Hvordan kan vi utnytte den norske mathveten?

Fra bakekvalitetens perspektiv

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Mathveteprosjekter

Nofima

Målet: Økt bruk av norsk hvete til mat

Future Wheat

Quality Wheat

MATHVETE

ProHøst

NIBIO

NMBU Norges miljø- og biovitenskapelige universitet

Nofima

Felleskjøpet

Strand

Bakehuset

Lantmännen

MØLLERENS SIDEN 1866

Orkla Din venn hver dag

BAYER

YARA Knowledge grows

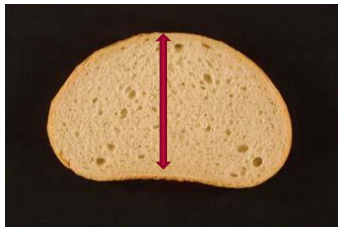
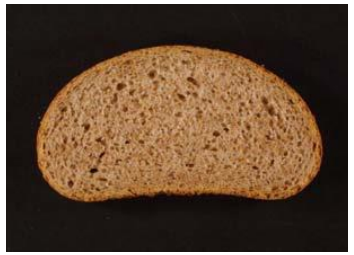
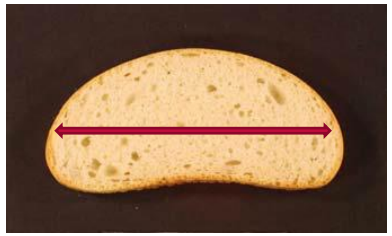
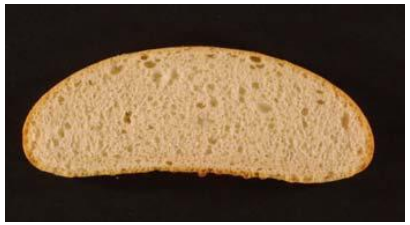
Graminor

Nærbakst Fersk glede

Proteininnhold/kvalitet påvirker brødvolum og form

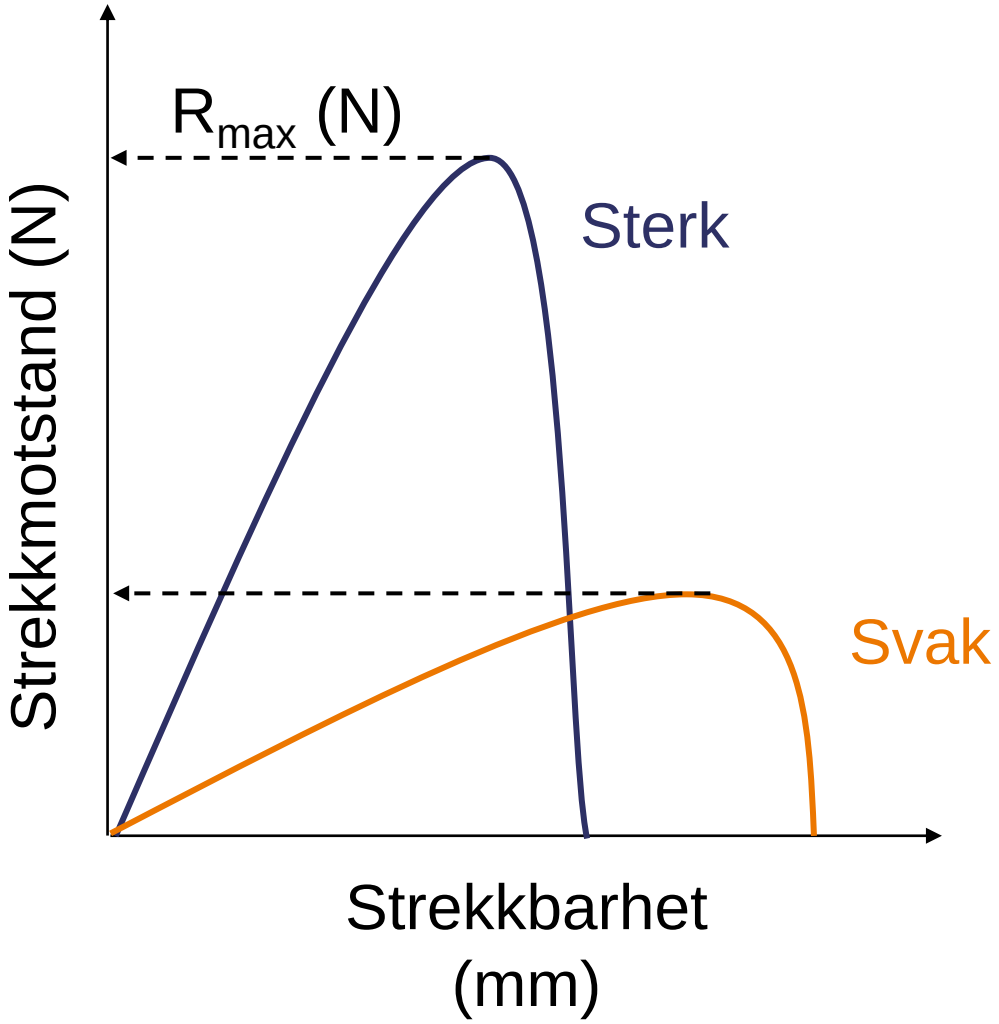
N-gjødsling - Miljø- Sort

Sort - Miljø

	Lavt proteininnhold (ca 9 %)		Høyt proteininnhold (ca 13 %)	
	Loff	Grovt	Loff	Grovt
Sterk glutenkvalitet				
Brødvolum	404	403	530	454
Svak glutenkvalitet				
Brødvolum	440	361	477	383

