



Parents:
(SYNG line x Salome)
x Overture



GN free!



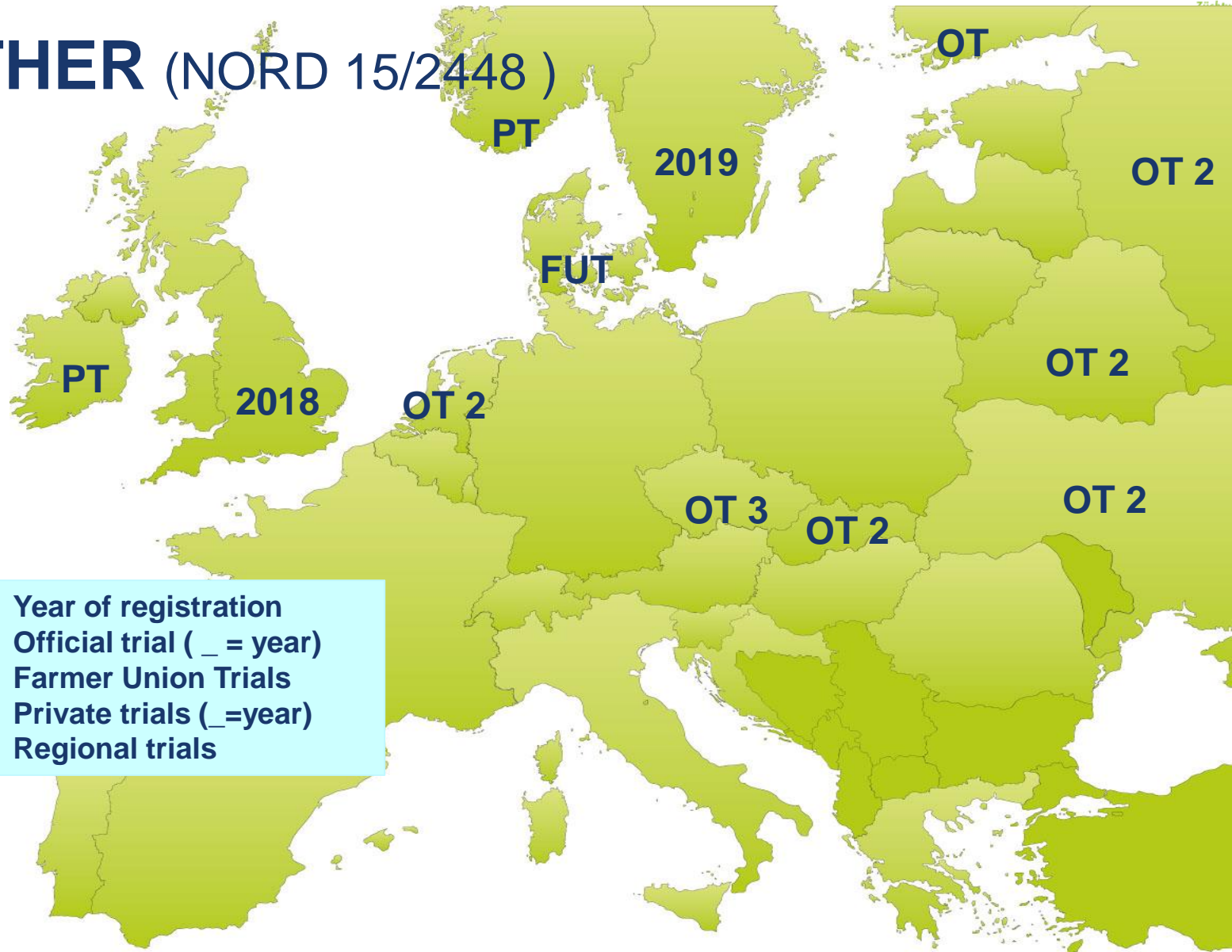
LUTHER

Spring malting barley

Breeder
Nordsaat Saatzucht
GmbH

International registration status 2019

LUTHER (NORD 15/2448)



2018 Year of registration
OT _ Official trial (_ = year)
FUT Farmer Union Trials
PT Private trials (_ = year)
RT Regional trials

LUTHER - Agronomy

UK: National List Trials 2017 +2018*

	SW, kg/hl	Height, cm	Lodging, (U) 1-9	Ripening +/- (Concerto)	Brackling %	Brown rust
Laureate	66,6	66	1,6	1	21	5
RGT Planet	68,2	69	1,1	0	19	4
KWS Irina	66,2	65	0,6	0	12	5
Propino	68,4	70	1,1	-1	20	4
Concerto	68,5	73	1,5	0	21	5
LUTHER	67,0	68	1,5	-1	27	4

„LUTHER“: good specific weight.

