

North Carolina State University

PREEMERGENCE SMOOTH CRABGRASS CONTROL IN TALL FESCUE WITH VARIOUS RONSTAR FORMULATIONS

Trial ID: 04-T18 Study Director: L.S. WARREN
Location: NC WESLEYAN COLLEGE Investigator: Fred Yelverton

General Trial Information

Study Director: L.S. WARREN **Title:** RESEARCH ASSOCIATE
Affiliation: NORTH CAROLINA STATE UNIVERSITY
Postal Code: 27695 **E-mail:** leon_warren@ncsu.edu
Investigator: Fred Yelverton **Title:** PROFESSOR
Affiliation: NORTH CAROLINA STATE UNIVERSITY
Postal Code: 27695 **E-mail:** fred_yelverton@ncsu.edu

Trial Location

City: ROCKY MT. **Trial Status:** COMPLETED
State/Prov.: NC **Initiation Date:** 3-4-04
Country: USA
Directions:

Objectives:

TO EVALUATE THE EFFICACY OF VARIOUS OXADIAZON FORMULATIONS FOR PREEMERGENCE SMOOTH CRABGRASS CONTROL IN TALL FESCUE WHEN APPLIED NORMAL VS LATE TIMING

Conclusions:

Cooperator/Landowner

Cooperator: STEVE SPARKS **Country:** USA
Organization: NC WESLEYAN COLLEGE **Phone No:** 252/985-5222
City: ROCKY MT.
State/Prov: NC

Crop Description

Crop 1: FESAR Festuca arundinacea Tall fescue
Variety: KENTUCKY 31
BBCH Scale: BGRM

Pest Description

Pest 1 Type: W **Code:** DIGIS *Digitaria ischaemum*
Common Name: Crabgrass, smooth

Site and Design

Plot Width, Unit: 5 FT **Site Type:** TURF - RESEARCH
Plot Length, Unit: 8 FT **Tillage Type:** NA
Replications: 4 **Study Design:** Randomized Complete Block

Trial Initiation Comments:

Field Prep./Maintenance:

Soil Description

% OM: 0.81 **Texture:** SANDY LOAM
pH: 5.0
CEC: 4.9 **Fert. Level:** GOOD

Moisture Conditions

Overall Moisture Conditions: MAR 1.98"; APR 2.33"; MAY 3.86"; JUN 5.75"
Closest Weather Station: UPPER COASTAL PLAIN RES STA **Distance:** 4 **Unit:** MI

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Application Description

	A	B
Application Date:	3-4-04	3-29-04
Time of Day:	11-11:45	10:15 AM
Application Method:	SPRAY&DRY	SPREAD
Application Timing:	PRE EARLY	PRE LATE
Application Placement:	BROSOI	BROSOI
Applied By:	L.S. WARREN	L.S. WARREN
Air Temperature, Unit:	79 F	50 F
% Relative Humidity:	53	75
Wind Velocity, Unit:	4.8 MPH	7.0 MPH
Dew Presence (Y/N):	N	N
Soil Temperature, Unit:	58 F	57 F
Soil Moisture:	MOIST	SLIDRY
% Cloud Cover:	0	100

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	FESAR BGRM	FESAR BGRM
Stage Scale Used:	BBCH	BBCH
Height, Unit:	3.0 IN	3.0 IN

Pest Stage At Each Application

	A	B
Pest 1 Code, Disc., Scale:	DIGIS W	DIGIS W
Stage Majority, Percent:	PRE 100	PRE 100
Height, Unit:	0 IN	0 IN
Density, Unit:	0 FT2	0 FT2

Application Equipment

	A	B
Appl. Equipment:	BACSPR	SHAKER JAR
Operating Pressure:	28	
Pressure Unit:	PSI	
Nozzle Type:	FLAT FAN	
Nozzle Size:	XR 8002VS	
Nozzle Spacing, Unit:	10 IN	
Band Width, Unit:	40 IN	
Boom Length, Unit:	40 IN	
Boom Height, Unit:	10 IN	
Ground Speed, Unit:	3 MPH	
Carrier:	WATER	
Spray Volume:	32.5	
Volume Unit:	GPA	
Propellant:	COMCO2	
Tank Mix (Y/N):	N	N

