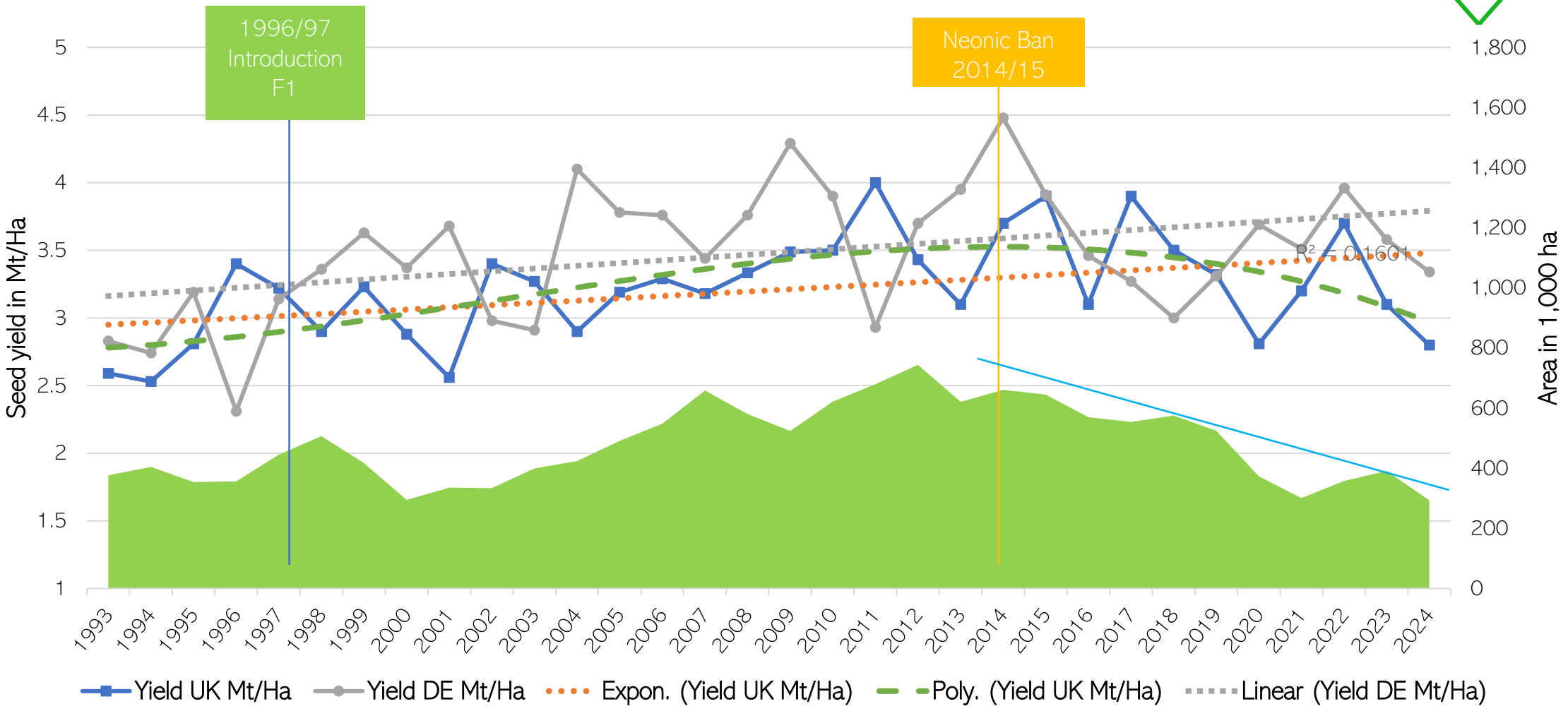
LATEST RESEARCH ON SOWING DATES

Chris Guest

NPZ UK Plant Breeding Ltd

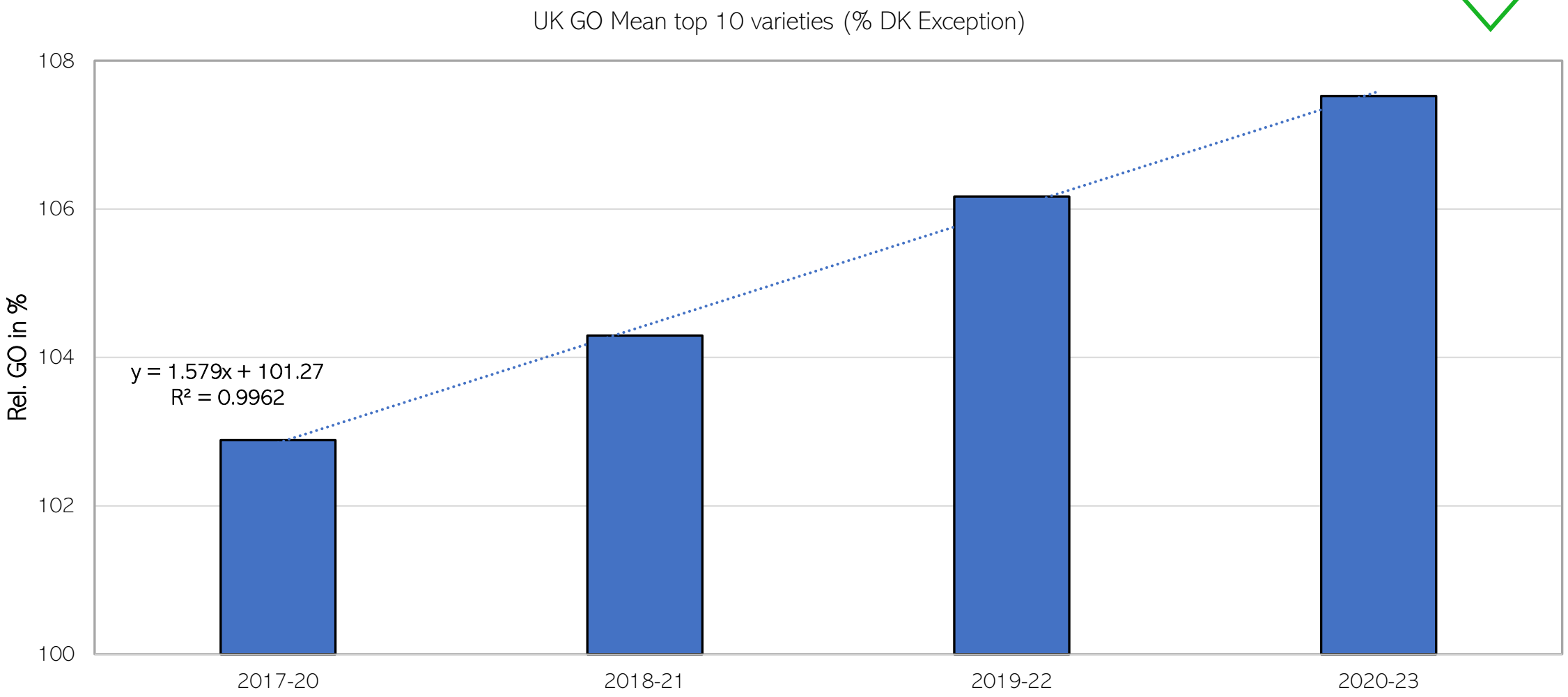
30 YEARS WOSR IN UK: 1993-2024



https://www.gov.uk/government/statistical-data-sets/agriculture-in-the-united-kingdom

June DEFRA Census _England Crop Areas , EuroStat (German Data)

BUT GENETIC YIELD PROGRESS IS VISIBLE!

