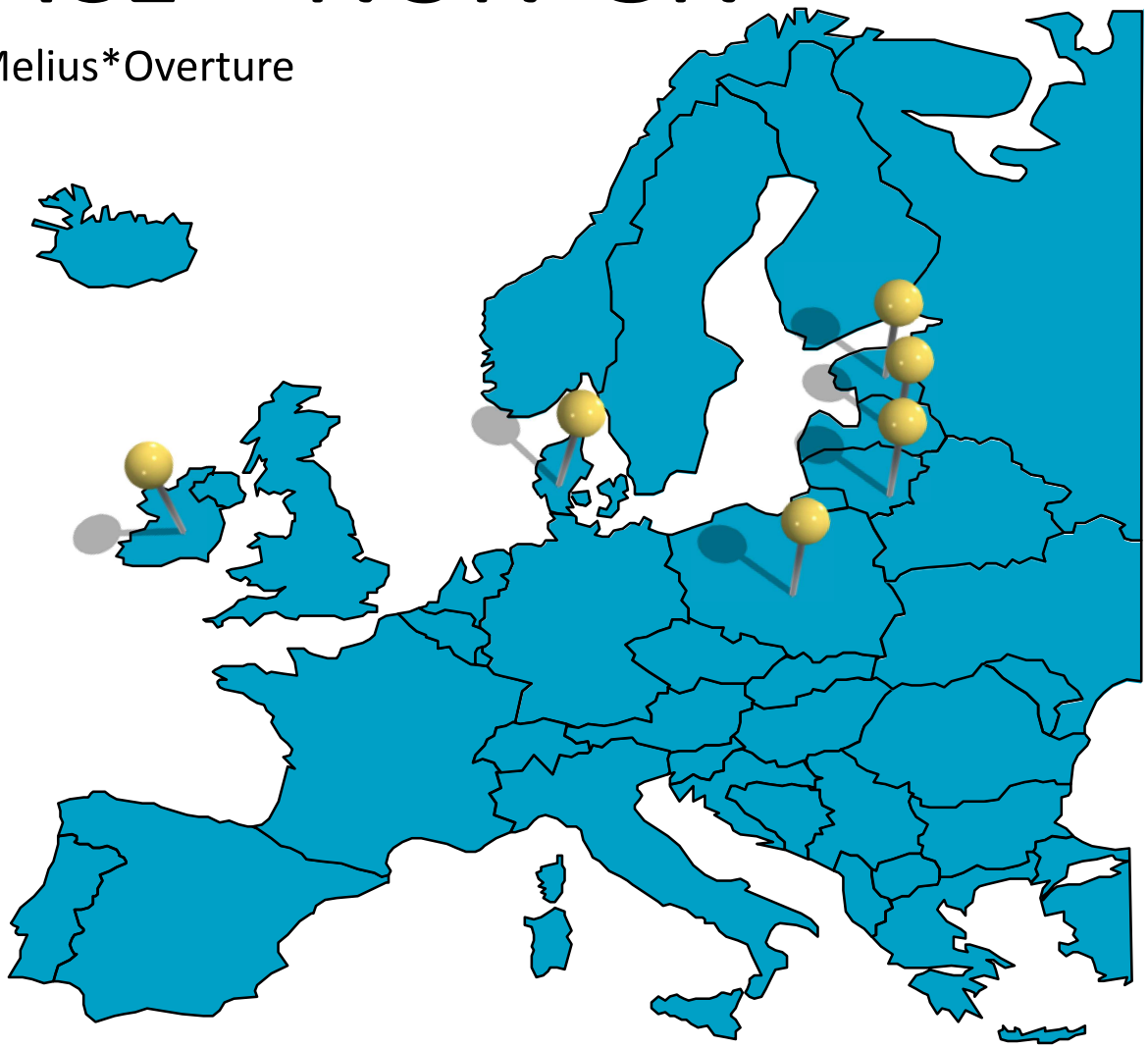
EMBRACE – NON-GN

Melius*Overture



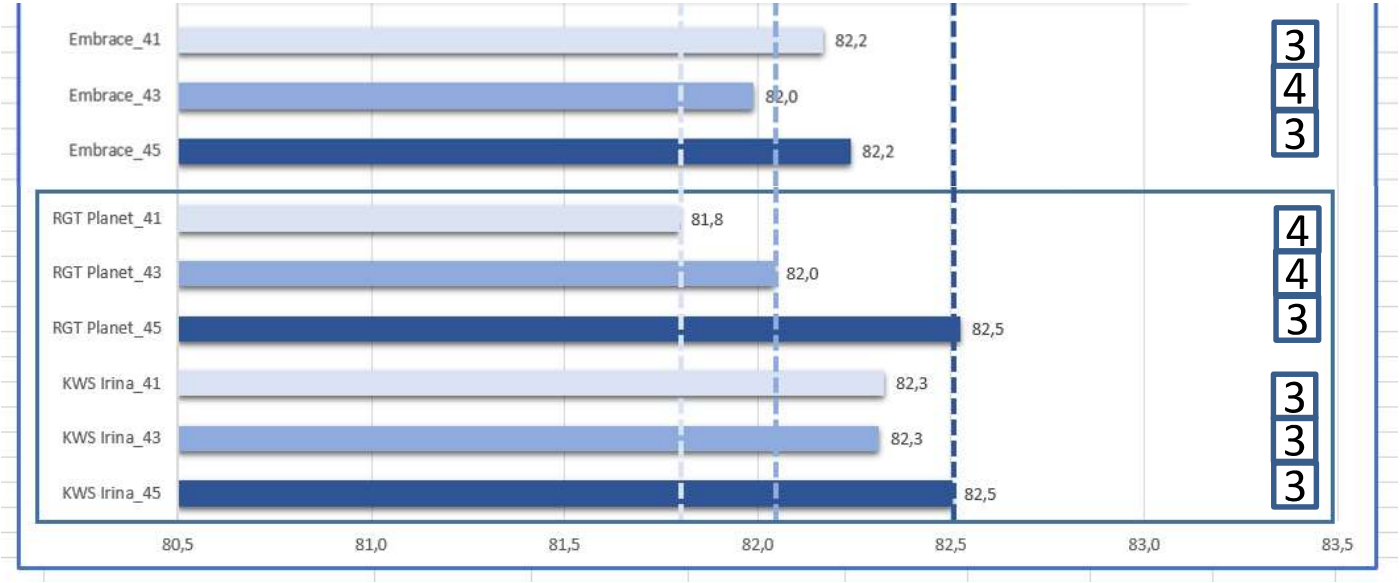
IRELAND OFFICIAL TRIALS

	Rel Yield mean	
	2016	2017
PROPINO	101	100
MICKLE	99	100
SJ 148377 - EMBRACE	104	105
SJ 148527 - PROSPECT	106	109
NORD 14/2402	95	-
KWS Cantton	108	107
SY414-490	96	-
SY415-533	102	104
LGBU 12-2616-A	98	-
NORD 14/2403	99	-
NOS110194-52	103	-
NOS110352-51	101	-
NOS111038-52	96	-
NOS111034-53	97	-
Chanson	93	-

Official trials Lituania 2017

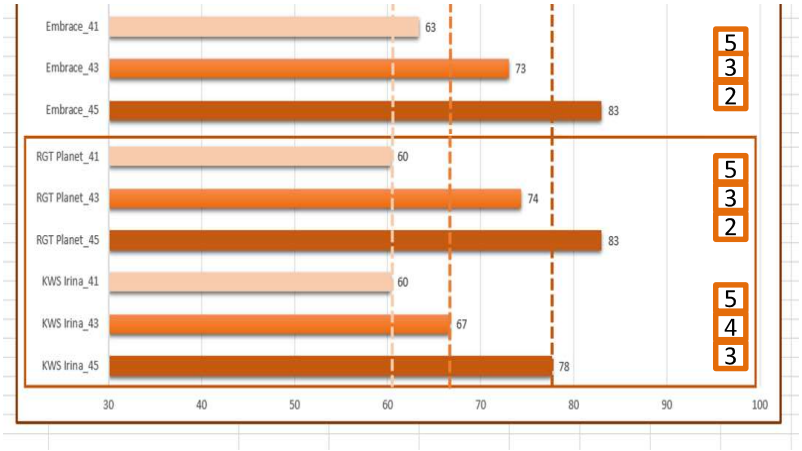
	Yield t/ha			Yield mean	Rel mean
	Locations			All	All
	Pasvalys	Kaunas	Silute	t/ha	%
Embrace	11,47	10,05	9,49	10,33	106
SY 415586	10,78	8,88	10,70	10,12	103
Fandanga	10,65	9,12	10,51	10,09	103