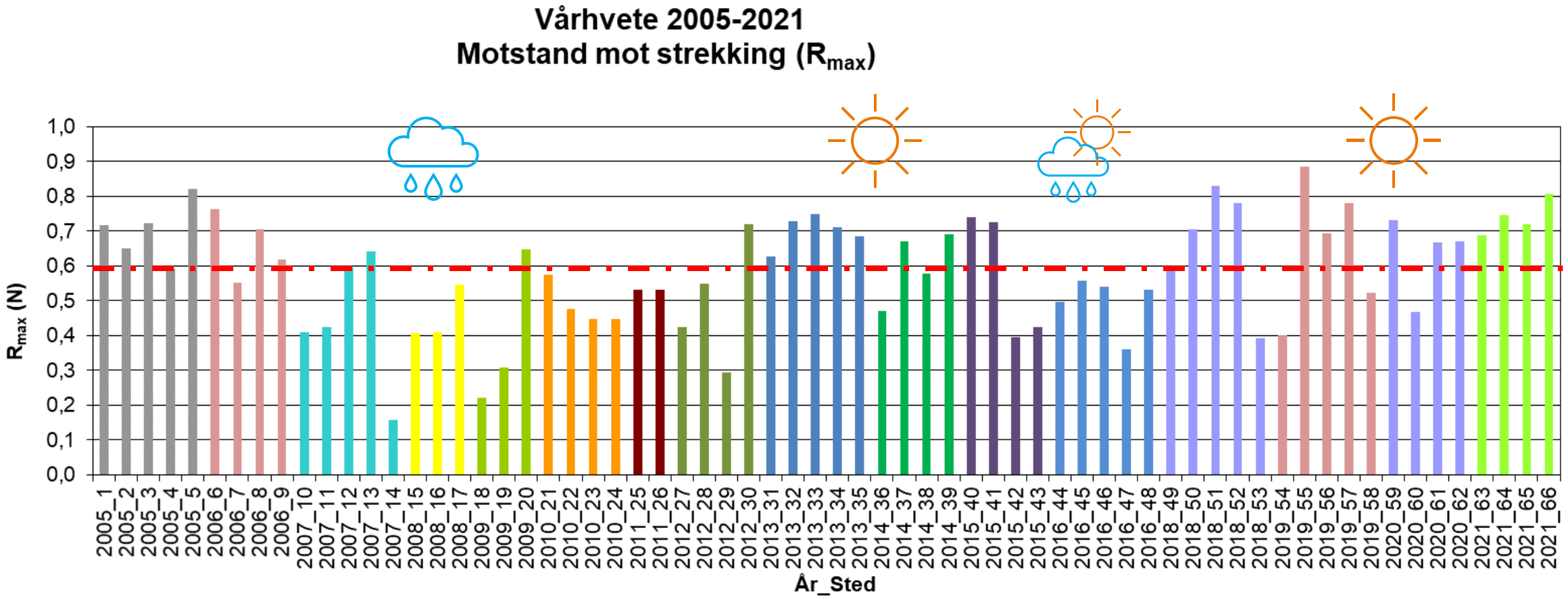
(Aamot et al., 2004)

Spesifikk glutenkvalitet

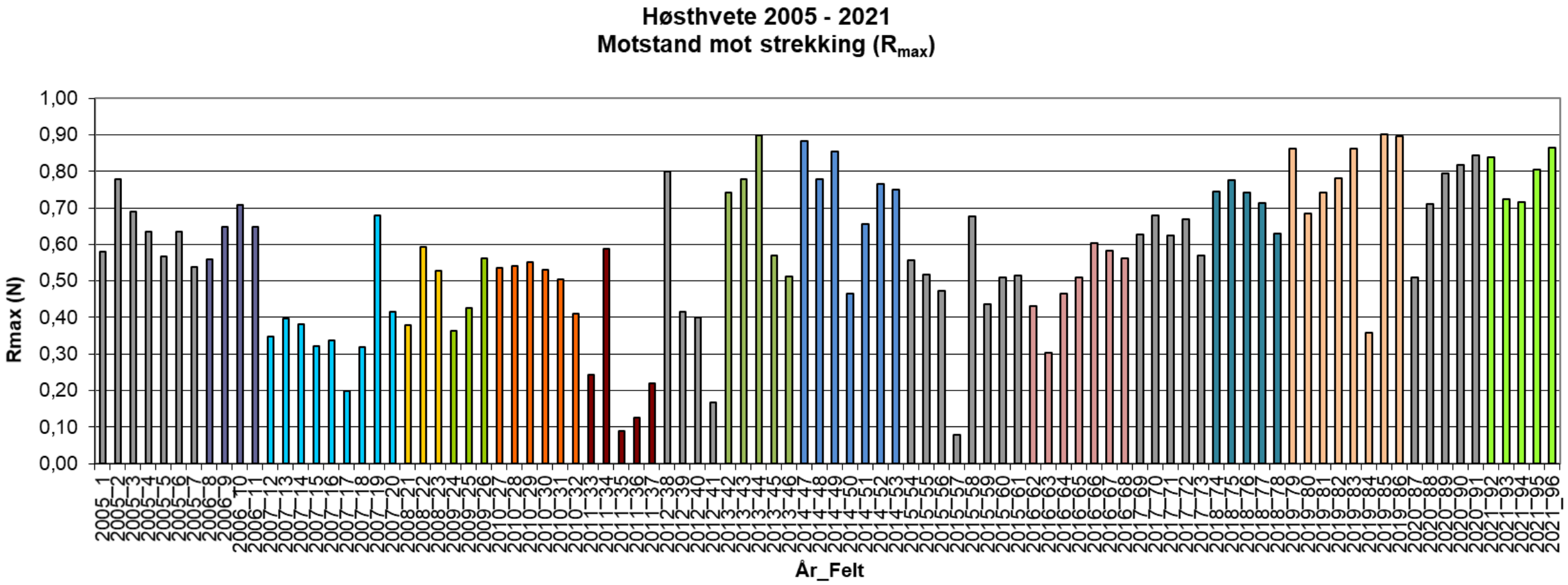


- Korrelasjon mellom R_{max} og brødvolum (Kieffer et al., 1993)

