



# 2015 Cotton Harvest Aid Evaluation Nolan County Dryland

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# 2015 Harvest Aid Evaluation Nolan Co - Dryland

Applied in two areas of the field. One (dry) area, turning brown; and another still (green).

Trt No.	Treatment Name	Rate	Rate Unit	Total Product Price/acre	7 DAY			14 DAY			
					% Def	% DES	% GL	% Def	% DES	% GL	% Regrowth
1	Ginstar	4 fl oz/a		\$7.91	30	15	55	45	10	35	20
1	Ethephon	16 fl oz/a			top scores (green)						
1	Non-Ionic Surfactant	0.25% v/v			50	10	40	70	10	20	10
2	Ginstar	4 fl oz/a		\$9.28	35	15	50	70	10	20	20
2	Ethephon	16 fl oz/a			lower scores (dry)						
2	Crop Oil Concentrate	1% v/v			35	15	50	55	15	30	10
3	Adios	4 fl oz/a		\$6.31	20	20	60	55	15	30	30
3	Ethephon	16 fl oz/a			35	20	45	45	20	35	20
3	Non-Ionic Surfactant	0.25% v/v									
4	Adios	4 fl oz/a		\$7.68	35	15	50	65	10	25	30
4	Ethephon	16 fl oz/a			35	15	50	50	10	40	20
4	Crop Oil Concentrate	1% v/v									
5	Ginstar	4 fl oz/a		\$5.41	5	5	90	30	15	55	20
5	Non-Ionic Surfactant	0.25% v/v			15	15	70	30	10	60	20
6	Display	0.6 fl oz/a		\$5.58	10	45	45	50	20	30	30
6	Ethephon	16 fl oz/a			35	25	40	60	15	25	30
6	Crop Oil Concentrate	1% v/v									
7	ETX	1.25 fl oz/a		\$6.97	30	45	25	75	10	15	35
7	Ethephon	16 fl oz/a			25	25	50	65	15	20	30
7	Crop Oil Concentrate	1% v/v									
8	Aim	1 fl oz/a		\$5.40	30	45	25	50	20	30	30
8	Ethephon	16 fl oz/a			20	25	55	55	15	30	40
8	Crop Oil Concentrate	1% v/v									
9	Sharpen	0.75 fl oz/a		\$7.83	20	55	25	50	30	20	50
9	Ethephon	16 fl oz/a									
9	Ams	1.7 lb/a									
9	MSO	1% v/v			45	15	40	70	15	15	50

# 2015 Harvest Aid Evaluation Nolan Co - Dryland

10	Sharpen	0.75 fl oz/a		10	65	25	50	40	10	65
10	Ams	1.7 lb/a	\$5.33							
10	MSO	0.5% v/v		35	35	30	75	15	10	60
11	Ethephon	16 fl oz/a		30	10	60	30	10	60	60
11	Folex	16 fl oz/a	\$11.56							
11	Non-Ionic Surfactant	0.25% v/v		25	10	65	50	10	40	60
12	Aim	1 fl oz/a		5	95	0	10	90	0	50
12	Gramoxone SL	16 fl oz/a	\$4.18							
12	Non-Ionic Surfactant	0.25% v/v		15	75	10	65	25	10	70
13	Gramoxone SL	4 fl oz/a	\$2.66	5	30	65	10	30	60	70
13	Crop Oil Concentrate	1% v/v		10	20	70	60	20	20	90
14	Gramoxone SL	8 fl oz/a	\$3.32	10	40	50	20	30	50	70
14	Crop Oil Concentrate	1% v/v		25	40	35	60	30	10	90
15	Gramoxone SL	16 fl oz/a		7.5	77.5	15	25	65	10	75
15	Ams	1.7 fl oz/a	\$5.14							
15	Crop Oil Concentrate	1% v/v		40	40	20	50	40	10	100
16	Gramoxone SL	16 fl oz/a	\$4.62	5	85	10	20	75	5	70
16	Crop Oil Concentrate	1% v/v		50	40	10	70	20	10	90
17	Gramoxone SL	16 fl oz/a		5	90	5	15	85	0	60
17	Direx	0.5 fl oz/a	\$4.70							
17	Crop Oil Concentrate	1% v/v		35	60	5	50	50	0	50
18	Gramoxone SL	16 fl oz/a	\$3.28	5	90	5	15	85	0	65
18	Non-Ionic Surfactant	0.25% v/v		30	60	10	50	40	10	80

