



Dr. Sinead Morris, SETU



Lisa Ryan, Teagasc

Domestic cereals can support a diverse drinks industry

National Tillage Conference 2024

Wednesday, 31st January | Lyrath Hotel, Kilkenny

www.teagasc.ie/tillagecon24

Can domestically sourced grains be use for distilling?



DABBING CAP – Distilling and Brewing; Building Capacity

SETU's role?

- Develop lab scale alcohol yield and grain quality tests optimised for the Irish whiskey industry.
- Identify the grain characteristics that render wheat suitable for Irish grain whiskey production.
- Characterize grains (rye, wheat, Irish maize) in terms of their suitability to the Irish distilling sector.



Looking to wheat...

Why use wheat?

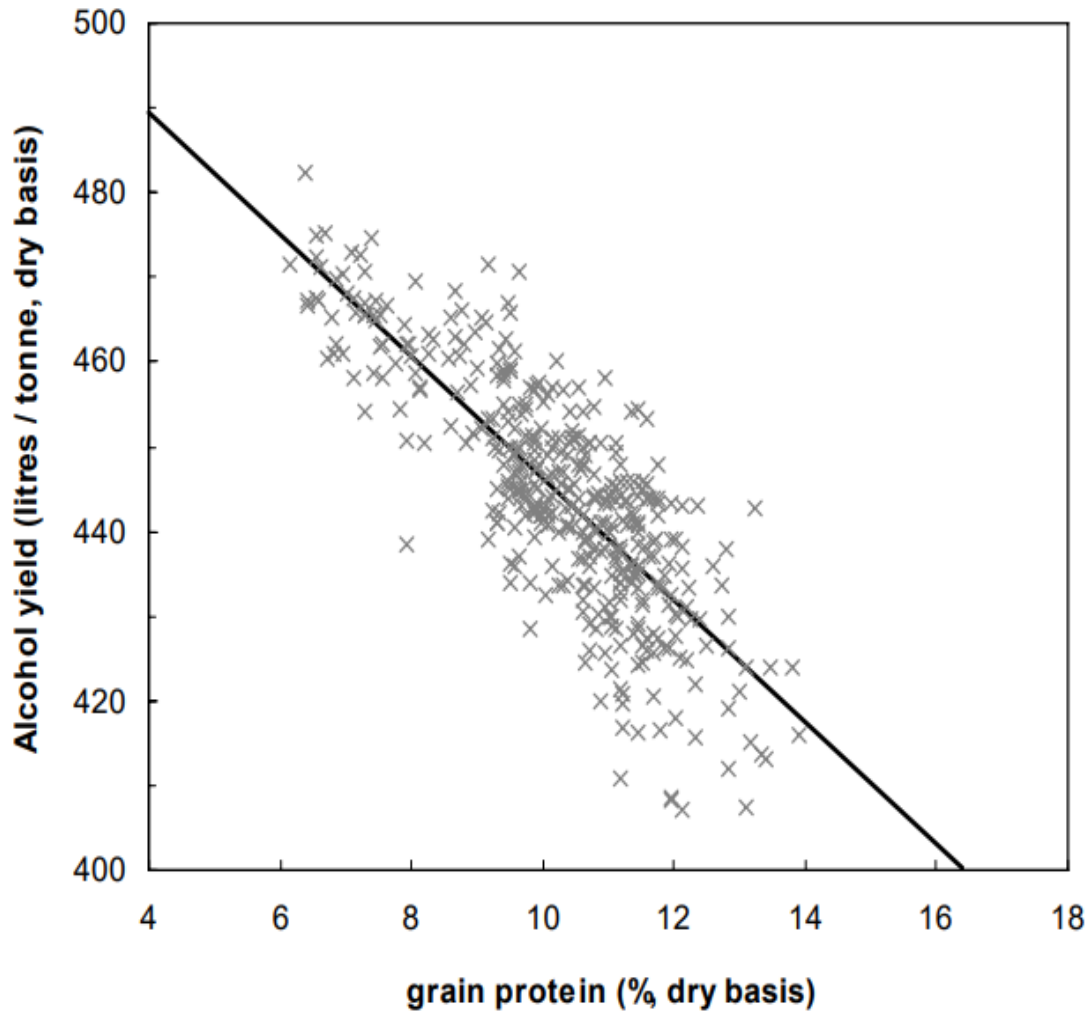
- Potential to replace maize imports
- Suitable to our climate
- High yielding crop
- Experienced growers
- Good alcohol production
- Flour profiles

Concerns with wheat?