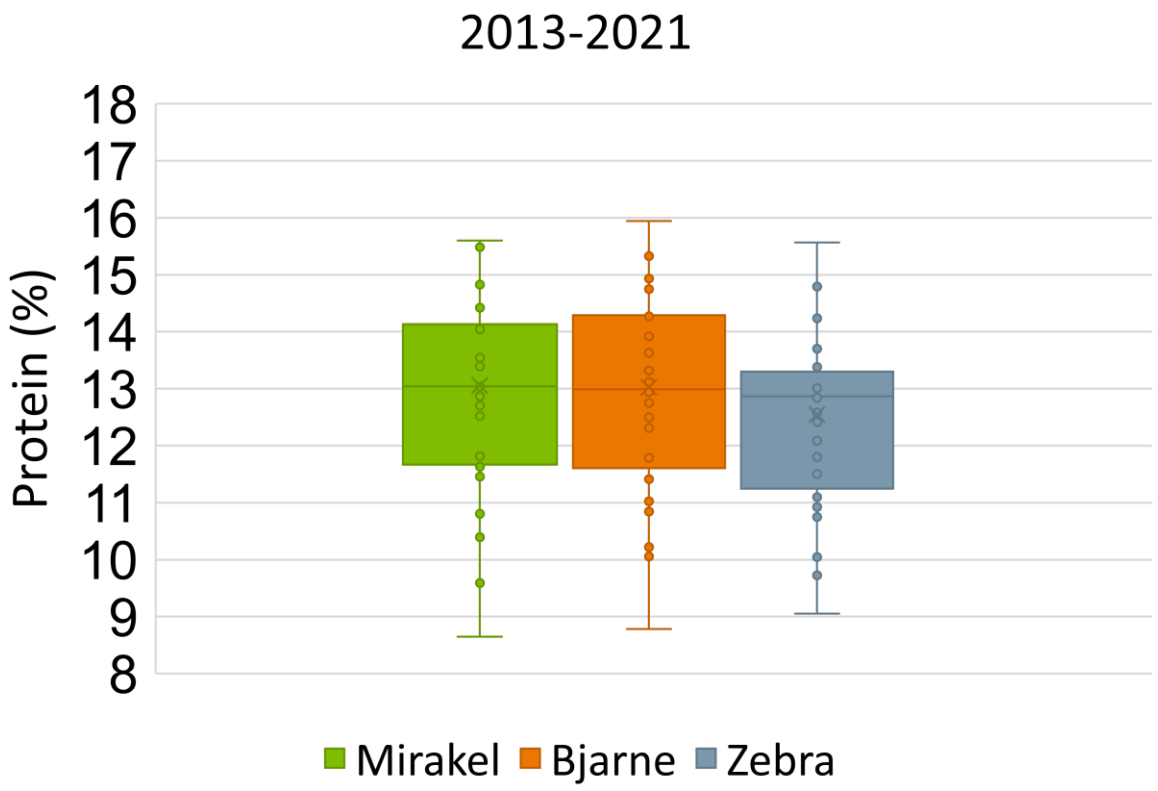
Glutenkvalitet i norsk vårhvete

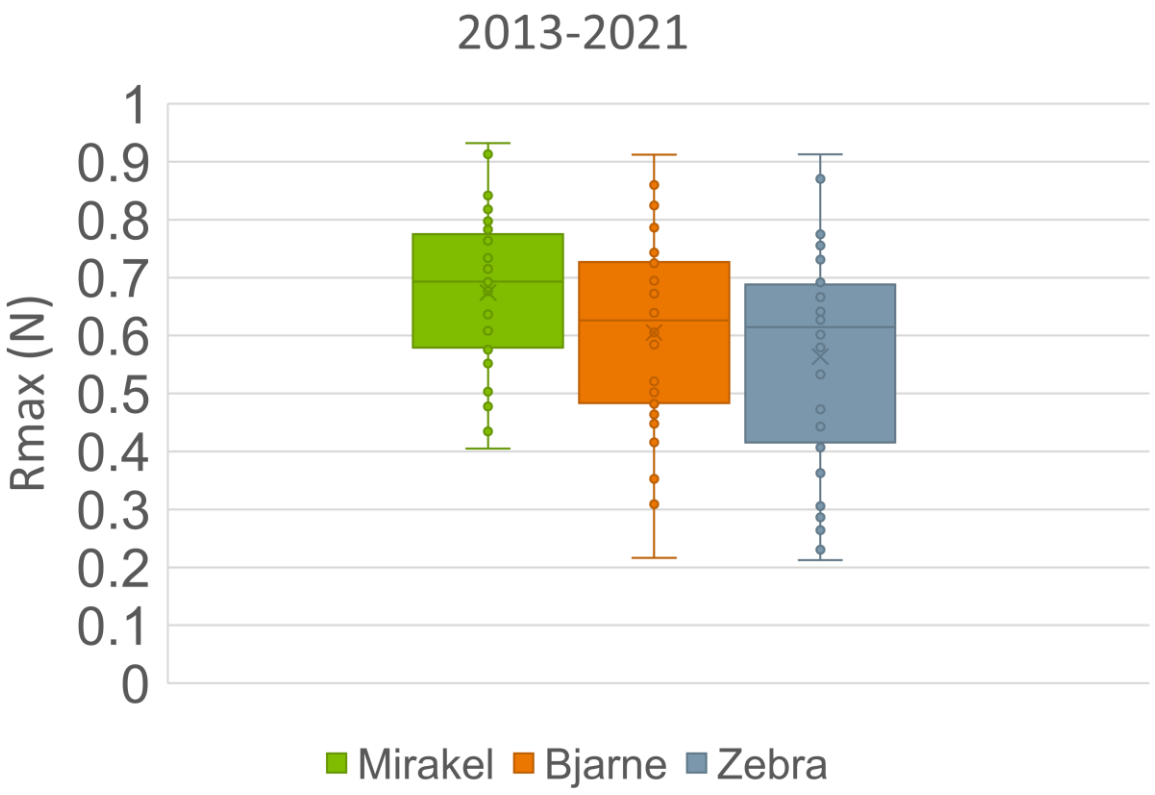


Glutenkvalitet i norsk høsthvete



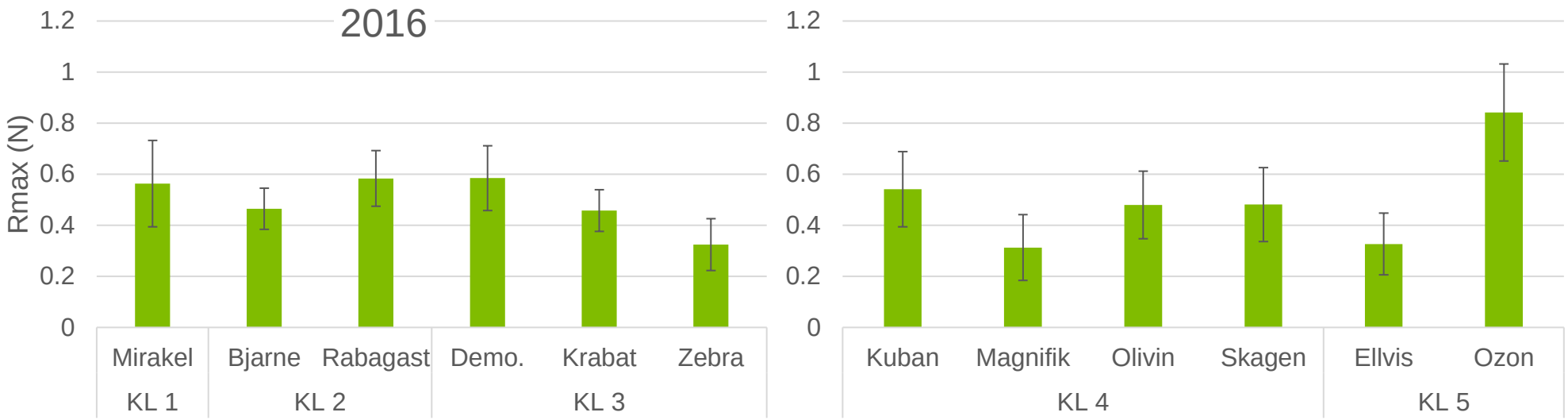
Proteininnhold og Rmax

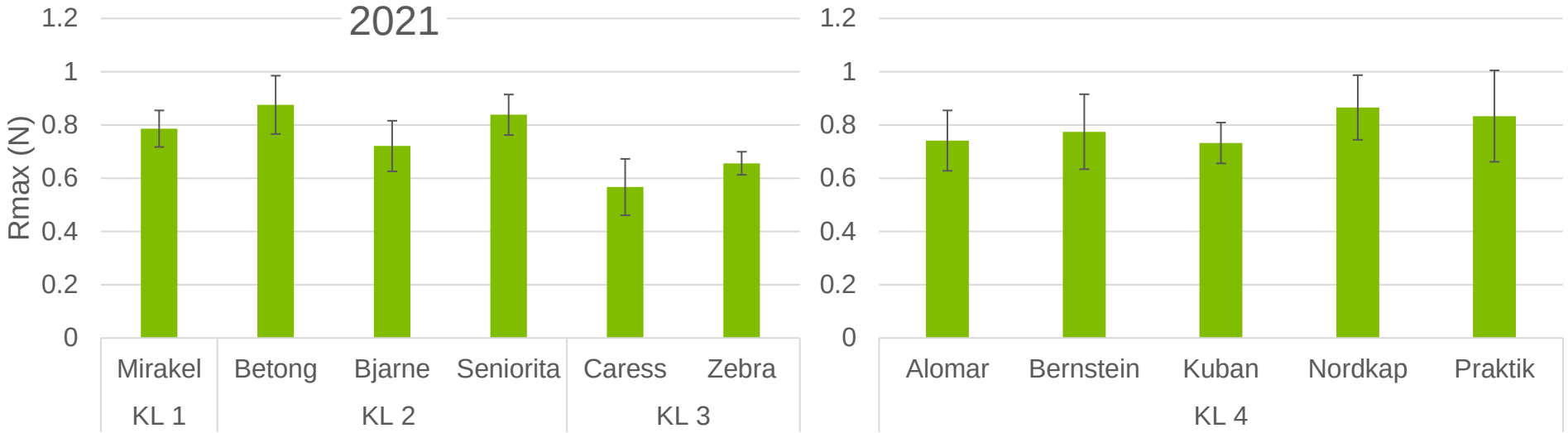




- Proteininnhold og Rmax varierer mellom felt og dyrkingssesong
- Variasjon i proteininnhold er ganske lik mellom de tre sortene (klasser)
