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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.**

## Aphid Management in Winter Cereals

Trial ID: CFT1008      Location: Spring Ridge      Trial Year: 2010  
 Investigator: Clare Felton-Taylor

<b>Objective:</b>	To evaluate the impact and control of aphids in winter cereals
<b>Planting Date:</b>	16/06/2010
<b>Fungicide Seed Treatment:</b>	Equivalent fungicide treatment on all seed: Barley: triadimenol 22.5 g ai/100 kg seed, Bread and durum: tebuconazole 2.5 g ai/ 100 kg seed
<b>Insecticide Seed Treatment:</b>	Imidacloprid at 72 or 144 g ai/100 kg seed
<b>Foliar Insecticide:</b>	Pirimor 150 g/ha (pirimicarb 75 g ai/ha) NB not applied due to low aphid pressure in Trts 5,10 and 15
<b>Foliar Application Date:</b>	8/09/2010
<b>Application Timing:</b>	Aphid Threshold ~6/Tiller

Trt No	Variety/ Crop	Seed Treatment Insecticide/ 100 kg Seed	Foliar Insecticide	Emergence 8/07/2010 22 DAP Plants/m <sup>2</sup>	Barley Yellow Dwarf 13/10/2010 119 DAP 35 DAA 1-5 Visual Rating (1= no effect, 5=severe)	Head Count 20/10/2010 126 DAP 42 DAA Heads/m <sup>2</sup>	Yield 10/01/2011 t/ha
1	Fitzroy Barley	-	-	139abc	1.8def	1018 a	2.04 e
2	Fitzroy Barley	Imidacloprid 72 g ai	-	128abcd	1.0f	1060 a	2.00 e
3	Fitzroy Barley	Imidacloprid 144 g ai	-	144a	1.3ef	1084 a	1.93 e
4	Fitzroy Barley	-	Pirimor	134abcd	2.0cde	993 a	1.90 e
5	Fitzroy Barley	Imidacloprid 72 g ai	-	134abcd	1.0f	1069 a	1.78 e
6	Livingston Wheat	-	-	105efg	4.8a	597 bc	2.79 d
7	Livingston Wheat	Imidacloprid 72 g ai	-	106efg	2.8c	621 b	3.61 c
8	Livingston Wheat	Imidacloprid 144 g ai	-	104efg	2.8c	650 b	3.62 c
9	Livingston Wheat	-	Pirimor	102g	4.3ab	585 bcd	3.01 d
10	Livingston Wheat	Imidacloprid 72 g ai	-	104fg	2.5cd	645 b	3.67 bc
11	Bellaroi Durum	-	-	119def	2.8c	445 e	3.93 abc
12	Bellaroi Durum	Imidacloprid 72 g ai	-	128abcd	1.5ef	468 de	4.30 a
13	Bellaroi Durum	Imidacloprid 144 g ai	-	140ab	1.5ef	479 cde	4.22 a
14	Bellaroi Durum	-	Pirimor	120cde	3.8b	463 de	4.02 abc
15	Bellaroi Durum	Imidacloprid 72 g ai	-	123bcd	1.8def	491 cde	4.14 ab
			P =	0.00	0.00	0.00	0.00
			LSD =	0.06	0.81	125.3	0.81

Treatment means followed by the same letter are not significantly different at P = 0.05

DAP = Days after Planting, DAA = Days after Application (Foliar Insecticide)

