CONTROLLING SMELLMELON, TALL WATERHEMP AND TEXAS PANICUM IN SOYBEANS

Bruce McDonald, Cooperator, Victoria County (2005)
Joe D. Janak, Victoria County Extension Agent - Ag/NR
Sam Womble, Victoria County Extension Agent - NR
Stephen Biles, Calhoun, Refugio & Victoria Extension IPM Agent
James Grichar, Texas Ag Experiment Station Research Scientist, Beeville, TX

SUMMARY:

In a soybean weed control demonstration several herbicides alone and in combination provided excellent smellmelon, waterhemp and Texas panicum weed control increasing soybean yields 9.7 bu/ac above the untreated check.

OBJECTIVES:

Smellmelon, Cucumis melo (dudaim), is a vining weed that reduces crop yields by competing for sunlight and moisture. Smellmelon also interferes with crop harvest by clogging and fouling pickers and combines with vines. Each plant may produce as many as 40 melons, each containing approximately 400 seed. Mature melons will float, as will the dried sacks of seed following rotting of the melons. This weed has become a serious pest in cotton, sorghum and corn and appears to be increasing. Because there are so many seeds in contaminated fields, new waves of smellmelon seedlings are generated weekly if good soil moisture is present. Growers are now having difficulty in suppressing/ controlling melon problems in all row crops.

1. To identify which herbicide products provide effective control of smellmelons, and their proper growth stages for treatment.

2. To determine how smellmelons could be controlled throughout the growing season, using multiple weed control practices or products with minimal crop injury.

3. To determine the most practical and economic methods considering product and application costs.

MATERIALS/METHODS:

All plots were sprayed with a CO_2 backpack sprayer calibrated to deliver 20 gal/A. PRE applied herbicides were applied on April 12, 2005 after soybeans were planted on April 8, 2005. Roundup was applied EARLY (E) POST 27 days after planting on May 4, 2005 while LATE POST applications were made 47 days after planting on May 25, 2005.

The variety used in this demonstration was Hornbeck 5123 using a conventional method of planting with a 38 inch row spacing.

Weeds desired for control in this demonstration are Smellmelon (*cumme)*, Tall Waterhemp (*amatu)* and Texas Panicum (*pante*.)

RESULT/DISCUSSIONS:

The PRE applied herbicide application was applied before any weeds emerged. At the EARLY POST application, the following weed size/stage was noted: smellmelon cotyledon - 6 leaf; waterhemp 4 - 6 leaf. At the LATE POST application, the following weed size was noted: smellmelon 2 - 8 leaf, waterhemp 4 - 12 leaf. At the POST application, the following weed size was noted; smellmelon 18 -24 inch; and waterhemp 18 - 24 inch growth.

Several herbicide treatments controlled smellmelon, waterhemp and Texas panicum. Prowl plus Pursuit applied PRE provided almost perfect control of both of these weed species and the highest yield of 36.8 bu/ac. Glyphomax 4E alone applied LPOST alos provided excellent control and the second highest yield of 35.7 bu/ac. Prowl applied PRE followed by Glyphomax 4E applied at either 24 or 32 oz/ac EPOST also provided excellent weed control along with Glyphomax 4E applied EPOST and LPOST; and Prowl applied PRE and Glyphomax 4E applied EPOST and LPOST.

Table 1 shows the herbicide treatments, rates and percent control at 56 and 85 days after treatment. It also shows the soybean yield which was affected by percent weed control. Controlling weeds meant 9.7 bu/ac over the untreated check; 36.8 verses 27.1 bu/ac.

ACKNOWLEDGEMENTS:

Appreciation is expressed to contributing chemical companies and Bruce McDonald, cooperator.

DISCLAIMER CLAUSE:

Trade names of commercial products used in this report are included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

Table 1. Evaluation of Texas Smellmelon, Tall Waterhemp and Texas Panicum control with various herbicides. Bruce McDonald, Cooperator, Victoria County, Victoria, TX 2005.

