Background

The locus NAM in wheat and barley affects both seed size and nutrient content. A non-functional allele of the gene increases the seed size but at the expense of protein and micronutrient content. The selection for yield leads to reduction in nutritious quality

Aim

➢to explore the diversity of the *HvNAM-1* gene sequence in barley

➢to measure the grain protein, zinc, and iron content in Scandinavian landraces and cultivars from four different time periods of barley

Methods

- DNA Extraction
- PCR
- Restriction analysis(CAPS)
- Protein analysis by Kjeldahl method.
- Mineral(Fe and Zn) analysis by inductively coupled plasma emission spectrometry
- Statistical analysis(ANOVA)

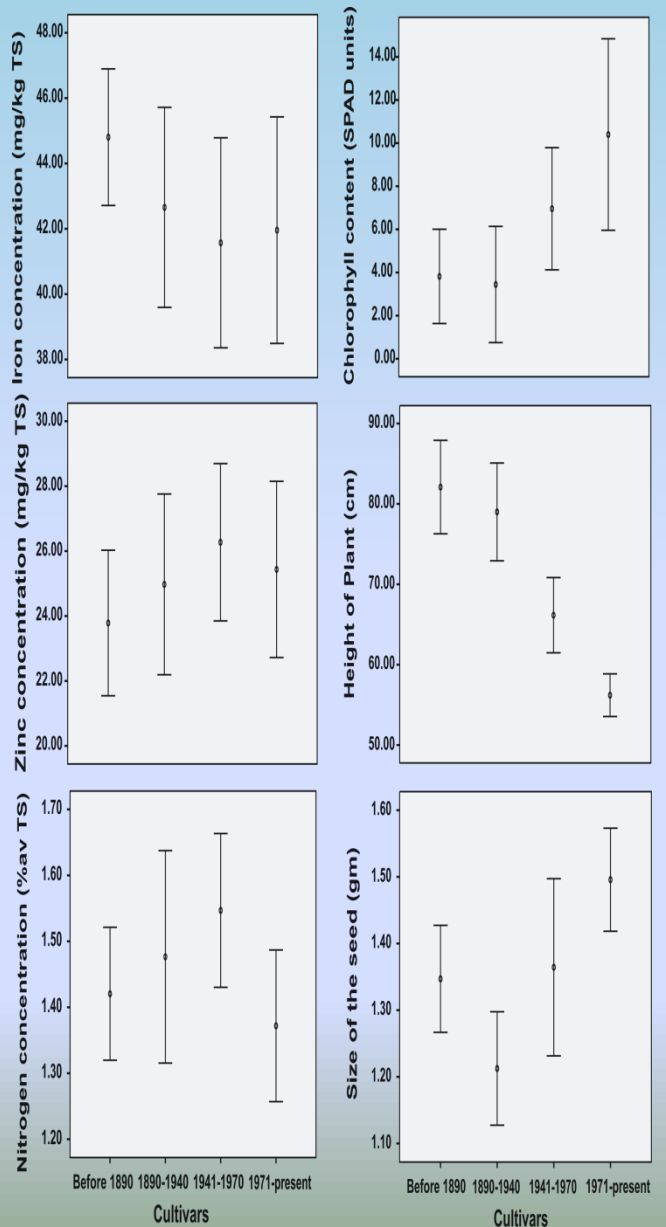
Results

- No variation in grain protein and mineral nutrient concentration among the different groups

- Increased chlorophyll levels, seed size and decreased plant height in modern cultivars

(i) Variation in the nutrient concentration of barley cultivars

(ii) Comparison of growth parameters for the different cultivars



Conclusions

- There is no variation in the grain micronutrient concentration and diversity of *HvNAM-1* gene among the different groups of barley cultivars
- Variation was found in the seed size, chlorophyll content and plant height

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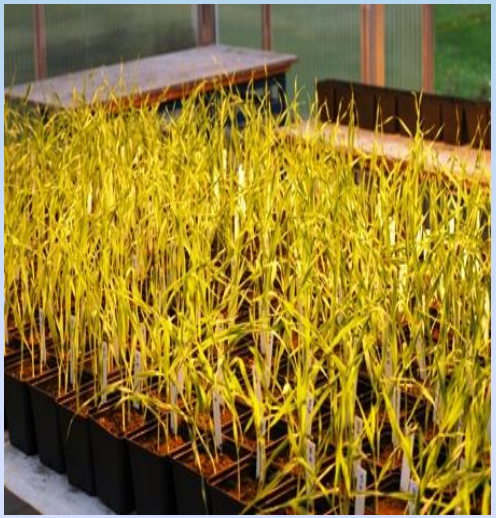
Screening of *HvNAM-B1* polymorphism, grain nutrient content and seed size in 80 Scandinavian barley cultivars



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