

Spring-sown winter wheat trials for testing young plant resistance

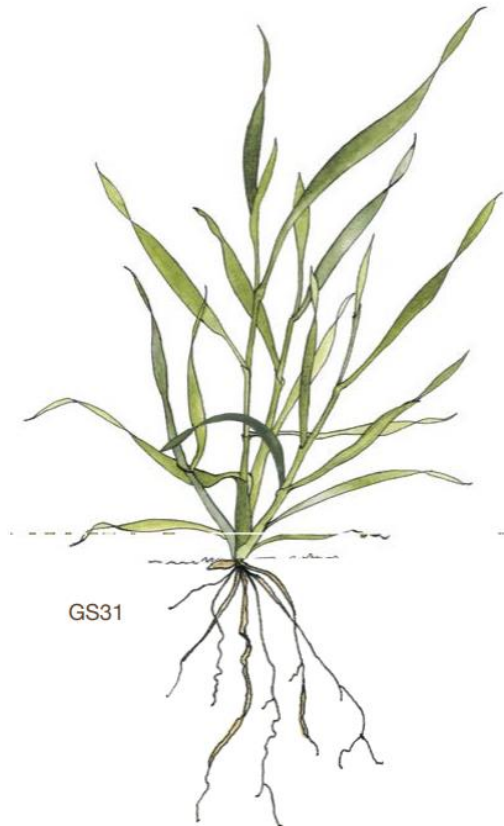
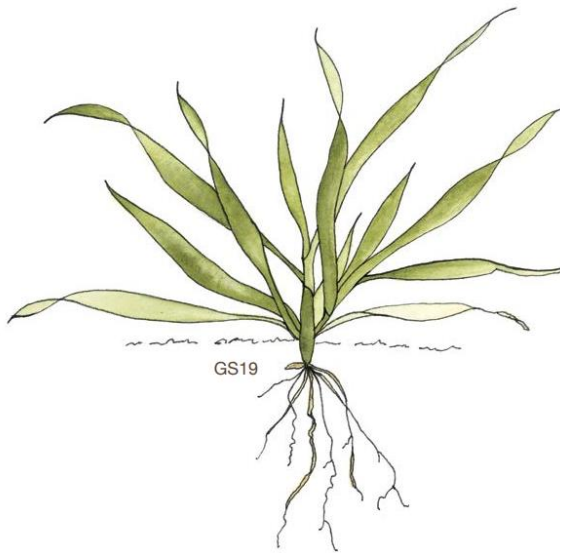
Sacha White, Lead Crop Protection Scientist, AHDB



Yellow rust in wheat – young plant resistance

Young plant resistance

Adult plant resistance



Yellow rust in wheat – young plant resistance



Disease resistance									
Mildew (1–9)	7	[7]	6	7	6	6		[5]	[7]
Yellow rust (1–9)	3	8	3	8	8	8		7	7
Yellow rust (young plant)	s	s	s	r	s	s		s	s
Brown rust (1–9)	7	6	8	6	5	3		6	7
Septoria tritici (1–9)	6.3	6.6	5.9	6.0	6.1	6.5		7.0	7.0
Eyespot (1–9)	7@	7@	6@	4	6@	6		5	4
Fusarium ear blight (1–9)	6	6	7	7	6	7		6	6
Orange wheat blossom midge	-	-	R	-	-	-		-	-

UKCPVS data

Young plant resistance/susceptibility to yellow rust for winter wheat varieties

Variety name	RL group/status (RL 2022-23)	RL yellow rust disease rating (RL 2022-23)	RL adult plant resistance	UKCPVS young-plant-stage resistance (2020)	UKCPVS young-plant-stage resistance (2021)
KWS Zyatt	G1	4	S	S	S
Skyfall	G1	3	S	S	S
Crusoe	G1	9	R	S	S
RGT Illustrious	G1	8	R	R	S
KWS Extase	G2	8	R	S	S
KWS Palladium	G2 (new)	9	R	-	R
KWS Siskin	G2	9	R	R	R
Mayflower	G2 (new)	9	R	-	R
KWS Guium	G3 (new)	9	R	-	R
LG Prince	G3	8	R	R	R
KWS Brium	G3 (new)	9	R	-	S