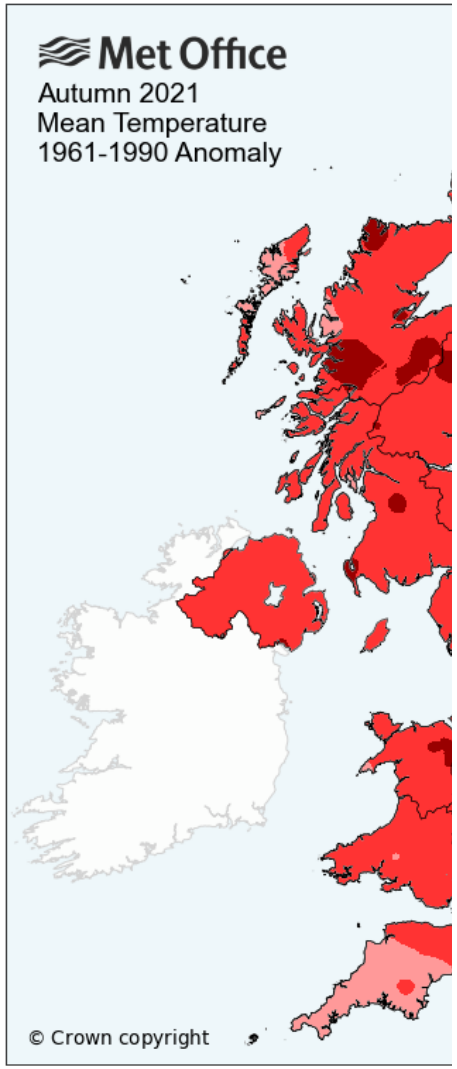


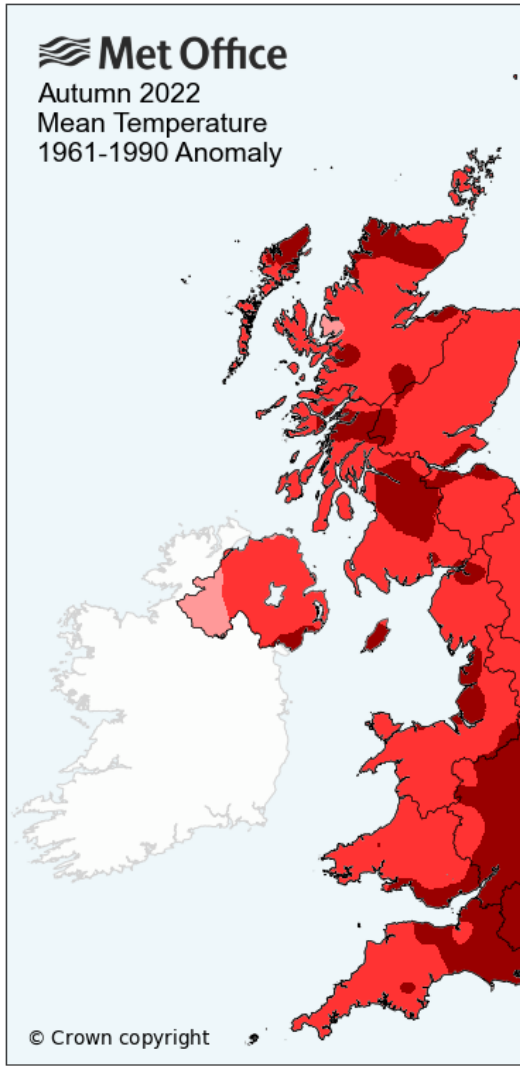
https://ahdb.org.uk/knowledge-library/recommended-lists-for-cereals-and-oilseeds-rl

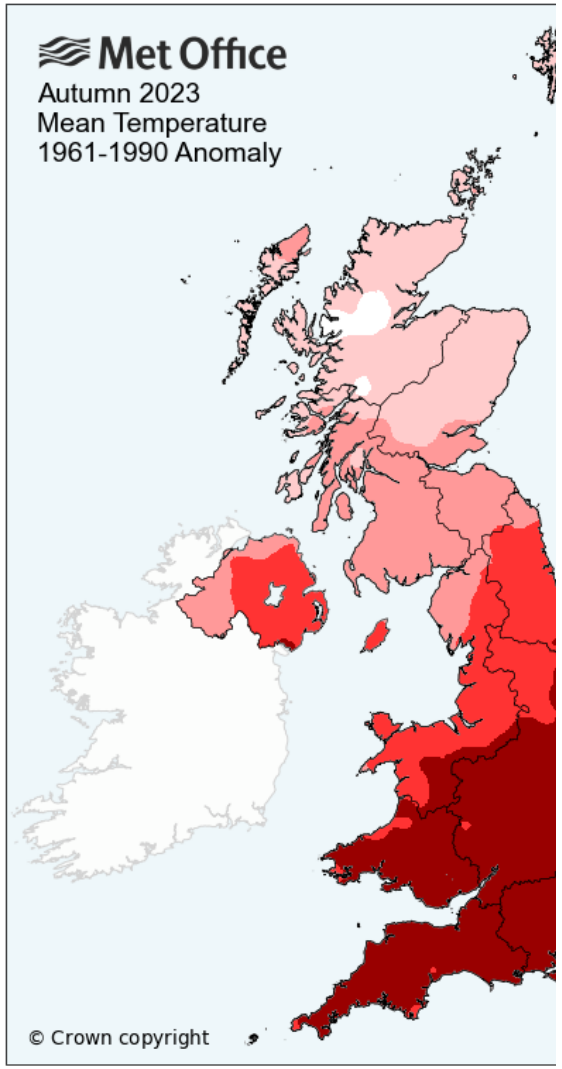
QUESTION?