* Data source – AHDB Spring Barley NL 2-year report 2017-18

LUTHER – Yield %

UK: National List Trials 2017 +2018

	Treated				Untreated
	UK	East	West	North	
Laureate	104,2	104	104	105	107
RGT Planet	102	102	103	102	105
KWS Irina	100,4	103	96	101	99
Propino	98	96	99	99	93
Concerto	95,5	96	98	94	97
LUTHER	103,5	[102]	[101]	105	105

LUTHER: High yield potential under maritime conditions!

* Data source – AHDB Spring Barley NL 2-year report 2017-18

LUTHER – Yield %

Denmark: Farmer Union Trials 2017 + 2018

Variety	2017		2018	
	Yield, % (n= 8)	Rank (total: 56)	Yield, % (n= 4)	Rank (total: 60)
Laureate	105	3	99	35
RGT Planet	103	15	98	42
Blanding (=blend)	100	37	100	25
LUTHER	103	16	100	28

LUTHER: stable yield under difficult (dry) conditions!

LUTHER – Yield %

Sweden: Regional Trials 2017 + 2018

	2017 (n=15)						2018 (n=13)					
	Not treated		treated		mean		Not treated		treated		mean	
	qt/ ha	Rel %	qt/ ha	Rel %	qt/ ha	Rel %	qt/ ha	Rel %	qt/ ha	Rel %	qt/ ha	Rel %
KWS Irina	81,1	101	88,2	100	84,7	100	54,0	102	52,3	101	53,2	101
RGT Planet	84,5	102	92,8	105	88,6	103	54,0	102	53,0	102	53,5	102
Propino	77,4	96	84,6	97	81,5	96	51,2	96	50,7	97	50,9	97
LUTHER	83,0	103	91,4	103	87,2	103	54,7	103	57,2	110	56,0	107

LUTHER: stable yield under difficult (dry) conditions!

LUTHER – Yield %

Czech Republic, 2017 official trial 2017 -2018

Variety	Sugar beat and cereals producing area		Potato producing area	
	Untreated	Treated	Untreated	Treated
Ovation *)	104	105	103	99
Sunshine*)	100	102	100	102
KWS Amadora*)	99	98	103	106
Laudis 550*)	97	95	94	93
LUTHER	101	103	106	108

*) = Control variety

LUTHER: very high yield potential in CZ!

LUTHER - Malt Quality

Denmark, official trial 2018, results, n=3

		KWS Irina	RGT Planet	Luther
Viscosity	[mPas]	1,86	1,77	1,65
β-Glucan	mg /l	548	383	273
Extract	% d.m.	80,4	81,0	79,8
Protein malt	%	10,8	11,0	11,0
Sol N d.m.	mg/100g	616	668	621
Kolbach index	%	35,8	38,3	35,7
Friability	%	73	76	76
Final Atten.	% d.m.	82,7	83,3	83,9
FAN d.m.	mg/100g	103	106	100
Diastatic Power	WK units			

LUTHER: good cytolysis and extract !