Recommended Lists data

Yellow rust %				
Trial ID	22TE826U	22BE538D	22MR513D	22MR514U
Town	Terringtn	Burdon	Attlebro	Terringtn
County	Norfk	Sundland	Norfk	Norfk
Rec date	16-May	14-May	17-May	23-May
Growth stage	GS 37-39	GS 39	GS 39	GS 52
Disease status	inoc	nat	nat	nat
Variety 1				S
Variety 2				S
Variety 3				S
Variety 4				S
Variety 5				S
Variety 6				R
Variety 7				S
Variety 8				S
Variety 9				R
Variety 10				R
Variety 11				S
Variety 12				R
Variety 13				S
Variety 14				R
Variety 15				R
Variety 16				S
Variety 17				R
Variety 18				R
Variety 19				R
Variety 20				R
Variety 21				S
Variety 22				S
Variety 23				S
Variety 24				R
Variety 25				R
Variety 26				R
Variety 27				R



Trial design

- Designed to validate CE results generated in UKCPVS.
- WW varieties sown in spring so young plants coincide with peak yellow rust pressure.
- 21 RL varieties grown in three replicated trials in 2024: two in Cams (ADAS & NIAB) and one in Midlothian (SRUC).
- Two trials naturally inoculated and one artificially inoculated with characterised yellow rust isolates from the UKCPVS.