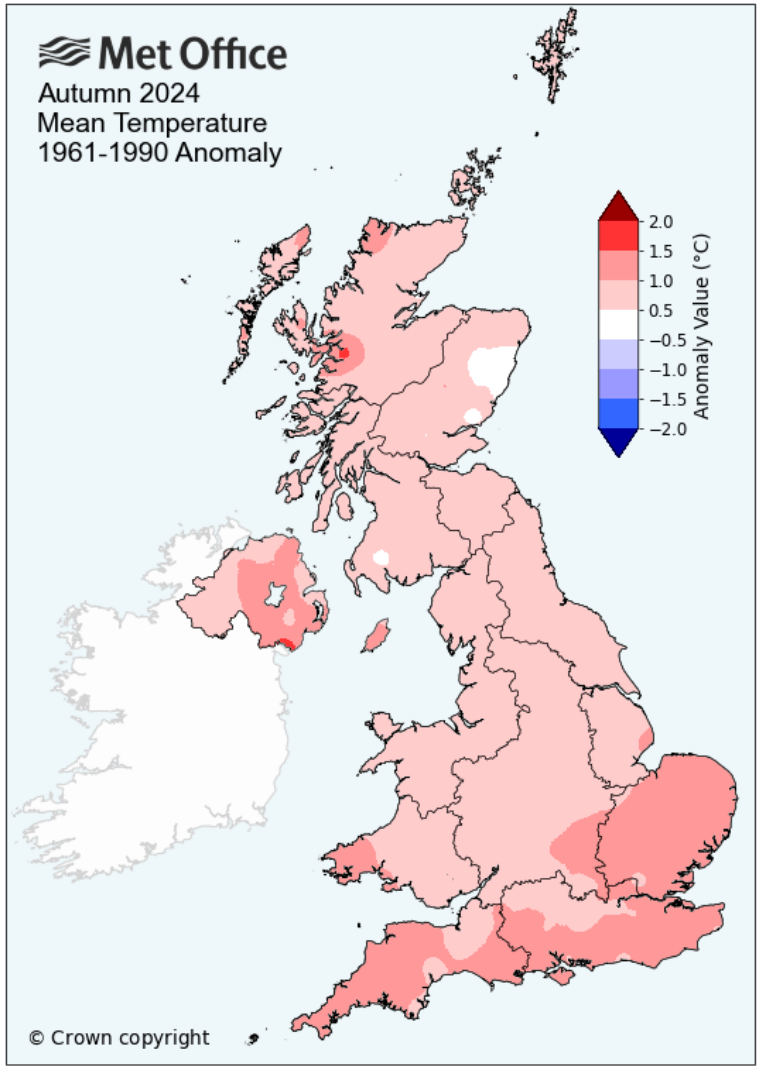
WHY ARE ON FARM YIELDS NOT FOLLOWING RL TRIAL YIELDS HIGHER?

CLIMATE CHANGE....





