

Disclaimer:
This document is based on the results from an individual trial and may contain experimental use patterns that are currently off-label. **This document does not provide any interpretation and should not be taken as an endorsement of any unregistered use pattern.**
Professional advice should be sought for specific recommendations to ensure access to the most up to date information and knowledge.
Any product referred to in this document must be used strictly as directed, and in accordance with all label or permit instructions. Always consult the label prior to use.

Impact of Crown Rot on Winter Cereals					
Trial ID:	NGA0801	Location:	Goondiwindi	Year	2008
		Investigator:	Clare Felton-Taylor		

Objective:	To evaluate the impact of crown rot inoculum on cereal variety yield and grain quality		
Planting:	16/06/2008		
Crops:	Barley	Bread wheat	Durum wheat
Varieties:	Skiff, Grout, Fitzroy and Gairdner	EGA Wylie, Sunco, Lang, Sunvale, EGA Gregory, Strzelecki and Ellison	Bellaroi and Jandaroi
Harvest:	7/11/2008		
<i>Fusarium pseudograminearum</i> level at Planting:	2 pg DNA/g soil (PreDicta B)		
Keywords:	Crown rot, yield loss, wheat, barley, durum		

NB: Crown rot inoculum supplied by Dr Steven Simpfendorfer NSW DPI. Pathogen cultured on sterilised millet seed and then added with cereal variety seed at planting.

Impact of Crown Rot on Winter Cereals

Trial ID: NGA0801

Location:

Goondiwindi

Year

2008

Trt No	Crop	Variety	Crown Rot Inoculum Added / m Row	Emergence 21 DAP Plants/m ²	Final Tillers /m Row	Yield t/ha	% Yield impact due to Crown Rot
1	Barley	Skiff	-	98	136	3.59	
2	Barley	Skiff	2g	92	145	2.85	-20.7
3	Barley	Grout	-	92	120	2.41	
4	Barley	Grout	2g	97	167	2.65	9.9
5	Barley	Fitzroy	-	89	160	3.38	
6	Barley	Fitzroy	2g	87	183	3.11	-7.8
7	Barley	Gairdner	-	87	136	3.23	
8	Barley	Gairdner	2g	99	160	2.92	-9.6
9	Wheat	EGA Wylie	-	92	114	3.39	
10	Wheat	EGA Wylie	2g	88	110	3.74	10.5
11	Wheat	Sunco	-	105	89	3.03	
12	Wheat	Sunco	2g	89	114	3.31	9.4
13	Wheat	Lang	-	114	93	3.75	
14	Wheat	Lang	0.5g	96	111	2.91	-22.4
15	Wheat	Lang	1g	83	114	3.01	-19.8
16	Wheat	Lang	2g	101	102	3.06	-18.5
17	Wheat	Sunvale	-	99	124	3.04	
18	Wheat	Sunvale	2g	87	112	3.67	20.9
19	Wheat	EGA Gregory	-	102	97	4.11	
20	Wheat	EGA Gregory	2g	92	81	3.32	-19.2
21	Wheat	Strzelecki	-	129	86	3.85	
22	Wheat	Strzelecki	2g	102	86	3.99	3.5
23	Wheat	Ellison	-	114	73	3.66	
24	Wheat	Ellison	2g	89	80	2.94	-19.6
25	Durum	Bellaroi	-	105	65	2.76	
26	Durum	Bellaroi	2g	105	66	2.83	2.6
27	Durum	Jandaroi	-	92	74	3.20	
28	Durum	Jandaroi	2g	92	67	2.74	-14.3
P =				0.19	0.00	0.00	
LSD (5%) =				nsd	Square root detransf	0.59 - 0.76	

DAP = Days after Planting

Yield cv= 12.9%

	Significantly reduced yield
	Significantly increased tiller numbers or yield

Impact of Crown Rot on Winter Cereals

Trial ID: NGA0801

Location:

