

**SCANDINAVIAN  
SEED**

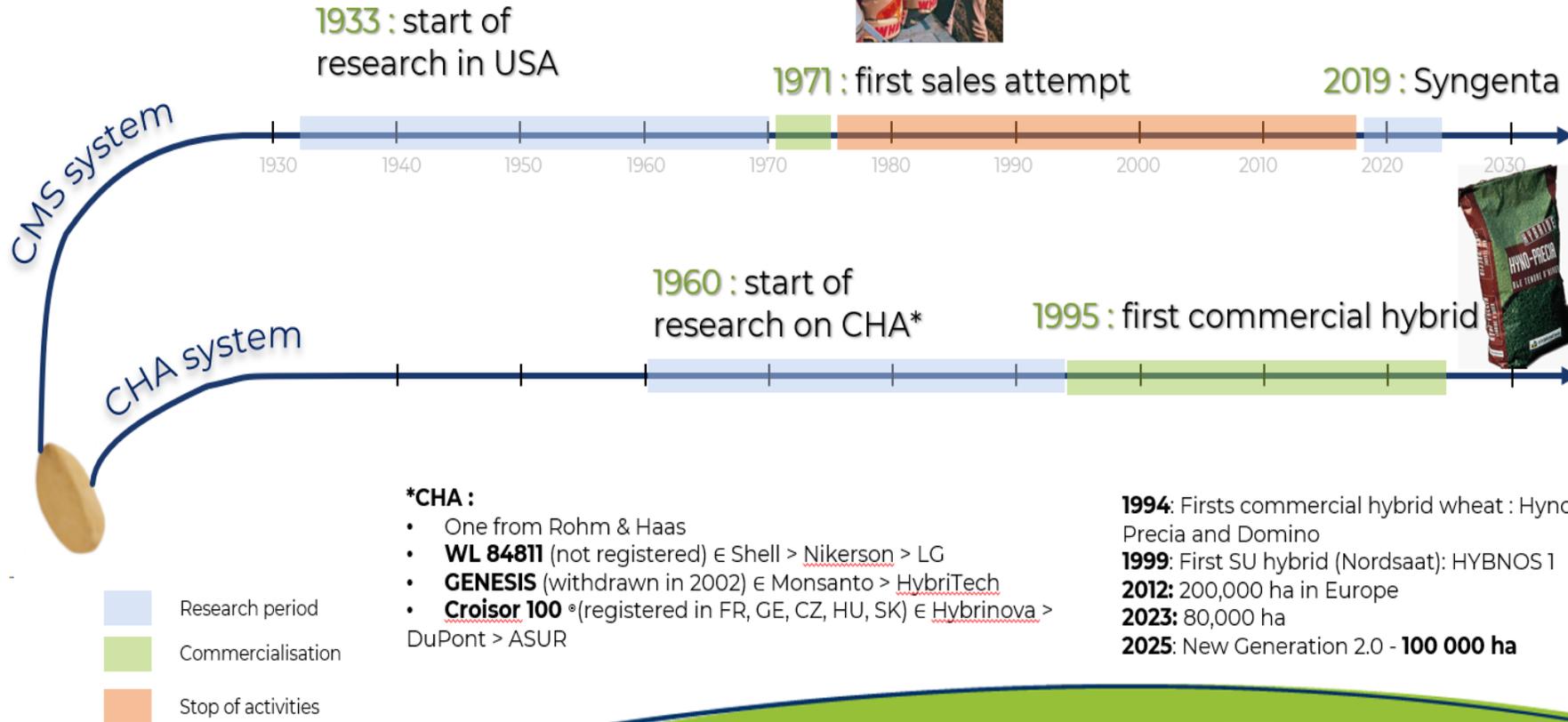
Oskar Gustafsson Billingeus 2026-01-16

# HISTORY OF HYBRID WHEAT

- A 50-year-old global quest
- Multiple players all around the world:
  - **Universities and public research institutes** : , USA (Texas, Nebraska), India (2009), China (late 1980s ), Australia (Adelaide)
  - **Public-private collaborations** : Mexico (CIMMYT-Monsanto/1996, then CIMMYT- Syngenta/2019), France (GIE Hybrilé/the 90's), GE (ZUCHTWERT project/2019)
  - **Global companies** : Bayer, BASF, Syngenta, CORTEVA (DuPont-Pioneer), KWS, LG
  - **Private companies** :
    - ASUR / SU
    - RAGT
    - HYBALLIANCE 2014 : Berthold Bauer (GE), Caussade Semences and Lemaire Deffontaines (FR), Danko Hodowla (PO) et Saatzucht Donau (AU)
    - Mahyco (variety Pratham 2002/India)
    - China Seeds (2011)