- Gjennomsnitt Rmax er høyest i Mirakel, men variasjonen er stor for alle de tre sortene og Rmax overlapper

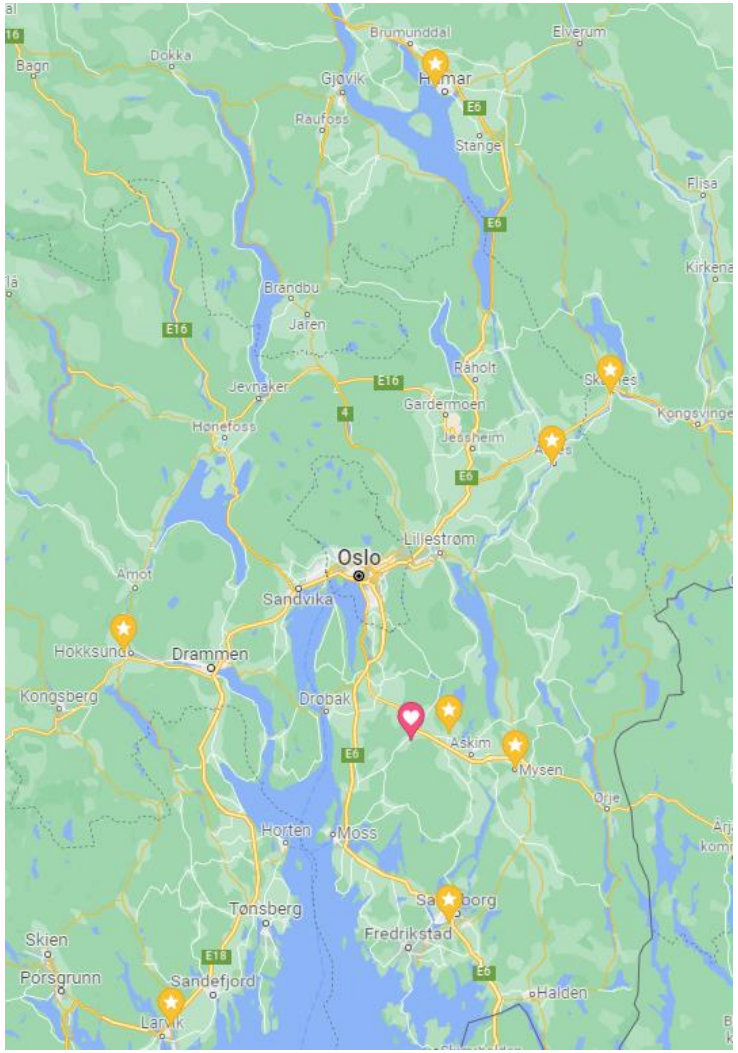
Glutenkvalitet i norsk mathvete 2016 vs 2021





- Nye sorter med sterkere glutenkvalitet
- Både vårhvete og høsthvete hadde sterk glutenkvalitet i 2021
- Savner svak glutenkvalitet i 2021?