# Application

2015 Harvest Aid Evaluation Nolan Co Irrigated	
Application Information	
Application Dates:	
App. Code A:	10/7/2015
Cooperator:	Kim Alexander
GPS Coord. 32° 26' 28" N, 100° 33' 1" W	Roscoe, Texas
Variety:	
Time:	11:00 - 3:00 pm
Temp (°F):	92°F
% RH:	
Wind Speed (mph) & Direction	1.6-6.7 mph / East
Row Spacing("):	40"
Plot width (rows)	4
Plot length	Replicated 50 feet
% Open	95-100%
Plant Height (mean inches)	24-30
Sprayer Information	Spider Sprayer
	10 gpa / 8002 Turbo Teejet
	32 psi
	4 mph

# Climate

Daily Temperatures			
Date	Low	High	GDD 60
10/7/2015	62	87	14.5
10/8/2015	64	82	13.0
10/9/2015	64	82	13.0
10/10/2015	56	90	13.0
10/11/2015	61	98	19.5
10/12/2015	63	91	17.0
10/13/2015	46	98	12.0
10/14/2015	52	98	15.0
10/15/2015	64	96	20.0
10/16/2015	57	82	9.5
10/17/2015	50	88	9.0
10/18/2015	59	84	11.5
10/19/2015	58	76	7.0
10/20/2015	61	81	11
		total	185
Rain			
10/7/2015	0.11		
10/8/2015	0.06		
10/9/2015	0.01		
	total	0.18	inches

# 7 Day Summary

Nolan Co. (Roscoe) Dryland 7 day

- Plants were average height with 99 open bolls and very little top or lower regrowth. Two locations of the field were sprayed a green area on the south and a dryer area on the north. This was to get replicated data for science (STEM) students at Roscoe Independent School District.
- Slight differences were seen between Ginstar and Adios treatments, the use of crop oil concentrate appeared to improve defoliation. A Ginstar treatment without ethephon performed very poorly with 5% leaf drop and 90% green leaf in the greener cotton. The application of Ginstar alone to more desiccated cotton defoliated at 15%
- PPO products defoliated between 10 and 45% depending on the area in field. A treatment of Sharpen without Ethephon did not do as well in the green area as in the dry area
- The Ethephon and Folex treatment was on par with both the Ginstar and PPO treatments
- Numerous comparisons with Gramoxone showed that the rates below 16 fl oz were inadequate and the drier area of the field responded with a higher defoliation percentage. Differences were very small with the use of Crop Oil compared to Non-Ionic Surfactant and with additions of Aim, AMS , or Diuron at 7 days after treatment.



7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	30	30	Ginstar	4	fl oz/a
% Desiccation	15	10	Ethephon	16	fl oz/a
% Green Leaf	55	40	Non-Ionic Surfactant	0.25%	v/v



7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	35	35	Ginstar	4	fl oz/a
% Desiccation	15	15	Ethephon	16	fl oz/a
% Green Leaf	50	50	Crop Oil Concentrate	1%	v/v





<u>7 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	20	35	Adios	4	fl oz/a
% Desiccation	20	20	Ethephon	16	fl oz/a
% Green Leaf	60	45	Non-Ionic Surfactant	0.25%	v/v



<u>7 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	35	35	Adios	4	fl oz/a
% Desiccation	15	15	Ethephon	16	fl oz/a
% Green Leaf	50	50	Crop Oil Concentrate	1%	v/v



7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	5	15	Ginstar	4	fl oz/a
% Desiccation	5	15	Non-Ionic Surfactant	0.25%	v/v
% Green Leaf	90	70			



7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	10	35	Display	0.6	fl oz/a
% Desiccation	45	25	Ethephon	16	fl oz/a
% Green Leaf	45	40	Crop Oil Concentrate	1%	v/v