# THE RESEARCH OF HYBRID WHEAT



## \*CHA :

- One from Rohm & Haas
- **WL 84811** (not registered) ∈ Shell > Nikerson > LG
- **GENESIS** (withdrawn in 2002) ∈ Monsanto > HybriTech
- **Croisor 100** \*(registered in FR, GE, CZ, HU, SK) ∈ Hvbrinova > DuPont > ASUR

**1994**: Firsts commercial hybrid wheat : Hyno-Precia and Domino

**1999**: First SU hybrid (Nordsaat): HYBNOS 1

**2012**: 200,000 ha in Europe

**2023**: 80,000 ha

**2025**: New Generation 2.0 - **100 000 ha**

**CMS:**  
Cytoplasmic male sterility

**CHA:**  
Chemical hybridizing agents

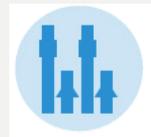


# Vad är hybridvete ?



## Konventionell sort:

- Självpollinerande gröda
- Standard sorter på marknaden = linjesorter
- identiska set av Kromosomer

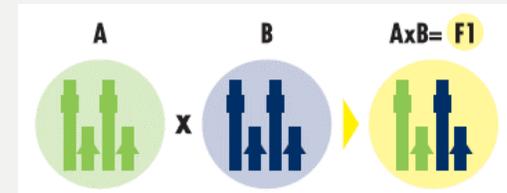


A

B

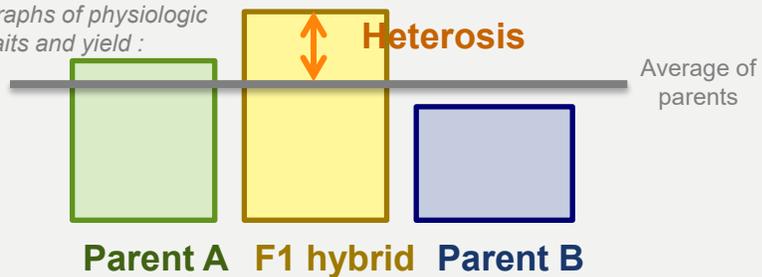
## Hybridvete:

- Korsning mellan två olika linjesorter
- "Faderlinje" (A) ger pollen
- "Moderlinje" (B) utan pollen,
- Producerar hybrid utsädet med olika set av kromosomer



## Heterosis effect :

Graphs of physiologic traits and yield :



## Height difference due to heterosis:

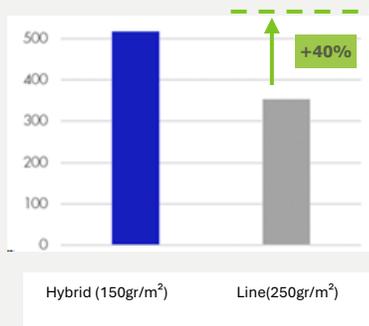


# Förädlingsmål med hybridvete

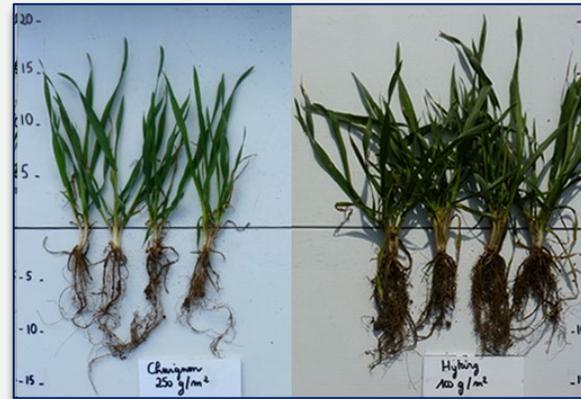
## Kraftigare bestockning



Ear density /m<sup>2</sup>



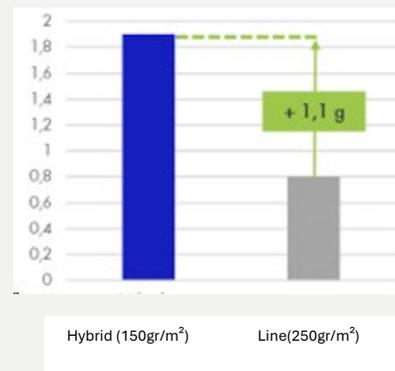
## Kraftigare rotsystem



Line

Hybrid

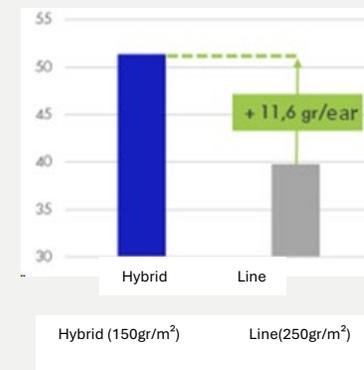
Dry weight of roots (g)