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Trt No	Variety/ Crop	Seed Treatment Insecticide/ 100 kg Seed	Foliar Insecticide	Oat Aphid <i>Rhopalosiphum padi</i>				
				26/08/2010 71 DAP Aphids/Tiller	31/08/2010 76 DAP		8/09/2010 84 DAP (pre spray count)	
				% Tillers Infested	Aphids/Tiller	% Tillers Infested	Aphids/Tiller	
1	Fitzroy Barley	-	-	0.39ab	63a	2.5bc	83b	5.2bc
2	Fitzroy Barley	Imidacloprid 72 g ai	-	0.01b	13b	0.2c	3c	0.1c
3	Fitzroy Barley	Imidacloprid 144 g ai	-		7b	0.1c	0c	0.0c
4	Fitzroy Barley	-	Pirimor					
5	Fitzroy Barley	Imidacloprid 72 g ai	-					
6	Livingston Wheat	-	-	0.24b	80a	7.0a	100a	15.1a
7	Livingston Wheat	Imidacloprid 72 g ai	-	0.01b	0b	0.0c	7c	0.1c
8	Livingston Wheat	Imidacloprid 144 g ai	-		0b	0.0c	7c	0.1c
9	Livingston Wheat	-	Pirimor					
10	Livingston Wheat	Imidacloprid 72 g ai	-					
11	Bellaroi Durum	-	-	0.73a	83a	5.0ab	90ab	9.4b
12	Bellaroi Durum	Imidacloprid 72 g ai	-	0.01b	3b	0.1c	3c	0.0c
13	Bellaroi Durum	Imidacloprid 144 g ai	-		7b	0.0c	0c	0.0c
14	Bellaroi Durum	-	Pirimor					
15	Bellaroi Durum	Imidacloprid 72 g ai	-					
			P =	0.04	0.00	0.001	0.00	0.00
			LSD =	0.49	20.87	3.11	12.18	5.63

Treatment means followed by the same letter are not significantly different at P = 0.05

DAP = Days after Planting

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Trt No	Variety/ Crop	Seed Treatment Insecticide/ 100 kg Seed	Foliar Insecticide	Oat Aphid <i>Rhopalosiphum padi</i>			
				14/09/2010 90 DAP 6 DAA		28/09/2010 104 DAP 20 DAA	
				% Tillers Infested	Aphids/Tiller	% Tillers Infested	Aphids/Tiller
1	Fitzroy Barley	-	-	90a	7.3	0	0.00
2	Fitzroy Barley	Imidacloprid 72 g ai	-	10d	1.6	0	0.00
3	Fitzroy Barley	Imidacloprid 144 g ai	-	5d	0.5	3	0.03
4	Fitzroy Barley	-	Pirimor	10d	0.3	0	0.00
5	Fitzroy Barley	Imidacloprid 72 g ai	-				
6	Livingston Wheat	-	-	85ab	6.0	10	0.13
7	Livingston Wheat	Imidacloprid 72 g ai	-	10d	0.1	0	0.00
8	Livingston Wheat	Imidacloprid 144 g ai	-	10d	0.2	0	0.00
9	Livingston Wheat	-	Pirimor	45bcd	1.0	3	0.03
10	Livingston Wheat	Imidacloprid 72 g ai	-				
11	Bellaroi Durum	-	-	55abc	3.5	0	0.00
12	Bellaroi Durum	Imidacloprid 72 g ai	-	20cd	0.2	0	0.00
13	Bellaroi Durum	Imidacloprid 144 g ai	-	15cd	0.2	0	0.00
14	Bellaroi Durum	-	Pirimor	20cd	0.7	0	0.00
15	Bellaroi Durum	Imidacloprid 72 g ai	-				
			P =	0.01	0.15	0.59	N/A
			LSD =	42.2	nsd	nsd	

Treatment means followed by the same letter are not significantly different at P = 0.05

nsd = No significant difference      DAP = Days after Planting,    DAA = Days after Application (Foliar Insecticide)