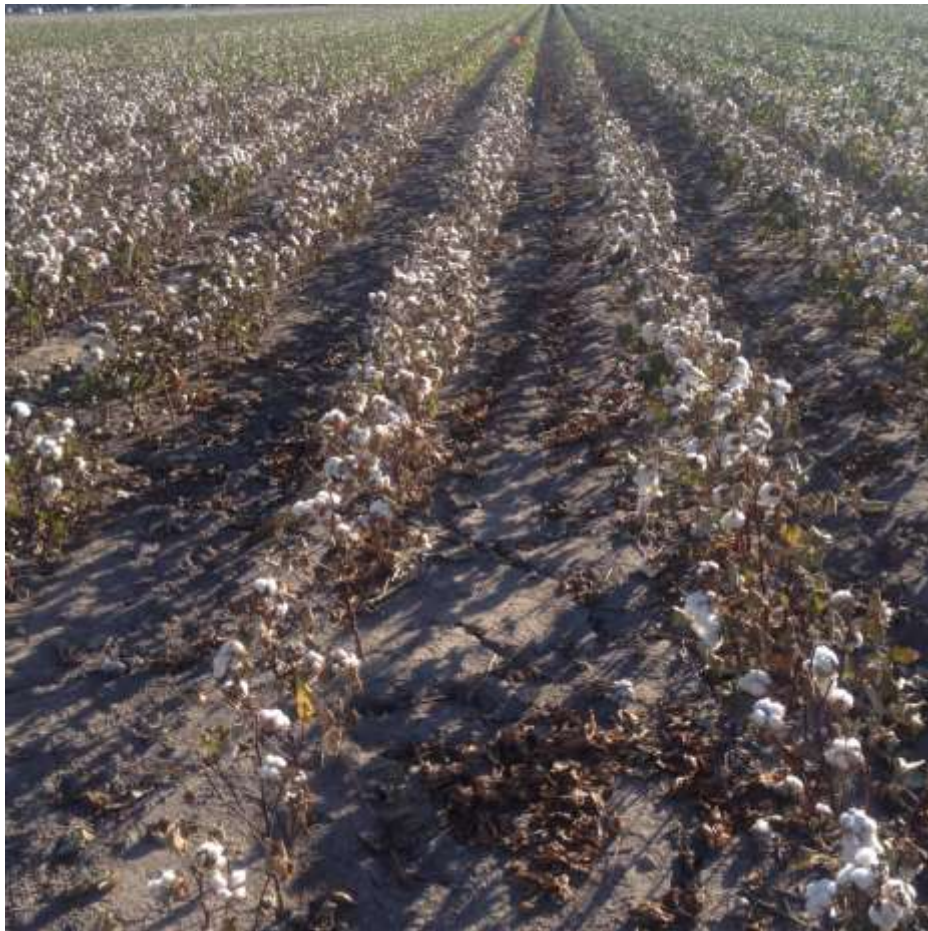
7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	30	25	ETX	1.25	fl oz/a
% Desiccation	45	25	Ethephon	16	fl oz/a
% Green Leaf	25	50	Crop Oil Concentrate	1%	v/v



7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	30	20	Aim	1	fl oz/a
% Desiccation	45	25	Ethephon	16	fl oz/a
% Green Leaf	25	50	Crop Oil Concetrate	1%	v/v



7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	20	45	Sharpen	0.75	fl oz/a
% Desiccation	55	15	Ethephon	16	fl oz/a
% Green Leaf	25	40	Ams	1.7	lb/a
			MSO	1%	v/v



7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	10	35	Sharpen	0.75	fl oz/a
% Desiccation	65	35	Ams	1.7	lb/a
% Green Leaf	25	30	MSO	0.5%	v/v





7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	30	25	Ethephon	16	fl oz/a
% Desiccation	10	10	Folex	16	fl oz/a
% Green Leaf	60	65	Non-Ionic Surfactant	0.25%	v/v



<u>7 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	5	15	Aim	1	fl oz/a
% Desiccation	95	75	Gramoxone SL	16	fl oz/a
% Green Leaf	0	10	Non-Ionic Surfactant	0.25%	v/v