Bente	10,39	9,37	10,43	10,06	103
Avalon	10,66	9,23	10,16	10,01	102
Sydney	11,09	9,13	9,80	10,01	102
NOS 110.352-51	10,29	9,32	10,27	9,96	102
Milford	10,50	9,52	9,59	9,87	101
Laureate	10,62	8,97	10,01	9,87	101
Ellinor	10,44	8,69	10,42	9,85	101
Limona	10,46	9,19	9,72	9,79	100
SW C12-1743	10,88	8,89	9,60	9,79	100
Teksas	11,15	8,88	9,25	9,76	100
SY 415677	9,99	9,27	9,83	9,70	99
Acorn	10,36	8,66	9,72	9,58	98
Fatima	10,12	9,52	8,93	9,52	97
Esma	9,52	9,27	9,78	9,52	97
Mariposa	9,91	9,28	9,36	9,52	97
Subway	9,78	8,84	9,90	9,51	97
RGT Planet	9,19	9,25	9,63	9,36	96
Cosmopolitan	10,18	8,50	9,22	9,30	95
Carmen	10,15	8,24	9,32	9,23	94
Anneli	9,53	7,86	9,85	9,08	93
DS 92278-2	9,79	8,63	8,80	9,07	93
Eversti	7,18	8,10	8,57	7,95	81

