

# North Carolina State University

## EFFICACY OF BEACON 75WG FOR POSTEMERGENCE ITALIAN RYEGRASS CONTROL IN TALL FESCUE / KENTUCKY BLUEGRASS TURF

Trial ID: 02-TF1

Study Dir.: F.H. YELVERTON

Location: SLATER TURF FARM

Investigator: Crop Science Department

### GENERAL TRIAL INFORMATION

**Study Director:** F.H. YELVERTON

**Title:** ASSOCIATE PROFESSOR

**Affiliation:** NORTH CAROLINA STATE UNIVERSITY

**Postal Code:** 27695

**Investigator:** LEON WARREN

**Title:** RESEARCH ASSOCIATE

**Affiliation:** NORTH CAROLINA STATE UNIVERSITY

**Postal Code:** 27695

### TRIAL LOCATION

**City:** TRYON

**Trial Status:** COMPLETED

**State/Prov.:** NC

**Postal Code:** 28782

**Initiation Date:** 03-11-02

**Country:** USA

**Angle y-axis to North °:** 0.00

### COOPERATOR/LANDOWNER

**Cooperator:** DAVE SLATER

**Country:** USA

**Org:** SLATER TURF FARM

**Phone No:** 800/737-8873

**Address 1:** 5554 HUNTING COUNTRY ROAD

**Fax No:** 828/894-6042

**City:** TRYON

**State/Prov:** NC

**Postal Code:** 28782

**Conducted Under GLP (Y/N):** N

**Conducted Under GEP (Y/N):** N

**Objective:** TO EVALUATE POSTEMERGENCE APPLICATIONS OF BEACON 75WG FOR ITALIAN RYEGRASS CONTROL IN TALL FESCUE / KENTUCKY BLUEGRASS TURF

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	LOLMU	RYEGRASS, ITALIAN	LOLIUM MULTIFLORUM LAM.

**Crop 1:** FESAR FESCUE, TALL

**Variety:** JAGUAR 3

**Planting Date:** 09-01-01

**Seed Bed:** SMOOTH

**Crop 2:** POAPR BLUEGRASS, KENTUCKY

**Variety:** ABSOLUTE

**Planting Date:** 09-01-01

**Seed Bed:** SMOOTH

### SITE AND DESIGN

**Plot Width, Unit:** 6 FT

**Plot Length, Unit:** 10 FT

**Reps:** 4

**Site Type:** TURF - SODFARM

**Tillage Type:** N/A

**Study Design:** RANDOMIZED COMPLETE BLOCK

**Overall Moisture Conditions:** TEST WAS IRRIGATED AS NEEDED

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### APPLICATION DESCRIPTION

	A
Application Date:	03-11-02
Time of Day:	11:45 AM
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	49 F
% Relative Humidity:	55
Wind Velocity, Unit:	2.6 MPH
Dew Presence (Y/N):	N
Soil Temp., Unit:	48 F
Soil Moisture:	MOIST
% Cloud Cover:	2

### CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	FESAR MOWED
Stage Scale:	NONE
Height, Unit:	3.5 IN
Crop 2 Code, Stage:	POAPR MOWED
Stage Scale:	NONE
Height, Unit:	3.5 IN

### WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	LOLMU 6+ TILL
Stage Scale:	3-4 INCH
Density, Unit:	1-9 FT2

### APPLICATION EQUIPMENT

	A
Appl. Equipment:	BACSPR
Operating Pressure:	28
Nozzle Type:	FLAT FAN
Nozzle Size:	XR11002VS
Nozzle Spacing, Unit:	15 IN
Band Width, Unit:	15 IN
Boom Length, Unit:	60 IN
Boom Height, Unit:	9 IN
Ground Speed, Unit:	2 MPH
Carrier:	WATER
Spray Volume, Unit:	30 GPA
Propellant:	COMCO2
Tank Mix (Y/N):	Y

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							LOLMU P-SUPPRESS PERCENT	LOLMU P-INJURY PERCENT			
Weed Code							03-19-02	04-03-02			
Rating Data Type							8 DA-A	23 DA-A			
Rating Unit							P	P			
Rating Date											
Trt-Eval Interval											
ARM Action Codes											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	BEACON X-77 SPREADER	75	WG L	0.5	OZ WT/A 0.25 % V/V			POST A POST A		16.3 bc	6.3 ef
2	BEACON X-77 SPREADER	75	WG L	0.66	OZ WT/A 0.25 % V/V			POST A POST A		32.5 ab	13.8 de
3	BEACON X-77 SPREADER	75	WG L	0.76	OZ WT/A 0.25 % V/V			POST A POST A		35.0 a	16.3 cd
4	BEACON X-77 SPREADER	75	WG L	0.85	OZ WT/A 0.25 % V/V			POST A POST A		26.3 ab	23.8 c
5	BEACON X-77 SPREADER	75	WG L	1.0	OZ WT/A 0.25 % V/V			POST A POST A		32.5 ab	40.0 b
6	BEACON X-77 SPREADER	75	WG L	1.25	OZ WT/A 0.25 % V/V			POST A POST A		35.0 a	65.0 a
7	CHECK									0.0 c	0.0 f
LSD (P=.05)							17.65	8.45			
Standard Deviation							11.88	5.69			
CV							46.86	24.13			
Bartlett's X2							1.787	7.64			
P(Bartlett's X2)							0.878	0.177			
Replicate F							2.117	3.534			
Replicate Prob(F)							0.1338	0.0359			
Treatment F							4.792	61.675			
Treatment Prob(F)							0.0044	0.0001			