LUTHER - Malt Quality

Czech Republic, 2017 official results

Variety	Malz	XANADU	KWS Irina	Bojos	LUTHER
Malt quality Index	7,2	7,2	6,9	5,5	8,8
Protein %	11,1	11,2	10,3	10,8	10,2
Extract %	83,1	82,7	82,7	82,9	83,2
VZ45	41,0	45,1	41,7	37,1	45,4
Kolbach Index	44,4	43,9	46,3	42,9	47,6
Diastatic Power	322	402	310	327	316
Final attenuation	81,5	80,7	82,4	78,7	82,1
Friability	86	84	86	85	91
Beta Glucan	205	132	216	170	111

**LUTHER: very good cytolytic and extract in CZ as well
Malting quality index: 8.8 (best : 9,0) !**

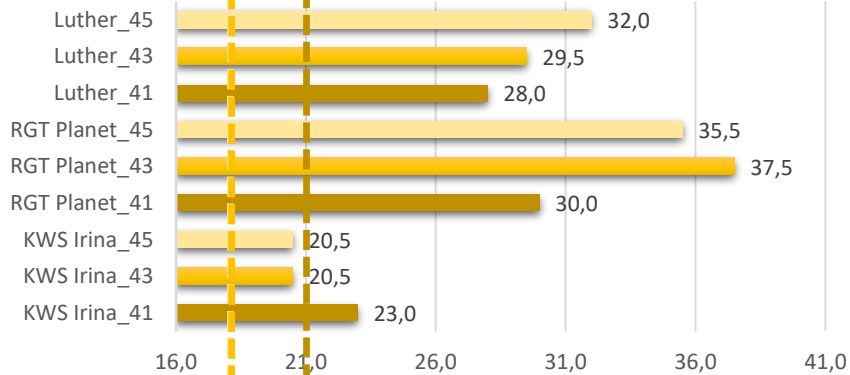
LUTHER: Result Stress Test 2018

Danish Preferred

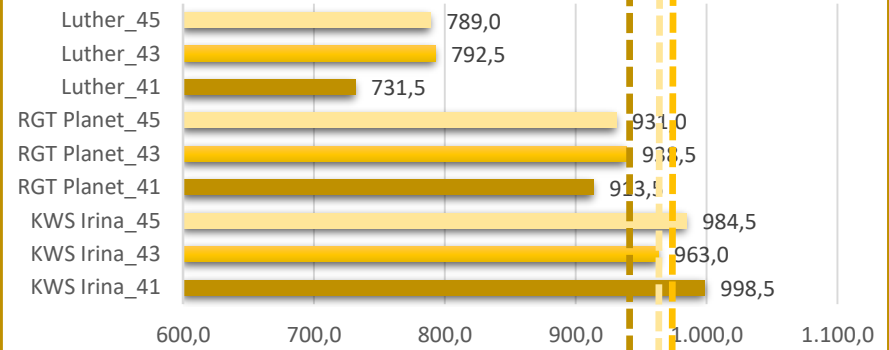


Starch modification

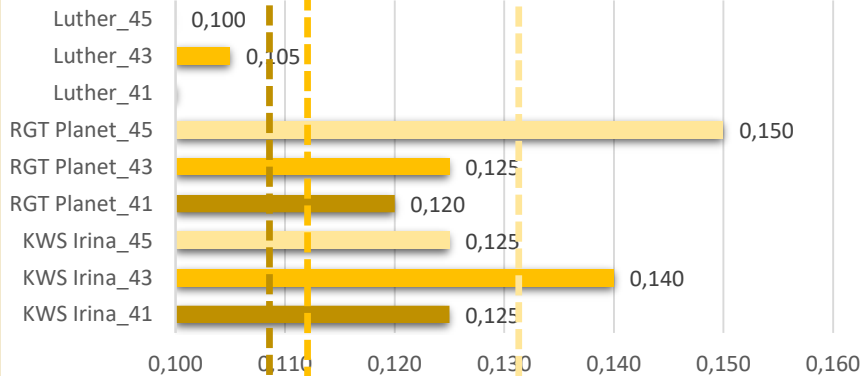
Alpha-Amylase



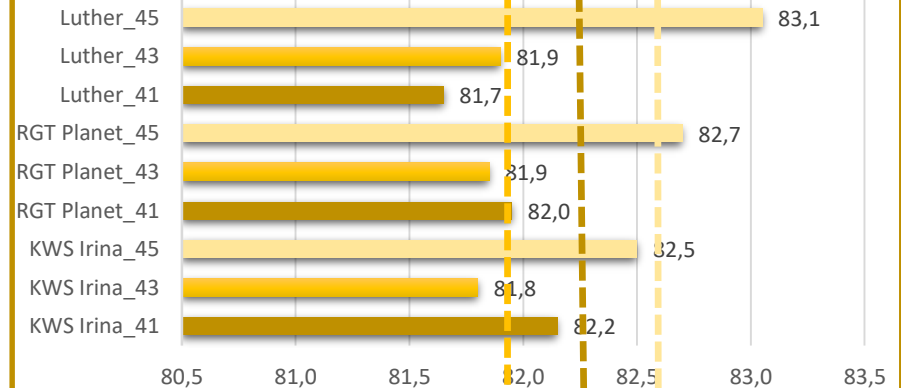
Beta-Amylase



Limit Dextrinase



Final Attenuation

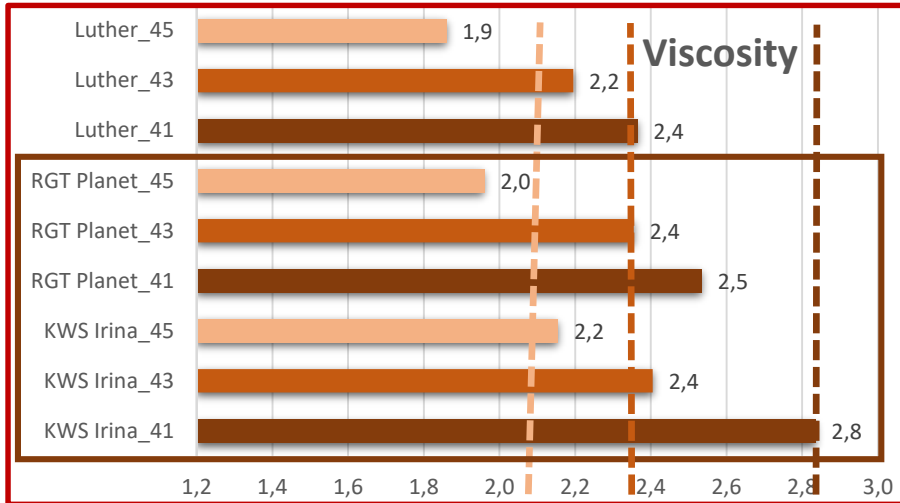


LUTHER: Result Stress Test 2018

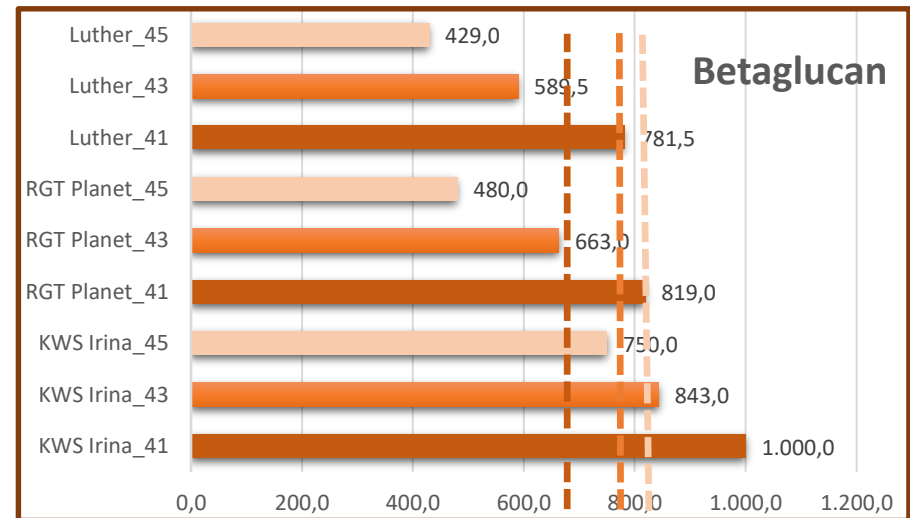
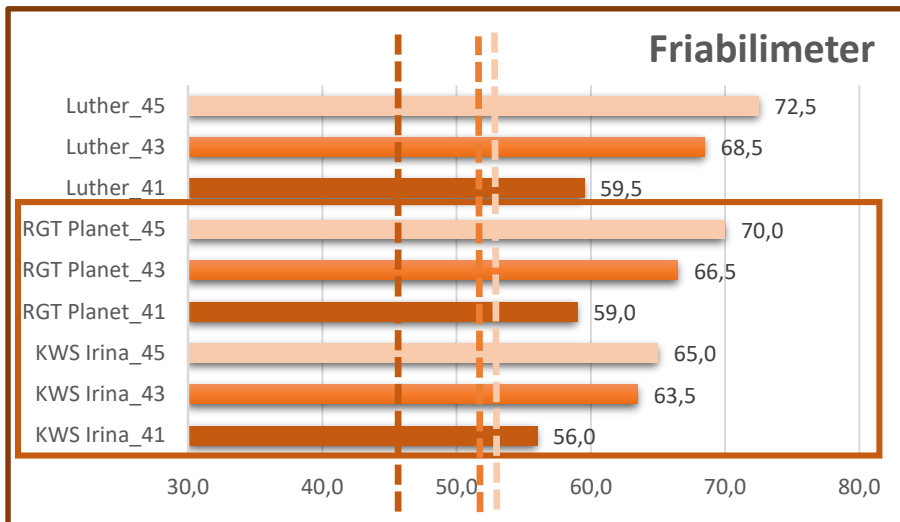
Danish Preferred 