## Högre kärnsättning



Ear fertility (gr/ear)



## Målsättningen är att utnyttja hybridiseringen och de kumulativa egenskaperna från två olika föräldrar mot specifika kriterier

- Sjukdomsresistens
- Kärnkvalitet
- Vinterhärdighet
- Hög skörd och god skördestabilitet

→ maximal heterosiseffekt (10 to 15 % i Vete)

**Major traits by knowledge and molecular markers like :**

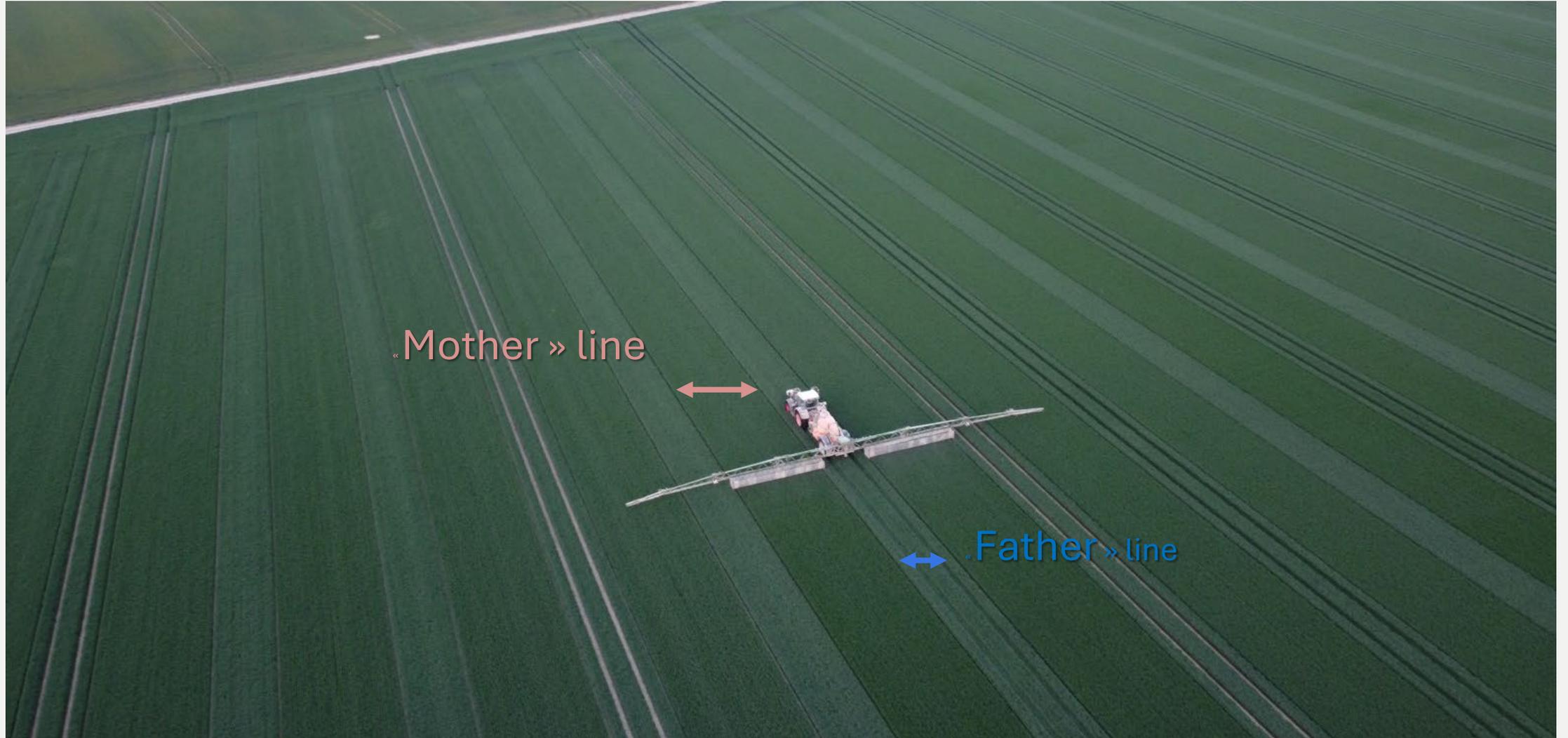


*In the future:*

→ Working on ByDV resistance with a new screening in 2025 ...