EMBRACE - EXTRACT

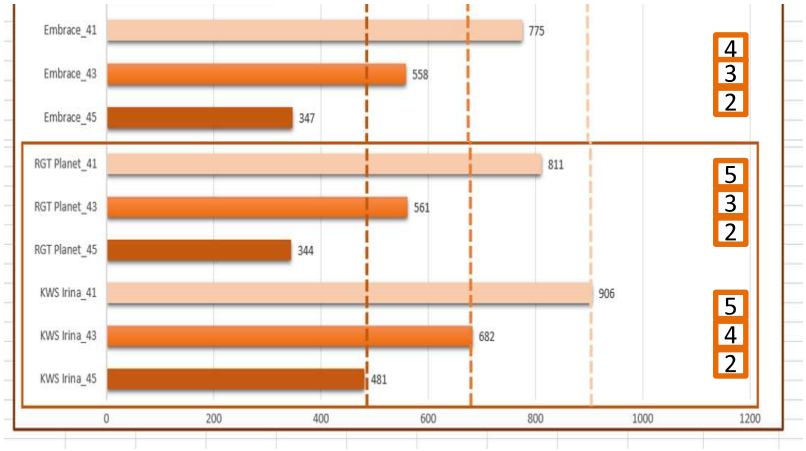


EMBRACE - CYTOLYSIS

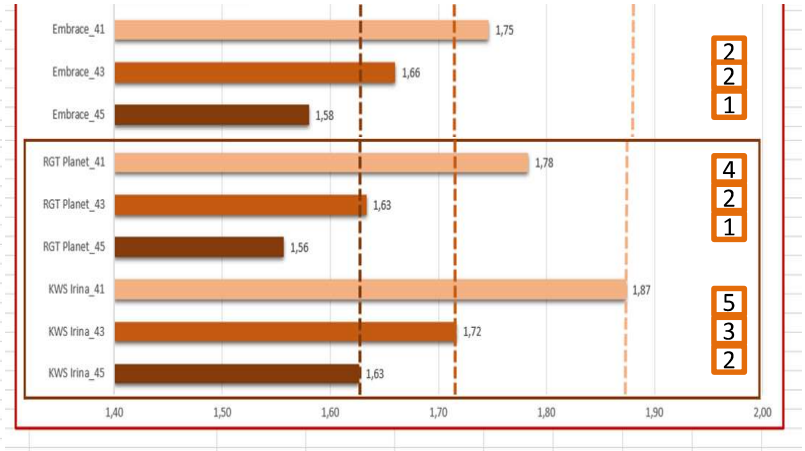
FRIABILITY



BETA-GLUCAN

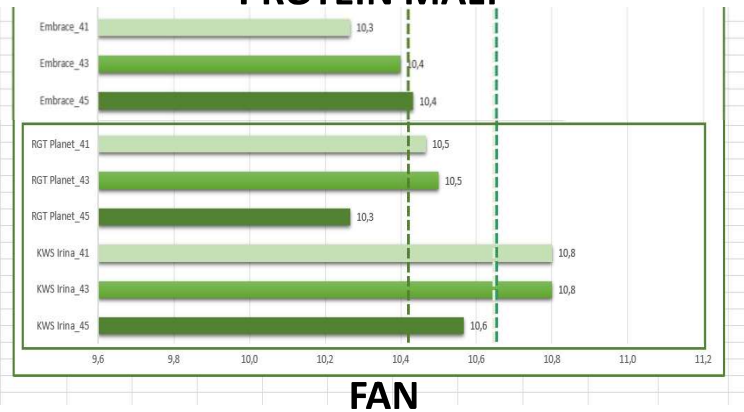


VISCOSITY

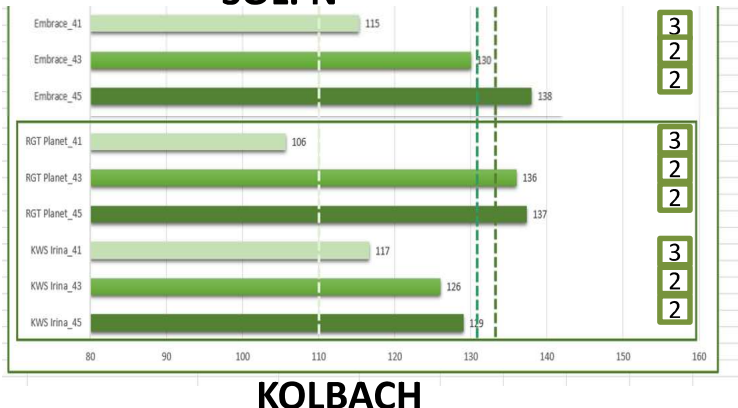


EMBRACE - PROTEOLYSIS

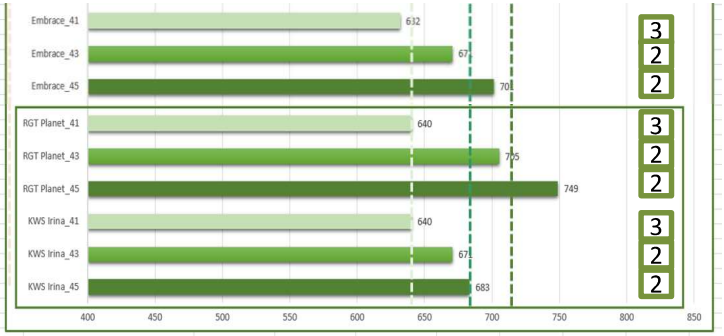
PROTEIN MALT



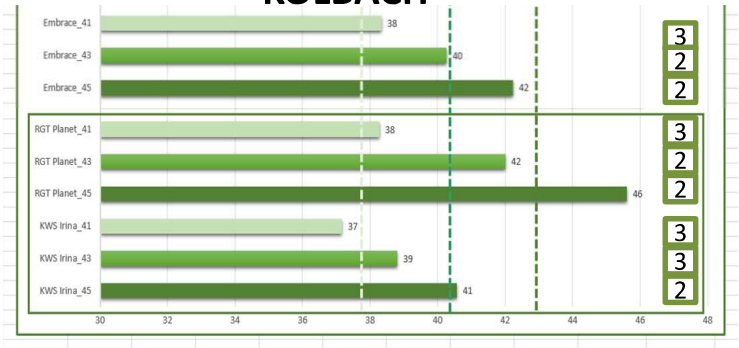