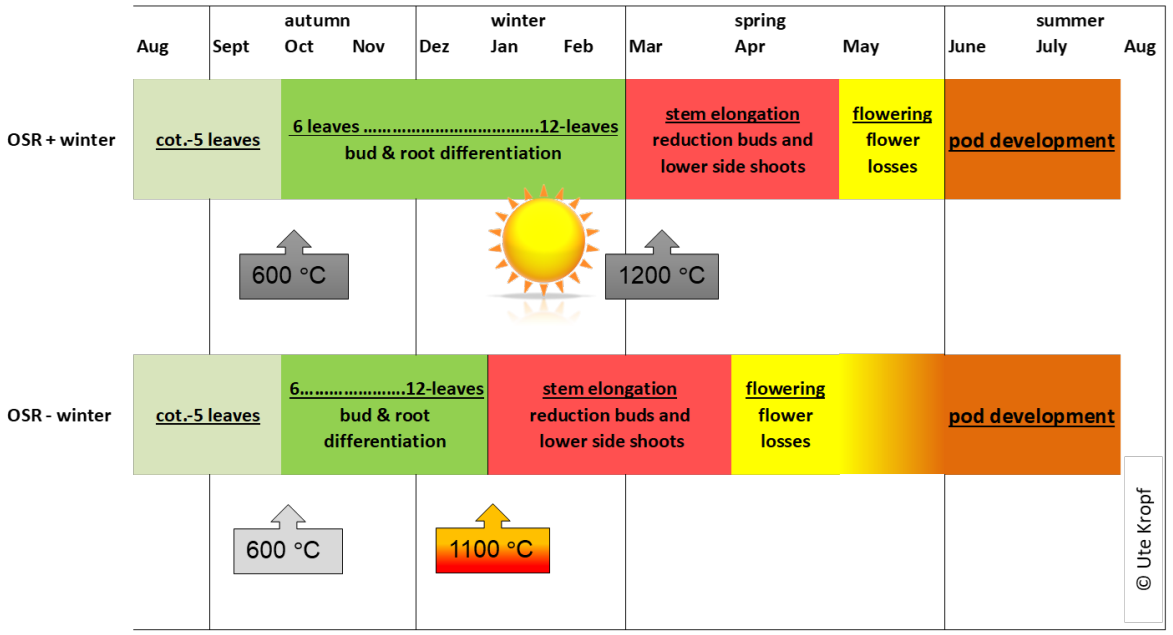




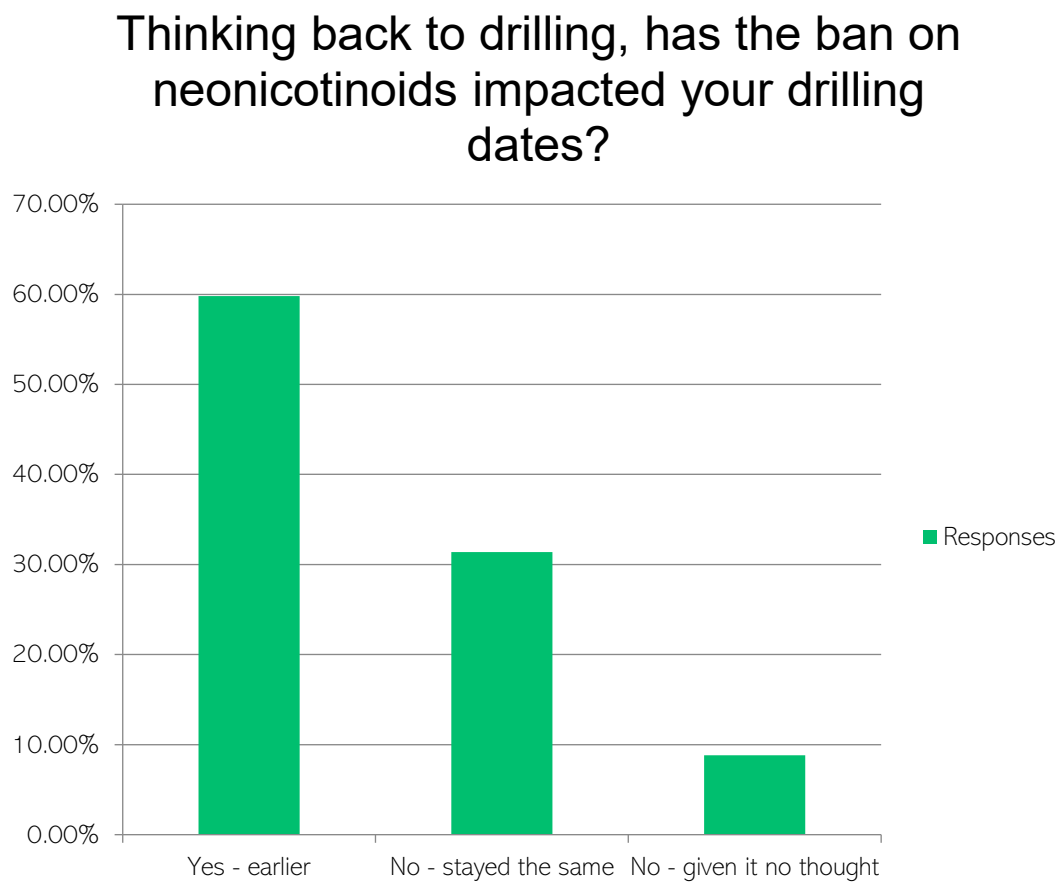
WHAT WE WANT?
- THE GOLDEN 8-8-8 RULE OF RAPESEED

THE PROBLEM
- NICE FIELD LOW YIELD? WHY?

Vegetativ and generative development



AVERAGE SOWING DATES – CPM SURVEY

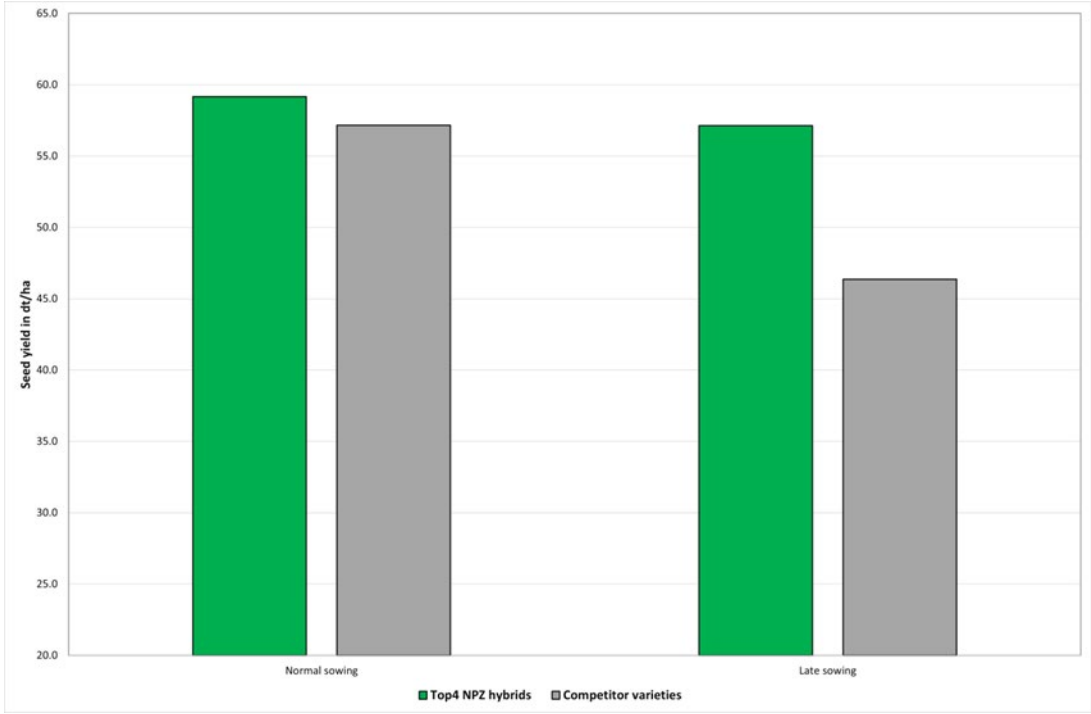


Source : CPM Survey NPZ UK April 24 (100 respondants)

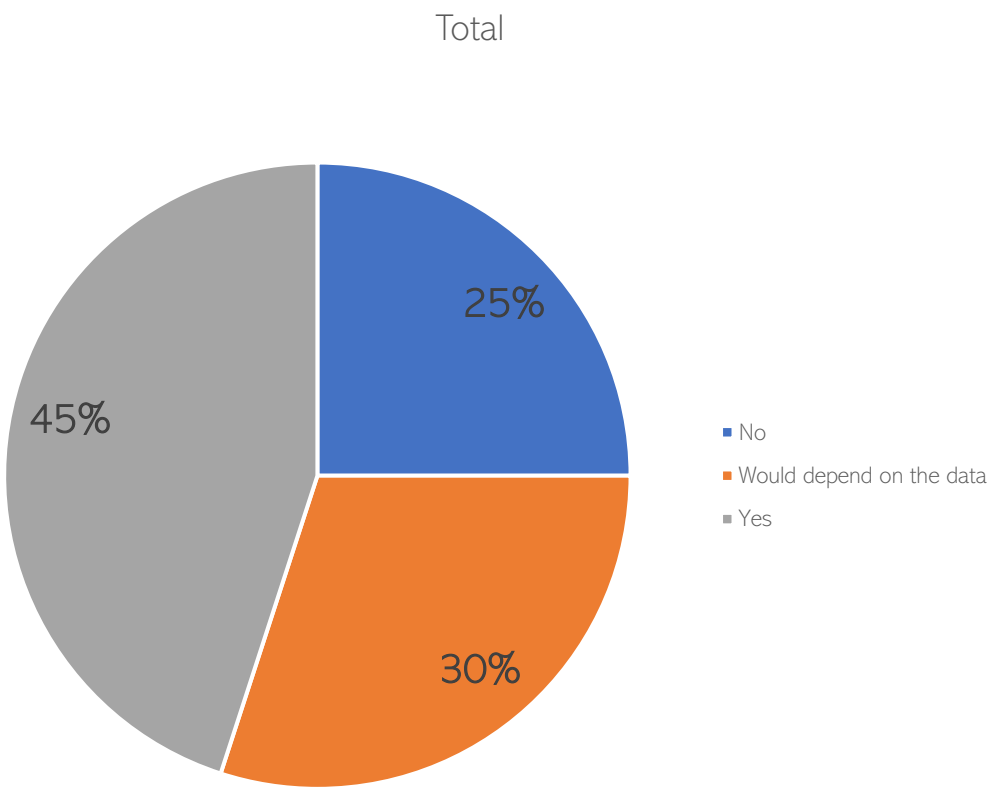
- Earlier sowing has been a reaction to pressure from flea beetle
- Estimated average sowing time on farm – 1st/2nd week of August – nominal 10th August
- Average official trial sowing time – end of August – nominal date 28th August
- = minimum 2 weeks later