SAATEN UNION
Züchtung ist Zukunft

Cell wall modification



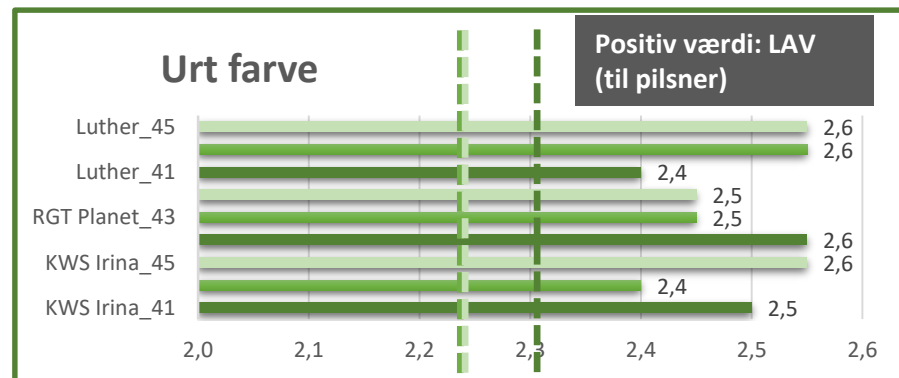
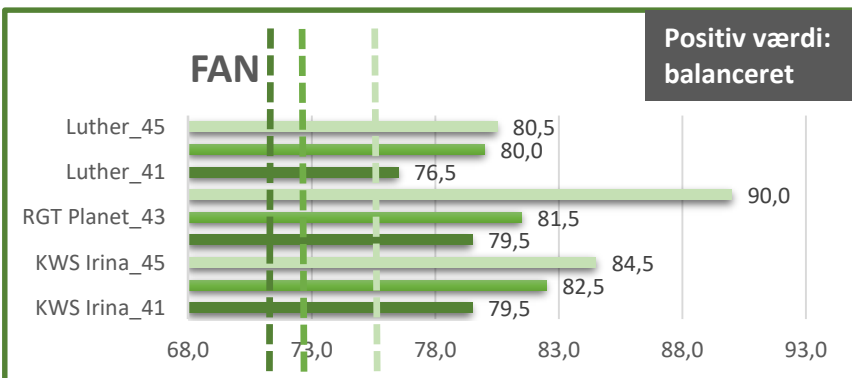
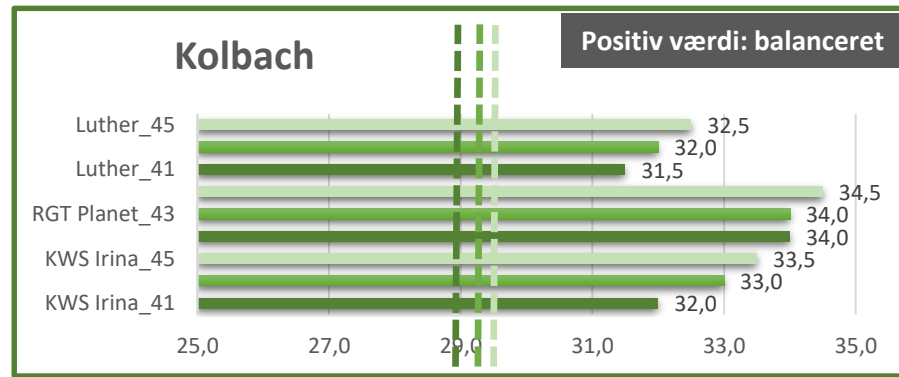
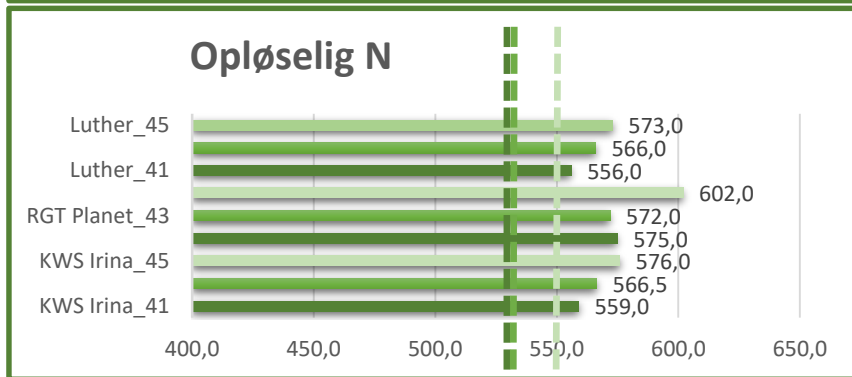
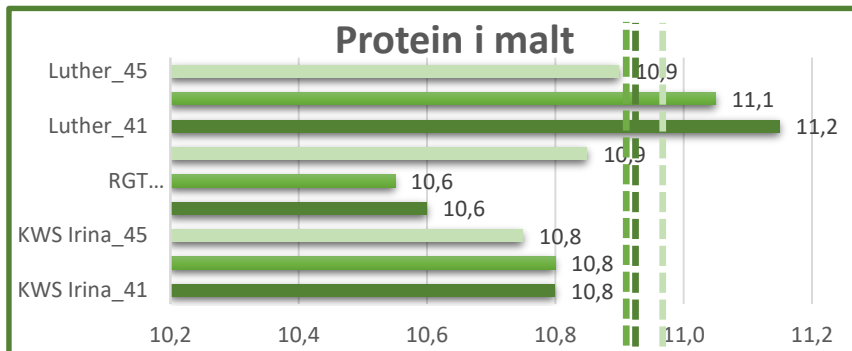
Steep out moisture is less influencing LUTHER shows compared to the main danish malting barleys