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Pest Type	W Weed									
Pest Code	DIGIS									
Rating Date	7-15-04									
Rating Data Type	CONTROL									
Rating Unit	PERCENT									
Assessed By	YELVERTON									
Days After Last Applic.	108									
Trt-Eval Interval	133 DA-A									
ARM Action Codes	P									
Trt Treatment No. Name	Form Conc	Form Rate	Other Rate	Growth Unit Stage	Appl Code	W Weed DIGIS 7-15-04 CONTROL PERCENT YELVERTON	W Weed DIGIS 8-3-04 CONTROL PERCENT L.S. WARREN	W Weed DIGIS 8-19-04 CONTROL PERCENT L.S. WARREN	W Weed DIGIS 9-2-04 CONTROL PERCENT L.S. WARREN	W Weed DIGIS 9-16-04 CONTROL PERCENT L.S. WARREN
1 OXADIAZON #1	2.0 G	2.0 lb ai/a		MAR 4	A	73.8 f	75.0 a-d	66.3 b-e	67.5 bcd	43.8 de
2 OXADIAZON #1	2.0 G	3.0 lb ai/a		MAR 4	A	83.8 cde	80.0 abc	72.5 a-e	71.3 a-d	62.5 a-e
3 OXADIAZON #2	2.0 G	2.0 lb ai/a		MAR 4	A	76.3 def	66.3 b-e	65.0 cde	51.3 d	33.8 ef
4 OXADIAZON #2	2.0 G	3.0 lb ai/a		MAR 4	A	80.0 c-f	80.0 abc	85.0 a-e	85.0 abc	67.5 a-e
5 OXADIAZON #3	2.0 G	2.0 lb ai/a		MAR 4	A	73.8 f	50.0 de	65.0 cde	51.3 d	46.3 de
6 OXADIAZON #3	2.0 G	3.0 lb ai/a		MAR 4	A	85.0 bcd	87.5 abc	95.0 ab	86.3 abc	91.3 abc
7 OXADIAZON #1	2.0 G	2.0 lb ai/a		MAR 29	B	78.8 c-f	83.8 abc	71.3 a-e	68.8 bcd	72.5 a-d
8 OXADIAZON #1	2.0 G	3.0 lb ai/a		MAR 29	B	75.0 ef	81.3 abc	77.5 a-e	72.5 a-d	45.0 de
9 OXADIAZON #2	2.0 G	2.0 lb ai/a		MAR 29	B	76.3 def	48.8 e	60.0 de	53.8 d	35.0 ef
10 OXADIAZON #2	2.0 G	3.0 lb ai/a		MAR 29	B	80.0 c-f	82.5 abc	88.8 a-d	83.8 abc	62.5 a-e
11 OXADIAZON #3	2.0 G	2.0 lb ai/a		MAR 29	B	75.0 ef	85.0 abc	65.0 cde	67.5 bcd	53.8 de
12 OXADIAZON #3	2.0 G	3.0 lb ai/a		MAR 29	B	95.0 a	97.5 a	97.5 a	97.5 a	95.0 a
13 RONSTAR G	2.0 G	2.0 lb ai/a		MAR 4	A	77.5 def	82.5 abc	68.8 a-e	72.5 a-d	55.0 cde
14 RONSTAR G	2.0 G	3.0 lb ai/a		MAR 4	A	80.0 c-f	91.3 ab	90.0 abc	83.8 abc	80.0 a-d
15 RONSTAR G	2.0 G	2.0 lb ai/a		MAR 29	B	75.0 ef	63.8 cde	57.5 e	63.8 cd	57.5 b-e
16 RONSTAR G	2.0 G	3.0 lb ai/a		MAR 29	B	87.5 abc	93.8 a	97.5 a	97.5 a	93.8 ab
17 RONSTAR WSP	50 WP	2.0 lb ai/a		MAR 4	A	82.5 c-f	85.0 abc	90.0 abc	88.8 abc	80.0 a-d
18 RONSTAR WSP	50 WP	3.0 lb ai/a		MAR 4	A	93.8 ab	93.8 a	93.8 abc	95.0 ab	91.3 abc
19 BARRICADE	65 WG	0.75 lb ai/a		MAR 4	A	95.0 a	98.8 a	97.5 a	97.5 a	92.5 ab
20 CHECK						0.0 g	0.0 f	0.0 f	0.0 e	0.0 f
LSD (P=.05)						9.83	25.62	29.74	27.99	37.28
Standard Deviation						6.95	18.12	21.03	19.80	26.36
CV						9.01	23.74	27.97	27.21	41.89
Grand Mean						77.19	76.31	75.19	72.75	62.94
Bartlett's X2						18.304	51.179	50.984	42.64	32.86
P(Bartlett's X2)						0.37	0.001*	0.001*	0.001*	0.017*
Friedman's X2						46.404	42.771	40.629	46.182	40.704
P(Friedman's X2)						0.001	0.001	0.003	0.001	0.003
Replicate F						6.213	3.112	3.224	2.831	0.798
Replicate Prob(F)						0.0010	0.0333	0.0292	0.0463	0.5002
Treatment F						31.233	6.274	4.572	5.317	3.601
Treatment Prob(F)						0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Trial Comments

GRANULAR FORMULATIONS APPLIED WITH SHAKER JAR WITH HOLES PUNCHED IN LID

04-26-04: DIGIS BEGINNING TO GERMINATE AT 0.25 INCH TALL WITH 1 - 2 LEAVES AND 10+/FT2

05-25-04: TEST AREA DRY, DIGIS STILL ONLY 1 TO 3 LEAF AND 0.5 INCH TALL