SOL. N



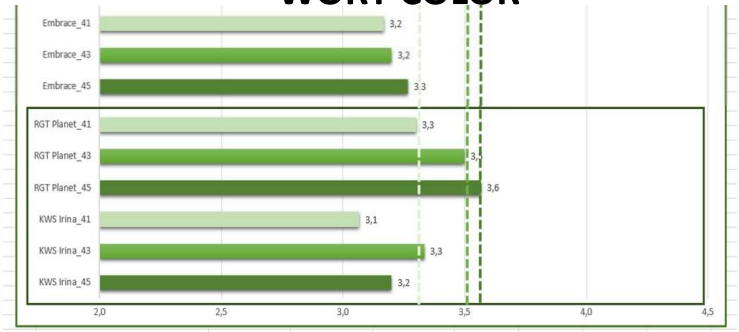
FAN



KOLBACH

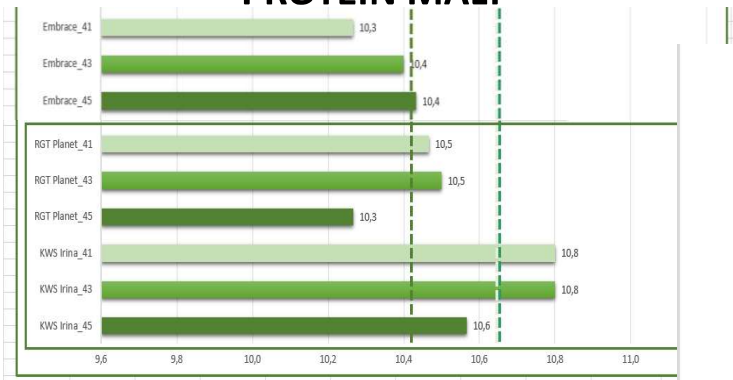


WORT COLOR

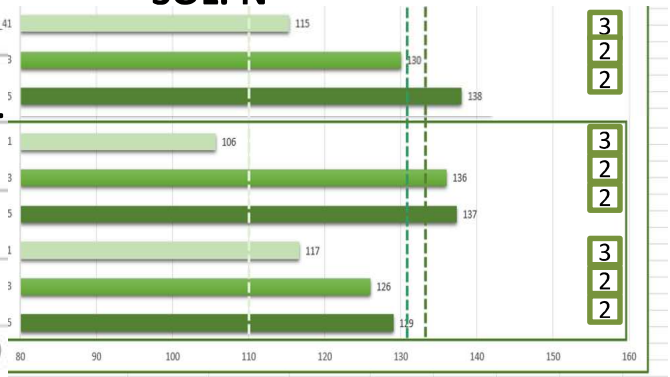


EMBRACE - PROTEOLYSIS

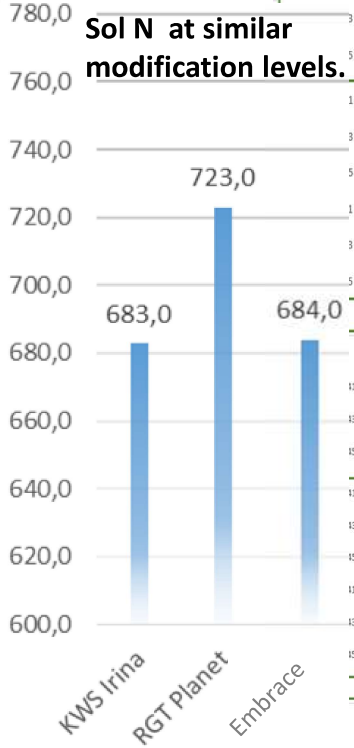
PROTEIN MALT



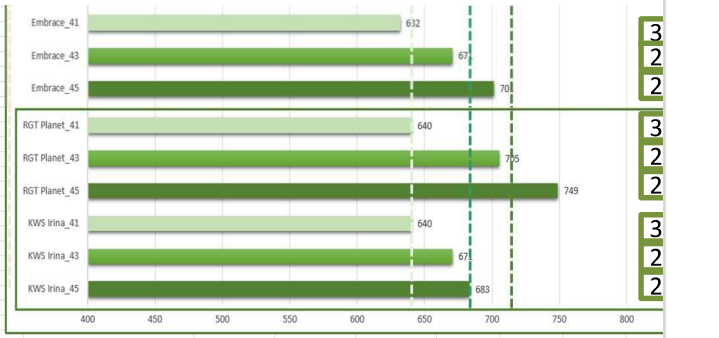
SOL. N



Sol N at similar modification levels.

