

University of Georgia

Evaluating methyl bromide alternatives in large acreage on farm trials.

(MB vs. 3 way)

Trial ID: Veg37-06

Study Dir.: Russ Hamilin

Location: Coggins (McLeoud)

Investigator: Stanley Culpepper

Reps: 4

Plots: 15 by 300 feet

Trt No.	Treatment Name	Amt Product to Measure	Plot No. By Rep			
			1	2	3	4
1	Methyl bromide 400 lb broadcast LDPE black/black 1.25 mil	NA for Unit NA for Unit	101	202	301	401
2	Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	NA for Unit NA for Unit NA for Unit	102	201	302	402

Sort Order: Treatment

Trial Comments

OBJECTIVE: Compare the 3-way to methyl bromide for weed control and crop growth for two cropping systems on a single fumigant cycle.

WEED CONTROL:

1. After each weed count the trial area was weeded by the grower.
2. Weed counts were taken on 3 rows by 300 feet. If a weed penetrated the mulch or emerged through the plant hole it was counted. Weeds were counted during mid-season of crop 1 peppers and the crop 2 yellow squash.
3. No differences in pitted morningglory, pink purslane, Palmer amaranth or sicklepod were noted throughout the season.
4. During the spring crop the 3-way was more effective than methyl bromide controlling nutsedge. This difference may be in response to a couple of the methyl bromide plots falling onto areas that were used as drive rows in the previous season.

PEPPER HEIGHTS:

1. In April, 40 pepper plants per plot were measured. In September, 20 squash plants per plot were measured.
2. No differences in pepper heights in crop 1 or squash heights in crop 2 were noted.

GENERAL COMMENTS:

1. MB and chloropicrin were applied with the super bedder plastic layer injecting the fumigant 8 inches deep with 3 knives on a 32 inch bedtop. Vapam was injected 4 inches deep into the final bed with the injection knives 4 inches apart. Telone II was injected 10-12 inches deep with a Yetter applicator.
2. Vapam at 50 GAL/A broadcast was injected between crop 1 and crop 2.

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(MB vs. 3 way)

Trial ID: Veg37-06

Study Dir.: Russ Hamilin

Location: Coggins (McLeoud)

Investigator: Stanley Culpepper

Character Rated	CYPZZ	CYPZZ	CYPZZ	IPOLA	IPOLA	AMAPA	AMAPA	PORPI
Rating Data Type	ct	ct	ct	ct	ct	ct	ct	ct
Rating Unit	#/plot	#/plot	#/plot	#/plot	#/plot	#/plot	#/plot	#/plot
Rating Date	Mar-29-06	Apr-25-06	Sep-15-06	Apr-25-06	Sep-15-06	Apr-25-06	Sep-15-06	Apr-25-06
Trt-Eval Interval	42 DA-A	69 DA-A	212 DA-A	69 DA-A	212 DA-A	69 DA-A	212 DA-A	69 DA-A
ARM Action Codes								
Trt Treatment								
No. Name	1	2	3	4	5	6	7	8
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	66 a	60 a	3 a	2 a	0 a	1 a	1 a	1 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	2 a	8 a	1 a	0 a	0 a	1 a	1 a	1 a
LSD (P=.05)	67.4	60.8	9.5	4.8	0.0	2.1	2.9	3.4
Standard Deviation	30.0	27.0	4.2	2.1	0.0	0.9	1.3	1.5
CV	88.77	78.87	241.31	282.84	0.0	121.72	129.1	203.67
Bartlett's X2	15.632	3.196	2.058	0.0	0.0	1.977	0.326	0.54
P(Bartlett's X2)	0.001*	0.074	0.151	.	.	0.16	0.568	0.462