Mirakel 2021



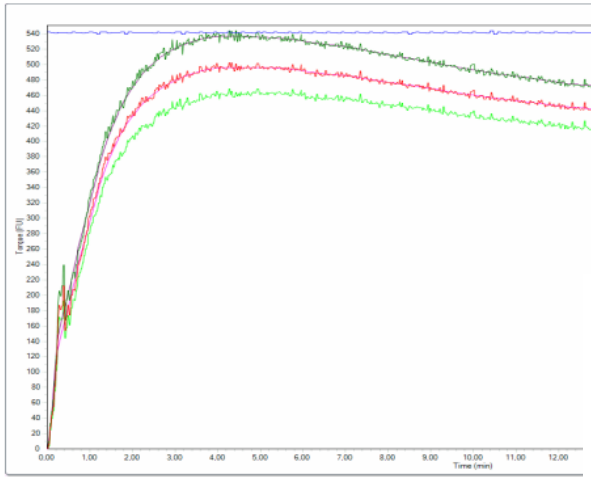
Innsamling av Mirakel fra kornmottak

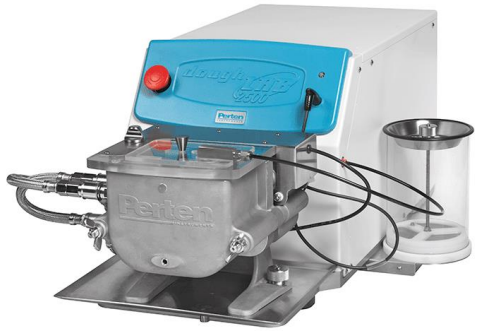
Nr.	Kornmottak
1	Sveinung (Hobøl)
2	FKA Larvik
3	FKA Årnes 1
4	FKA Årnes 2
5	SU Odal
6	FKA Spydeberg
7	FKA Eiker 1
8	FKA Eiker 2
9	SU Mysen
10	FKA Østfold
11	SU Storhamar 2021
12	SU Storhamar 2020

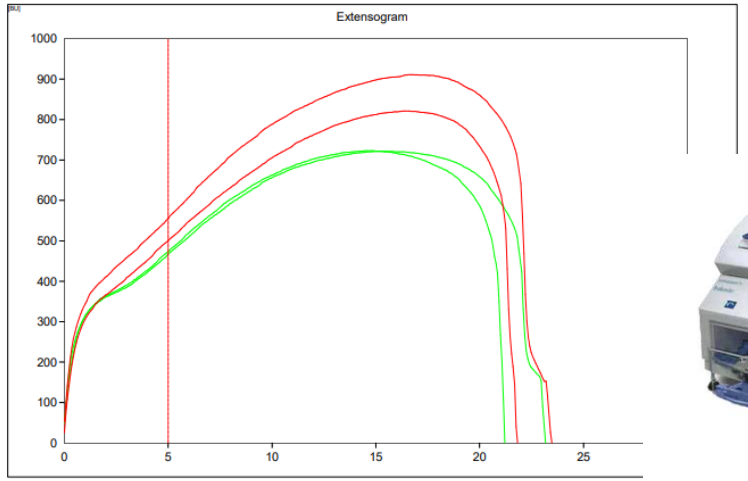
Mirakel 2021

Analyser

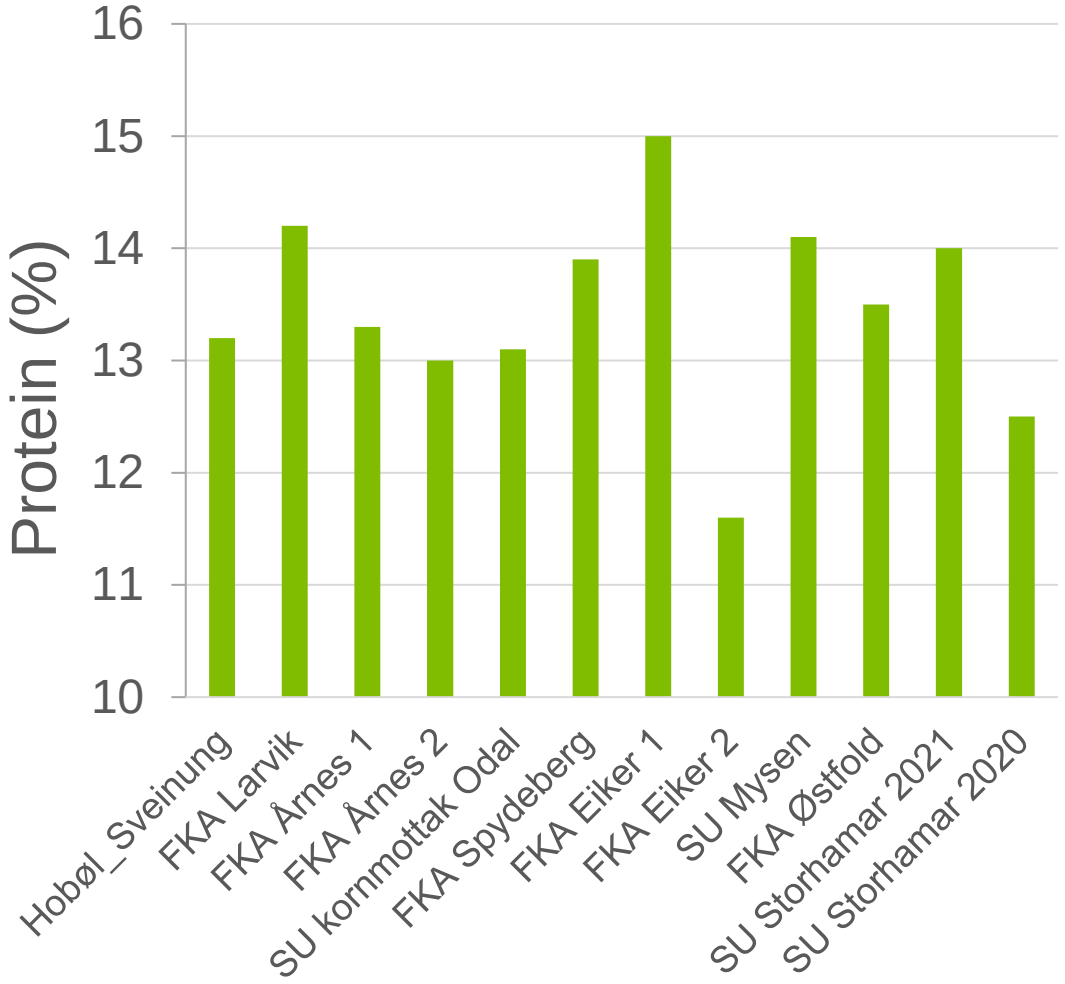
- Proteininnhold
- Falltall
- Farinograf (AACC Method 54-21.02)
- Extensograf (AACC Method 54-10.01)

