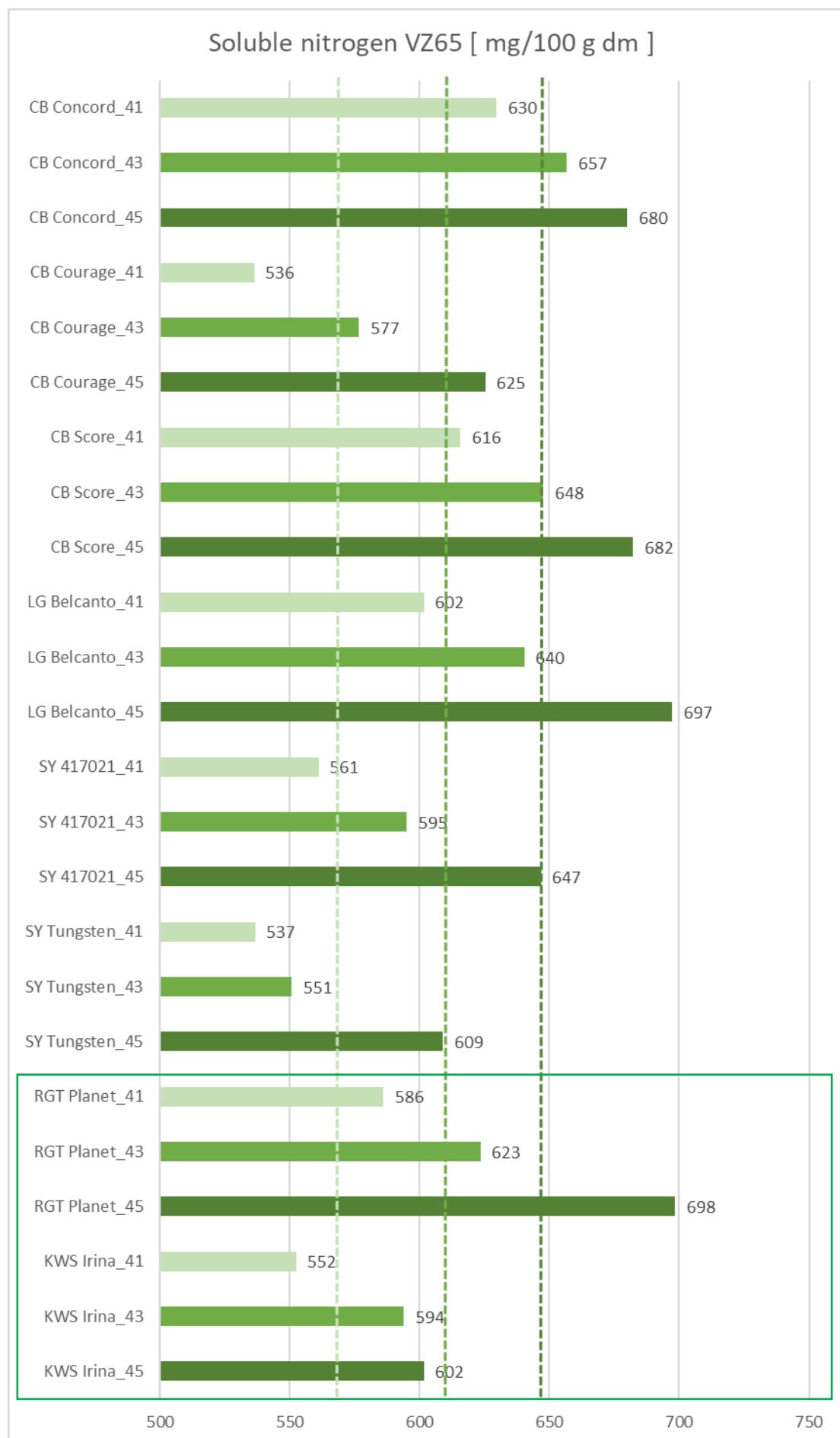
= deviation from the calculated value (calculated from the degree of modification).