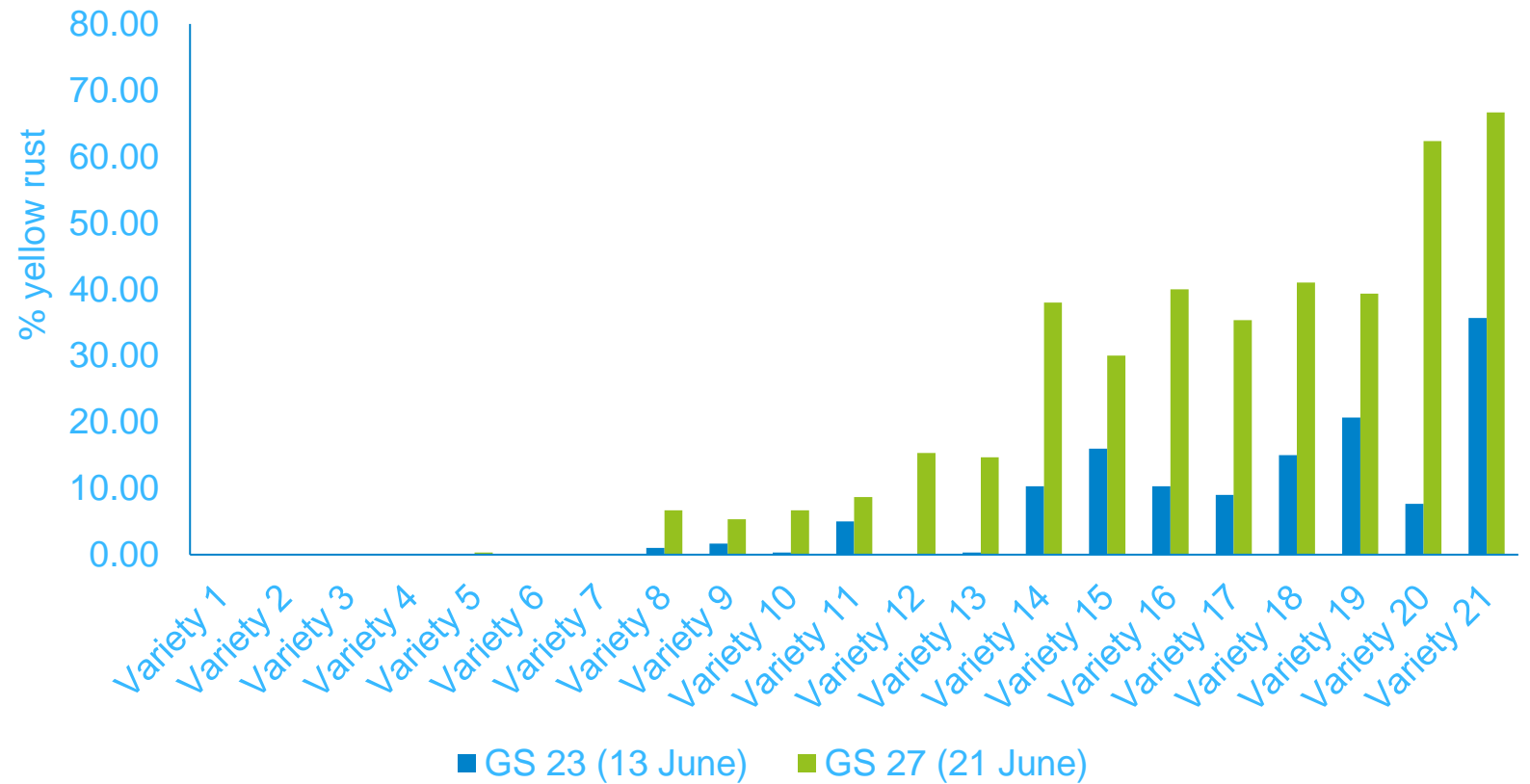


Histon, Cambs site (NIAB)