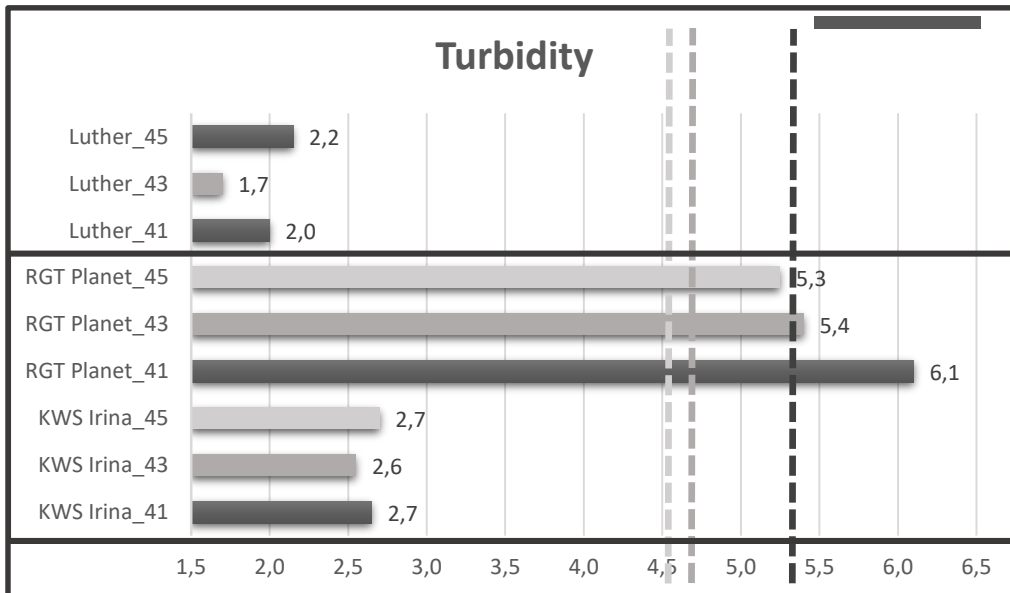
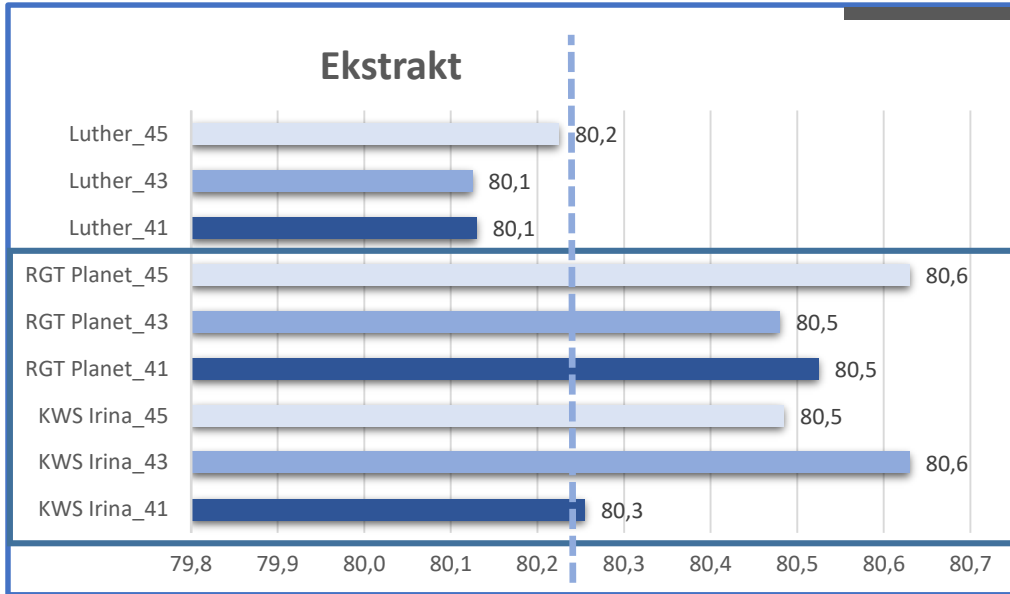


