

Project: N for protein - Timing & Method

Trial: AM1308

District: Narrabri

Planting date: 30/05/2013

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.

Application Timing	Date	Crop stage
T1	30/05/2013	Planting
T2	26/07/2013	GS30
T3	31/08/2013	GS39
T4	12/09/2013	GS45
T5	25/09/2013	GS65
T6	4/10/2013	GS69+

Trt No.	Variety	Product	Units of N applied (kg/ha)	Method of application	Timing of application	21/06/2013 Emergence Plants/m ²	30/07/2013 NDVI	8/11/2013 Yield		
								kg/ha	% of Untreated	
1	Suntop	Untreated	-	-	-	43 cdef	0.76 cde	2769 bcd	-	
2	Suntop	Urea	40	IBS	T1	42 cdef	0.72 cde	2763 bcd	100	
3	Suntop	Urea	20 + 20	IBS & Spread	T1 & T2	47 bcde	0.74 cde	2694 bcd	97	
4	Suntop	Urea	40	Spread	T2	36 f	0.68 de	2575 cd	93	
5	Suntop	Urea	40	Spread	T3	47 bcde	0.76 cd	2850 abcd	103	
6	Suntop	Liquid Urea	40	StreamJet	T3	47 bcde	0.76 cd	2988 ab	108	
7	Suntop	Liquid Urea	40	Foliar	T3	42 cdef	0.75 cde	2625 bcd	95	
8	Suntop	Urea	40	Spread	T4	46 bcdef	0.73 cde	2938 abc	106	
9	Suntop	Liquid Urea	40	StreamJet	T4	50 abcd	0.77 bc	2838 abcd	102	
10	Suntop	Liquid Urea	40	Foliar	T4	43 cdef	0.76 cd	2850 abcd	103	
11	Suntop	Urea	40	Spread	T5	40 def	0.72 cde	2525 d	91	
12	Suntop	Liquid Urea	40	StreamJet	T5	42 cdef	0.77 cd	2931 abc	106	
13	Suntop	Liquid Urea	40	Foliar	T5	42 cdef	0.67 e	2831 abcd	102	
14	Suntop	Urea	40	Spread	T6	38 ef	0.75 cde	2863 abcd	103	
15	Suntop	Liquid Urea	40	StreamJet	T6	39 ef	0.76 cd	2875 abcd	104	
16	Suntop	Liquid Urea	40	Foliar	T6	43 cdef	0.73 cde	2875 abcd	104	
17	EGA Gregory	Untreated	-	-	-	51 abc	0.88 a	2944 abc	-	
18	Sunvale	Untreated	-	-	-	51 abcd	0.85 ab	2481 d	-	
19	Spitfire	Untreated	-	-	-	60 a	0.87 a	3231 a	-	
20	Merlin	Untreated	-	-	-	56 ab	0.87 a	3219 a	-	
						P =	0.00	0.00	0.03	
						LSD =	log transformation	0.09	401	
						CV =			10.0	

Trt No.	Variety	Product	Units of N applied (kg/ha)	Method of application	Timing of application	Grain Quality				
						Protein %	Moisture %	Test Weight kg/hL	Screenings %	N Recovery kg N/ha
1	Suntop	Untreated	-	-	-	13.2 d	8.8	72	19 bcde	64 bc
2	Suntop	Urea	40	IBS	T1	13.5 bcd	8.9	69	21 abcd	65 bc
3	Suntop	Urea	20 + 20	IBS & Spread	T1 & T2	13.8 b	9.0	69	22 abcd	65 bc
4	Suntop	Urea	40	Spread	T2	13.6 bcd	8.8	71	21 abcd	61 bc
5	Suntop	Urea	40	Spread	T3	13.4 bcd	8.9	70	23 ab	67 bc
6	Suntop	Liquid Urea	40	StreamJet	T3	13.3 bcd	8.8	73	20 abcde	70 b
7	Suntop	Liquid Urea	40	Foliar	T3	13.5 bcd	8.9	68	21 abcd	62 bc
8	Suntop	Urea	40	Spread	T4	13.3 bcd	8.9	70	22 abcd	69 b
9	Suntop	Liquid Urea	40	StreamJet	T4	13.4 bcd	8.9	74	17 de	66 bc
10	Suntop	Liquid Urea	40	Foliar	T4	13.6 bcd	8.7	70	20 abcde	68 bc
11	Suntop	Urea	40	Spread	T5	13.4 bcd	8.8	69	22 abcd	59 c
12	Suntop	Liquid Urea	40	StreamJet	T5	13.2 d	8.9	70	19 bcde	68 bc
13	Suntop	Liquid Urea	40	Foliar	T5	13.5 bcd	8.8	70	19 bcde	67 bc
14	Suntop	Urea	40	Spread	T6	13.4 bcd	8.9	71	23 abc	67 bc
15	Suntop	Liquid Urea	40	StreamJet	T6	13.5 bcd	8.9	72	20 abcde	68 bc
16	Suntop	Liquid Urea	40	Foliar	T6	13.7 bc	8.9	70	22 abcd	69 b
17	EGA Gregory	Untreated	-	-	-	13.3 cd	8.8	69	11 f	69 b
18	Sunvale	Untreated	-	-	-	15.2 a	8.8	70	24 a	66 bc
19	Spitfire	Untreated	-	-	-	15.0 a	8.7	73	16 ef	85 a
20	Merlin	Untreated	-	-	-	15.2 a	8.9	72	17 cde	85 a
					P =	<0.01	0.13	0.23	<0.01	<0.01
					LSD =	0.44	nsd	nsd	5.23	9.26

T3 - 31/8/2013

Irrigation of 60mm took several days in the last week of August due to pumping logistics. Ranges 5-8 done at start of week, Ranges 1-4 done at end of week

So at T3 Ranges 1-4 were still quite wet at application (small amount of moisture still on the leaves). Nitrogen crystals formed on the leaves after the foliar application.

T4 - 12/9/2013

Leaf tip burn evident from T3 Foliar Application.

T5 25/09/2013

30mm Irrigation on 26/09/2013-27/9/2013 (very windy conditions)

Factorial Analysis (Treatments 5 - 16)		8/11/2013	
		Yield	
		kg/ha	% of Untreated
Method of application	Foliar	2795	101
	Spread	2908	105
	StreamJet	2794	101
P =		0.46	
LSD =		nsd	
Timing of Application	T3	2821	102
	T4	2875	104
	T5	2763	100
	T6	2871	104
P =		0.77	
LSD =		nsd	
Method x Timing interaction			
P =		0.46	
LSD =		nsd	

Factorial Analysis (Treatments 5 - 16)		Grain Quality				
		Protein %	Moisture %	Test Weight kg/hL	Screenings %	N Recovery kg N/ha
Method of application	Foliar	13.6	8.8	70 b	21 ab	66
	Spread	13.3	8.9	72 a	19 b	68
	StreamJet	13.4	8.9	70 ab	23 a	65
P =		0.09	0.46	0.03	0.04	0.58
LSD =		nsd	nsd	2.0	2.7	nsd
Timing of Application	T3	13.4	8.9	70.5	21.7	66.0
	T4	13.4	8.8	71.3	19.8	67.5
	T5	13.4	8.8	69.8	20.0	64.6
	T6	13.5	8.9	70.9	21.8	67.9
P =		0.68	0.77	0.63	0.45	0.61
LSD =		nsd	nsd	nsd	nsd	nsd
Method x Timing interaction						
P =		0.97	0.30	0.72	0.97	0.45
LSD =		nsd	nsd	nsd	nsd	nsd