- Hard v. soft
- Processing issues
- How does grain composition impact alcohol production?

Protein – Irish context is different to what has been traditionally reported

What's reported? (Smith et al., 2008)



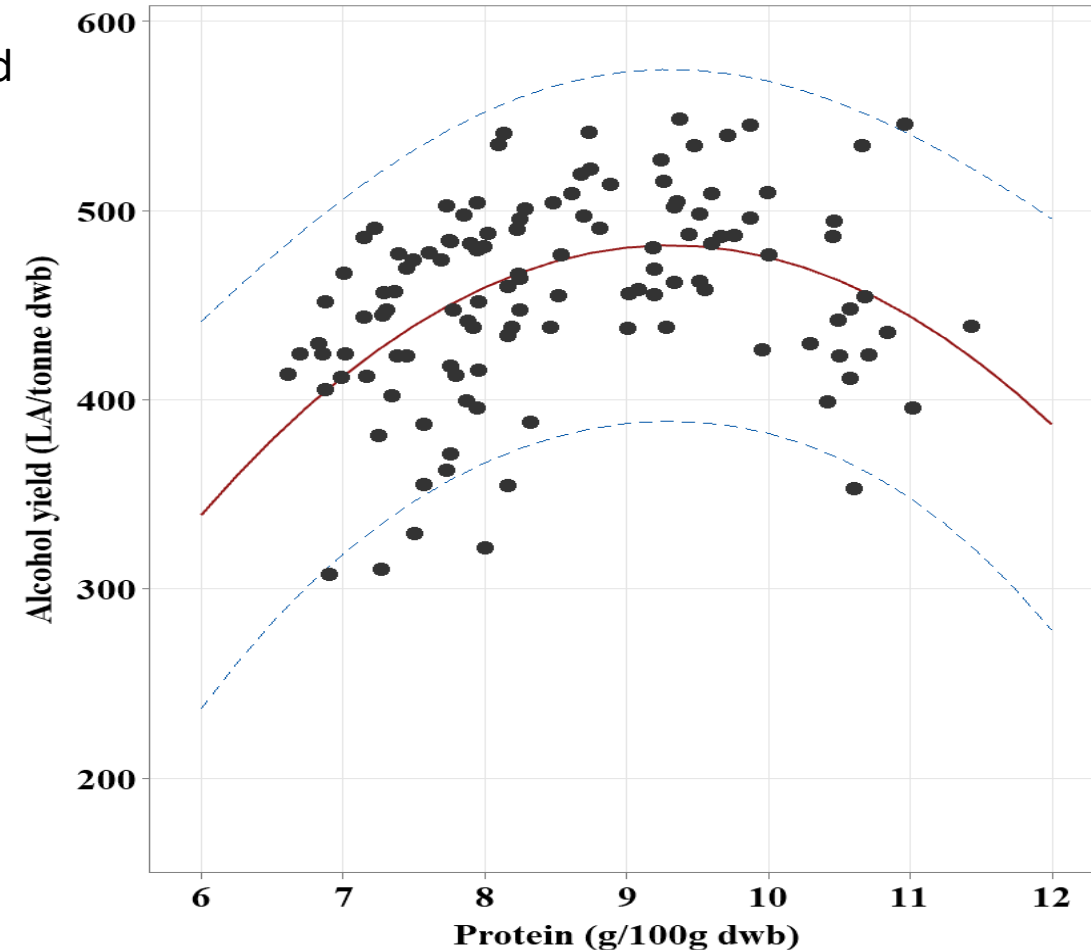
Low protein -
high alcohol yield



Correlation with
starch

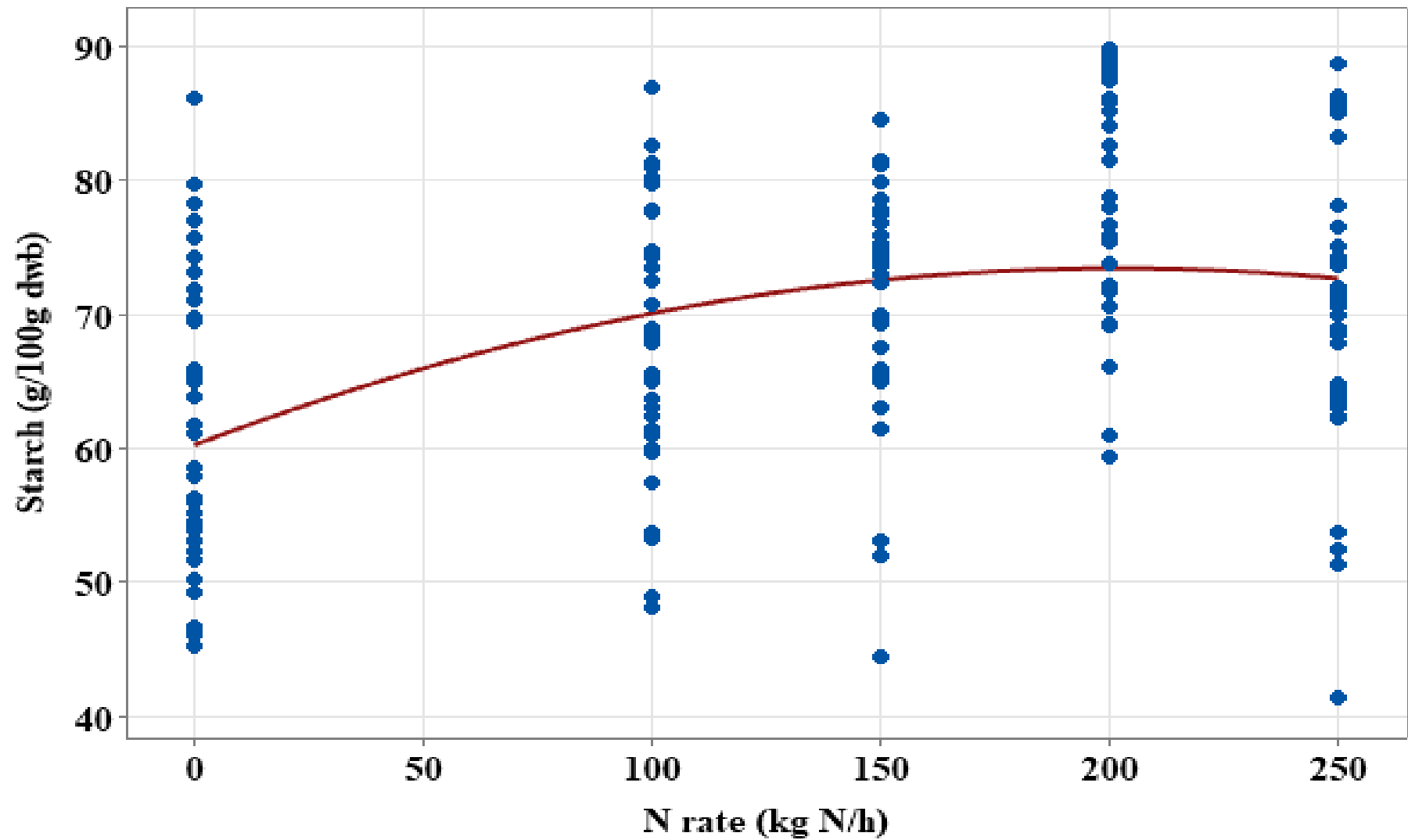


What we see !