* - 2 * Reproducti on or Distribution of this document is illegal without the express written permission of the author.

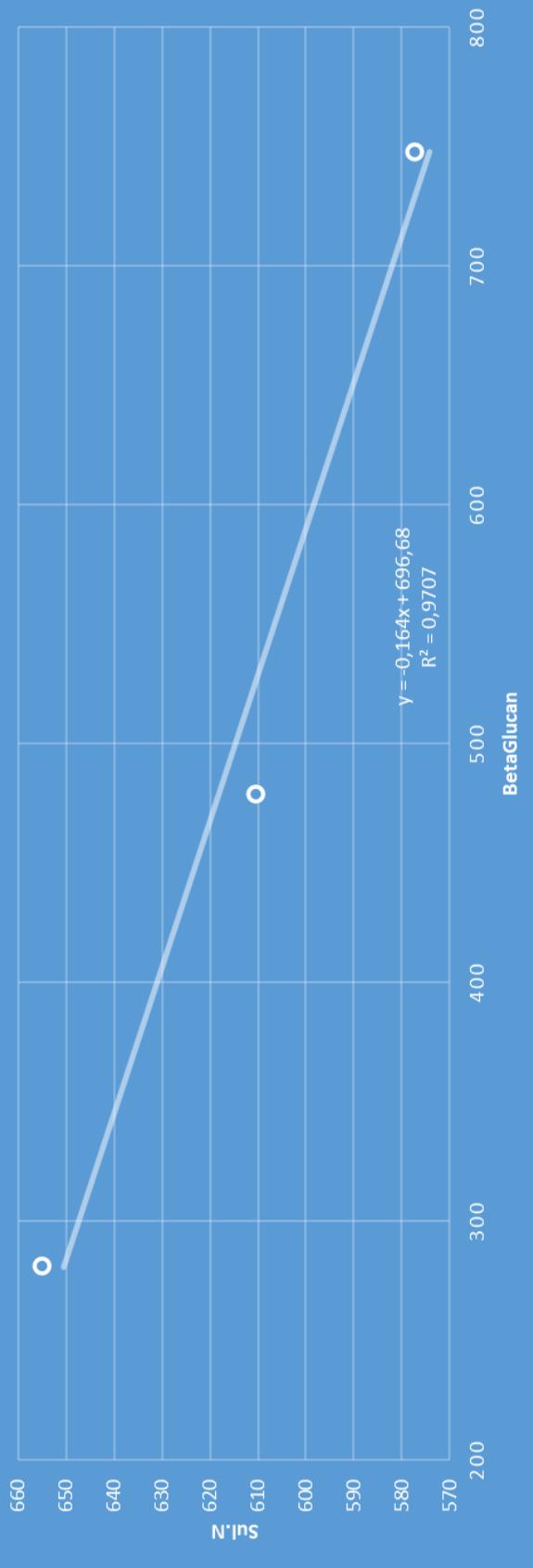


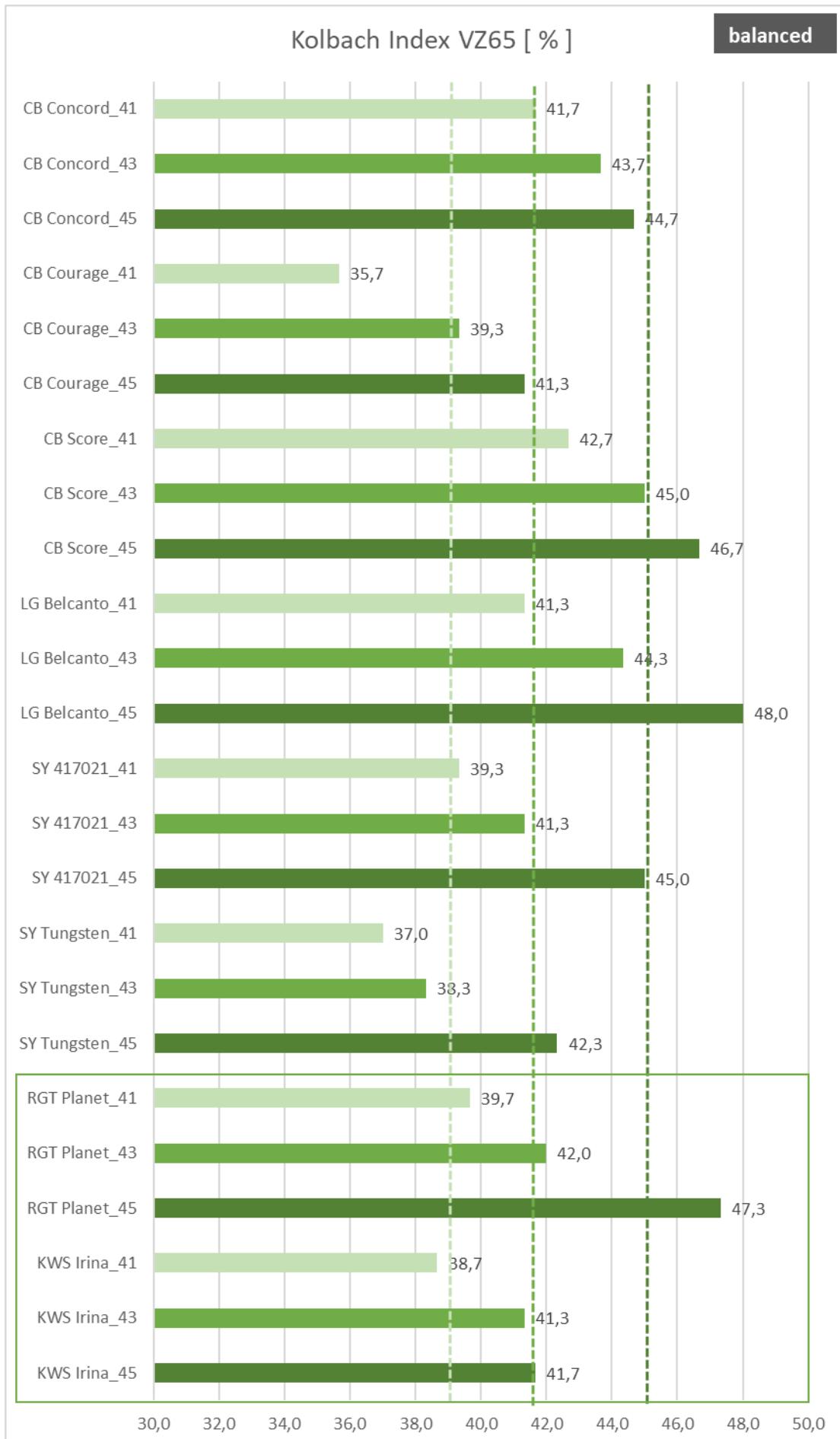