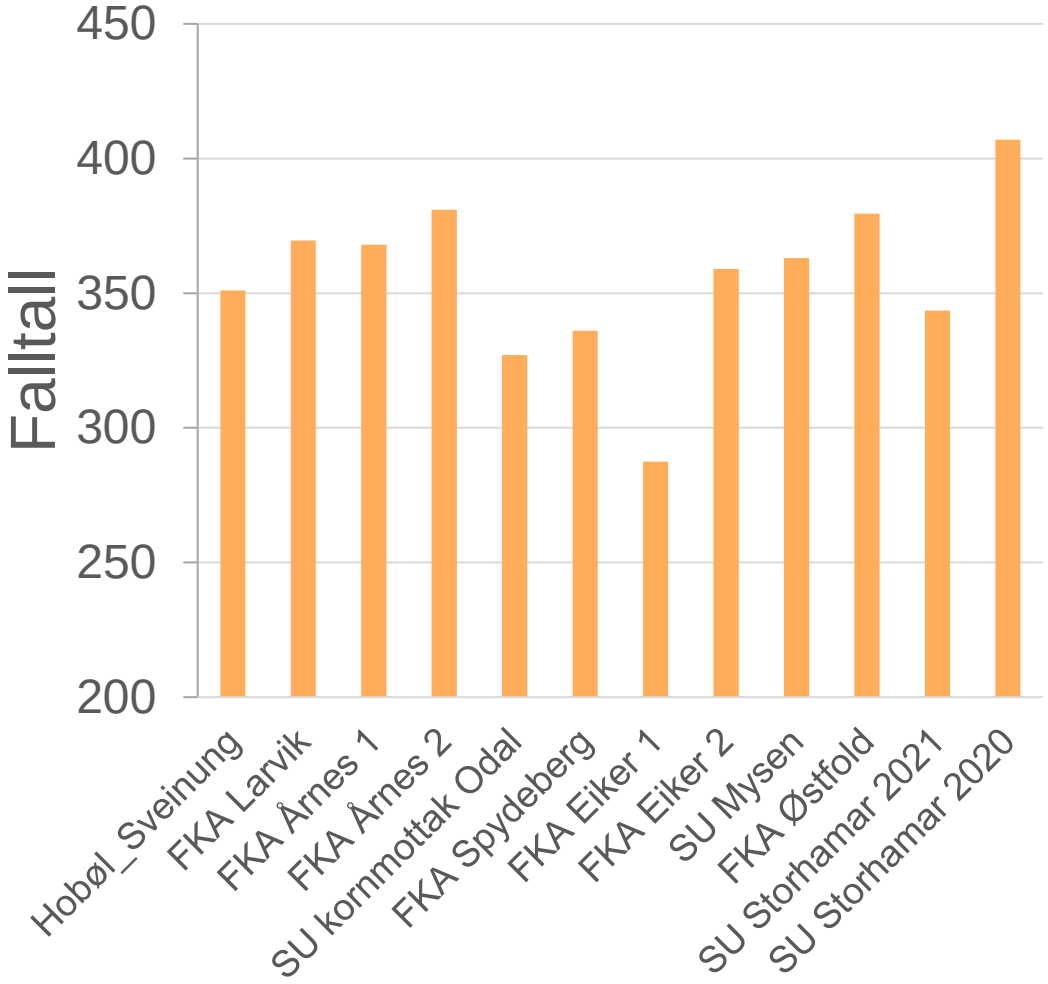




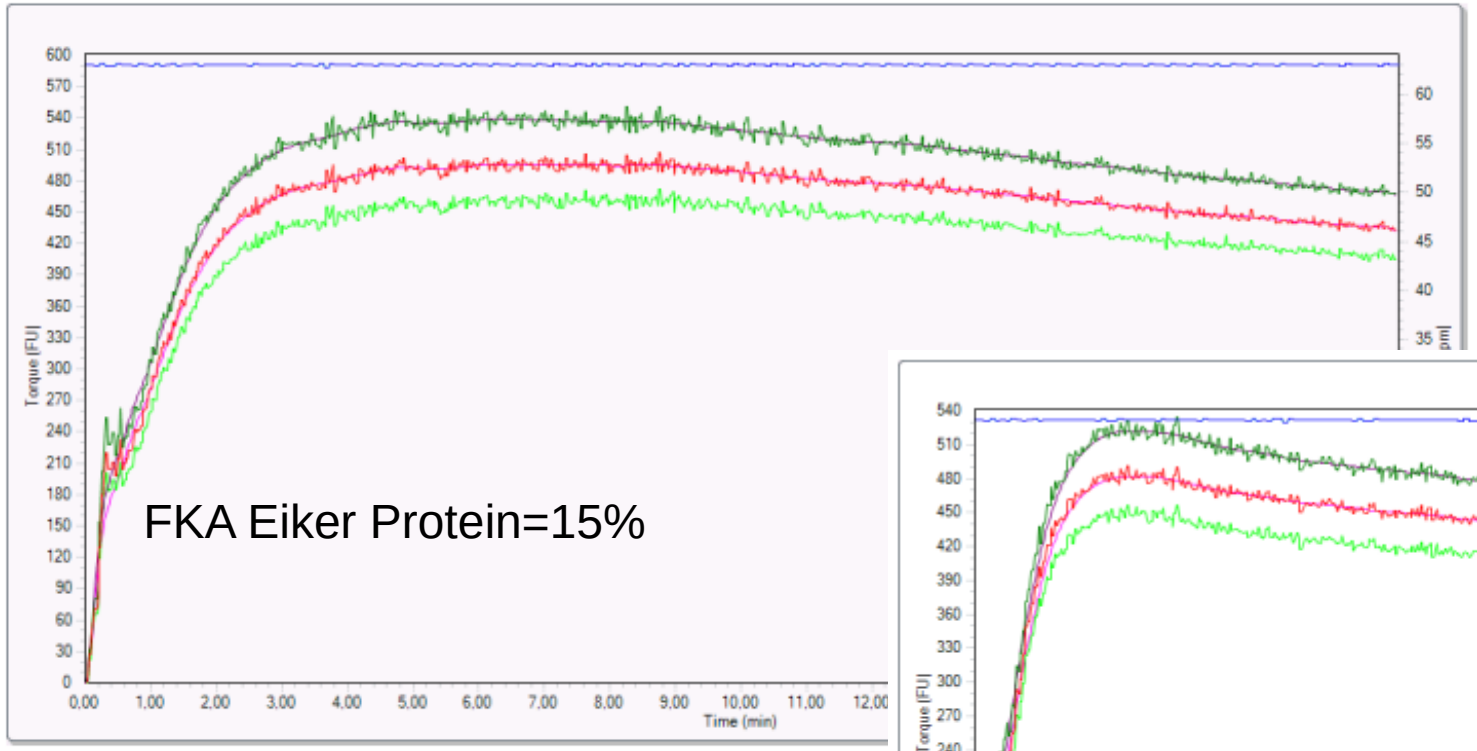


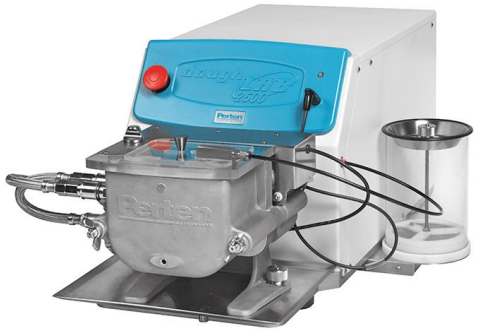
Proteininnhold og falltall

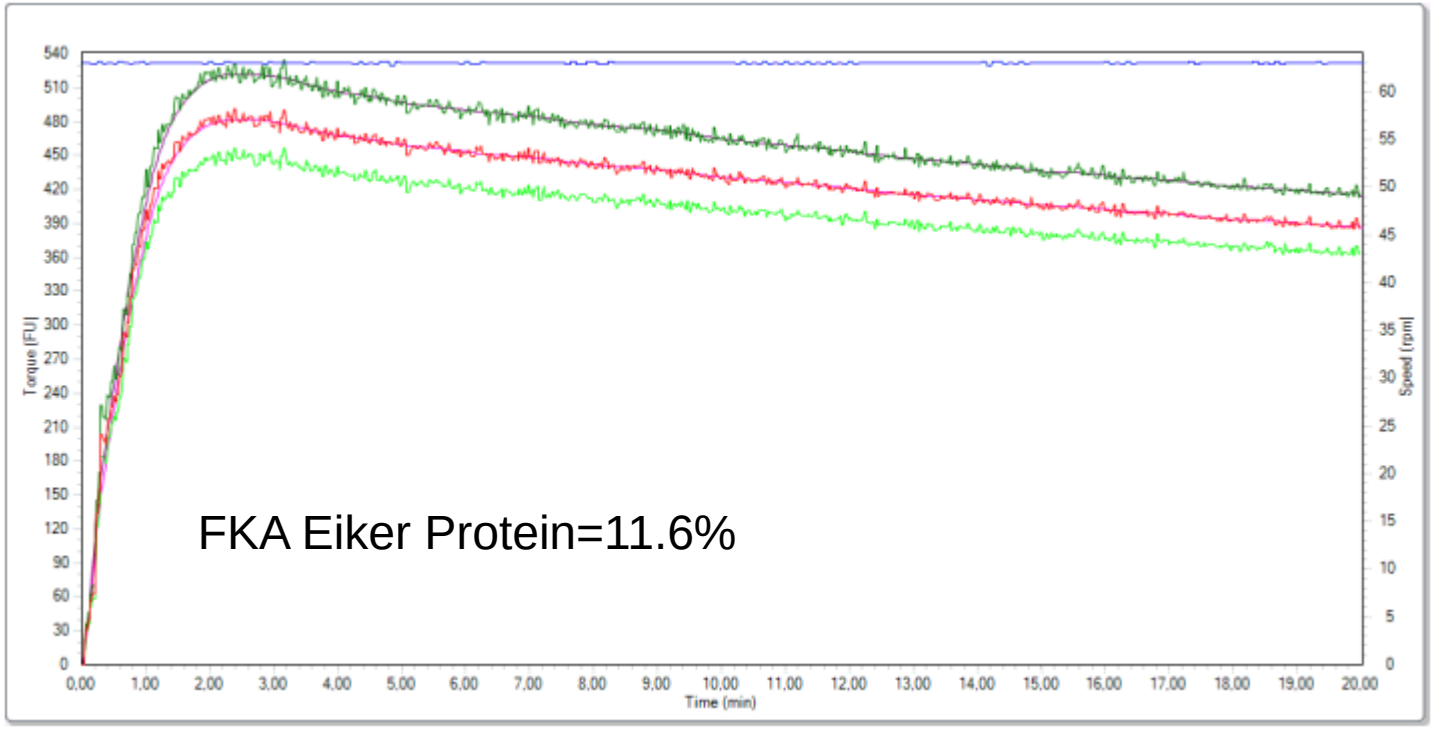




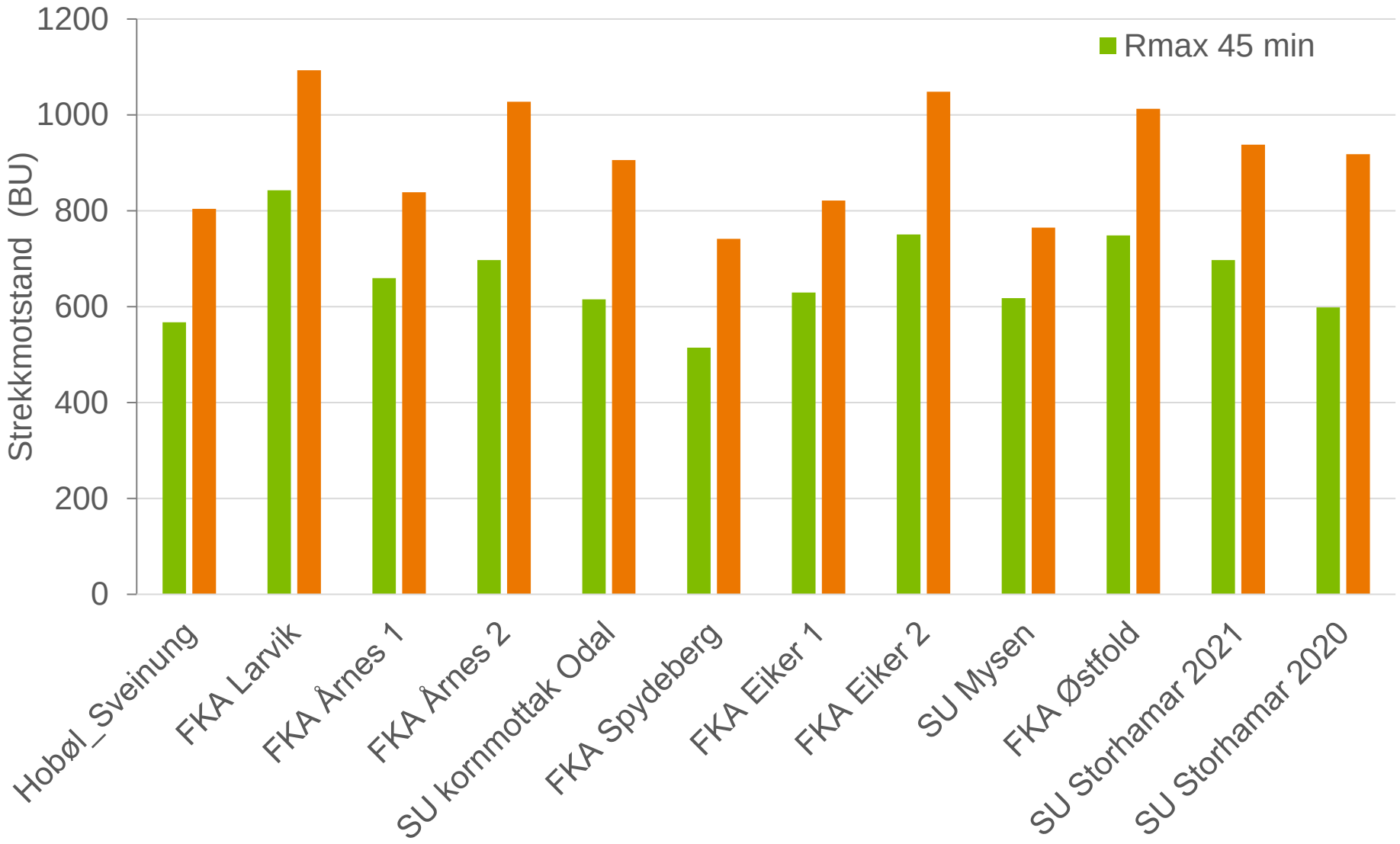
Farinograf


Torque [FU]
Time (min)
FKA Eiker Protein=15%

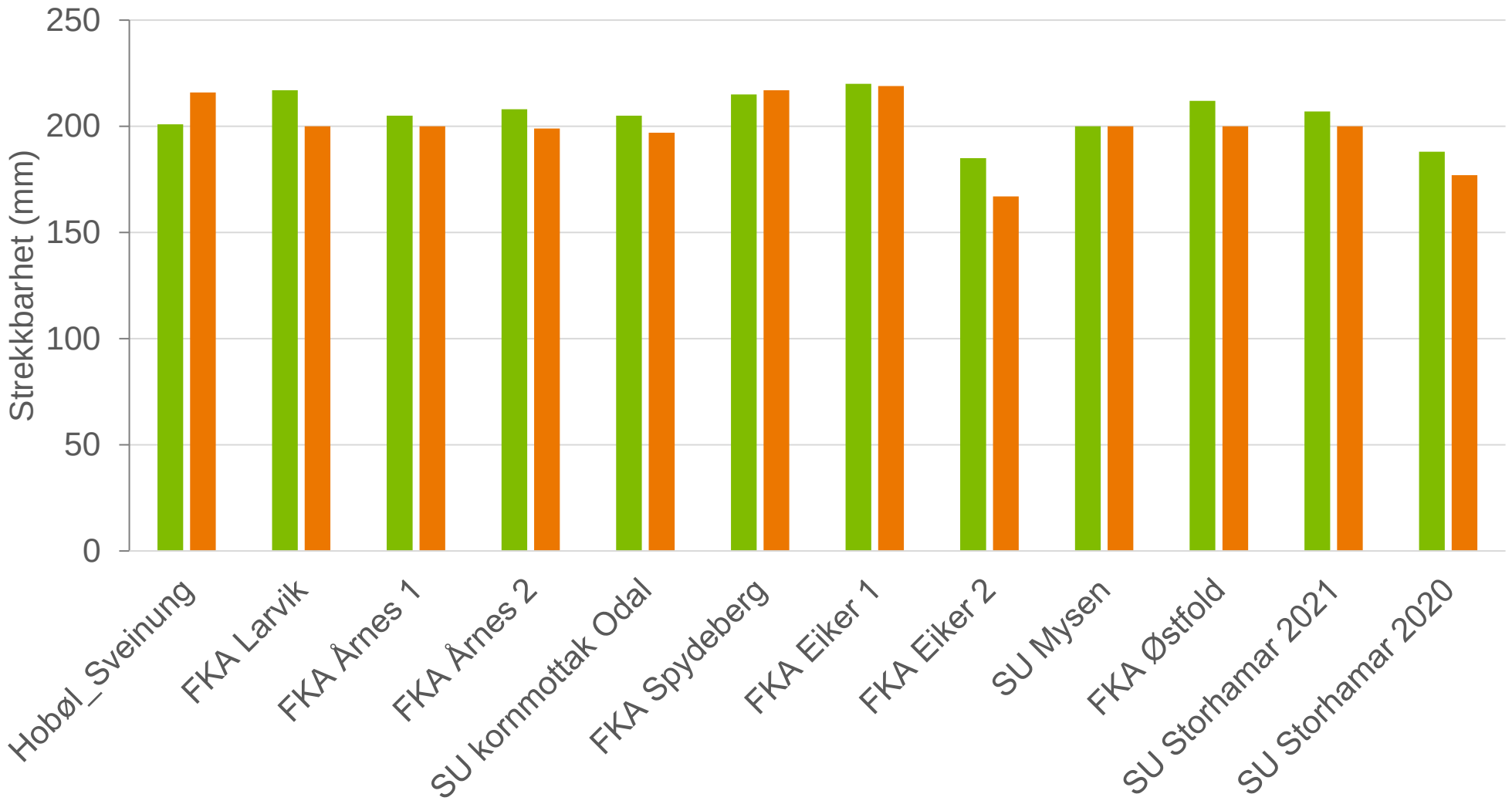



Torque [FU]
Speed [rpm]
Time (min)
FKA Eiker Protein=11.6%

Ektensograf Rmax (BU) – veldig sterk og varierende!



Ektensograf strekkbarhet ☺



→Hvordan kan vi utnytte den norske mathveten?

Sorter med sterk kvalitet

- Nye sorter med sterk glutenkvalitet : positivt for grov bakst
- Svært gode innhøstingsforhold gir sterk kvalitet (2018-2021)
- Mangler svak glutenkvalitet (KL 5)?
- Klassefordeling: tydeligere kriterier?

Variasjon

- Sortering: både klasser og proteininnhold?
- Tidlig kvalitetsprognoser for ulike dyrkingsområder/kornmottak
- Kommunikasjon kornmottakene-møllene-bakeriene
- Overlagring av korn med spesielle kvaliteter
  - Høyt/lavt proteininnhold
  - Sterk/svak glutenkvalitet
  - Høyt/(lavt) falltall

Takk for oppmerksomheten !