Previous crop: spring barley

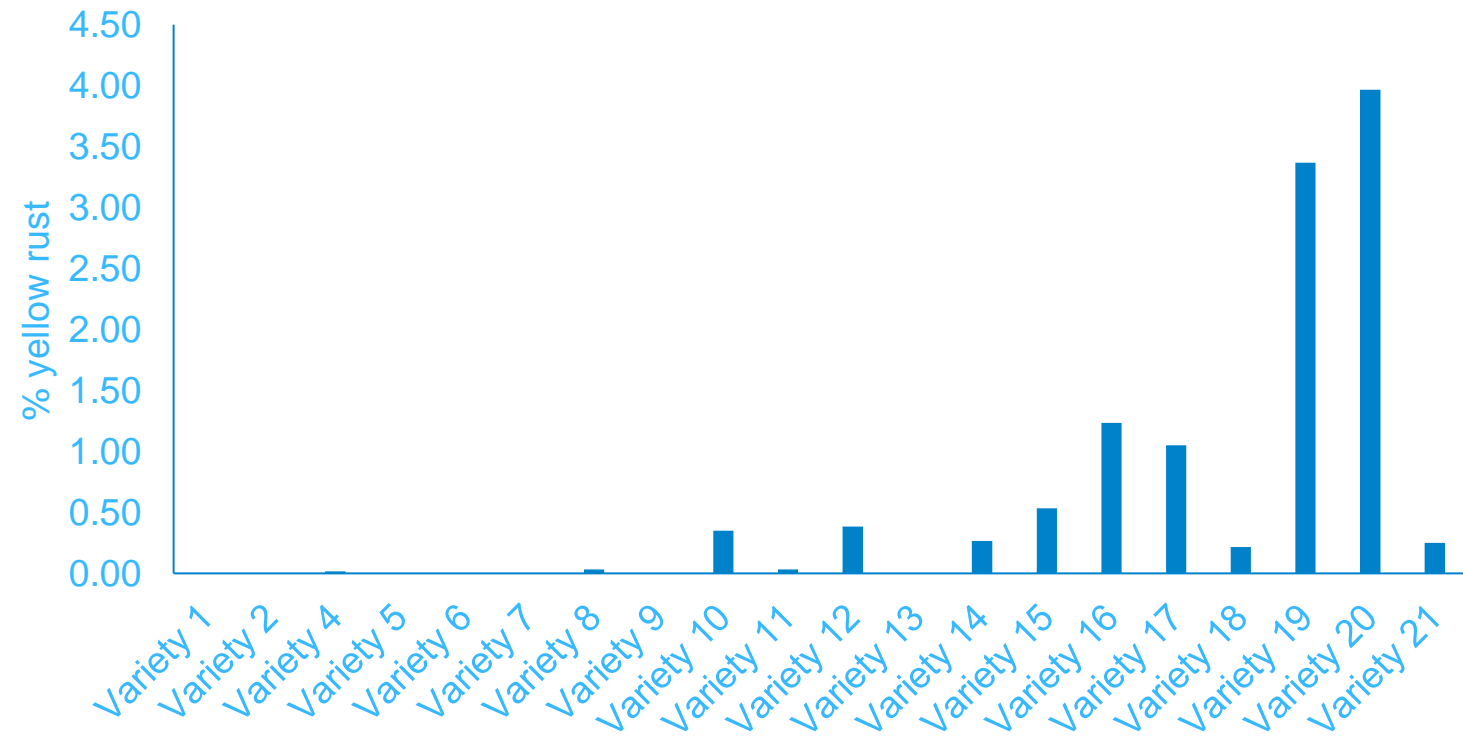
Sow date: 13 May

Artificially inoculated on 29 May



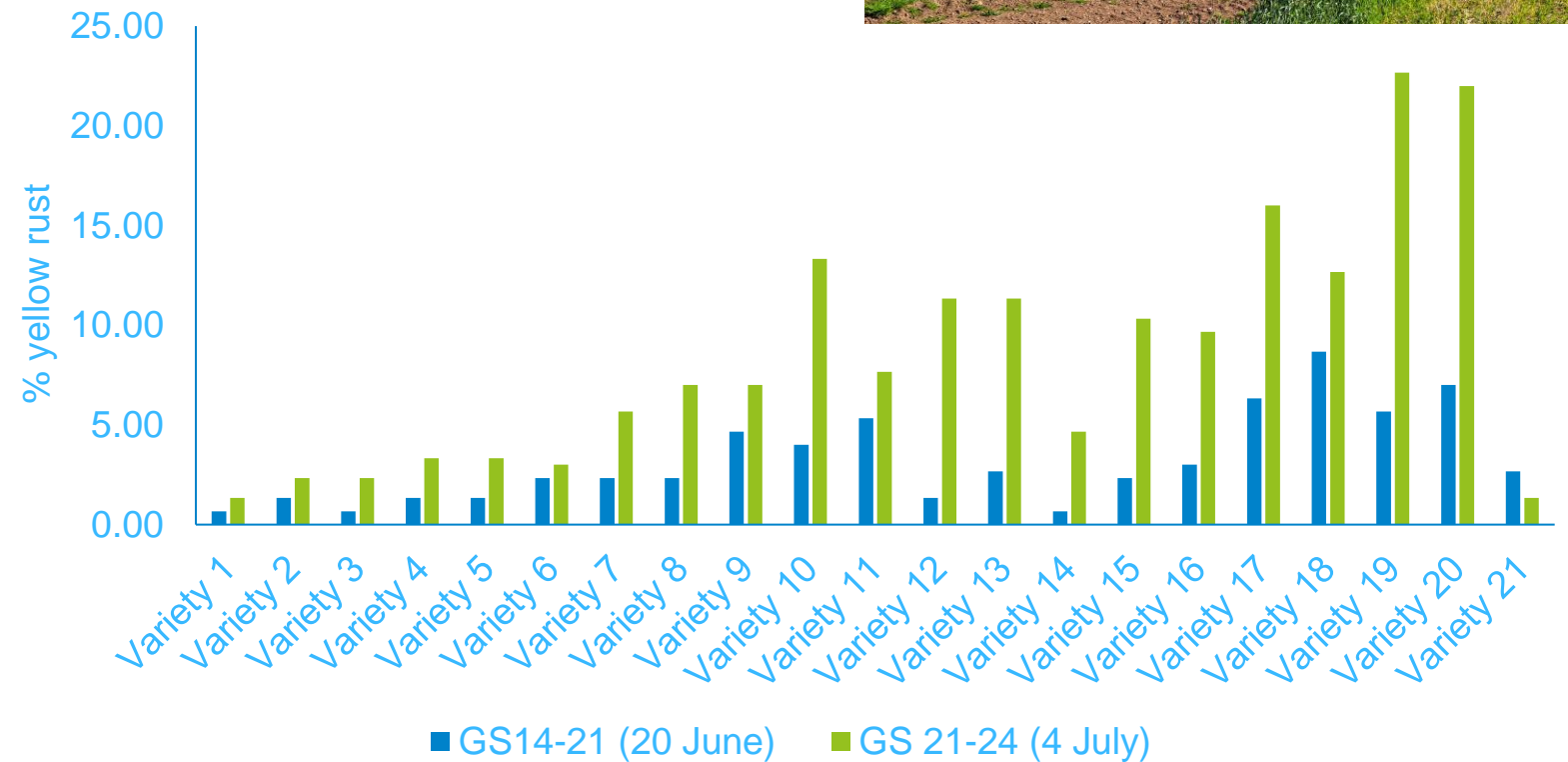
March, Cambs site (ADAS)