## Aphid Management in Winter Cereals

Trial ID: CFT1008

Location: Spring Ridge

Trial Year: 2010

Trt No	Variety/ Crop	Seed Treatment Insecticide/ 100 kg Seed	Foliar Insecticide	Rose Grain Aphid <i>Metopolophium dirhodum</i>					
				8/09/2010 84 DAP (Pre spray Count)		14/09/2010 90 DAP 6 DAA		28/09/2010 104 DAP 20 DAA	
				% Tillers Infested	Aphids/Tiller	% Tillers Infested	Aphids/Tiller	% Tillers Infested	Aphids/Tiller
1	Fitzroy Barley	-	-	0	0.0	0	0.0	17bc	0.8
2	Fitzroy Barley	Imidacloprid 72 g ai	-	0	0.0	5	0.4	23ab	0.9
3	Fitzroy Barley	Imidacloprid 144 g ai	-	0	0.0	5	1.0	27ab	1.3
4	Fitzroy Barley	-	Pirimor			0	0.0	3c	0.0
5	Fitzroy Barley	Imidacloprid 72 g ai	-						
6	Livingston Wheat	-	-	0	0.0	0	0.0	3c	0.1
7	Livingston Wheat	Imidacloprid 72 g ai	-	0	0.0	5	0.2	10bc	0.2
8	Livingston Wheat	Imidacloprid 144 g ai	-	3	0.0	0	0.0	10bc	0.2
9	Livingston Wheat	-	Pirimor			0	0.0	13bc	0.1
10	Livingston Wheat	Imidacloprid 72 g ai	-						
11	Bellaroi Durum	-	-	3	0.0	0	0.0	13bc	0.4
12	Bellaroi Durum	Imidacloprid 72 g ai	-	0	0.0	10	0.2	40a	2.1
13	Bellaroi Durum	Imidacloprid 144 g ai	-	0	0.0	0	0.0	10bc	0.2
14	Bellaroi Durum	-	Pirimor			0	0.0	13bc	0.2
15	Bellaroi Durum	Imidacloprid 72 g ai	-						
P =				0.59	0.59	0.65	0.56	0.057	0.1134
LSD =				nsd	nsd	nsd	nsd	17.07 (10%)	arcsin transf

\* Equivalent rate of fungicide seed treatment applied to all treatments within each variety

nsd = No significant difference DAP = Days after Planting DAA = Days after Application (Foliar Insecticide)

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Trial Year: 2010

Trt No	Variety/Crop	Seed Treatment Insecticide/ 100 kg Seed	Foliar Insecticide	Rose Grain Aphid <i>Metopolophium dirhodum</i> 5/10/210 111 DAP 27 DAA		
				% Tillers Infested	Aphids/Tiller	
1	Fitzroy Barley	-	-	37ab	1.0b	
2	Fitzroy Barley	Imidacloprid 72 g ai	-	40ab	1.0b	
3	Fitzroy Barley	Imidacloprid 144 g ai	-	23bc	0.9b	
4	Fitzroy Barley	-	Pirimor	30abc	0.6bcd	
5	Fitzroy Barley	Imidacloprid 72 g ai	-			
6	Livingston Wheat	-	-	7c	0.0d	
7	Livingston Wheat	Imidacloprid 72 g ai	-	33ab	1.3ab	
8	Livingston Wheat	Imidacloprid 144 g ai	-	7c	0.1cd	
9	Livingston Wheat	-	Pirimor	33ab	1.0b	
10	Livingston Wheat	Imidacloprid 72 g ai	-			
11	Bellaroi Durum	-	-	20bc	0.7bc	
12	Bellaroi Durum	Imidacloprid 72 g ai	-	50a	2.5a	
13	Bellaroi Durum	Imidacloprid 144 g ai	-	33ab	0.7bc	
14	Bellaroi Durum	-	Pirimor	20bc	0.6bc	
15	Bellaroi Durum	Imidacloprid 72 g ai	-			
				P =	0.0417	0.0110
				LSD =	24.78	arcsin transf

Imidacloprid seed treatment provided significant reductions in oat aphid populations in all cereal varieties till 90 days after planting with populations naturally crashing by the 104 day after planting assessment. However there was no significant control of the rose-grain aphid with highest aphid pressure occurring at 104 and 111 days after planting. Interestingly the low rate of imidacloprid resulted in significantly increased rose-grain aphid populations at 111 days after planting in both the bread and durum wheat varieties. There was no consistent impact from the foliar insecticide application on rose-grain aphid populations in any cereal variety.

Barley yellow dwarf virus symptoms were significantly reduced in both the bread and durum wheat varieties when assessed at 119 days after planting. There was no clear impact from the foliar insecticide at the same assessment, 35 days after application. Both rates of seed treatment resulted in a significant yield increase in the bread wheat variety. There was no yield impact from foliar fungicide application. Yields were much lower than expected following lengthy delays to harvest due to prolonged wet weather.