SOWING DATE TRIALS

- Wisbech trial location in North Cambridgeshire
- Same location as AHDB Recommended List Trial – sown 3rd September 2023
- NPZ UK Late Sowing Trial (same location) – main drilling – 3rd September – late sown 21st September 2023
- Average yields 5.76mt/ha main drilling window trial and 5.24mt/ha NPZ UK late sown trial



LATE SOWING FROM CPM SURVEY



- To the answer of the question;
- If data/research supported it, would you consider a later sowing date in September?
- 100 respondents

Source : CPM Survey NPZ UK April 24 (100 respondants)

THE IMPORTANCE OF AUTUMN PGR

BASF We create chemistry | Products | Crop Solutions | News & Events | Services | Sustainability | Real Results Circle | Biggest Job on Earth

Slow and steady wins the race: Plant growth regulator re-writing OSR's rulebook

23.09.2024

With earlier drilling, milder weather and the lack of winter shutdown, OSR crops are racing through those growth stages that determine yield potential quicker

It could be limiting yields by up to 30%

An autumn PGR application will hold back crops and improve yield potential

Experts say autumn applications of a plant growth regulator (PGR) could hold the key to improving early drilled oilseed rape (OSR) yields.

While genetic improvements are giving higher yields in trials, this isn't being translated to the field and a core of industry leaders believe that it is due to a combination of milder winters, earlier drilling and OSR's physiology.

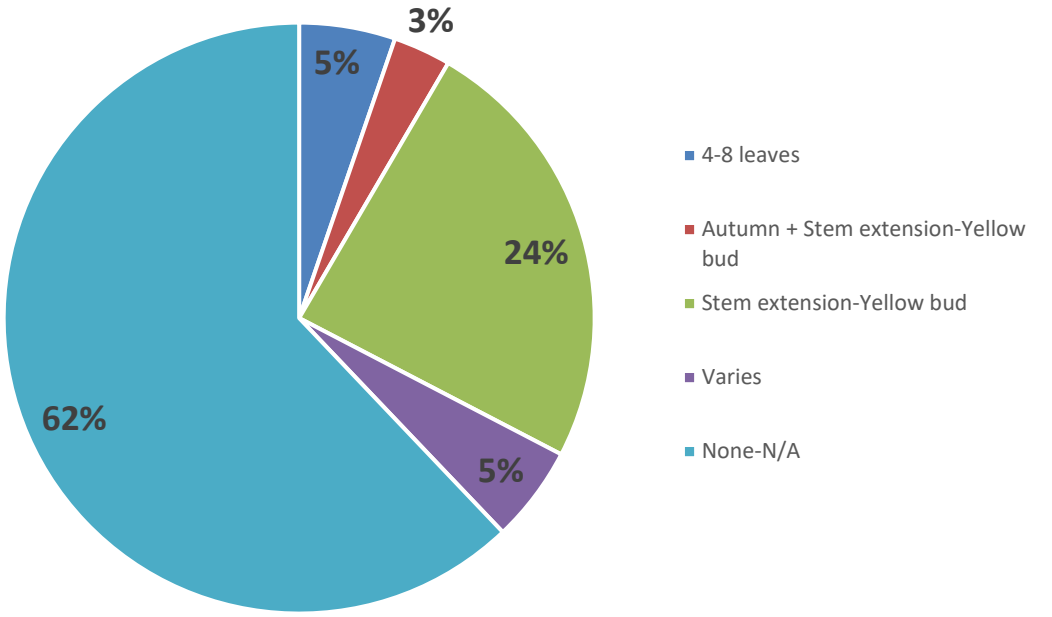
Market research shows only 8% of British growers currently use a PGR in autumn and Chris Guest, Managing Director of plant breeder NPZ UK, is calling for a change in mindset.

Early drilling accelerates effects of changing climate

"Growers used to start drilling at the end of August but we have seen a huge shift, with 75% of OSR now drilled-up by the middle of the month," he says.

While more forward crops are better able to withstand adult cabbage stem flea beetle (CSFB) damage, these crops are prone to another yield-limiting challenge.

"Growers are often frustrated that they aren't getting the yields we see in trials. This is largely about drilling date – OSR in trials tends to be sown over a month after those in the field. Now, thanks to research by Dr Ute Krupf, of the University of Applied Sciences in Kiel in Germany, we're starting to understand the underlying mechanisms in the crops' physiology and how we can mitigate the effects of early drilling."



Source : CPM Survey NPZ UK April 24 – Do you use PGR and if so at what growth stage? (102 respondants)

