

Trial 2. HYC Barley Disease Management (FAR SAC B23-04)

Key Points:

- Despite RGT Planet's SVS rating to Net Form Net Blotch (NFNB), drier conditions in spring meant little disease was present in this trial.
- When assessed during mid-flower on the 16 October, severity of NFNB (% leave area infected) peaked at only 1% with an incidence score of 40% on flag-1, the most important leaf in barley (Table 2).
- Although only low levels of disease were found, there were differences in yield with the untreated yielding 6.92t/ha, which was significantly lower than treatments where 2-4 fungicide units had been used. The exception was the use of Aviator Xpro as a single spray at GS39-45. (Table 1).
- Treatments with only a single fungicide unit, used earlier in the season, or treatments not using higher rates of products, did not yield statistically different from the untreated (Table 1).

Table 1. Influence of management strategy on grain yield (t/ha).

Treatment				Yield
GS00	GS31	GS39-45	GS59	t/ha
1. ---	---	---	---	6.92 d
2. Systiva	---	---	---	7.11 cd
3. ---	Prosaro 300 mL/ha	----	---	7.44 a-d
4. ---	---	Aviator Xpro 420 mL/ha	---	7.80 abc
5. ---	Prosaro 150 mL/ha	Radial 420 mL/ha	---	7.33 bcd
6. ---	Prosaro 300 mL/ha	Radial 840 mL/ha	---	7.77 abc
7. ---	Prosaro 300 mL/ha	Revystar 750 mL/ha	---	7.49 a-d
8. ---	Revystar 750 mL/ha	Radial 840 mL/ha	---	7.85 abc
9. ---	Prosaro 300 mL/ha	Aviator Xpro 420 mL/ha	---	7.86 abc
10. ---	Aviator Xpro 420 mL/ha	Radial 840 mL/ha	---	7.81 abc
11. Systiva	---	Radial 840 mL/ha	---	7.95 abc
12. Systiva	Prosaro 300 mL/ha	Radial 840 mL/ha	---	7.67 a-d
13. ---	Prosaro 300 mL/ha	Aviator Xpro 420 mL/ha	Opus 500 mL/ha	8.26 a
14. Systiva	Prosaro 300 mL/ha	Radial 840 mL/ha	Opus 500 mL/ha	8.06 ab
15. Systiva	Prosaro 300 mL/ha	Aviator Xpro 420 mL/ha	Opus 500 mL/ha	7.86 abc
Mean				7.68
LSD P=0.05				0.54
P Value				<0.001

Table 2. Influence of fungicide treatment on Net Form of Net Blotch (NFNB) severity (%) and incidence (%) on Flag, Flag-1 and Flag-2 – assessed 16 October at GS65.

Trt	Flag		Flag -1		Flag -2	
	Severity (%)	Incidence (%)	Severity (%)	Incidence (%)	Severity (%)	Incidence (%)
1.	0.4 -	12.5 -	1.0 -	40.0 a	1.6 a	62.5 a
2.	0.3 -	17.5 -	0.8 -	40.0 a	1.6 a	47.5 ab
3.	0.2 -	12.5 -	0.5 -	25.0 ab	1.1 ab	42.5 abc
4.	0.1 -	5.0 -	0.4 -	20.0 bc	0.8 ab	35.0 bcd
5.	0.2 -	5.0 -	0.5 -	25.0 ab	0.9 ab	32.5 b-e
6.	0.1 -	5.0 -	0.4 -	22.5 ab	0.5 ab	22.5 cde
7.	0.1 -	2.5 -	0.2 -	12.5 bc	0.3 b	12.5 e
8.	0.2 -	7.5 -	0.3 -	12.5 bc	0.5 ab	17.5 de
9.	0.1 -	2.5 -	0.3 -	17.5 bc	0.5 ab	20.0 de
10.	0.0 -	0.0 -	0.5 -	20.0 bc	0.5 ab	22.5 cde
11.	0.0 -	2.5 -	0.5 -	20.0 bc	0.3 b	22.5 cde
12.	0.1 -	2.5 -	0.3 -	12.5 bc	0.6 ab	35.0 bcd
13.	0.1 -	5.0 -	0.3 -	10.0 bc	0.4 b	25.0 cde
14.	0.0 -	0.0 -	0.5 -	25.0 ab	0.6 ab	27.5 b-e
15.	0.1 -	2.5 -	0.0 -	2.5 c	0.5 ab	27.5 b-e
Mean	0.1	5.5	0.4	20.3	0.7	30.2
LSD P=0.05	ns	ns	ns	18.9	0.7	20.3
P Value	0.527	0.258	0.070	0.015	0.004	0.001

Table 3. Influence of fungicide treatment on Spot Form of Net Blotch (NFNB) severity (%) and incidence (%) on Flag-1, and Flag-2 and green leaf retention (GLR) on Flag-3– assessed 16 October at GS65.

Trt	NFNB				GLR
	Flag -1		Flag -2		Flag -3
	Severity (%)	Incidence (%)	Severity (%)	Incidence (%)	%
1.	1.3 -	2.5 -	2.0 -	10.0 -	78.7 -
2.	0.0 -	0.0 -	0.0 -	0.0 -	83.4 -
3.	0.0 -	0.0 -	0.3 -	5.0 -	86.3 -
4.	0.0 -	0.0 -	0.0 -	0.0 -	90.9 -
5.	0.0 -	0.0 -	0.1 -	2.5 -	91.4 -
6.	0.0 -	0.0 -	0.0 -	0.0 -	88.2 -
7.	0.0 -	0.0 -	0.0 -	0.0 -	92.0 -
8.	0.0 -	0.0 -	0.5 -	2.5 -	87.1 -
9.	0.0 -	0.0 -	0.0 -	0.0 -	89.0 -
10.	0.0 -	0.0 -	0.0 -	0.0 -	93.7 -
11.	0.0 -	0.0 -	0.0 -	0.0 -	85.3 -
12.	0.0 -	0.0 -	0.0 -	0.0 -	91.2 -
13.	0.0 -	0.0 -	0.3 -	5.0 -	91.2 -
14.	0.0 -	0.0 -	0.1 -	2.5 -	84.8 -
15.	0.0 -	2.5 -	0.0 -	0.0 -	88.6 -
Mean	0.1	0.3	0.2	1.8	88.1
LSD P=0.05	ns	ns	ns	ns	ns
P Value	0.471	0.471	0.471	0.471	0.097

Table 4. Trial input and management details.

Sowing date:	11 May 2023	
Harvest date:	05 January 2024	
Variety:	RGT Planet	
Seed rate:	200 seeds/m ²	
Basal fertiliser:	11 May	100 kg/ha MAP
Nitrogen:	26 Jul	50kg N/ha
	19 Sep	100kg N/ha
Fungicide:	As per treatment list	
	22 Aug	GS31
	18 Sep	GS39-45
	10 Oct	GS59

Table 5. Active ingredients and chemical loading (g/L) for products used.

Name	Active 1		Active 2		Type
Fungicide					
Aviator Xpro	Prothioconazole	150 g/L	Bixafen	75 g/L	EC
Opus	Epoxiconazole	125 g/L	---	---	SC
Prosaro	Prothioconazole	210 g/L	Tebuconazole	210 g/L	SC
Radial	Azoxystrobin	75 g/L	Epoxiconazole	75 g/L	EC
Revystar	Mefentrifluconazole	100 g/L	Fluxapyroxad	50 g/L	EC
Systiva	Fluxapyroxad	333 g/L	---	---	FS