

Grazing:		Nil
Nitrogen:		As per treatment list
PGR:	GS30	Moddus Evo 100ml/ha + Errex 650ml/ha
	GS32	Moddus Evo 100ml/ha + Errex 650ml/ha
Fungicide:	GS31	Opus 500ml/ha
	GS39	Radial 840ml/ha
	GS61	Prosaro 300ml/ha

Trial 6: Erect Head Control in April Sown Wheat

Objectives:

To assess the principal causes of erect heads in April sown wheat crops

Individual objectives specific to the trial were:

- To determine the value of Barley Yellow Dwarf Virus (BYDV) tolerance in HRZ wheat crops using a tolerant (cv Manning) and a non-tolerant (cv Revenue) cultivar.
- To assess the connection between erect heads and stem base disease complex e.g. crown rot, eyespot, sharp eyespot in the presence of different stem base fungicide applications.

Key Messages:

- *No BYDV was observed in the trial and as a result there were no significant yield differences due to BYDV control recorded in either Manning (tolerant) or Revenue (non BYDV tolerant) cultivars.*
- *Omitting the GS31 fungicide however (treatment 7 & 8) had a significant impact on grain yield with both Manning (minus 2.13t/ha) and Revenue (minus 2.34t/ha).*
- *Adding azoxystrobin to the first fungicide application at GS31 over and above the experimental fungicide increased yield with Manning but not with Revenue.*
- *The additional application of Dominex Duo along with the experimental fungicide (as opposed to Opus 250mL/ha) at GS31 significantly increased the yield of the non BYDV tolerant cultivar Revenue but the yield of Manning was unaffected.*
- *The "Revenue BYDV tolerant bred line" with no insecticide input was the highest yielding treatment of Revenue and not significantly different from the best Manning treatment that received azoxystrobin at GS31.*

Treatments:

Six different treatments applying four different levels of insecticide input for aphid (BYDV) control were applied to a tolerant (cv Manning) and a non-tolerant variety (cv Revenue). Two additional experimental treatments were applied that examined the value of an experimental fungicide applied at GS31, applied with and without the strobilurin azoxystrobin. Please note these treatments were applied to examine stem base disease control in this trial and are not commercially available treatments.

Table 1. Detailed treatment list of products (ml/ha, L/ha) and timings.

Trt	Cultivar	GS00	GS21	GS31
1	Revenue	---	---	---
2	Manning	---	---	---
3	Revenue	Pontiac	---	---
4	Manning	Pontiac	---	---
5	Revenue	Pontiac	Karate Zeon	---
6	Manning	Pontiac	Karate Zeon	---
7	Revenue	Pontiac	Karate Zeon	Dominex Duo (No GS31 fungicide)
8	Manning	Pontiac	Karate Zeon	Dominex Duo (No GS31 fungicide)
9	Revenue	Pontiac	Karate Zeon	Dominex Duo with Exp. Fungicide
10	Manning	Pontiac	Karate Zeon	Dominex Duo with Exp. Fungicide
11	Revenue	Pontiac	Karate Zeon	Dominex Duo, Exp. Fungicide + Azoxystrobin
12	Manning	Pontiac	Karate Zeon	Dominex Duo, Exp. Fungicide + Azoxystrobin
13	BYDV Tolerant Revenue	---	---	---
14	Revenue	Pontiac	---	---

Applications of Karate Zeon at 18ml/ha and Dominex Duo at 125ml/ha were applied experimentally to exclude aphids and prevent BYDV in this trial, experimental fungicide applied at 2L/ha and Azoxystrobin applied at 62.5g ai/ha.

Treatment 1-6 had a GS31 fungicide based on 250mL/ha epoxiconazole

Table 2. Grain yield (t/ha), % site mean, protein (%), test weight (kg/hl) and screenings (%).