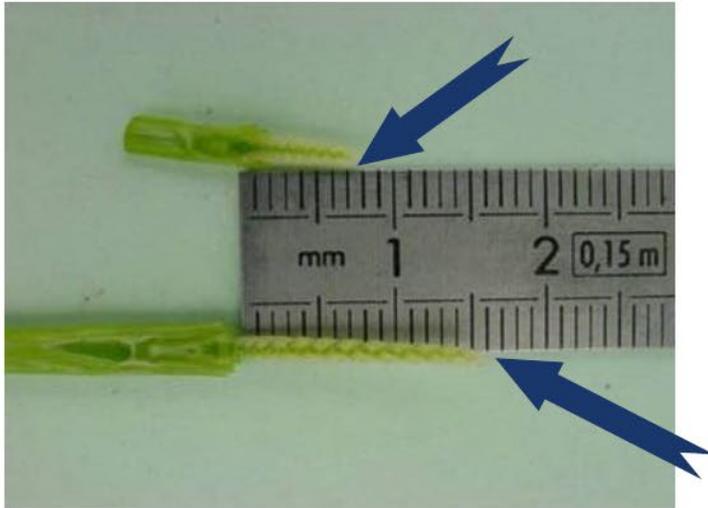


# Utsädesproduktion



## SPRAYING STAGE

- **When to spray ? → During a specific and narrow period of growth vegetation**  
**The stage is calculated from the average of 30 main stem**



HYBRID WHEAT

# HYVEGA NORD 16/926

## MULTI-COUNTRIES & MULTI-YEARS PERFORMANCES

Results obtained from official and post-official authorities or product management trials from SU/Rapool

### Harvests:

- 2023
- 2022
- 2021
- 2020
- 2019

**107%!**

**106%** (LSV) – from national checks  
**107%** (LSV) – from national checks  
**112%** (SU Germany) – from national checks  
**108%** (Registration) – from national checks

**106%** (DK Sortinfo.) – from general mean

**107%** (SU Balt) – comparison with local check

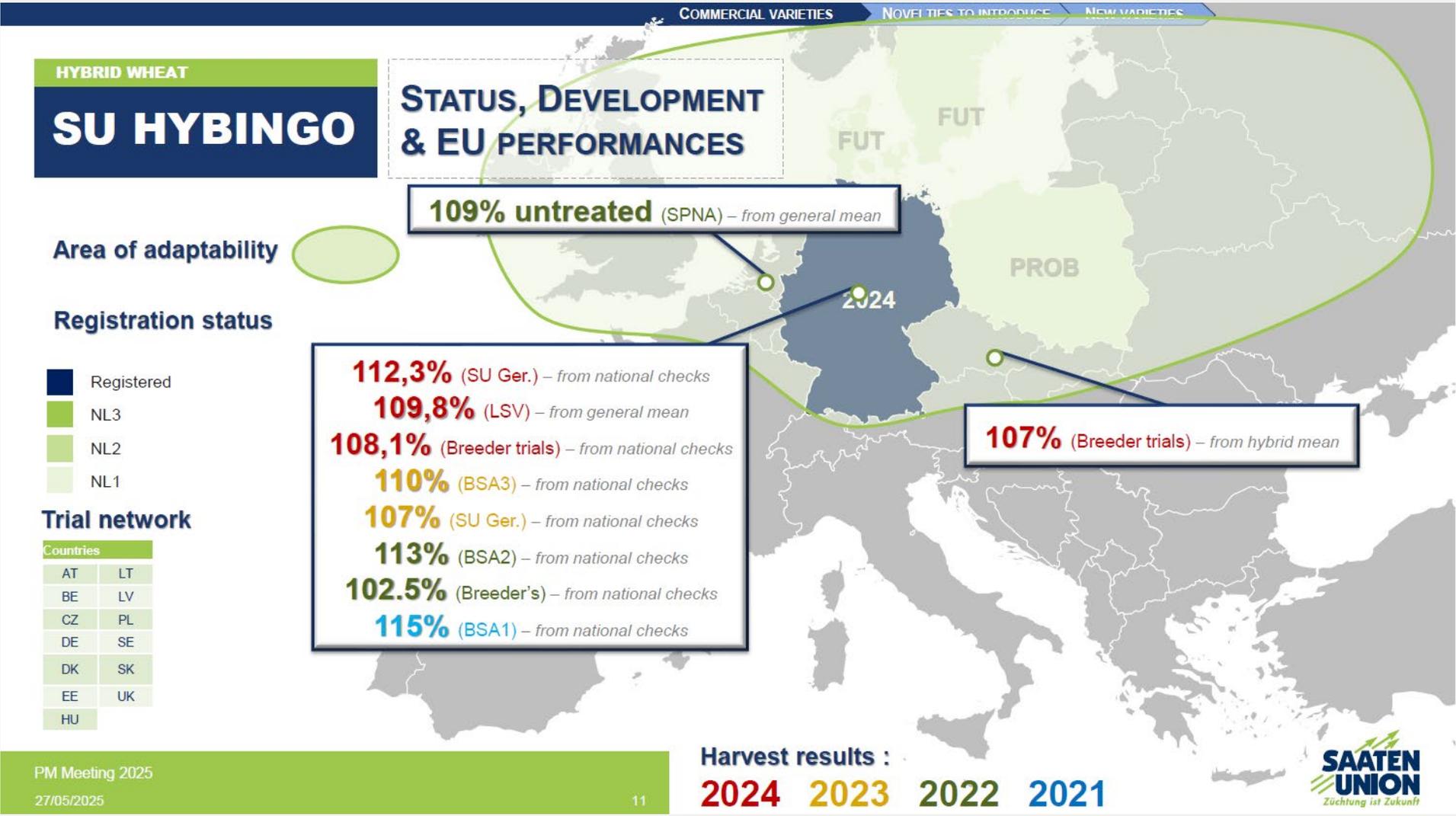
**105 %** (COBORU) – post-official  
**104%** (SU PL) – hybrid wheat comp.  
**105%** (COBORU) – from official checks  
**110%** (COBORU) – from official checks