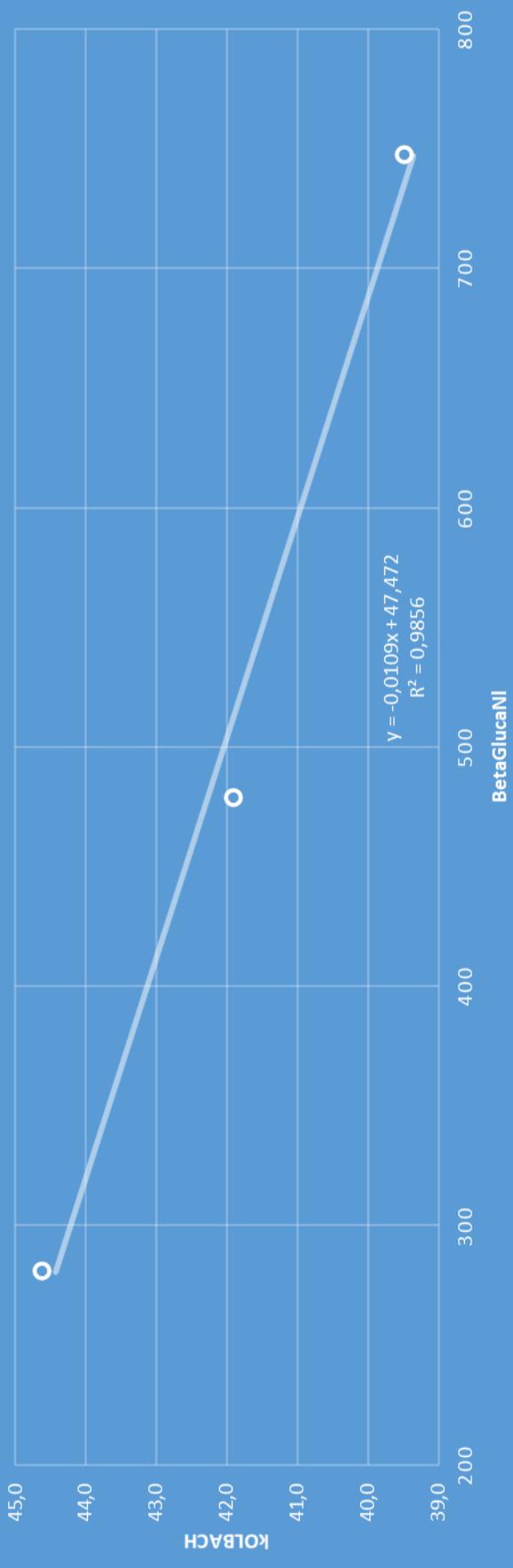


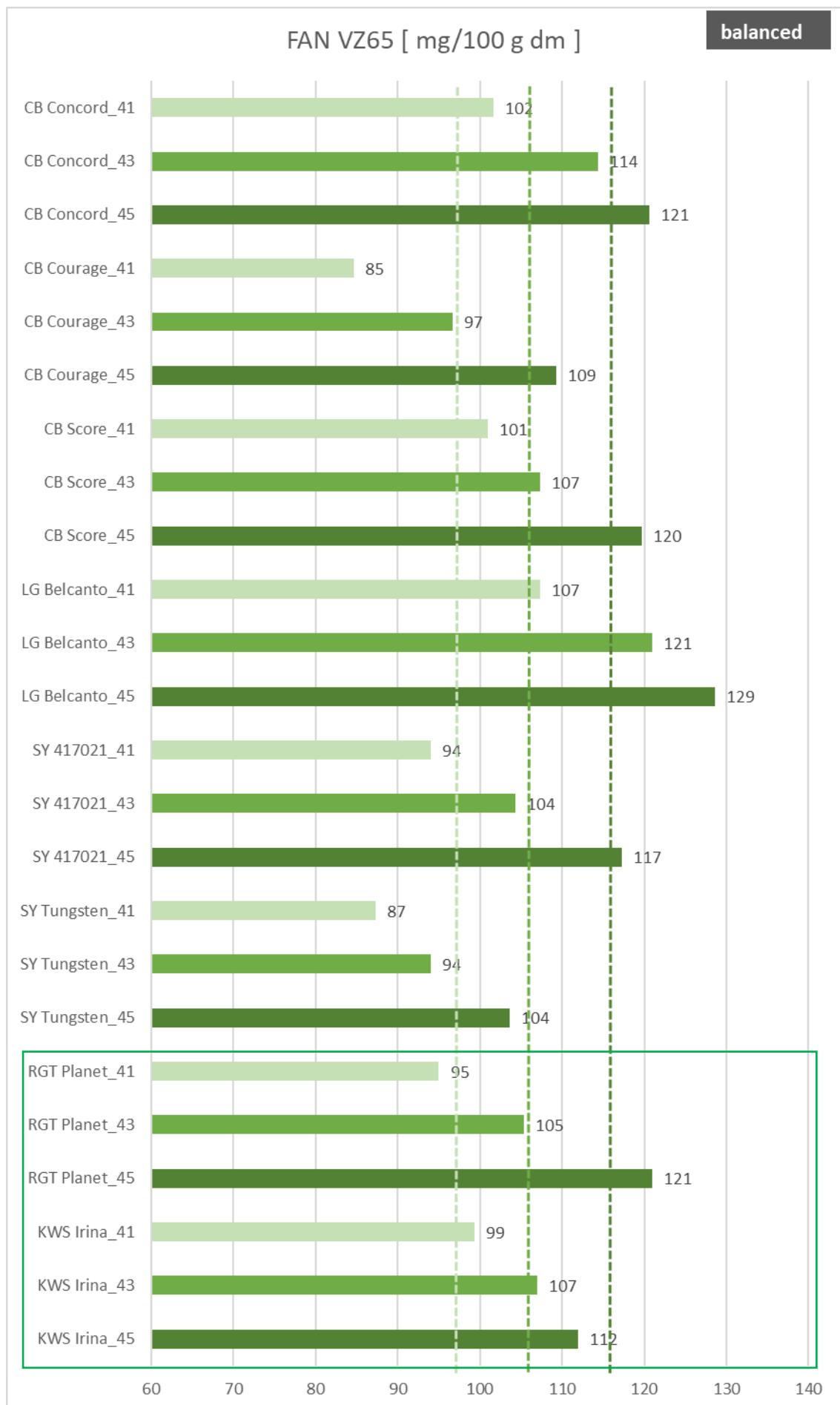
SOLUBLE NITROGEN AS