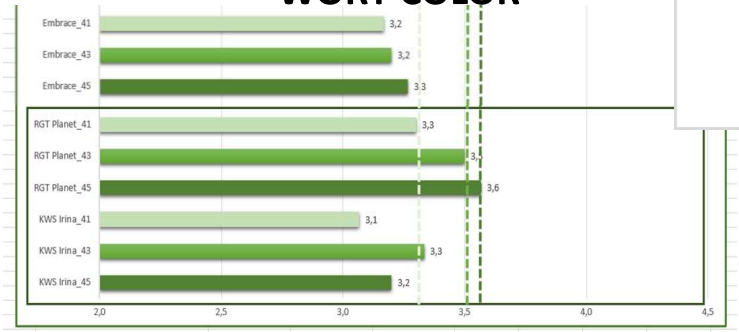


FAN



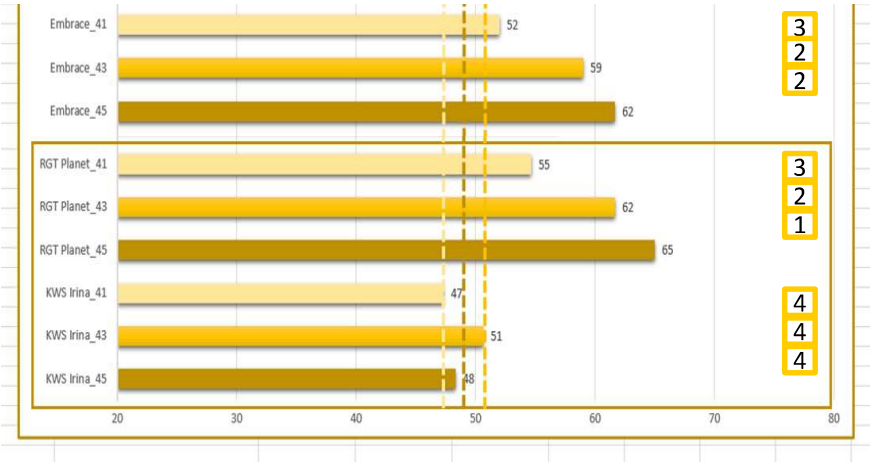
KOLBACH

WORT COLOR

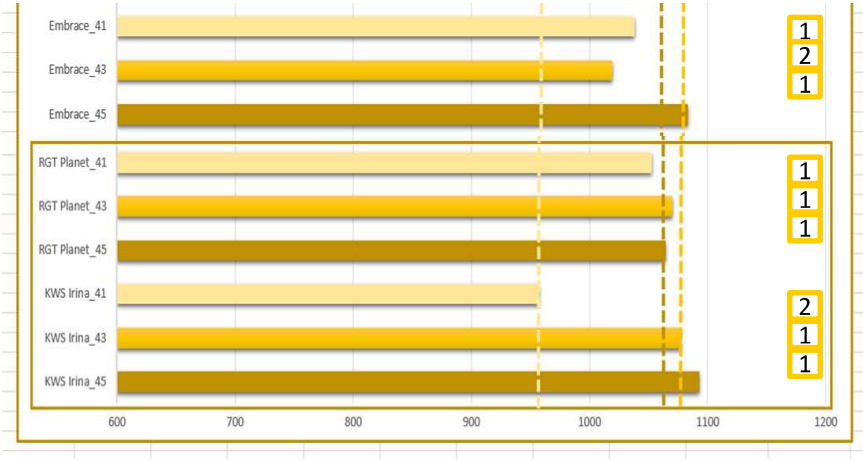


EMBRACE - AMYLOLYSIS

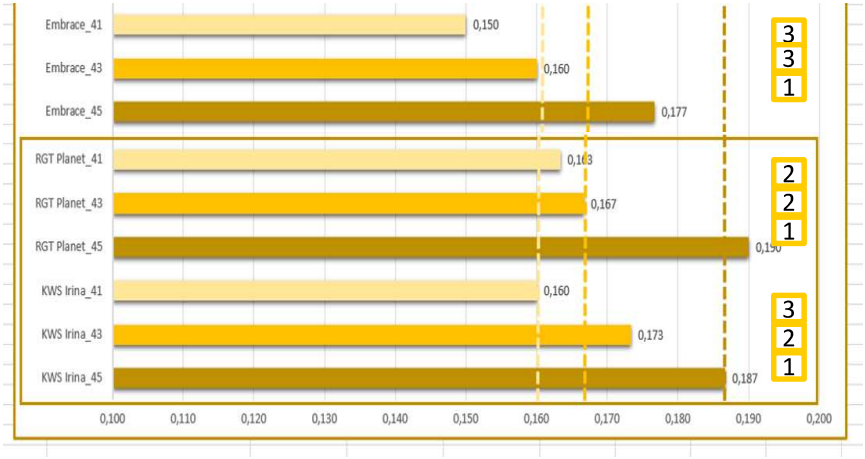
ALFA-AMYLASE



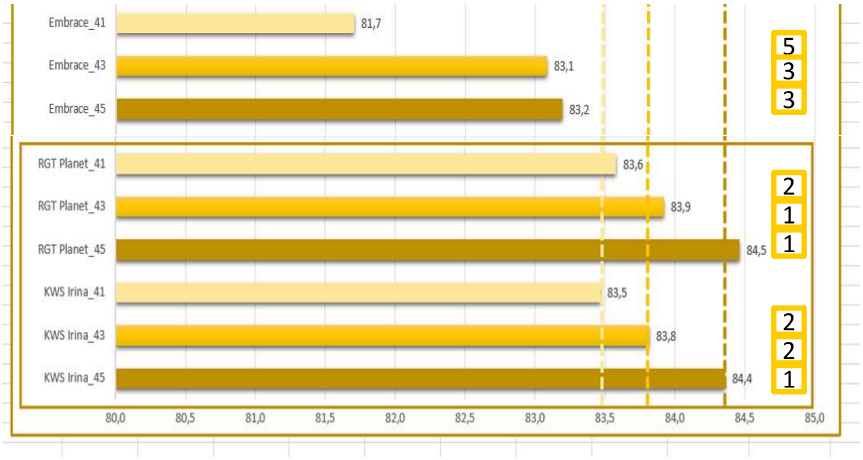
BETA-AMYLASE



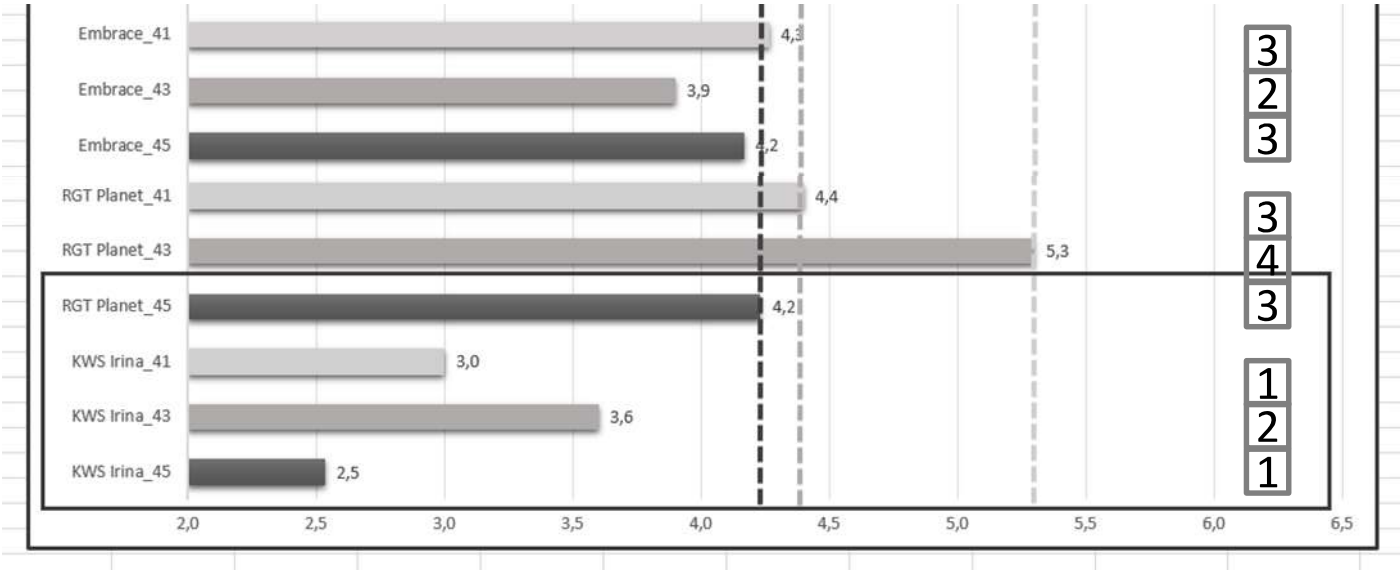
LIMIT DEXTRINASE



FINAL ATTENUATION



EMBRACE - TURBIDITY



EMBRACE – MALTING RESULTS TYSTOFTE 2015 OG 2016

Sort		Proteinindhold						Sortering, pct kerner >2,5 mm						Viskositet, cP				Beta-glucan, mg/l				Ekstrakt, pct				Proteinindhold., pct				Opløselig N, mg/100g dm				Kolbach Index, pct				Friabilitet, pct				Slutforgæring, pct			