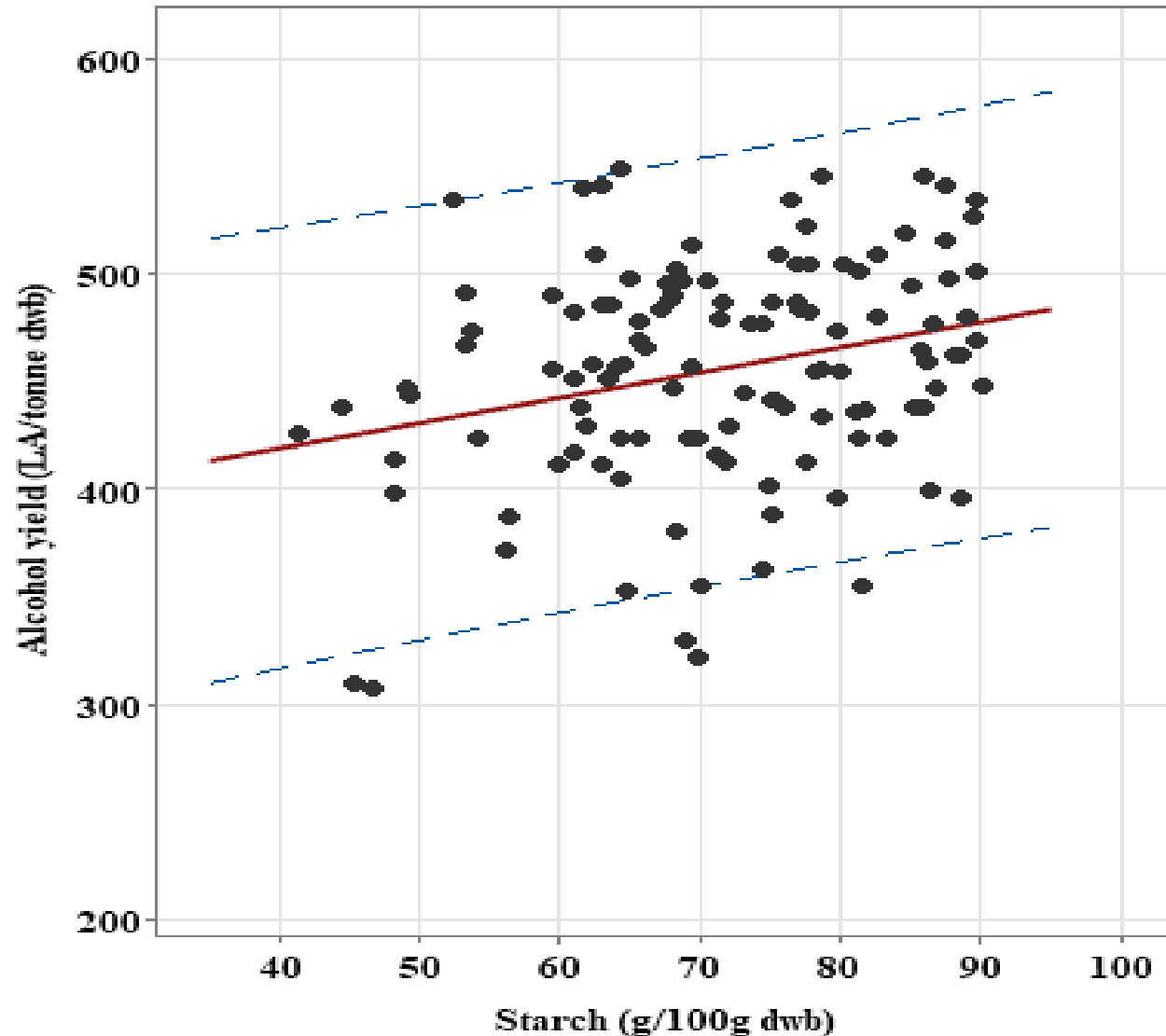
Optimum N rate delivers high starch and resulting alcohol yields

Impact of N rate on starch



Optimum N rate delivers high starch and resulting alcohol yields

Starch impact on alcohol yield



To conclude:

- 200kg/N per hectare
- Starch increase
- Alcohol increase
- Proof-of-concept demonstrated. Need now to expand to pilot scale

The National Centre for Brewing and Distilling

NCBD ambition is to develop with academic/industry partners a domestic centre of excellence for brewing and distilling that:

- Validates added value potential of Irish grains for malting/brewing/distilling
- Supports education, training and innovation within the drinks industry for stakeholders from education, agronomy, production to finished product



2023 NCBD start-up and commissioning

In support of education & training:

- Joint Teagasc – SETU strategy implemented
- Designing bespoke practical training courses for industry with SETU
- QC training for industry partners available
- Phase II expansion underway with column still capacity



Pot still



Column still

Column distillate, ABV 85%



NCBD development for 2024...

- Full scale analytical laboratory and sensory room set up for industry use
- Onsite technical support work with new start-ups and existing business delivered through-out the year
- Research focus on:
 - Investigating the benefits of fermented non-alcoholic beer on human health and distillery waste optimisation (with SETU)
 - Expanding the utility of Irish Grains, bringing added value potential to the tillage sector
 - Malting characteristics of heritage barley varieties