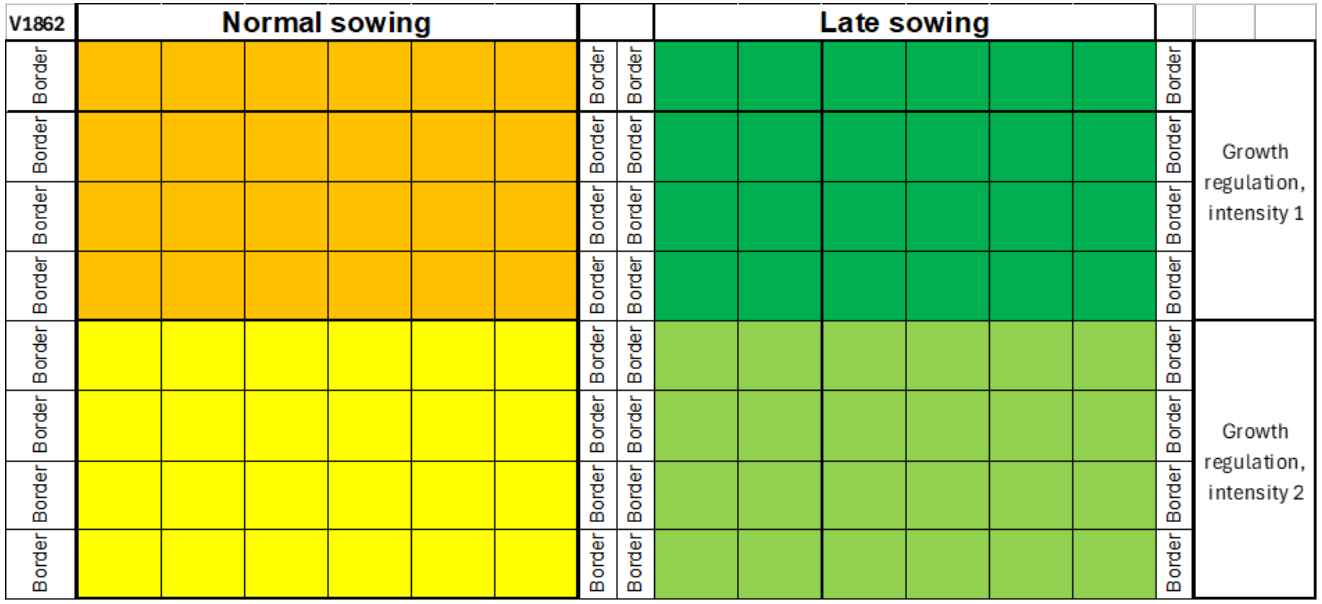
V1862 – TIME4GROWTH

Trial target:

1. Investigation of effects on individual varieties, due to different sowing dates or growth regulation

2. Analysis of overwintering and regrowth after winter

3. Potential influence with a higher PGR intensity on start of flowering respectively damages, because of early flowering



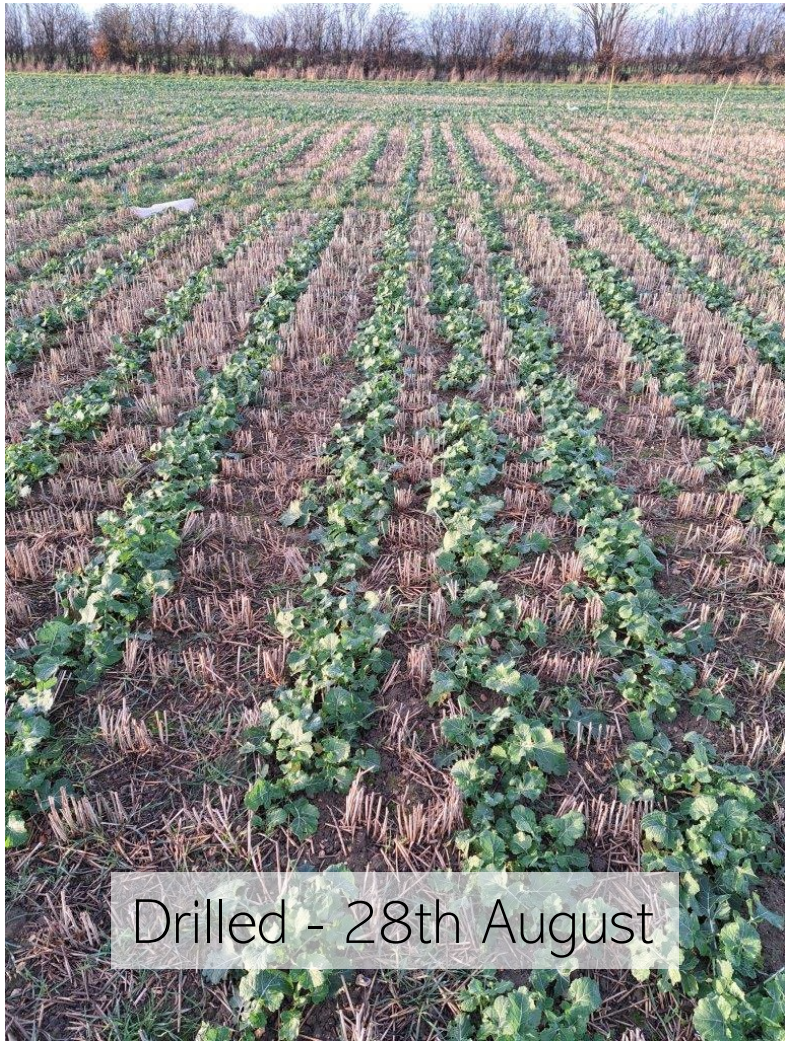
V1862 – TIME4GROWTH

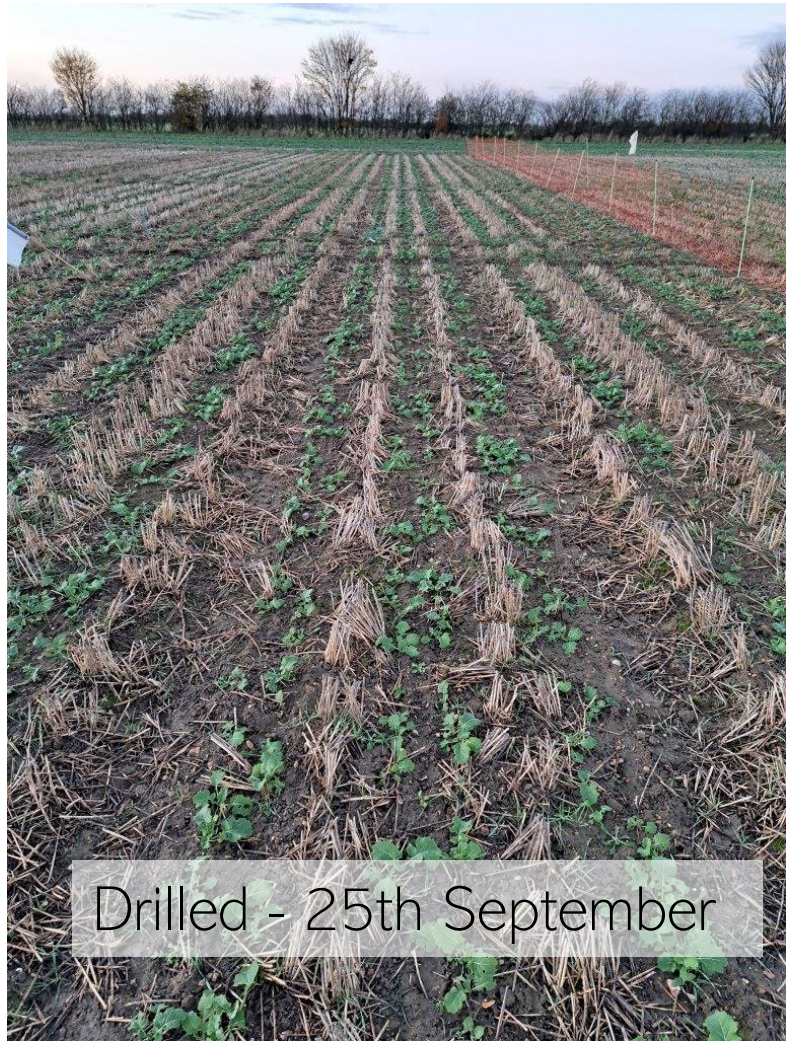
1. Cambridge (UK)
2. Ostenfeld (Ger)
3. Piaski (PL)
4. Kujavy (CZ)
5. Boly (HUN)
6. Rivne (UA)