		Lok.1	Lok.2	Lok.3	Lok.4	Lok.5	Gns.	Lok.1	Lok.2	Lok.3	Lok.4	Lok.5	Gns.	Lok.1	Lok.2	Lok.3	Gns.	Lok.1	Lok.2	Lok.3	Gns.	Lok.1	Lok.2	Lok.3	Gns.	Lok.1	Lok.2	Lok.3	Gns.	Lok.1	Lok.2	Lok.3	Gns.	Lok.1	Lok.2	Lok.3	Gns.	Lok.1	Lok.2	Lok.3	Gns.	Lok.1	Lok.2	Lok.3	Gns.
Isoterm mæsk 65°C																																															
2015	**Quench**	9,6	7,9	8,2	8,9	9,8	8,9	97	95	98	98	97	97	1,49	1,46	1,47	1,47	127	50	63	80	85,1	84,3	84,9	84,8	7,1	8,3	8,6	8,0	576	642	720	646	51	49	53	51	96	98	98	97	88,3	88,3	87,6	88,1
2015	**Embrace**	8,9	7,4	8,1	8,6	9,7	8,5	97	98	97	97	96	97	1,49	1,44	1,47	1,47	191	53	130	125	85,7	83,2	85,0	84,6	7,0	7,7	8,0	7,6	560	572	635	589	50	46	50	49	96	97	96	96	87,4	88,1	87,3	87,6
Isoterm mæsk 65°C																																															
2016	**Quench**	11,1	10,7	10,8	10,3	10,4	10,9						95	1,69	1,56	1,52	1,59	708	268	204	393	81,7	85,1	83,9	83,5	10,8	9,2	9,3	9,8	735	692	741	723	43	47	50	47	60	88	91	80	85,6	87,1	87,3	86,7
2016	**KWS Irina**	10,3	10,9	11,3	10,1	10,1	10,6						94	1,69	1,60	1,53	1,61	753	459	293	502	82,9	84,2	83,8	83,6	10,7	9,1	9,0	9,6	658	654	654	655	39	45	46	43	52	80	89	74	84,7	87,0	87,1	86,3
2016	**Embrace**	10,1	10,6	10,8	9,8	10,0	10,3						94	1,68	1,54	1,51	1,58	543	286	221	350	81,1	85,8	83,9	83,6	10,0	9,9	9,0	9,3	660	635	694	663	41	44	48	44	56	84	92	77	85,1	85,9	88,4	86,5

