FRUIT AND NUT CROPS RESEARCH IN TEXAS, 1987

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SUBJECT TOPIC: Grass Control in Orchards With Systemic Herbicides

INVESTIGATOR(S): John A. Lipe - TAEX, Fredericksburg

CROP(S): Pecans

ABSTRACT:

Objectives:

1. Test optimum rates of Roundup for effective kill of Bermudagrass.
2. Compare kill of Bermudagrass with Roundup using varied amounts of solution per acre.
3. Compare kill of Bermudagrass using Roundup at varied solution concentrations.
4. Compare kill of Bermudagrass with Roundup applied at various spray speeds.
5. Compare kill of Bermudagrass by label rates of Roundup, Fusilade and Poast.

General Approach:

Herbicide treatments were applied to Coastal Bermudagrass in a Fredericksburg pecan orchard on June 13, 1986. Treatments were made one week after mowing. Plots were single replicates 51 cm (20 inches) wide by 15 m (50 feet) long.

Treatments were applied using a Solo Backpack sprayer with a TeeJet 8002 flat fan spray tip. Pressure was maintained near 140 KPa (20 PSI). Surfactant (1/2%) was added to each Roundup treatment while crop oil 2.3 l/ha (1 qt/acre) was added to the Fusilade and Poast sprays.

A later set of treatments was applied on July 8, 1986. Treatment size and method of applications was the same as for the earlier treatments. The Bermudagrass was becoming slightly drought stressed and had formed seed heads at that time.

Findings:

Tables 1 and 2 show the results of the treatments applied and visual ratings of results. The most efficient kill of Bermudagrass with succulent regrowth 1 week after mowing was using a 4.8% Roundup concentration; applied at 6.4 Km/hr (4 mph) in 99 l/ha (10.6 gal. of solution per acre).

The same rates gave optimum efficiency in the later treatments.

Roundup gave the best residual kill among the chemicals used.

Table 1. Effects of Roundup, Fusilade and Poast on kill and subsequent regreening of Coastal Bermudagrass when applied at varying rates, speed, and concentrations. Treatments were applied on June 13, 1986, using 8002 spray tips.

Treatments		Spray Solution			Application Speed		Grass kill (%)	Grass Regreening (%)	
l/ha	(qt/acre)	l/ha	(gal/ac)	concen (%)	Km/hr	(mph)	6/26	7/28	9/04
Roundup									
1.2	0.5	99	10.6	1.2	6.4	4	10	85	95
2.3	1.0	197	21.2	1.2	3.2	2	25	70	90
2.3	1.0	98	10.5	2.4	6.4	4	40	50	70
4.7	2.0	197	21.2	2.4	3.2	2	50	15	30
4.7	2.0	99	10.6	4.8	6.4	4	85	10	15
9.3	4.0	197	21.2	4.8	3.2	2	85	5	5
Fusilade 4E									
0.6	0.25	197	21.2	0.3	3.2	2	25	90	95
Poast									
1.7	0.75	197	21.2	0.9	3.2	2	25	90	95

Conversion 2.33 liters/ha equivalent to 1 qt/acre.
Conversion 1.61 kilometers/hr equivalent to 1.0 mph.

Table 2. Effects of Roundup and HOE-39866 on kill of Coastal Bermudagrass and ragweed when applied at varying rates, speed and concentrations. Treatments were applied on July 8, 1986 and % kill was evaluated on July 28, 1986. Regrowth of Bermudagrass was rated on September 4, 1986.

Treatment		Spray Solution			Application Speed		Spray Tip	Grass Kill (%)		Ragweed Kill (%)
Roundup l/ha	(qt/acre)	l/ha	(gal/acre)	Concen (%)	Km/hr	(mph)	Size	July 28	Sept. 4	July 28
0.6	0.25	49	5.3	1.2	6.4	4	11001	20	5	---
1.2	0.50	99	10.6	1.2	3.2	2	11001	40	5	---
1.2	0.50	49	5.3	2.4	6.4	4	11001	15	10	15
1.2	0.50	99	10.6	1.2	6.4	4	11002	20	15	20
2.3	1.0	99	10.6	2.4	3.2	2	11001	60	0	15
2.3	1.0	49	5.3	4.8	6.4	4	11001	50	40	50
2.3	1.0	197	21.2	1.2	3.2	2	11002	15	20	60
2.3	1.0	99	10.6	2.4	6.4	4	11002	70	30	70
2.3	1.0 + Uran (1%)	99	10.6	2.4	6.4	4	11002	75	40	75
2.3	1.0 +Bivert 0.47 l(.5 qt)	99	10.6	2.4	6.4	4	11002	80	30	80
2.3	1.0	197	21.2	1.2	6.4	4	8004	50	30	50
4.7	2.0	99	10.6	4.8	3.2	2	11001	70	50	70
4.7	2.0	197	21.2	2.4	3.2	2	11002	80	30	80
4.7	2.0	99	10.6	4.8	6.4	4	11002	85	85	85
4.7	2.0 + Uran (1%)	197	21.2	2.4	3.2	2	11002	85	70	85
4.7	2.0 +Bivert 0.95 l(1 qt)	197	21.2	2.4	3.2	2	11002	85	40	85
4.7	2.0	395	42.4	1.2	3.2	2	8004	80	60	80
4.7	2.0	197	21.2	2.4	6.4	4	8004	60	60	60
9.3	4.0	197	21.2	4.8	3.2	2	11002	100	95	100
9.3	4.0	395	42.4	2.4	3.2	2	8004	70	70	85
Kg/ha	(lb/acre)									
HOE-39866										
3.5	1.5	99	10.6	8.6	6.4	4	11002	100	50	100
7.0	3.0	197	21.2	8.6	3.2	2	11002	100	70	100