Previous crop: maize
Sow date: 10 May
Assessment: 18 June
Natural inoculation

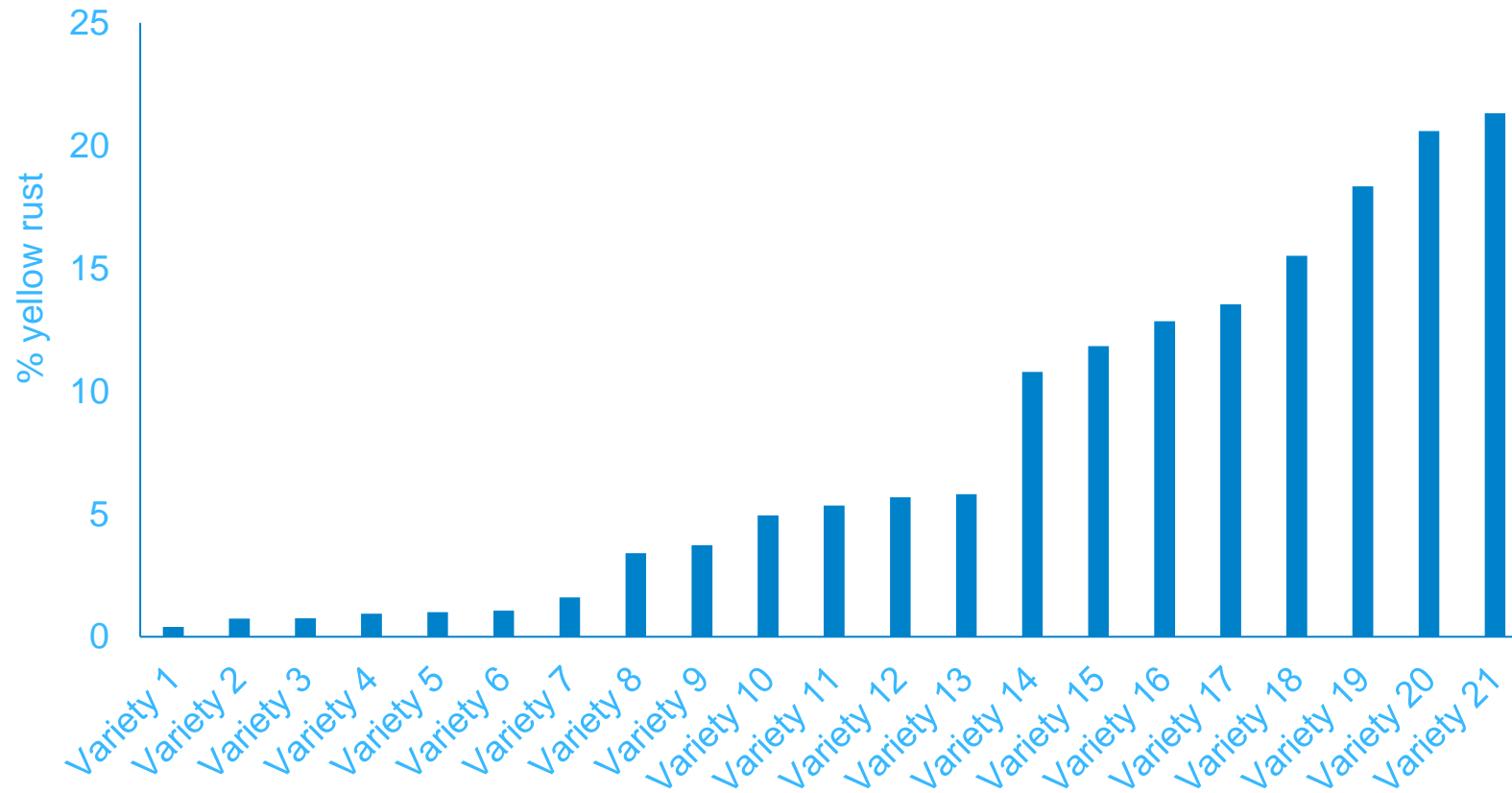


Easter Howgate, Midlothian site (SRUC)

Previous crop: spring barley
Sow date: 14 May
Natural inoculation



Across site mean



Results compared to 2024 Pre-GS 55 RL data



County	2023 main rating	UKCPVSC E tests	Spring sown WW trials					Pre GS 55 RL data								
			Cambs	Cambs	Midloth	Midloth	Cambs	Lincs	Lincs	Cambs	Cambs	Suff	Suff	Cambs	Cambs	Lincs
Rec date			13-Jun	21-Jun	20-Jun	04-Jul	18-Jun	17-May	29-May	16-May	29-May	23-May	17-May	23-May	27-May	21-May
Growth stage			GS 23	GS 27AD	GS 14-21	GS 21-24	GS GS14	GS 51	GS 43-51	GS 39	GS 51	GS 39	GS 47	GS 50/55	GS 50	GS 39
Previous crop			S-barley	S-barley	S-barley	S-barley	G-maize	Potato	Potato	G-maize	G-maize	W-bean	W-wheat	Potato	W-oat	W-wheat
Sowing date			13-May	13-May	14-May	14-May	10-May	07-Oct	11-Jan	21-Nov	21-Nov	10-Oct	07-Nov	20-Oct	24-Nov	09-Oct
Trial type			inoc	inoc	nat	nat	nat	nat	inoc	inoc	inoc	nat	nat	inoc	inoc	nat
Range of values			35.67	66.67	8.00	21.33	3.97	12.00	24.50	9.50	19.63	15.00	50.00	25.00	8.50	40.00
Variety 1	8.80	r	0.00	0.00	0.67	1.33	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.05	0.00	0.00
Variety 2	8.80	r	0.00	0.00	1.33	2.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variety 3	7.40	r	0.00	0.00	0.67	2.33		0.00	0.00	0.00	0.00	0.00	0.10	0.05	0.00	0.00
Variety 4	8.90	r	0.00	0.00	1.33	3.33	0.02	0.00	0.00	0.00	0.01	0.00	1.00	0.05	0.00	0.00
Variety 5	8.70	r	0.00	0.33	1.33	3.33	0.00	0.00	0.05	0.00	0.14	0.00	5.00	0.10	0.00	0.00