**102%** (Lycée tech.) – from general mean  
**108%** (Lycée tech.) – from general mean

**105%** (Partner's) – 6 var. mean rel%

**115 %** (Rapool SK) – demo plots  
**106-112%** (Rapool SK) – demo plots





**HYBRID WHEAT**  
**SU HYBINGO**

**STATUS, DEVELOPMENT & EU PERFORMANCES**

Area of adaptability

Registration status

- Registered
- NL3
- NL2
- NL1

**Trial network**

Countries	
AT	LT
BE	LV
CZ	PL
DE	SE
DK	SK
EE	UK
HU	

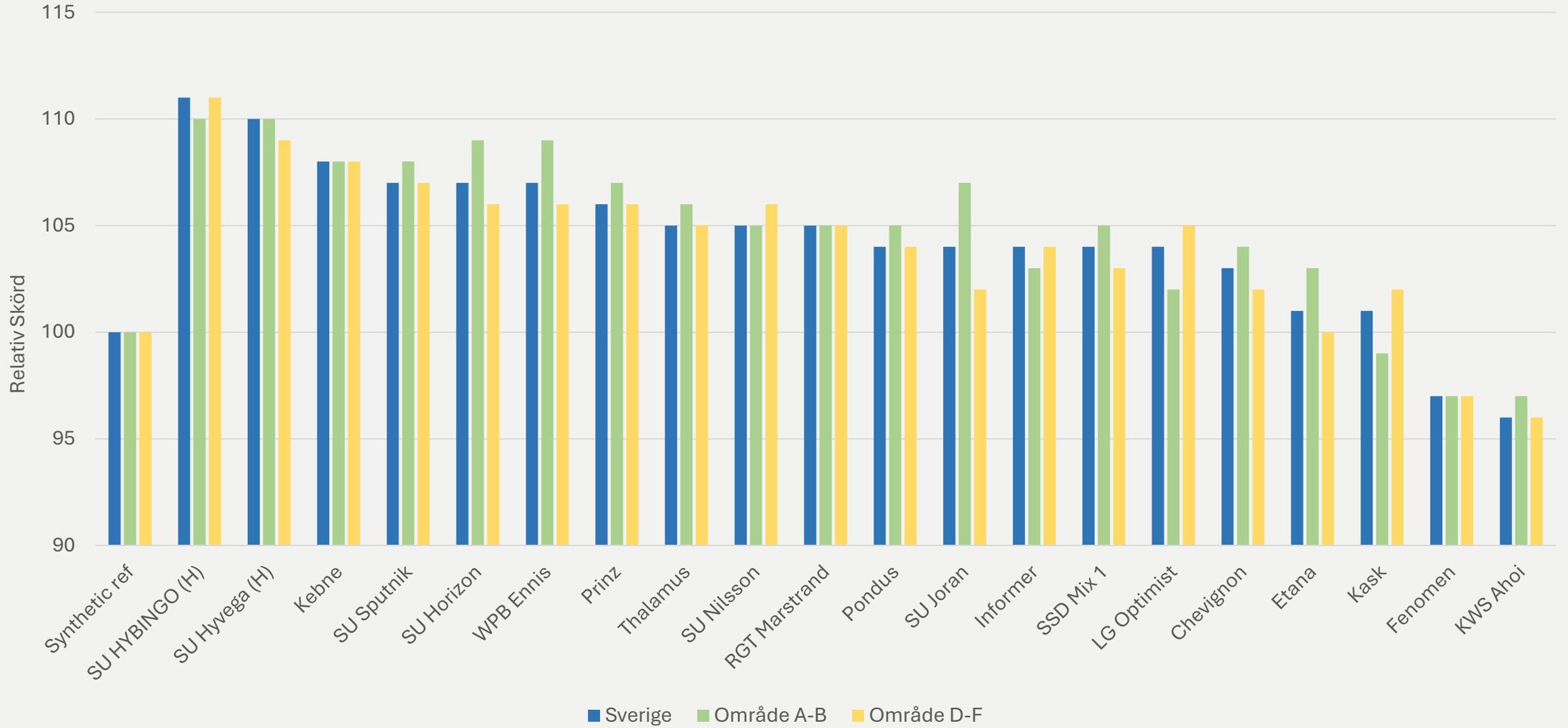
**109% untreated** (SPNA) – from general mean