Goondiwindi

Year

2008

Trt No	Crop	Variety	Crown Rot Inoculum Added /m Row	Screenings %	Test Weight kg/hL	Protein %	Grain Weight g/ 1000 Grains	Retention %	Moisture %
1	Barley	Skiff	-	8.0	70.8	17.3	37.7	47.0	
2	Barley	Skiff	2g	4.3	71.4	17.1	39.5	62.9	
3	Barley	Grout	-	3.7	71.3	15.1	41.7	73.7	
4	Barley	Grout	2g	2.7	71.4	14.6	43.4	82.0	
5	Barley	Fitzroy	-	8.7	68.4	13.7	36.3	57.9	
6	Barley	Fitzroy	2g	7.2	68.3	13.8	37.6	64.4	
7	Barley	Gairdner	-	6.7	71.7	15.0	39.7	53.5	
8	Barley	Gairdner	2g	5.4	72.1	15.2	39.1	59.1	
P = LSD 5% =				0.03 3.7 - 4.0	0.00 1.2 - 1.3	0.00 1.4 - 1.5	0.00 1.6 - 1.7	0.00 9.7 - 10.5	

9	Wheat	EGA Wylie	-	12.2	81.7	13.7	32.6		9.7
10	Wheat	EGA Wylie	2g	9.8	82.0	12.9	34.4		9.7
11	Wheat	Sunco	-	7.9	81.6	13.5	31.5		9.7
12	Wheat	Sunco	2g	7.1	82.5	13.5	31.7		9.7
13	Wheat	Lang	-	11.3	82.4	12.9	30.6		9.6
14	Wheat	Lang	0.5g	11.8	80.7	13.5	29.6		9.5
15	Wheat	Lang	1g	10.3	82.4	13.1	30.9		9.6
16	Wheat	Lang	2g	11.8	81.6	13.0	30.5		9.6
17	Wheat	Sunvale	-	8.8	82.4	14.0	29.3		9.6
18	Wheat	Sunvale	2g	6.9	83.4	12.9	31.6		9.7
19	Wheat	EGA Gregory	-	11.0	81.9	12.0	35.3		9.5
20	Wheat	EGA Gregory	2g	11.4	81.9	12.0	36.0		9.6
21	Wheat	Strzelecki	-	11.7	81.0	12.1	36.5		9.5
22	Wheat	Strzelecki	2g	10.9	80.9	11.4	36.1		9.7
23	Wheat	Ellison	-	12.2	81.6	12.5	36.4		9.5
24	Wheat	Ellison	2g	12.3	80.5	13.2	36.5		9.6
25	Durum	Bellaroi	-	8.8	79.8	15.1	40.3		9.6
26	Durum	Bellaroi	2g	8.5	78.9	15.6	38.6		9.5
27	Durum	Jandaroi	-	4.1	80.3	15.2	44.2		9.6
28	Durum	Jandaroi	2g	3.7	79.4	15.7	42.2		9.6
P = LSD 5% =				0.00 2.2	0.00 1.1	0.00 1.0	0.00 1.8		0.2217 nsd

nsd = No significant difference

	Significantly reduced quality
	Significantly increased quality

Impact of Crown Rot on Winter Cereals

Trial ID: **NGA0801**

Location:

Goondiwindi

Year

2008

Trt No	Crop	Variety	Crown Rot Inoculum added /m Row	Crown Rot Severity	Disease Incidence % Fp Recovery
1	Barley	Skiff	-	2	16
2	Barley	Skiff	2g	15	71
3	Barley	Grout	-	7	19
4	Barley	Grout	2g	25	76
5	Barley	Fitzroy	-	11	40
6	Barley	Fitzroy	2g	21	81
7	Barley	Gairdner	-	6	26
8	Barley	Gairdner	2g	13	74
9	Wheat	EGA Wylie	-	2	12
10	Wheat	EGA Wylie	2g	16	70
11	Wheat	Sunco	-	1	3
12	Wheat	Sunco	2g	9	52
13	Wheat	Lang	-	3	12
14	Wheat	Lang	0.5g	5	24
15	Wheat	Lang	1g	10	48
16	Wheat	Lang	2g	15	64
17	Wheat	Sunvale	-	1	9
18	Wheat	Sunvale	2g	10	53
19	Wheat	EGA Gregory	-	6	18
20	Wheat	EGA Gregory	2g	17	64
21	Wheat	Strzelecki	-	4	18
22	Wheat	Strzelecki	2g	15	58
23	Wheat	Ellison	-	8	22
24	Wheat	Ellison	2g	16	69
25	Durum	Bellaroi	-	9	10
26	Durum	Bellaroi	2g	31	75
27	Durum	Jandaroi	-	8	15
28	Durum	Jandaroi	2g	35	78
P =				0.00	0.00
LSD 5% =				4.9	12.8

 Significantly increased disease

Crown rot severity = visual rating of extent and severity of stem browning

% Fp recovery = % of crowns where the crown rot fungus (*Fusarium pseudograminearum*) was recovered