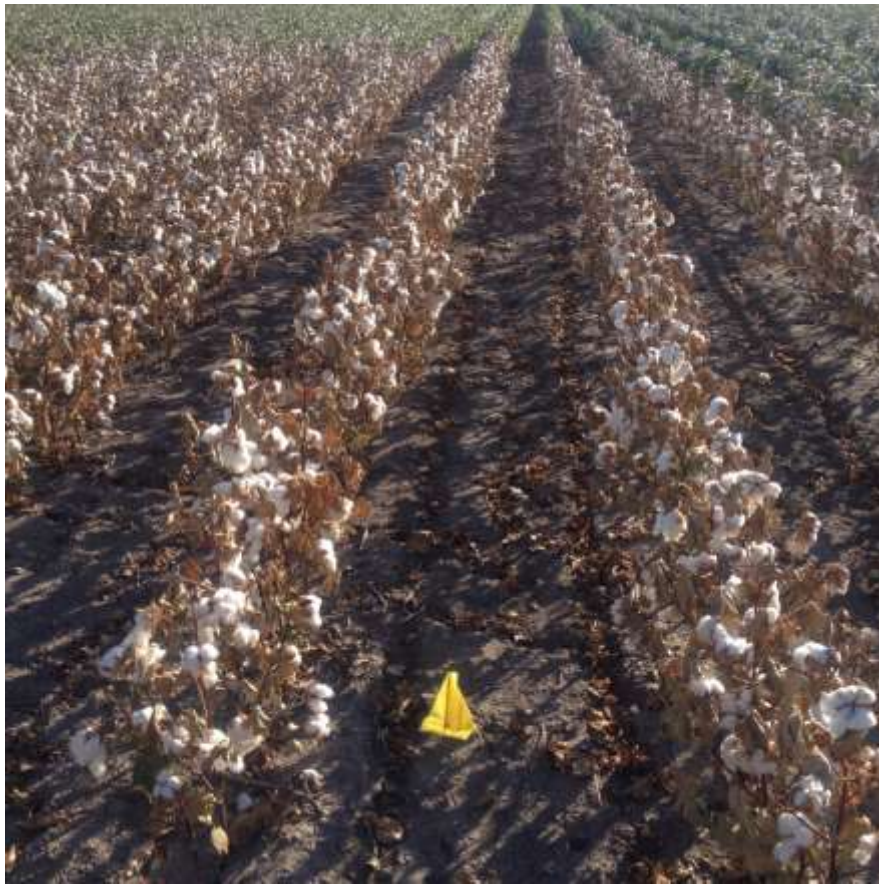
7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	5	10	Gramoxone SL	4	fl oz/a
% Desiccation	30	20	Crop Oil Concentrate	1%	v/v
% Green Leaf	65	70			



<u>7 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	10	25	Gramoxone SL	4	fl oz/a
% Desiccation	40	40	Crop Oil Concentrate	1%	v/v
% Green Leaf	50	50			



<u>7 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	7.5	40	Gramoxone SL	16	fl oz/a
% Desiccation	77.5	40	Ams	1.7	lb/a
% Green Leaf	15	20	Crop Oil Concentrate	1%	v/v



<u>7 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	5	50	Gramoxone SL	16	fl oz/a
% Desiccation	85	40	Crop Oil Concentrate	1%	v/v
% Green Leaf	10	10			



7 Day Rating	Green	Dry	Treatment Name	Rate	Rate Unit
% Defoliation	5	35	Gramoxone SL	16	fl oz/a
% Desiccation	90	60	Direx	0.5	fl oz/a
% Green Leaf	5	5	Crop Oil Concentrate	1%	v/v



<u>7 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	5	30	Gramoxone SL	16	fl oz/a
% Desiccation	90	60	Non-Ionic Surfactant	0.25%	v/v
% Green Leaf	5	10			



# 14 Day Summary

Plants were average height (24-30") for the area with 99% open bolls and very little top or lower regrowth. Two locations of the field were sprayed, a green area on the south and a dryer area on the north. This was to get replicated data for science (STEM) students at Roscoe Independent School District. Some differences were observed between green and dryer treated areas.

- The plots in the dryer area defoliated better for most treatments. Presumably, because plants were more senesced and ready to defoliate.
- Slight differences were seen between Ginstar and Adios treatments. The use of crop oil concentrate appeared to improve defoliation with both products in most plots. A Ginstar treatment without ethephon performed very poorly with 30% leaf drop and 60% green leaf in the greener cotton. Regrowth was very minimal with the Ginstar and Adios Treatments.
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- PPO products defoliated between 50 and 75% depending on the area in field. As with the Ginstar treatments the dry block had a better defoliation response. Treatments with Sharpen and ETX scored better for defoliation but regrowth was greater with Sharpen. A treatment of Sharpen without ethephon performed well but regrowth averaged 60% and was the highest of the PPO's and was approaching the range of the Gramoxone treatments.
- The Ethephon and Folex treatment dropped in ranking from 7 days and had regrowth of 60%.
- Numerous comparisons with Gramoxone showed that the rates below 16 fl oz were inadequate in green areas of the field and probably should have been increased above 16 fl oz. As with the other products, the drier area of the field responded with a higher defoliation percentage but more regrowth. 4 and 8 fl oz of Gramoxone actually defoliated better than 60% in the dry area. Differences were very small with the use of Crop Oil compared to Non-Ionic Surfactant. The addition of AMS did not show an advantage but adding Aim and Diuron appeared to have improved performance and lessened regrowth.



