Plant Growth Regulators in Barley

Trial ID: DK1614 **Location:** Croppa Creek **Trial Year:** 2016
Investigator: Denielle Kilby

Planting Date:	**12/05/2016**		
Planting Equipment:	**Commercial Planter**		
Row Spacing:	**50 cm**		
Application Code:	**A**	**B**	**C**
Application Date:	**1/07/2016**	**4/07/2016**	**29/07/2016**
Application Timing:	**GS30**	**GS30**	**GS37**
Growth Stage Application:	**Urea Hand Spread at Stem Elongation**	**Stem Elongation**	**Flag Leaf just Visible**
Harvest Date:	**3/11/2016**		
Harvested Plot:	**10m x 1.8m**		
Harvest Equipment:	**Small Plot Header**		
Lodging Score:	**% of Plot Lodged x % Drop in Height**		

Crop Name				**Barley**				
Crop Variety				**Compass**				
Assessment Date				**10/08/2016**	**17/08/2016**	**29/08/2016**	**5/09/2016**	**12/09/2016**
Assessment Type				**NDVI**	**HEIGHT**	**LODGING SCORE**	**LODGING SCORE**	**LODGING SCORE**
Assessment Unit				**Ratio**	**cm**	**Rating**	**Rating**	**Rating**
Crop Stage Majority				**41**	**55**	**61**	**65**	**69**
Treatment-Evaluation Interval				**37 DAB**	**44 DAB**	**56 DAB**	**63 DAB**	**70 DAB**
ARM Action Codes				**ER3**			**AA**	**AA**
Trt No.	**Treatment**	**Product Rate**	**Appln. Code**					
1	Untreated	-	-	0.898abc	93b	4b	22ab	20b
2	Moddus Evo	200ml/ha	B	0.890bc	92bc	0c	16ab	21ab
3	Moddus Evo	300ml/ha	B	0.881cde	84ef	0c	2cd	1def
4	Moddus Evo	400ml/ha	B	0.869e	81f	0c	0d	0f
5	Moddus Evo Moddus Evo	200ml/ha 200ml/ha	B C	0.882b-e	90bcd	0c	9bc	7cd
6	Moddus Evo Exp 1	200ml/ha 1000ml/ha	B	0.866e	80f	0c	0d	1ef
7	Moddus Evo Exp 1	200ml/ha 1300ml/ha	B	0.872de	81f	0c	0d	0f
8	Exp 2	500ml/ha	B	0.893bc	91bcd	0c	16ab	24ab
9	Moddus Evo Exp 2	200ml/ha 500ml/ha	B	0.866e	81f	0c	1cd	3de
10	Moddus Evo	400ml/ha	C	0.888bcd	88cde	0c	1cd	1def
11	Urea	100kg/ha	A	0.913a	98a	13a	36a	37a
12	Moddus Evo Urea	400ml/ha 100kg/ha	B A	0.900ab	87de	0c	10bc	15bc
			LSD P=	0.0185	4.6	3.5	15.5t	10.4t
			Treatment Prob.(F)=	0.0024	0.0001	0.0001	0.0003	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P (F) is significant at mean comparison OSL.
Missing data estimates are included in columns: Average=11, 17
Excluded Replicate 3 in column 1

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Crop Name / Crop Variety				Barley Compass			
Assessment Date				26/09/2016	6/10/2016	13/10/2016	3/11/2016
Assessment Type				LODGING SCORE	LODGING SCORE	LODGING SCORE	YIELD
Assessment Unit				Rating	Rating	Rating	t/ha
Crop Stage Majority				71	85	87	
Treatment-Evaluation Interval				84 DAB	94 DAB	101 DAB	122 DAB
ARM Action Codes					AS	ET7 #	T1
Trt No.	Treatment	Product Rate	Appln. Code				
1	Untreated	-	-	43-	36bc	37ab	4.13cd
2	Moddus Evo	200ml/ha	B	45-	33bc	37ab	4.45bcd
3	Moddus Evo	300ml/ha	B	37-	42bc	45a	4.85ab
4	Moddus Evo	400ml/ha	B	38-	36bc	32ab	4.56abc
5	Moddus Evo Moddus Evo	200ml/ha 200ml/ha	B C	40-	33bc	28b	4.46bcd
6	Moddus Evo Exp 1	200ml/ha 1000ml/ha	B	43-	40bc	35ab	4.55abc
7	Moddus Evo Exp 1	200ml/ha 1300ml/ha	B	50-	59a	63	4.71ab
8	Exp 2	500ml/ha	B	50-	38bc	32ab	4.03d
9	Moddus Evo Exp 2	200ml/ha 500ml/ha	B	33-	30c	37ab	4.80ab
10	Moddus Evo	400ml/ha	C	20-	15d	12c	4.80ab
11	Urea	100kg/ha	A	42-	38bc	38ab	4.48a-d
12	Moddus Evo Urea	400ml/ha 100kg/ha	B A	48-	43b	40ab	4.92a
			LSD P=	nsd	1.1t	13.6	0.46
			Treatment Prob.(F)=	0.0669	0.0003	0.0083	0.0101
			CV=				5.9