Variety 6	8.40	r	0.00	0.00	2.33	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00
Variety 7	8.00	r	0.00	0.00	2.33	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.05	0.00	0.00
Variety 8	8.10	r	1.00	6.67	2.33	7.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00
Variety 9	8.30	r	1.67	5.33	4.67	7.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	1.50	0.00
Variety 10	8.00	s	0.33	6.67	4.00	13.33	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	2.00
Variety 11	7.50	s	5.00	8.67	5.33	7.67	0.03	0.00	1.05	0.00	0.00	0.00	1.00	0.10	0.00	0.00
Variety 12	8.60	s	0.00	15.33	1.33	11.33	0.38	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.00	0.00
Variety 13	7.70	r	0.33	14.67	2.67	11.33	0.00	0.00	0.50	0.00	0.06	0.00	0.00	0.00	0.00	0.00
Variety 14	8.40	s	10.33	38.00	0.67	4.67	0.27	0.33	3.50	0.00	0.01	1.00	5.00	0.00	6.00	1.00
Variety 15	6.50	s	16.00	30.00	2.33	10.33	0.53	0.50	1.05	0.00	0.00	0.00	10.00	0.10	0.00	1.00
Variety 16	3.10	s	10.33	40.00	3.00	9.67	1.23	12.00	24.50	5.79	11.00	15.00	25.00	25.00	7.50	35.00
Variety 17	7.00	s	9.00	35.33	6.33	16.00	1.05	0.00	1.05	0.00	0.01	1.00	10.00	0.55	3.00	5.00
Variety 18	7.20	s	15.00	41.00	8.67	12.67	0.22	1.00	1.55	0.03	0.03	0.10	1.00	0.10	5.00	0.10
Variety 19	4.00	s	20.67	39.33	5.67	22.67	3.37	11.00	20.00	6.38	13.63	7.00	10.00	25.00	0.00	25.00
Variety 20	4.60	s	7.67	62.33	7.00	22.00	3.97	4.00	9.00	0.00	8.25	0.10	25.00	3.00	3.00	30.00
Variety 21	7.40	s	35.67	66.67	2.67	1.33	0.25	0.33	3.50	0.01	1.06	0.00	10.00	1.00	4.00	6.00