Location	Early/Optimal	Late
Cambridge	28.08.2024	25.09.2024
Ostenfeld	13.08.2024	05.09.2024
Piaski	05.09.2024	19.09.2024
Kujavy	22.08.2024	06.09.2024
Boly	25.09.2024	14.10.2024
Rivne	15.08.2024	18.09.2024

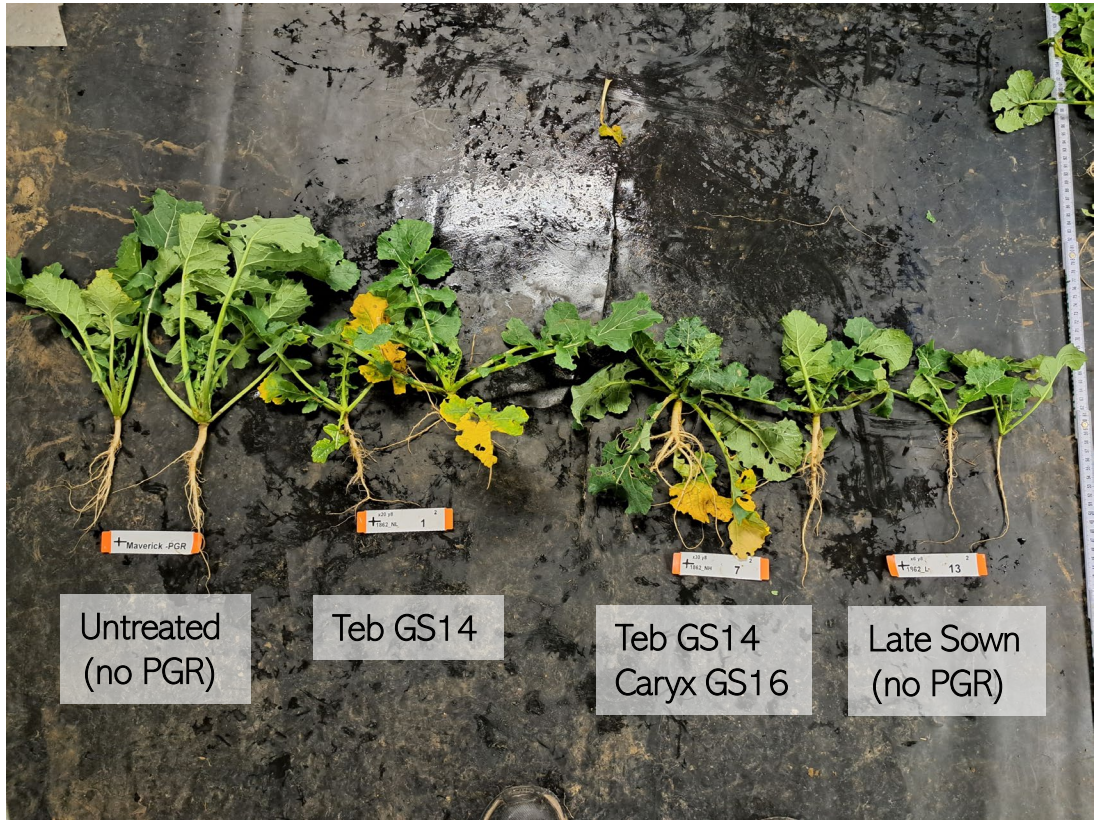
- Aim for there to be around 300°C between 1st and 2nd sowing date