**112,3%** (SU Ger.) – from national checks  
**109,8%** (LSV) – from general mean  
**108,1%** (Breeder trials) – from national checks  
**110%** (BSA3) – from national checks  
**107%** (SU Ger.) – from national checks  
**113%** (BSA2) – from national checks  
**102.5%** (Breeder's) – from national checks  
**115%** (BSA1) – from national checks

**107%** (Breeder trials) – from hybrid mean

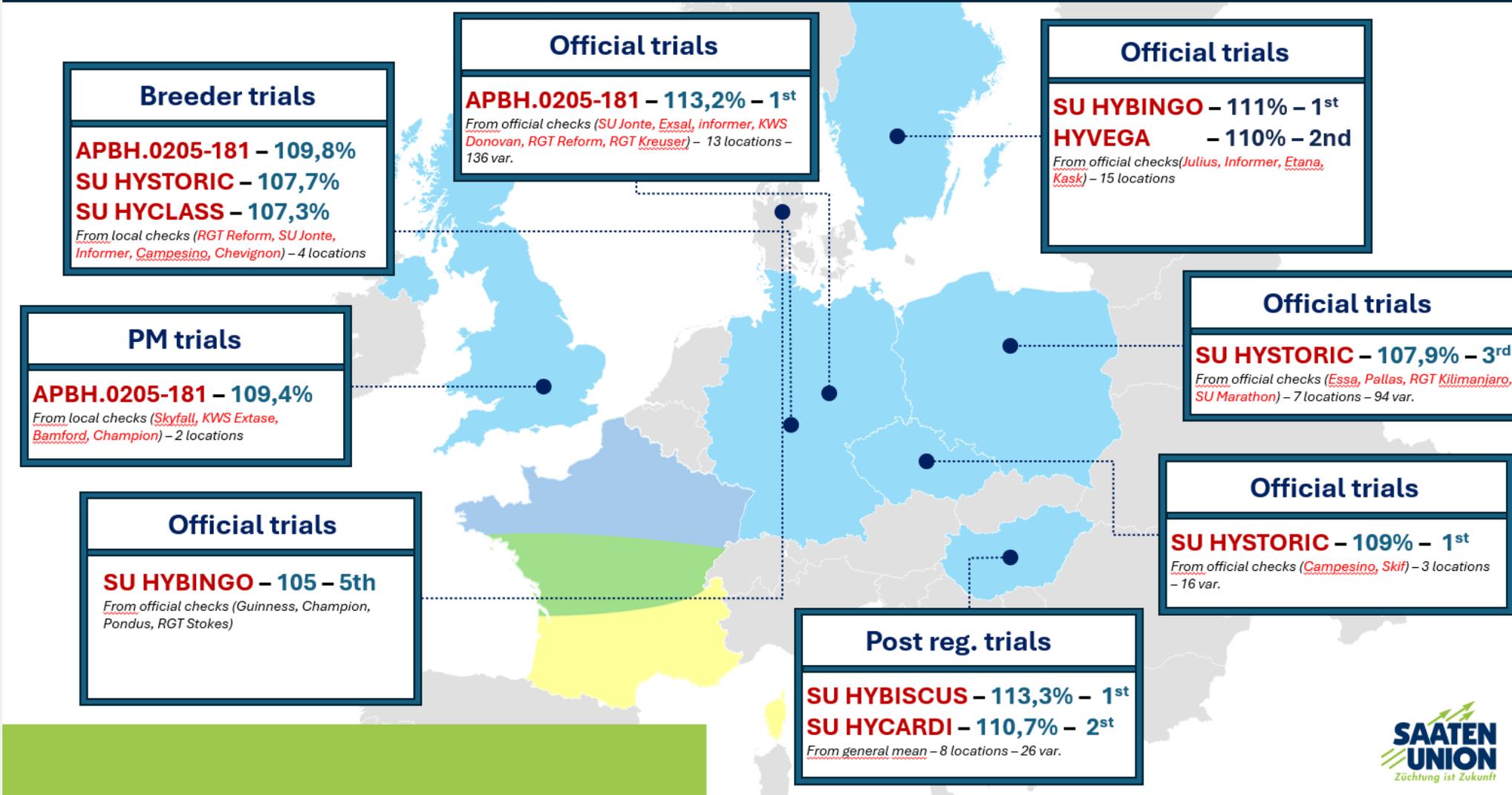