Treatment	Rate/AC	Appl. Growth Stage	% Control [a/]						Yield Bu/ac
			Smellmelon		Tall Waterhemp		Texas Panicum		
			56 DAT	85 DAT	56 DAT	85 DAT	56 DAT	85 DAT	
1 Check			-	-	-	-	-	-	**27.1 c**
2 Prowl 3.3 E	2.4 pt/ac	Pre	88 bc	93 abc	86 abc	89 bc	89 abc	66 bcd	**34.6 ab**
3 Scepter 70 DG	2.8 oz/ac	Post	83 cd	83 bc	98 a	98 a	59 e	20 ef	**30.9 abc**
4 Prowl 3.3 E 4 Pursuit 70 DG	2.4 pt/ac 1.44 oz/ac	Pre	99 a	99 a	97 a	97 a	98 a	98 a	**36.8 a**
5 Prowl 3.3 E 5 Dual Magnum 7.62 E	2.4 pt/ac 1.33 pt/ac	Pre	100 a	95 ab	100 a	100 a	81 bcd	63 d	**32.3 abc**
6 Prowl 3.3 E 6 Valor 51 DG	2.4 pt/ac 3.0 oz/ac	Pre	100 a	99 a	100 a	100 a	80 cd	65 cd	**33.3 abc**
7 Prowl 3.3 E 7 Spartan 4 F	2.4 pt/ac 8 fl oz/ac	Pre	99 a	100 a	100 a	100 a	97 a	92 ab	**31.6 abc**
8 Prowl 3.3 E 8 Python 80 WD	2.4 pt/ac 1.33 oz/ac	Pre	97 ab	96 ab	100 a	99 a	96 ab	88 a- d	**32.5 abc**
9 Prowl 3.3 E 9 Canopy 75 DF	2.4 pt/ac 8 oz/ac	Pre	96 ab	96 ab	99 a	99 a	94 abc	75 a- d	**34.0 ab**
10 Prowl 3.3 E 10 First Rate 84 WD	2.4 pt/ac 0.75 oz/ac	Pre	100 a	100 a	98 a	98 a	97 a	91 abc	**34.3 ab**
11 Boundary 7.8 L	2.5 pt/ac	Pre	75 de	80 c	95 ab	98 a	91 abc	81 a- d	**34.6 ab**
12 Domain 60 DF	16 oz/ac	Pre	60 f	45 d	75 c	85 c	72 d	63 d	**30.3 abc**
13 Prowl 3.3 E 13 Ultra Blazer 2 S 13 Induce	2.4 pt/ac 1.5 pt/ac 0.25%V/V	Pre LPost	100 a	100 a	98 a	96 ab	91 abc	77 a- d	**32.9 abc**
14 Prowl 3.3 E 14 Classic 25 DF 14 R-11	2.4 pt/ac 0.75 oz/ac 0.25% V/V	Pre LPost	100 a	100 a	100 a	100 a	94 abc	85 a-d	**30.8 abc**
15 Prowl 3.3 E 15 Cobra 2 E 15 R-11	2.4 pt/ac 12.5 oz/ac 0.25% V/V	Pre LPost	98 a	98 a	100 a	99 a	94 abc	80 a- d	**33.0 abc**
16 Prowl 3.3 E 16 First Rate 84 WD 16 R-11	2.4 pt/ac 0.3 oz/ac 0.25% V/V	Pre LPost	100 a	100 a	79 bc	100 a	88 abc	61 d	**31.1 abc**
17 Prowl 3.3 E 17 Reflex 2 E 17 Induce	2.4 pt/ac 1.5 pt/ac 1 qt/ac	Pre Lpost	100 a	93 abc	100 a	100 a	87 abc	61 d	**29.9 bc**
18 Glyphomax 4E	32 oz/ac	EPost	73 e	83 bc	76 c	89 bc	43 f	31 e	**32.2 abc**
19 Glyphomax 4E	32 oz/ac	LPost	99 a	100 a	98 a	100 a	100 a	99 a	**35.8 ab**
20 Prowl 3.3 E 20 Glyphomax 4E	2.4 pt/ac 32 oz/ac	Pre EPost	100 a	100 a	100 a	100 a	100 a	100 a	**33.5 abc**
21 Glyphomax 4E 21 Glyphomax 4E	32 oz/ac 32 oz/ac	EPost LPost	100 a	100 a	100 a	100 a	99 a	99 a	**33.2 abc**
22 Prowl 3.3 E 22 Glyphomax 4E 22 Glyphomax 4E	2.4 pt/ac 32 oz/ac 32 oz/ac	Pre EPost LPost	100 a	100 a	100 a	100 a	100 a	100 a	**33.5 abc**
23 Prowl 3.3 E 23 Glyphomax 4E	2.4 pt/ac 24 oz/ac	Pre EPost	100 a	100 a	100 a	100 a	100 a	100 a	**33.3 abc**
24 Prowl 3.3 E 24 Scepter 70 DG 24 Induce	2.4 pt/ac 2.8 oz/ac 0.25% V/V	Pre Post	100 a	100 a	98 a	97 a	96 a	87 a- d	**31.0 abc**

a/ Weed control evaluations were recorded at 56 and 85 DAT (days after treatment). Percent control numbers followed by the same letter are not statistically different from each other.