RL classification

2024/25

Variety	Young plant resistance
KWS Zyatt	s
SY Cheer	-
Skyfall	s
Crusoe	s
RGT Illustrious	s
KWS Extase	s
KWS Ultimatum	r
KWS Palladium	r
Mayflower	r
Bamford	-
RGT Wilkinson	s
KWS Brium	s
RGT Rashid	s
Almara	-
LG Illuminate	r
LG Astronomer	r
LG Redwald	s
Blackstone	-
KWS Zealum	s
RGT Bairstow	s
LG Skyscraper	s
RGT Stokes	r
Swallow	r
LG Beowulf	-
Champion	r
SY Insitor	s
Oxford	r
KWS Dawsum	r
Gleam	s
Graham	s
KWS Cranium	r
LG Typhoon	r
RGT Wolverine	s
Costello	r

2025/26

Variety	Young plant resistance
KWS Zyatt	s
KWS Vibe	s
Skyfall	s
SY Cheer	r
RGT Illustrious	s
Crusoe	s
KWS Arnie	s
KWS Equipe	s
KWS Newbie	r
LG Shergar	s
KWS Extase	s
KWS Ultimatum	r
KWS Palladium	r
Mayflower	r
RGT Goldfinch	s
KWS Solitaire	s
Bamford	s
KWS Flute	s
Almara	s
LG Astronomer	s
LG Redwald	s
RGT Hexton	s
KWS Zealum	s
Blackstone	r
RGT Bairstow	s
LG Skyscraper	s
KWS Scope	s
Champion	r
LG Beowulf	r
SY Insitor	s
Oxford	r
Gleam	s
KWS Dawsum	r
Graham	s
KWS Cranium	r
LG Typhoon	r
RGT Wolverine	s
Costello	r

Conclusions

- Some varieties showing susceptibility in field where not seen in CE experiments.
- Reflects limited isolate range used in CE work.
- Most varieties retained classification.
- Spring sown trials provide useful validation of CE experiments.
- Spring sown trials to be repeated in future UKCPVS work. Further emphasis on collecting pre-GS 55 data from RL trials.



Thanks for listening. Thanks to:

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Any Questions?