FUNCTION OF BETAGLUCAN



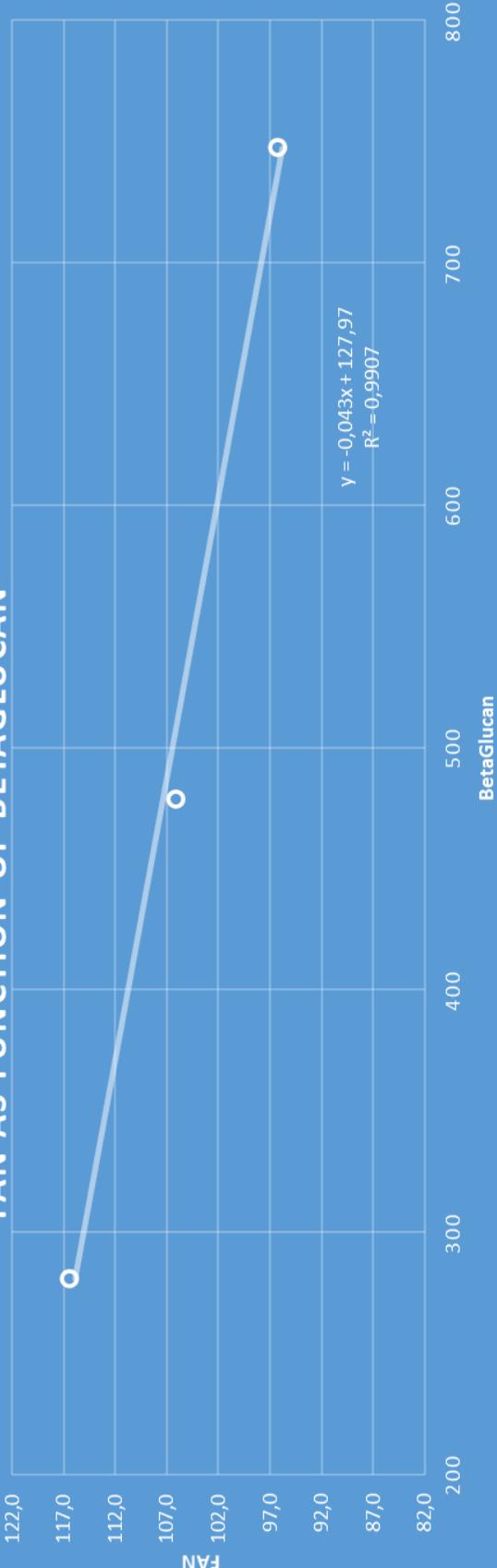


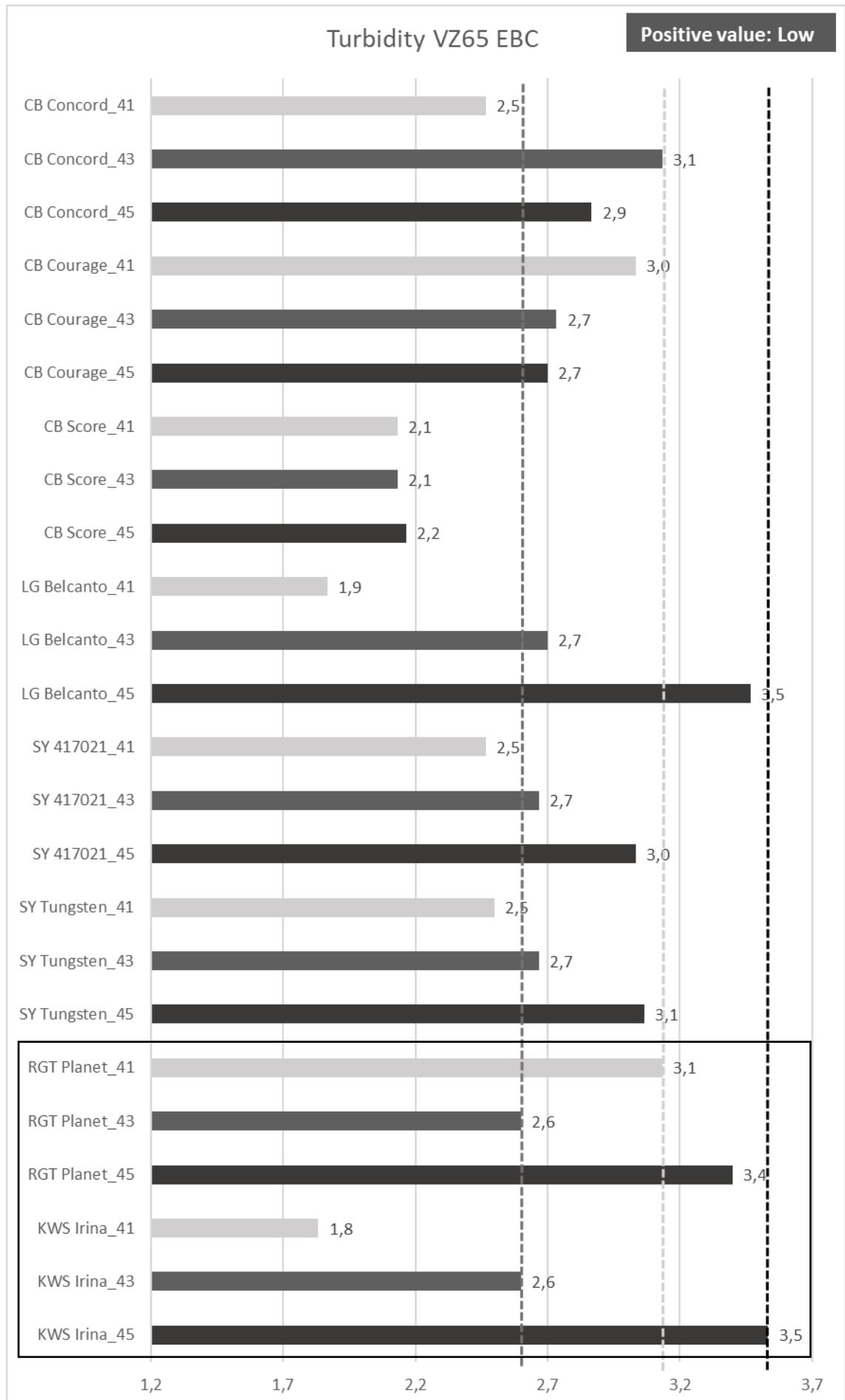
KOLBACH AS FUNCTION OF BETAGLUCAN





FAN AS FUNCTION OF BETAGLUCAN





Wort coulor VZ65 [EBC]