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

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Weed Code							LOLMU	FESAR	FESAR
Rating Data Type							P-CONTRO	C-COLOR	C-COLOR
Rating Unit							PERCENT	1-9SCALE	1-9SCALE
Rating Date							04-17-02	04-03-02	04-17-02
Trt-Eval Interval							37 DA-A	23 DA-A	37 DA-A
ARM Action Codes							P	B	B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Grow Stg	Appl Code
1	BEACON X-77 SPREADER	75	WG L	0.5	OZ WT/A 0.25 % V/V			POST A POST A	
							0.0 d	6.88 a	7.0 a
2	BEACON X-77 SPREADER	75	WG L	0.66	OZ WT/A 0.25 % V/V			POST A POST A	
							0.0 d	6.00 b	7.0 a
3	BEACON X-77 SPREADER	75	WG L	0.76	OZ WT/A 0.25 % V/V			POST A POST A	
							5.0 bc	5.50 b	7.0 a
4	BEACON X-77 SPREADER	75	WG L	0.85	OZ WT/A 0.25 % V/V			POST A POST A	
							2.5 cd	5.75 b	7.0 a
5	BEACON X-77 SPREADER	75	WG L	1.0	OZ WT/A 0.25 % V/V			POST A POST A	
							7.5 b	5.75 b	7.0 a
6	BEACON X-77 SPREADER	75	WG L	1.25	OZ WT/A 0.25 % V/V			POST A POST A	
							26.3 a	4.63 c	7.0 a
7	CHECK								
							0.0 d	7.00 a	7.0 a
LSD (P=.05)							4.79	0.601	0.00
Standard Deviation							3.23	0.405	0.00
CV							54.77	6.82	0.0
Bartlett's X2							0.928	2.846	0.0
P(Bartlett's X2)							0.819	0.584	0.00*
Replicate F							1.000	1.891	0.000
Replicate Prob(F)							0.4155	0.1673	1.0000
Treatment F							34.143	16.273	0.000
Treatment Prob(F)							0.0001	0.0001	1.0000

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Location: SLATER TURF FARM

Investigator: Crop Science Department

							POASS	POASS			
							C-COLOR	C-COLOR			
							1-9SCALE	1-9SCALE			
							04-03-02	04-17-02			
							23 DA-A	37 DA-A			
							B	B			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code		
1	BEACON X-77 SPREADER	75	WG	0.5	OZ WT/A			POST A		7.0 a	7.0 a
			L	0.25	% V/V			POST A			
2	BEACON X-77 SPREADER	75	WG	0.66	OZ WT/A			POST A		7.0 a	7.0 a
			L	0.25	% V/V			POST A			
3	BEACON X-77 SPREADER	75	WG	0.76	OZ WT/A			POST A		7.0 a	7.0 a
			L	0.25	% V/V			POST A			
4	BEACON X-77 SPREADER	75	WG	0.85	OZ WT/A			POST A		7.0 a	7.0 a
			L	0.25	% V/V			POST A			
5	BEACON X-77 SPREADER	75	WG	1.0	OZ WT/A			POST A		7.0 a	7.0 a
			L	0.25	% V/V			POST A			
6	BEACON X-77 SPREADER	75	WG	1.25	OZ WT/A			POST A		7.0 a	7.0 a
			L	0.25	% V/V			POST A			
7	CHECK									7.0 a	7.0 a
LSD (P=.05)							0.00	0.00			
Standard Deviation							0.00	0.00			
CV							0.0	0.0			
Bartlett's X2							0.0	0.0			
P(Bartlett's X2)							0.00*	0.00*			
Replicate F							0.000	0.000			
Replicate Prob(F)							1.0000	1.0000			
Treatment F							0.000	0.000			
Treatment Prob(F)							1.0000	1.0000			

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## Trial Comments

03-11-02: TEST PLOTS WERE 6 X 10 FEET WITH THE CENTER 5 X 10 FEET TREATED  
TREATMENTS APPLIED AT 30 GPA WALKING 2 MPH WITH METRONOME SETTING OF 81

03-19-02: LOLMU NOT ACTUALLY KILLED BUT GROWTH WAS AFFECTED IN ALL TREATED PLOTS  
LOLMU DISCOLORATION VERY SLIGHT IN ALL TREATED PLOTS (5-10%) WITH NO DIFFERENCES BETWEEN  
TREATMENTS (SLIGHT YELLOW GREEN)  
FESAR VERY SLIGHTLY DISCOLORED ALSO (5% SLIGHT REDDISH GREEN APPEARANCE) BUT NOT STUNTED

04-03-02: LOLMU NOT ACTUALLY KILLED BUT WAS DISCOLORED AND STUNTED WITH A PALE GREEN,  
BLEACHED APPEARANCE  
FESAR HAD DARK LESIONS (RUST COLORED) ON AFFECTED LEAVES BUT DID NOT APPEAR TO BE  
UNACCEPTABLY INJURED

04-17-02: LOLMU NOTICEABLY THINNER IN PLOTS TREATED WITH BEACON AT 1.25 OZ/ACRE BUT REMAINING  
LOLMU HAD RECOVERED AND WAS ACTIVELY GROWING WITH NORMAL GREEN COLOR AS WAS THE CASE  
IN ALL TREATED PLOTS  
THERE WERE NO FESAR COLOR DIFFERENCES OBSERVED AT THIS TIME BUT FESAR LEAF BLADES WERE  
MORE NARROW IN PLOTS TREATED WITH BEACON AT 1.25 OZ/ACRE (APPEARANCE NOT CONSIDERED  
OBJECTIONABLE)  
POASS COLOR AND GROWTH CHARACTERISTICS APPEARED UNAFFECTED FROM ANY OF THE TREATMENTS