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

University of Georgia

Character Rated	PORPI	CASOB	CASOB	plant 1	plant 2	plant 3	plant 4	plant 5	
Rating Data Type	ct	ct	ct	ht	ht	ht	ht	ht	
Rating Unit	#/plot	#/plot	#/plot	cm	cm	cm	cm	cm	
Rating Date	Sep-15-06	Apr-25-06	Sep-15-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	
Trt-Eval Interval	212 DA-A	69 DA-A	212 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	
ARM Action Codes									
Trt No.	Treatment Name	9	10	11	12	13	14	15	16
1	Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	8 a	0 a	0 a	24 a	23 a	23 a	21 a	25 a
2	Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	5 a	1 a	1 a	22 a	21 a	23 a	23 a	23 a
LSD (P=.05)		4.4	0.9	0.9	6.9	8.1	4.9	7.7	4.2
Standard Deviation		1.9	0.4	0.4	3.1	3.6	2.2	3.4	1.9
CV		31.79	163.3	163.3	13.55	16.58	9.56	15.52	7.87
Bartlett's X2		0.058	0.0	0.0	1.921	0.073	2.447	0.88	0.163
P(Bartlett's X2)		0.81	.	.	0.166	0.787	0.118	0.348	0.686

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Character Rated	plant 6	plant 7	plant 8	plant 9	plant 10	plant 11	plant 12	plant 13	
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht	
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm	
Rating Date	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	
Trt-Eval Interval	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	
ARM Action Codes									
Trt No.	Treatment Name	17	18	19	20	21	22	23	24
1	Methyl bromide 400 lb broadcast LDPE black/black 1.25 mil	23 a	21 a	23 a	25 a	23 a	25 a	25 a	23 a
2	Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	20 a	22 a	21 a	24 a	20 a	23 a	23 a	24 a
LSD (P=.05)		8.2	5.7	3.8	4.1	7.4	2.7	4.2	2.4
Standard Deviation		3.6	2.5	1.7	1.8	3.3	1.2	1.9	1.1
CV		17.15	11.75	7.65	7.53	15.31	5.01	7.79	4.49
Bartlett's X2		0.464	1.093	0.287	1.491	0.815	1.082	3.977	0.004
P(Bartlett's X2)		0.496	0.296	0.592	0.222	0.367	0.298	0.046*	0.952

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Character Rated	plant 14	plant 15	plant 16	plant 17	plant 18	plant 19	plant 20	plant 21	
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht	
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm	
Rating Date	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	
Trt-Eval Interval	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	
ARM Action Codes									
Trt No.	Treatment Name	25	26	27	28	29	30	31	32
1	Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	25 a	24 a	24 a	26 a	24 a	23 a	25 a	25 a
2	Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	20 a	23 a	26 a	25 a	22 a	24 a	23 a	25 a
LSD (P=.05)		7.9	2.4	3.0	2.0	2.9	5.3	8.8	6.5
Standard Deviation		3.5	1.1	1.3	0.9	1.3	2.3	3.9	2.9
CV		15.77	4.49	5.44	3.54	5.67	10.1	16.23	11.58
Bartlett's X2		0.294	0.097	0.514	0.586	1.198	0.571	2.384	1.421
P(Bartlett's X2)		0.587	0.756	0.473	0.444	0.274	0.45	0.123	0.233

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Character Rated	plant 22	plant 23	plant 24	plant 25	plant 26	plant 27	plant 28	plant 29	
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht	
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm	
Rating Date	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	
Trt-Eval Interval	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	
ARM Action Codes									
Trt No.	Treatment Name	33	34	35	36	37	38	39	40
1	Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	24 a	26 a	25 a	25 a	24 a	25 a	26 a	25 a
2	Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	24 a	24 a	23 a	24 a	24 a	25 a	24 a	23 a
LSD (P=.05)		2.7	4.7	5.9	7.1	2.6	6.0	5.3	2.1
Standard Deviation		1.2	2.1	2.6	3.1	1.2	2.7	2.3	0.9
CV		5.01	8.5	11.03	12.8	4.76	10.84	9.38	3.8
Bartlett's X2		0.384	1.865	2.274	1.89	0.069	0.059	0.053	0.254
P(Bartlett's X2)		0.535	0.172	0.132	0.169	0.793	0.808	0.818	0.614