Trt	Variety	Grain Yield			Grain Quality				
		Yield		Site Mean	Protein	Test wt		Screenings	
		(t/ha)		(%)	(%)	(kg/HL)		(%)	
1	Revenue	9.60	ef	90.5	11.1	-	74.8	bc	3.6
2	Manning	11.48	abc	108.2	10.3	-	76.4	ab	2.7
3	Revenue	9.87	e	93.1	11.1	-	75.3	abc	3.6
4	Manning	10.80	cd	101.9	10.0	-	76.3	ab	3.4
5	Revenue	10.10	de	95.2	11.2	-	74.6	bc	3.6
6	Manning	10.98	c	103.5	10.5	-	76.3	ab	2.8
7	Revenue	8.88	f	83.8	11.0	-	74.0	c	4.2
8	Manning	10.03	e	94.6	10.2	-	75.7	abc	3.3
9	Revenue	11.19	bc	105.6	11.3	-	75.5	abc	3.3
10	Manning	10.90	c	102.8	9.8	-	76.4	ab	3.1
11	Revenue	11.22	bc	105.8	11.0	-	75.9	abc	3.0
12	Manning	12.16	a	114.7	9.9	-	77.1	a	2.8
13	BYDV tolerant Revenue	11.74	ab	110.7	11.5	-	76.5	ab	3.1
14	Revenue	9.51	ef	89.7	11.0	-	71.9	d	4.1
Grand mean		10.60		100.0	10.7		75.5		3.3
LSD Mgmt (p = 0.05)		0.40		3.8	0.4		1.8		0.5
LSD Var (p = 0.05)		0.28		2.6	0.2		ns		ns
LSD Var x Mgmt (p = 0.05)		0.73		6.9	ns		2.0		ns
P Val Mgmt		<0.001		<0.001	0.006		0.180		0.024
P Val Var		0.002		0.002	<0.001		0.166		0.095

P Val Var x Mgmt	<0.001	<0.001	0.320	0.001	0.147
CV	4.7				

Table 3. Details of the management levels (kg, g, ml/ha).

Sowing date:	25-April				
Seed Rate:			180 seeds/m ²		
Sowing Fertiliser:			100kg/ha MAP		
Seed Treatment:			As per treatment list		
Grazing:			Nil		
Nitrogen:	10 Aug		46kg N/ha		
	1 Oct		160kg N/ha		
PGR:	GS30		Moddus Evo 100ml/ha + Errex 650ml/ha		
	GS32		Moddus Evo 100ml/ha + Errex 650ml/ha		
Fungicide:	GS31		Trt 1-4 Epoxiconazole 62.5g/ha ai		
	GS39		Radial 840ml/ha		
	GS61		Prosaro 300ml/ha		

Meteorological Data

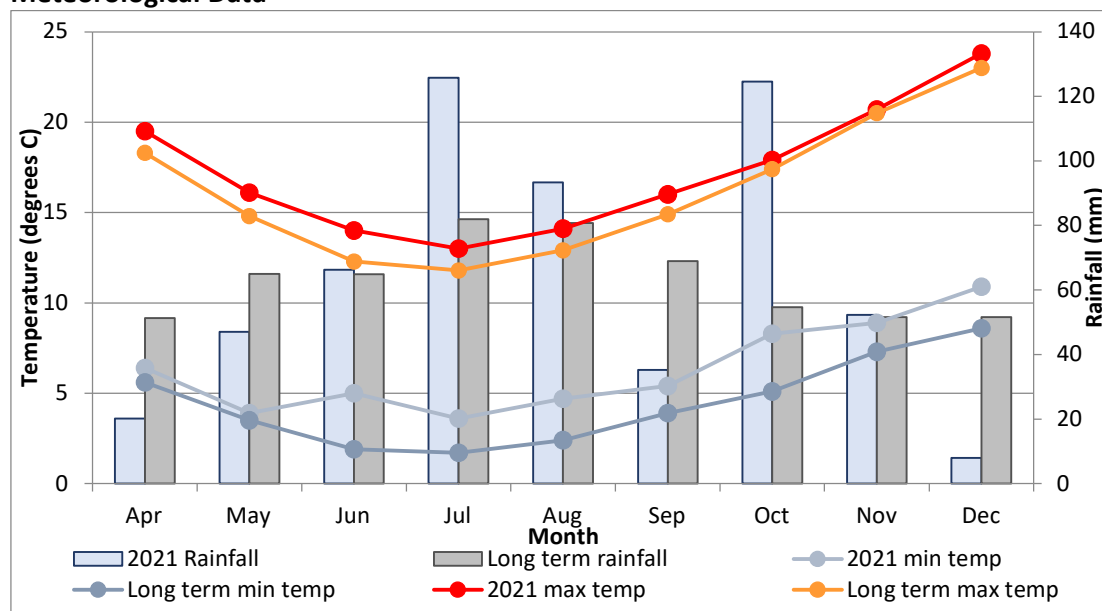


Figure 1. 2021 growing season rainfall and long-term rainfall (1978-2021) (recorded at Westbury (Birrlee Road)), 2021 min and max temperatures and long-term min and max temperatures (1980-2021) (recorded at Launceston (Ti Tree Bend)). *Rainfall April to December= 572.6.0mm. Rainfall April*