

GEORGIA-02C REPOSE TO GRAMOXONE INTEON

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Introduction

Paraquat was first registered for use in peanut in 1988. All of the original research on paraquat was conducted using varieties that are no longer grown in Georgia such as Florunner. Since paraquat's introduction into the peanut herbicide market, it has been sold under many different trade names/formulations including Gramoxone Super, Gramoxone Max, and Starfire. In 2006, paraquat was commercially available as Gramoxone Inteon (Syngenta) or Firestorm (Chemtura). The objective of this research was to evaluate the response of Georgia-02C to Gramoxone Inteon applied alone or in combination with Basagran (bentazon).

Material and Methods

A field trial was conducted in 2006 at the Ponder Farm located near Ty-Ty, Georgia to evaluate the effects of Gramoxone Inteon on Georgia-02C. The peanuts were planted in twin-rows on May 10. The experiment was designed as a 3 X 4 factorial with 3 herbicide treatments [untreated, Gramoxone Inteon 2SC @ 8 oz/A, and Gramoxone Inteon @ 12 oz/A + Basagran 4SC @ 8 oz/A] and 4 timings [7, 14, 22, and 28 days after peanut cracking (DAC)]. All herbicide treatments included a non-ionic surfactant (80/20) @ 0.25% v/v. The treatments were arranged in a randomized, complete block design with 4 replications. Plot size was 6' (4 rows) X 25'. Herbicide treatments were applied with a hand-held, CO₂-powered, backpack sprayer calibrated to deliver 15 GPA using 11002DG flat-fan nozzle tips. Subjective, visual tomato spotted wilt virus (TSWV) ratings were obtained on September 18. Immediately after inverting, 100 pods were randomly collected from each plot and pod-blasted to determine color. Yield data were obtained by mechanically harvesting each individual plot. All data were subjected to ANOVA and means separated by Fisher's Protected LSD Test at P = 0.10 when appropriate.

Results and Discussion

There was no interaction between herbicide treatment and timing. Consequently, only main effects are discussed.

Treatment Effects: The effects of herbicide treatment, averaged over application timing, are presented in Table 1. Gramoxone and Gramoxone + Basagran had no effect on the incidence of TSWV, peanut yield, and black or brown pod color. Plots treated with Gramoxone or Gramoxone + Basagran had a significantly lower percentage of orange pods and significantly higher percentage of yellow pods.

Timing Effects: The effects of timing, averaged over herbicide treatment, are presented in Table 2. Timing had no effect on TSWV, peanut yield, and black or brown pod color. Herbicides applied at 22 DAC had a significantly higher percentage of orange pods and significantly lower percentage of yellow pods compared to the other timings.

Table 1. The influence of Gramoxone Inteon and Gramoxone Inteon + Basagran on TSWV, yield and pod color of Georgia-02C, 2006.^a

Herbicide ^b	Rate/A	TSWV (%)	Yield (lbs/A)	Pod Color - %			
				Black	Brown	Orange	Yellow
Untreated	--	15	3275	0	2	64	27
Gramoxone Inteon	8.0 oz	12	3352	0	1	59	33
Gramoxone Inteon + Basagran	12.0 oz + 8.0 oz	14	3384	0	2	57	34
LSD 0.10		NS	NS	NS	NS	2	3

^aAveraged over 4 application timings (7 DAC, 14 DAC, 22 DAC, 28 DAC).

^bAll treatments included 80/20 @ 0.25% v/v.

Table 2. The influence of application timing on TSWV, yield, and pod color, of Georgia-02C, 2006.^a

Timing ^b	TSWV (%)	Yield (lbs/A)	Pod Color - %			
			Black	Brown	Orange	Yellow
7 DAC	12	3275	0	1	58	32
14 DAC	13	3413	0	2	58	32
22 DAC	14	3539	0	2	67	27
28 DAC	15	3122	0	2	57	34
LSD 0.10	NS	NS	NS	NS	5	4

^aAveraged over 3 herbicide treatments (untreated, Gramoxone Inteon @ 8 oz/A + 80/20 @ 0.25% v/v, Gramoxone Inteon @ 12 oz/A + Basagran @ 8 oz/A + 80/20 @ 0.25% v/v).

^bDAC = days after peanut cracking.