V1862 CAMBRIDGE





SOME INTERESTING OBSERVATIONS ALREADY



Images taken 05/12/2024

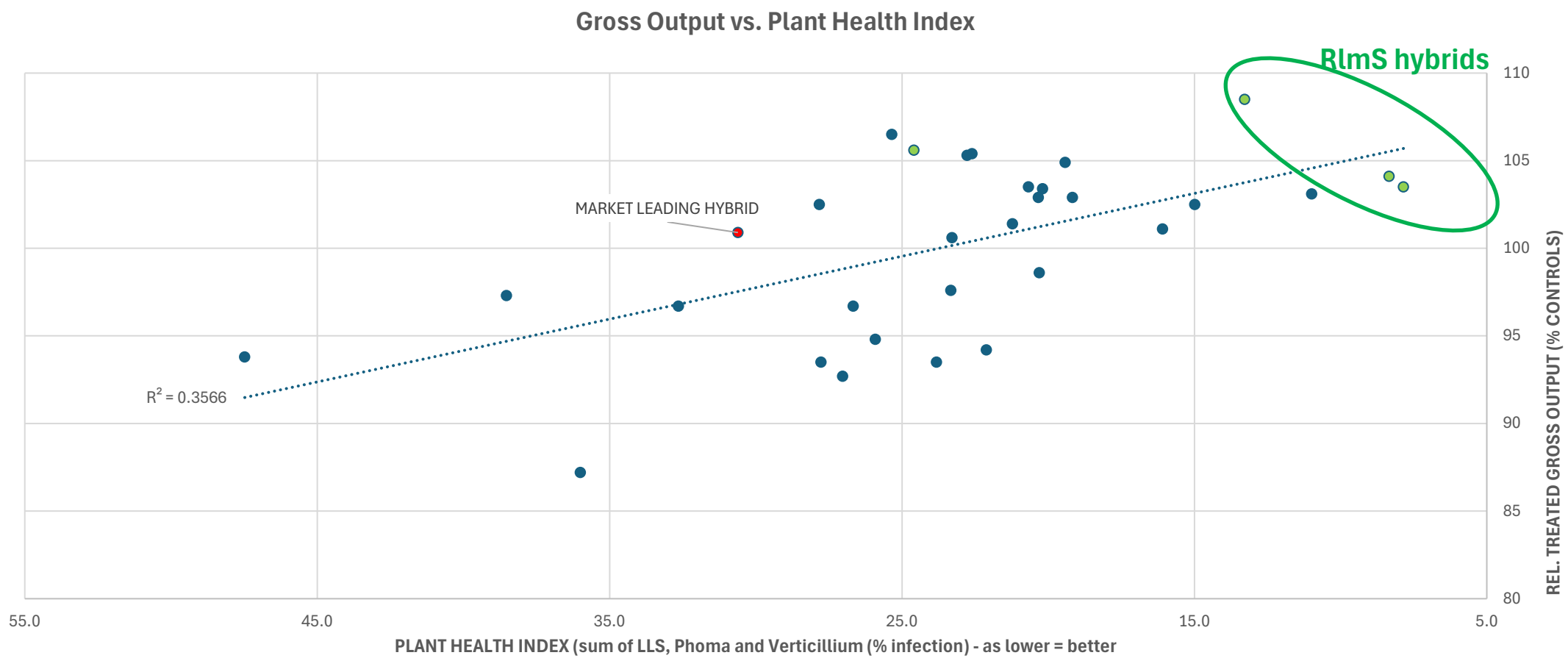
SOWING DATE VS. DISEASE

PLANT H

AHDB RECOMMENDEDLISTS

19-Nov

Name	Code	21-24 mean	2024 mean	Mean	Mean	Mean
Control mean		5.05	4.92	10.4	13	24
LSD 5% (as %C)		4.2	6.3	4.5	15	22

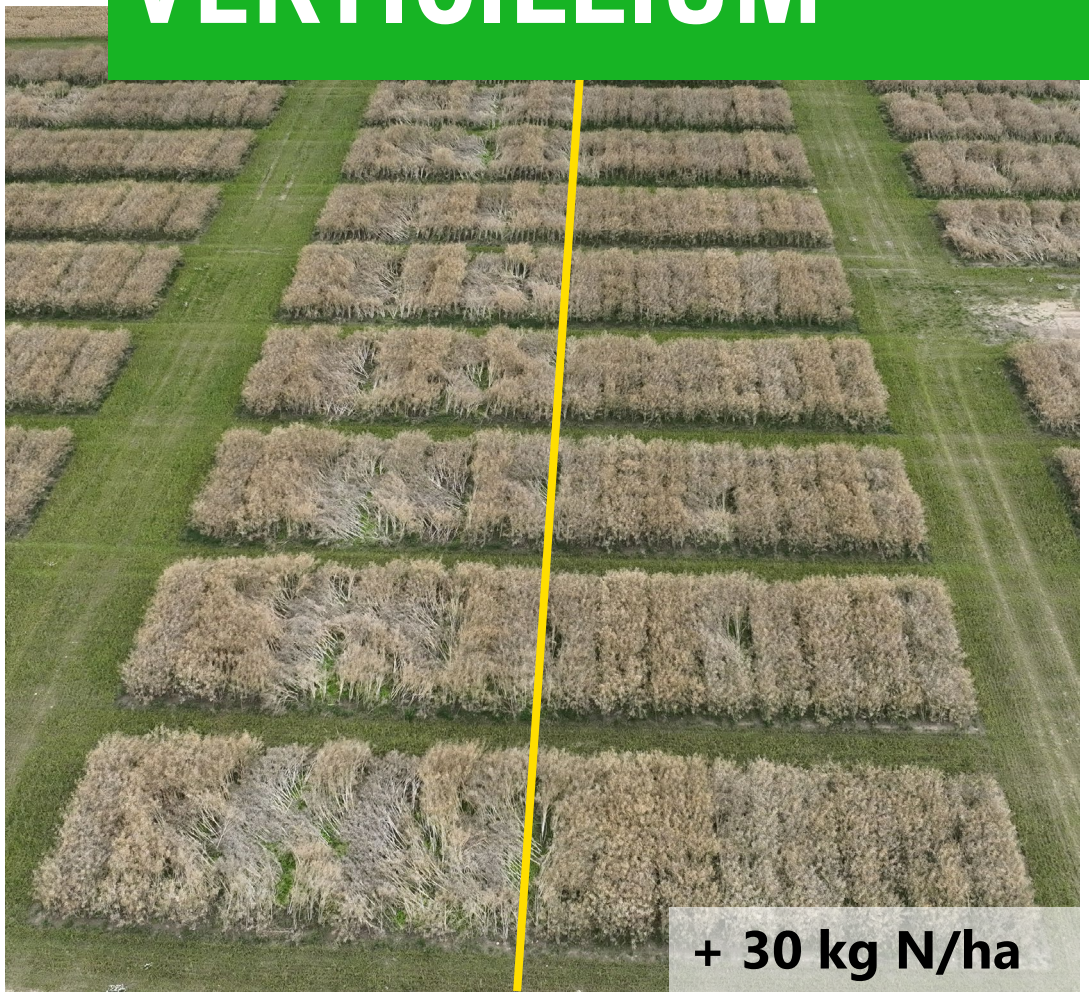


Resort (D)	WR3018	87	84	14.7	21.3	30.9	36.0
Crocodile	WR3016	97	92	11.9	26.7	36.2	38.5
Crome	WR2947	94	92	11.2	36.3	20.9	47.5

NPZ UK April 24 – What do you perceive as the greatest disease treat to your OSR ants)

Source : AHDB Harvest Results 2024 – GO 4 year data + disease % infection taken from 2024)

VERTICILLIUM



Some valuable experiences from 2023/24

- 1st & 2nd sowing date -> same yield
- Extra 30 kg N/a -> yield drop of 270 kg/ha
- High Verticillium/Phoma pressure
- Stronger lodging appearance

Source: NPZ V1862, location = Skoraszewice (Poland) 2023/24

VERTICILLIUM IS A KEY STORY

- Drive to earlier sowing has increased the risk of infection
- Higher soil temperatures
- Warm/wet autumns increase the pressure
- Further increased by autumn N?
- Verticillium should be higher on the list for variety selection

SUMMARY

- Climate change a bigger driver in reduced OSR yields
  - Linked to drive to earlier sowing since Neo-nic ban
- Next generation hybrids are stronger in autumn establishment which is increasing the problem
- We need to adjust our crop management style to go alongside new genetics and changing climate
- Later sowing could form part of a strategy for OSR in the UK in the future, linked to average temperature accumulation
- Don't forget the importance of stem disease and in particular Verticillium,
  - Earlier sowing = more time for Verticillium pressure
  - Variety choice is important – AHDB now have a Verticillium rating on the RL