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Character Rated	plant 30	plant 31	plant 32	plant 33	plant 34	plant 35	plant 36	plant 37
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm
Rating Date	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06
Trt-Eval Interval	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A
ARM Action Codes								
Trt No.	41	42	43	44	45	46	47	48
Treatment Name								
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	27 a	25 a	25 a	24 a	89 a	23 a	23 a	24 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	26 a	24 a	23 a	25 a	25 a	25 a	23 a	25 a
LSD (P=.05)	8.2	3.5	5.9	7.9	199.9	11.1	8.3	9.1
Standard Deviation	3.6	1.6	2.6	3.5	88.9	4.9	3.7	4.1
CV	13.61	6.43	10.89	14.48	156.59	20.84	16.25	16.64
Bartlett's X2	0.002	1.057	0.622	0.595	24.055	0.641	0.936	0.755
P(Bartlett's X2)	0.965	0.304	0.43	0.441	0.001*	0.423	0.333	0.385

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Character Rated	plant 38	plant 39	plant 40	Avg40pla	plant 1	plant 2	plant 3	plant 4
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm
Rating Date	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06
Trt-Eval Interval	69 DA-A	69 DA-A	69 DA-A	69 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A
ARM Action Codes				T1				
Trt Treatment								
No. Name	49	50	51	52	53	54	55	56
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	27 a	25 a	23 a	26 a	54 a	52 a	56 a	49 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	22 a	19 a	24 a	23 a	57 a	58 a	56 a	56 a
LSD (P=.05)	8.5	8.6	2.7	4.1	12.4	12.4	18.5	13.2
Standard Deviation	3.8	3.8	1.2	1.8	5.5	5.5	8.2	5.9
CV	15.77	17.38	5.17	7.39	9.97	10.1	14.63	11.21
Bartlett's X2	0.012	0.256	0.036	7.834	2.228	0.684	1.935	0.796
P(Bartlett's X2)	0.914	0.613	0.849	0.005*	0.136	0.408	0.164	0.372

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Column 52: T1 = @AVG([C12].[C51])

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Character Rated	plant 5	plant 6	plant 7	plant 8	plant 9	plant 10	plant 11
Rating Data Type	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm
Rating Date	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06
Trt-Eval Interval	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A
ARM Action Codes							
Trt Treatment							
No. Name	57	58	59	60	61	62	63
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	47 b	59 a	55 a	48 a	50 a	51 a	62 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	53 a	56 a	57 a	59 a	55 a	59 a	60 a
LSD (P=.05)	3.5	14.5	10.8	19.7	11.7	21.2	3.0
Standard Deviation	1.6	6.5	4.8	8.7	5.2	9.4	1.3
CV	3.14	11.27	8.53	16.31	9.9	17.21	2.2
Bartlett's X2	0.074	2.079	2.502	0.303	0.015	0.23	0.005
P(Bartlett's X2)	0.785	0.149	0.114	0.582	0.902	0.632	0.942

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

University of Georgia

Character Rated	plant 12	plant 13	plant 14	plant 15	plant 16	plant 17	plant 18
Rating Data Type	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm
Rating Date	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06
Trt-Eval Interval	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A
ARM Action Codes							
Trt Treatment							
No. Name	64	65	66	67	68	69	70
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	52 a	50 a	55 a	55 a	50 b	49 a	56 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	60 a	56 a	56 a	56 a	56 a	56 a	59 a
LSD (P=.05)	17.0	10.2	25.3	15.8	6.0	7.7	17.7
Standard Deviation	7.5	4.5	11.2	7.0	2.7	3.4	7.9
CV	13.49	8.55	20.37	12.66	5.05	6.54	13.74
Bartlett's X2	2.663	0.199	0.237	2.56	0.012	0.056	4.696
P(Bartlett's X2)	0.103	0.655	0.626	0.11	0.912	0.813	0.03*