# Skörd Sverige 2025

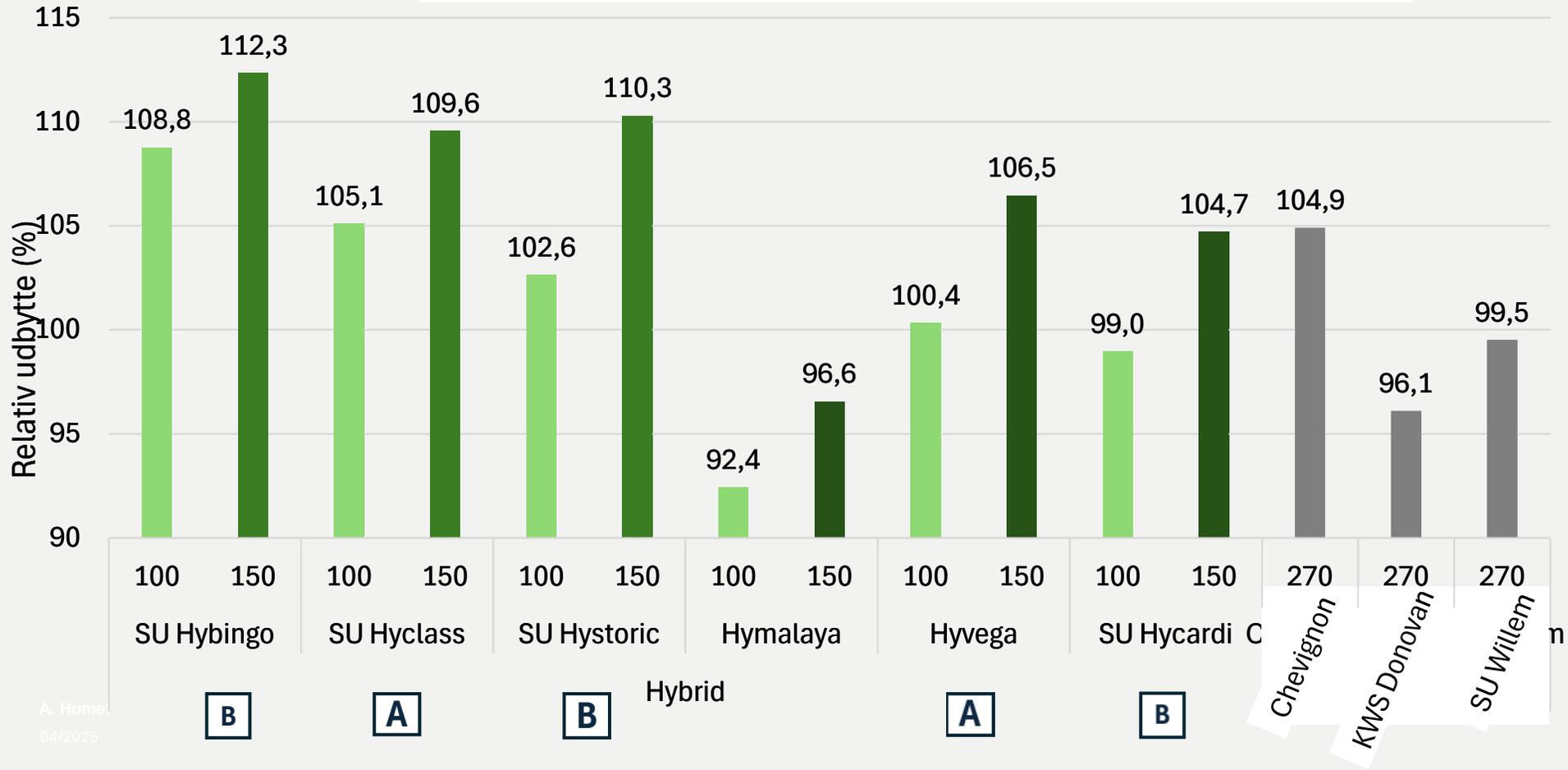


# Map of hybrid wheat results – Harvest 2025

September 2025



## Utsädesmängdsförsök Tyskland 10 försöksplatser 2024



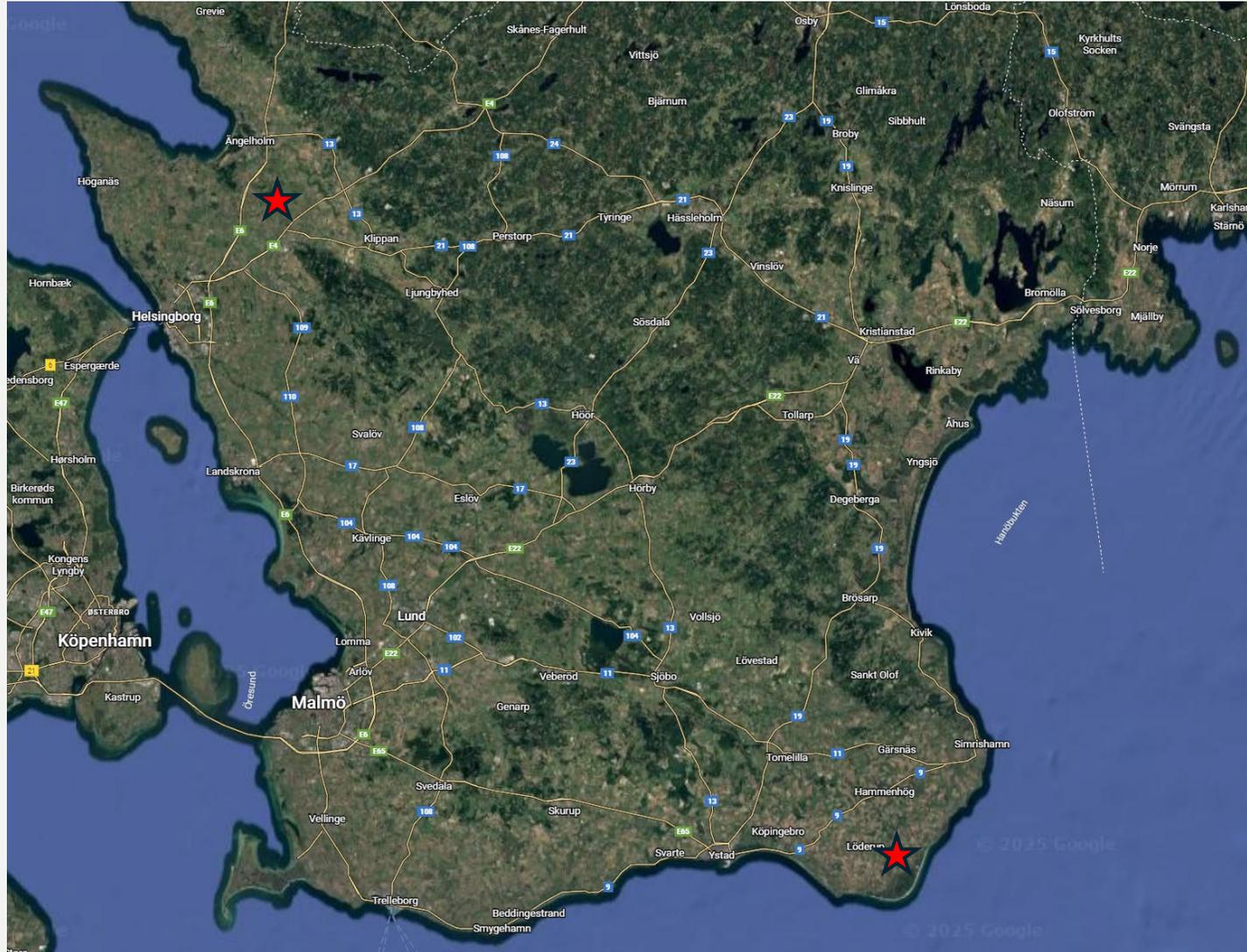
A. Humel  
04/2025



SÅTIDSFÖRSÖK 2025 TYSKLAND. 1 FÖRSÖK  
MOOSBURG , BAYERN.  
TIDIG SÅDD: 07-10-2024  
SEN SÅDD: 28-10-2024



# Utsädesmängdsförsök 2026



Led	Utsädesmängd
SU Hyvega (H)	100 <i>grob/m<sup>2</sup></i>
SU Hyvega (H)	150 <i>grob/m<sup>2</sup></i>
SU Hyvega (H)	200 <i>grob/m<sup>2</sup></i>
SU Hyvega (H)	250 <i>grob/m<sup>2</sup></i>
SU Hyvega (H)	300 <i>grob/m<sup>2</sup></i>
SU Joran (L)	200 <i>grob/m<sup>2</sup></i>
SU Joran (L)	250 <i>grob/m<sup>2</sup></i>
SU Joran (L)	300 <i>grob/m<sup>2</sup></i>
SU Joran (L)	350 <i>grob/m<sup>2</sup></i>
SU Joran (L)	400 <i>grob/m<sup>2</sup></i>



Tack för uppmärksamheten!  
Frågor ?

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