LUTHER: Result Stress Test 2018



Proteolytic modification





LUTHER: Very good turbidity values!

LUTHER - Summary

Danish Preferred



**SAATEN
UNION**
Züchtung ist Zukunft



- good cell wall modification
- very good turbidity values
- Alpha amylase release independent of the steeping degree

	KWS Irina_45	KWS Irina_43	KWS Irina_41	RGT Planet_45	RGT Planet_43	RGT Planet_41	Luther_45	Luther_43	Luther_41
Extract	4	4	4	4	4	4	4	5	5
Friability	4	4	5	3	4	5	3	4	5
Beta-Glucan	4	5	5	2	4	4	2	3	4
Viscosity	3	4	5	2	4	4	2	3	4
FAN, diff. *	3	5	8	-2	-3	1	-13	-7	-3
Soluble N, diff.*	20	25	45	5	5	30	-35	-15	5
Kolbach, diff.*	1	1	2	-1	0	2	-4	-2	-1
Alpha-Amylase	5	5	4	1	1	3	2	3	3
Beta-Amylase	1	1	1	2	1	2	4	4	5
Limit Dextrinase	3	2	3	2	3	3	4	4	5
Attenuation	2	4	3	2	4	4	1	4	4
Turbidity	1	1	1	4	4	5	1	1	1
Index **	19	23	22	19	25	27	16	25	27
Index mean ***	41			45			42		
<i>Before limit dex. data</i>									
Index **	19	23	22	19	25	27	15	25	26
Index mean ***	41			45			41		