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

University of Georgia

Character Rated	plant 19	plant 20	plant 21	plant 22	plant 23	plant 24	plant 25
Rating Data Type	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm
Rating Date	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06
Trt-Eval Interval	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A
ARM Action Codes							
Trt Treatment							
No. Name	71	72	73	74	75	76	77
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	51 a	54 a	54 a	52 a	56 a	53 a	55 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	61 a	50 a	59 a	64 a	61 a	62 a	61 a
LSD (P=.05)	28.1	27.7	19.2	22.3	5.0	11.1	7.8
Standard Deviation	12.5	12.3	8.6	9.9	2.2	4.9	3.5
CV	22.26	23.7	15.1	17.17	3.84	8.65	5.99
Bartlett's X2	3.086	1.619	0.018	0.034	0.818	4.577	4.49
P(Bartlett's X2)	0.079	0.203	0.892	0.854	0.366	0.032*	0.034*

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Character Rated	plant 26	plant 27	plant 28	plant 29	plant 30	plant 31	plant 32
Rating Data Type	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm
Rating Date	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06
Trt-Eval Interval	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A
ARM Action Codes							
Trt Treatment							
No. Name	78	79	80	81	82	83	84
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	54 a	53 a	51 a	53 a	52 a	51 a	51 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	60 a	56 a	58 a	54 a	59 a	58 a	59 a
LSD (P=.05)	20.1	21.9	22.0	14.8	24.6	20.4	14.6
Standard Deviation	9.0	9.7	9.8	6.6	10.9	9.1	6.5
CV	15.78	17.9	18.05	12.35	19.8	16.7	11.83
Bartlett's X2	0.522	0.215	0.26	0.046	3.895	1.42	0.437
P(Bartlett's X2)	0.47	0.643	0.61	0.829	0.048*	0.233	0.508

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Character Rated	plant 33	plant 34	plant 35	plant 36	plant 37	plant 38	plant 39
Rating Data Type	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm
Rating Date	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06	Sep-15-06
Trt-Eval Interval	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A	212 DA-A
ARM Action Codes							
Trt Treatment							
No. Name	85	86	87	88	89	90	91
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	53 a	54 a	60 a	52 a	59 a	54 a	52 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	56 a	65 a	57 a	64 a	61 a	56 a	58 a
LSD (P=.05)	23.6	16.6	14.2	15.5	9.9	13.2	12.2
Standard Deviation	10.5	7.4	6.3	6.9	4.4	5.8	5.4
CV	19.19	12.34	10.86	11.9	7.4	10.63	9.92
Bartlett's X2	0.976	0.576	1.326	1.344	0.005	3.186	0.359
P(Bartlett's X2)	0.323	0.448	0.25	0.246	0.945	0.074	0.549

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Character Rated	plant 40	Avg40pla
Rating Data Type	ht	ht
Rating Unit	cm	cm
Rating Date	Sep-15-06	Sep-15-06
Trt-Eval Interval	212 DA-A	212 DA-A
ARM Action Codes		T2
Trt Treatment		
No. Name	92	93
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	47 a	53 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	60 a	58 a
LSD (P=.05)	17.7	7.0
Standard Deviation	7.9	3.1
CV	14.77	5.6
Bartlett's X2	0.493	0.147
P(Bartlett's X2)	0.483	0.702

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Column 93: T2 = @AVG([C53].[C92])

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APPLICATION DESCRIPTION

	A
Application Date:	Feb-15-06
Time of Day:	all day
Application Method:	in bed
Application Timing:	preplant
Applic. Placement:	in bed
Air Temp., Unit:	60 F
% Relative Humidity:	48
Wind Velocity, Unit:	3 mph
Dew Presence (Y/N):	n
Soil Temp., Unit:	58 F
Soil Moisture:	moist
% Cloud Cover:	25

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	CPSAN preplant
Stage Scale:	not up
Height, Unit:	0 in
Crop 2 Code, Stage:	CUUPE preplant
Stage Scale:	not up
Height, Unit:	0 in

PEST STAGE AT EACH APPLICATION

	A
Pest 1 Code, Stage:	CYPZZ preplant
Infestation Level:	not up
Infestation Unit:	.
Pest 2 Code, Stage:	IPOLA preplant
Infestation Level:	not up
Infestation Unit:	.
Pest 3 Code, Stage:	AMAPA preplant
Infestation Level:	not up
Infestation Unit:	.
Pest 4 Code, Stage:	PORPI preplant
Infestation Level:	not up
Infestation Unit:	.

Trt No	Treatment Application Comment