ET7 # Treatment 7 Lodging Score on 13/10/2016 had high variability between reps and was excluded from analysis but mean is still presented

Plant Growth Regulators in Barley

Trial ID: DK1614 **Location:** Croppa Creek **Trial Year:** 2016

Crop Name / Crop Variety / Assessment Date / Assessment Type / Assessment Unit / ARM Action Codes				Barley Compass					
				15/11/2016 PROTEIN %	15/11/2016 TEST WEIGHT kg/hL ET8 #	15/11/2016 SCREENING % AL	15/11/2016 MOISTURE %	15/11/2016 RETENTION % AA	15/11/2016 N RECOVERY kg N/ha T2
Trt No.	Treatment	Product Rate	Appln. Code						
1	Untreated	-	-	10.8bc	62.6de	1.9-	11.0-	95.3b-e	78.0cd
2	Moddus Evo	200ml/ha	B	11.0b	63.5abc	1.7-	10.9-	95.9bcd	85.6bcd
3	Moddus Evo	300ml/ha	B	10.8bc	63.3a-d	1.4-	11.0-	97.4abc	92.1ab
4	Moddus Evo	400ml/ha	B	11.2ab	63.2bcd	1.6-	10.9-	96.8abc	89.1ab
5	Moddus Evo Moddus Evo	200ml/ha 200ml/ha	B C	11.0b	63.8ab	1.5-	11.0-	96.9abc	85.6bcd
6	Moddus Evo Exp 1	200ml/ha 1000ml/ha	B	10.4c	62.9cde	1.3-	10.9-	97.3abc	82.8bcd
7	Moddus Evo Exp 1	200ml/ha 1300ml/ha	B	10.7bc	63.6abc	1.2-	10.9-	97.9ab	88.1bc
8	Exp 2	500ml/ha	B	11.0b	61.8	1.8-	11.1-	95.2b-e	77.4d
9	Moddus Evo Exp 2	200ml/ha 500ml/ha	B	10.8bc	63.4a-d	1.7-	11.0-	94.8cde	91.0ab
10	Moddus Evo	400ml/ha	C	10.8bc	64.1a	1.0-	11.0-	98.5a	90.7ab
11	Urea	100kg/ha	A	11.6a	62.1e	2.2-	11.3-	93.7de	89.8ab
12	Moddus Evo Urea	400ml/ha 100kg/ha	B A	11.5a	62.5de	2.8-	11.0-	92.2e	99.2a
			LSD P=	0.52	0.89	0.16t	0.26	4.21t	10.19
			Treatment Prob.(F)=	0.0053	0.0047	nsd	nsd	0.0069	0.0122

ET8 # Treatment 8 Test Weight had high variability between reps and was excluded from analysis but mean is still presented

Assessment Type
- NDVI = Normalized difference vegetation index
- N RECOVERY = Nitrogen Recovery in grain kg N/ha

Crop Stage Majority
- 41 = Early boot stage: flag leaf sheath extending
- 55 = Middle of heading: half of inflorescence emerged
- 61 = Beginning of flowering: first anthers visible
- 65 = Full flowering: 50% of anthers mature
- 69 = End of flowering: all spikelets have finished flowering, some dry anthers remain
- 71 = Watery ripe: first grains have reached half their final size
- 85 = Soft dough: grain content soft but dry. Fingernail impression not held
- 87 = Hard dough: grain content solid. Fingernail impression held

ARM Action Codes
- ER3 = Excluded replicate 3
- AA = Automatic arcsine square root % transformation
- AS = Automatic square root transformation of X+0.5
- ET7 = Excluded treatment 7
- ET8 = Excluded treatment 8
- AL = Automatic log transformation of X+1
- T1 = (([C10]/0.216)*100)/1000
- T2 = [11]*[12]*1.75

DAB = Days after Application B

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Application Description			
	A	B	C
Application Date:	1/07/2016	4/07/2016	29/07/2016
Application Start Time:	11:00 AM	10:05 AM	10:55 AM
Application Stop Time:	11:10 AM	11:15 AM	11:20 AM
Application Method:	SPREAD	SPRAY	
Application Timing:	RECOMMENDED	GS30	GS37
Application Placement:	SOIL	FOLIAR	
Air Temperature, Unit:		17 C	17 C
% Relative Humidity:		64	67
Wind Velocity, Unit:		5 m/s	0.5 m/s
Wind Direction:		NNE	NE
Dew Presence (Y/N):	No		
Soil Moisture:	GOOD		
% Cloud Cover:	0	20	0
Next Moisture Occurred On:	5/07/2016		3/08/2016
Time to Next Moisture, Unit:	22 mm		1.8 mm

Application Equipment			
	A	B	C
Application Equipment:	Hand Spread	Quad Bike	
Equipment Type:		BOOM SPRAY	
Operation Pressure, Unit:		300 kPa	
Nozzle Type:		AIXR	
Nozzle Size:		015	
Nozzle Spacing, Unit:		50 cm	
Nozzles/Row:		4	
Boom Length, Unit:		4 m	
Boom Height, Unit:		50 cm	
Ground Speed, Unit:		7.2 km/h	
Spray Volume, Unit:		100 L/ha	