Slutforgæring, pct			
Lok.1	Lok.2	Lok.3	Gns.
88,3	88,3	87,6	88,1
87,4	88,1	87,3	87,6
	87,1	87,3	86,7
	87,0	87,1	86,3
	85,9	88,4	86,5

EMBRACE – FRÜHVEERMÄLZUNG 2017

Wissenschaftszentrum Weihenstephan für Ernährung, Landnutzung und Umwelt
Technische Universität München

Analysenbezeichnung		F 54	F 55	F 59
Sorte		KWS Irina	RGT Planet	Embrace
Gebiet		Dänemark	Dänemark	Dänemark
Sommergerste/Wintergerste		SG	SG	SG
Rohprotein Gerste (8,5-12,5 %)	%, wfr.	10,2	9,7	10,0
Sortierung > 2,8 mm Gerste	%	85,7	87,4	87,2
Sortierung 2,5 - 2,8 mm Gerste	%	9,9	9,4	8,9
Sortierung 2,2 - 2,5 mm Gerste	%	3,5	2,7	2,7
1. Sorte Gerste	%	95,6	96,8	96,1
Anteil > 2,8 mm an 1. Sorte	%	89,6	90,3	90,7
Kongressmaischverfahren				
Wassergehalt Malz	%	4,9	4,4	4,8
Extrakt Malz	%, lftr.	81,7	81,3	81,8
Extrakt Malz TrS.	%, wfr.	85,9	85,0	85,9
Viskosität (8,6 %)	mPas	1,474	1,464	1,464
Friabilimeter Mürbigkeit	%	86,2	86,6	84,1
Ganzglasigkeit	%	1,3	1,5	1,2
Verzuckerungszeit	min.	5–10	5–10	5–10
Endvergärungsgrad	%, schb.	84,1	84,7	85,6
Ablauf	klar/opal	klar	klar	klar
Farbe Fotometer	EBC	3,0	3,6	3,2
pH-Wert		5,94	6,02	6,02
Rohprotein Malz	%, wfr.	9,2	9,1	9,1
Löslicher Stickstoff Malz TrS.	mg/100g Malz-TrS.	659	730	709
Eiweiss-Lösungsgrad	%	44,8	50,1	48,7
Freier Amino-Stickstoff TrS.	mg/100g Malz TrS.	152	179	159
Beta-Glucan	mg/l	375	256	398
Alpha-Amylase	DU, wfr.	45	62	59
Beta-Amylase	BU, wfr.	428	431	391
DMS-Vorläufer	ppm, lftr.	7,3	5,7	4,3
Verkleisterungstemperatur	°C	61,1	61,7	60,8
iso 65 °C-Verfahren				
Extrakt Malz	%, lftr.	81,0	81,0	81,5
Extrakt Malz TrS.	%, wfr.	85,2	84,7	85,6
Viskosität 65 °C (8,6 %)	mPas	1,520	1,497	1,524
Verzuckerungszeit	min.	5–10	5–10	5–10
Endvergärungsgrad	%, schb.	85,6	86,9	84,9
Ablauf	klar/opal	klar	klar	klar
Farbe Fotometer	EBC	2,8	3,1	3,0
pH-Wert		5,96	6,03	6,05
Rohprotein Malz	%, wfr.	9,2	9,1	9,1
Löslicher Stickstoff Malz TrS.	mg/100g Malz-TrS.	617	670	651
Eiweiss-Lösungsgrad	%	41,9	46,0	44,7
Freier Amino-Stickstoff TrS.	mg/100g Malz TrS.	139	134	151
Beta-Glucan 65 °C	mg/l	496	389	511

EMBRACE – SUMMARY

- **Medium to good extract, same level as controls**
- **Good modification**
- **High amylolysis activity**
- **Medium to good final attenuation in stress-test, high values both in micromalting data from Tystofte and Frühvermälzung**

	KWS Irina_45	KWS Irina_43	KWS Irina_41	RGT Planet_45	RGT Planet_43	RGT Planet_41	Embrace_45	Embrace_43	Embrace_41
Extract	3	3	3	3	4	4	3	4	3
Friability	3	4	5	2	3	5	2	3	5
Beta-Glucan	2	4	5	2	3	5	2	3	4
Viscosity	2	3	5	1	2	4	1	2	2
FAN	2	2	3	2	2	3	2	2	3
Soluble N	2	2	3	2	2	3	2	2	3
Kolbach	2	3	3	2	2	3	2	2	3
Alpha-Amylase	4	4	4	1	2	3	2	2	3
Beta-Amylase	1	1	2	1	1	1	1	2	1
Limit Dextrinase	1	2	3	1	2	2	1	3	3
Attenuation	1	2	2	1	1	2	3	3	5
Turbidity	1	2	1	3	4	3	3	2	3