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	45	70	Ginstar	4	fl oz/a
% Desiccation	10	10	Ethephon	16	fl oz/a
% Green Leaf	35	20	Non-Ionic Surfactant	0.25%	v/v
% Regrowth	20	10			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	70	55	Ginstar	4	fl oz/a
% Desiccation	10	15	Ethephon	16	fl oz/a
% Green Leaf	20	30	Crop Oil Concentrate	1%	v/v
% Regrowth	20	10			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	55	45	Adios	4	fl oz/a
% Desiccation	15	20	Ethephon	16	fl oz/a
% Green Leaf	30	35	Non-Ionic Surfactant	0.25%	v/v
% Regrowth	30	20			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	65	50	Adios	4	fl oz/a
% Desiccation	10	10	Ethephon	16	fl oz/a
% Green Leaf	25	40	Crop Oil Concentrate	1%	v/v
% Regrowth	30	20			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	30	30	Ginstar	4	fl oz/a
% Desiccation	15	10	Non-Ionic Surfactant	0.25%	v/v
% Green Leaf	55	60			
% Regrowth	20	20			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	50	60	Display	0.6	fl oz/a
% Desiccation	20	15	Ethephon	16	fl oz/a
% Green Leaf	30	25	Crop Oil Concentrate	1%	v/v
% Regrowth	30	30			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	75	65	ETX	1.25	fl oz/a
% Desiccation	10	15	Ethephon	16	fl oz/a
% Green Leaf	15	20	Crop Oil Concentrate	1%	v/v
% Regrowth	35	30			





<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	50	55	Aim	1	fl oz/a
% Desiccation	20	15	Ethephon	16	fl oz/a
% Green Leaf	30	30	Crop Oil Concetrate	1%	v/v
% Regrowth	30	40			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	50	70	Sharpen	0.75	fl oz/a
% Desiccation	30	15	Ethephon	16	fl oz/a
% Green Leaf	20	15	Ams	1.7	lb/a
% Regrowth	50	50	MSO	1%	v/v



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	50	75	Sharpen	0.75	fl oz/a
% Desiccation	40	15	Ams	1.7	lb/a
% Green Leaf	10	10	MSO	0.5%	v/v
% Regrowth	65	60			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	30	50	Ethephon	16	fl oz/a
% Desiccation	10	10	Folex	16	fl oz/a
% Green Leaf	60	45	Non-Ionic Surfactant	0.25%	v/v
% Regrowth	60	60			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	10	65	Aim	1	fl oz/a
% Desiccation	90	25	Gramoxone SL	16	fl oz/a
% Green Leaf	0	10	Non-Ionic Surfactant	0.25%	v/v
% Regrowth	50	70			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	10	60	Gramoxone SL	4	fl oz/a
% Desiccation	30	20	Crop Oil Concentrate	1%	v/v
% Green Leaf	60	20			
% Regrowth	70	90			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	20	60	Gramoxone SL	4	fl oz/a
% Desiccation	30	30	Crop Oil Concentrate	1%	v/v
% Green Leaf	50	10			
% Regrowth	70	90			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	25	50	Gramoxone SL	16	fl oz/a
% Desiccation	65	40	Ams	1.7	lb/a
% Green Leaf	10	10	Crop Oil Concentrate	1%	v/v
% Regrowth	75	100			





<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	20	70	Gramoxone SL	16	fl oz/a
% Desiccation	75	20	Crop Oil Concentrate	1%	v/v
% Green Leaf	5	10			
% Regrowth	70	90			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	15	50	Gramoxone SL	16	fl oz/a
% Desiccation	85	50	Direx	0.5	fl oz/a
% Green Leaf	0	0	Crop Oil Concentrate	1%	v/v
% Regrowth	60	50			



<u>14 Day Rating</u>	<u>Green</u>	<u>Dry</u>	<u>Treatment Name</u>	<u>Rate</u>	<u>Rate Unit</u>
% Defoliation	15	50	Gramoxone SL	16	fl oz/a
% Desiccation	85	40	Non-Ionic Surfactant	0.25%	v/v
% Green Leaf	0	10			
% Regrowth	65	80			