



# University of Georgia

**Evaluating methyl bromide alternatives in large acreage on farm trials.**

(MB vs. 3 way)

Trial ID: Veg34-06

Study Dir.: Russ Hamilin

Location: Coggins (Sanders)

Investigator: Stanley Culpepper

Character Rated	CYPZZ	CYPZZ	CYPZZ	IPOLA	IPOLA	IPOLA	PORPI	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-21-06	Mar-29-06	Apr-25-06	Sep-21-06	Apr-25-06	Sep-21-06
Trt-Eval Interval	42 DA-A	69 DA-A	218 DA-A	42 DA-A	69 DA-A	218 DA-A	69 DA-A	218 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	6 a	1 a	0 a	6 a	22 a	2 a	1 a	4 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	2 a	4 a	2 a	8 a	17 a	2 a	2 a	1 a
LSD (P=.05)	14.4	13.7	6.4	19.9	8.4	4.3	2.7	8.4
Standard Deviation	6.4	6.1	2.8	8.8	3.7	1.9	1.2	3.7
CV	170.4	232.12	282.84	121.82	18.92	95.74	107.34	148.77
Bartlett's X2	4.992	4.081	0.0	2.386	0.03	1.236	2.189	5.06
P(Bartlett's X2)	0.025*	0.043*	.	0.122	0.863	0.266	0.139	0.024*

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

## University of Georgia

Character Rated	CASOB	AMAPA	plant 1	plant 2	plant 3	plant 4	plant 5	plant 6	
Rating Data Type	ct	ct	ht	ht	ht	ht	ht	ht	
Rating Unit	#/plot	#/plot	cm	cm	cm	cm	cm	cm	
Rating Date	Apr-25-06	Sep-21-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	Apr-25-06	
Trt-Eval Interval	69 DA-A	218 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	9	10	11	12	13	14	15	16
1	Methyl bromide 400 lb broadcast LDPE black/black 1.25 mil	0 a	1 a	26 a	25 a	27 a	25 a	23 a	23 a
2	Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	1 a	2 a	24 a	23 a	25 a	23 a	23 a	25 a
LSD (P=.05)		2.0	2.0	7.4	5.6	6.5	3.3	10.7	5.7
Standard Deviation		0.9	0.9	3.3	2.5	2.9	1.5	4.8	2.5
CV		237.27	54.75	13.07	10.37	11.1	6.11	20.93	10.38
Bartlett's X2		1.236	0.098	0.234	0.292	0.0	0.641	0.682	2.829
P(Bartlett's X2)		0.266	0.754	0.628	0.589	1.00	0.423	0.409	0.093

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

## University of Georgia

Character Rated	plant 7	plant 8	plant 9	plant 10	plant 11	plant 12	plant 13	plant 14	
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	-296 DA-	-296 DA-	-296 DA-	-296 DA-	-296 DA-	-296 DA-	
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	26 a	28 a	25 a	25 a	24 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	25 a	24 b	23 a	25 a	25 a	26 a	25 a	23 a
LSD (P=.05)		7.6	2.4	3.5	2.8	3.3	4.9	3.4	1.3
Standard Deviation		3.4	1.1	1.6	1.2	1.5	2.2	1.5	0.6
CV		13.3	4.1	6.57	4.95	6.01	8.54	6.11	2.54
Bartlett's X2		1.026	1.457	5.188	0.326	5.292	0.074	0.797	0.061
P(Bartlett's X2)		0.311	0.227	0.023*	0.568	0.021*	0.786	0.372	0.805

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

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Character Rated	plant 15	plant 16	plant 17	plant 18	plant 19	plant 20	plant 21	plant 22
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	-296 DA-	-296 DA-	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A	69 DA-A
ARM Action Codes								
Trt No.	25	26	27	28	29	30	31	32
Treatment Name								
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	25 a	25 a	25 a	24 a	21 a	23 b	25 a	25 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	25 a	25 a	25 a	26 a	25 a	26 a	23 a	24 a
LSD (P=.05)	4.2	5.3	2.8	2.8	8.7	3.0	3.8	0.8
Standard Deviation	1.9	2.3	1.2	1.2	3.9	1.4	1.7	0.4
CV	7.48	9.49	4.95	4.9	16.93	5.53	7.01	1.44
Bartlett's X2	5.79	0.701	1.502	0.0	0.905	2.447	0.649	0.07
P(Bartlett's X2)	0.016*	0.402	0.22	0.001*	0.341	0.118	0.42	0.791

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

## University of Georgia

Character Rated	plant 23	plant 24	plant 25	plant 26	plant 27	plant 28	plant 29	plant 30
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 Treatment								
No. Name	33	34	35	36	37	38	39	40
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	24 a	25 a	27 a	27 a	26 a	26 a	26 a	26 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	25 a	22 a	23 a	24 a	24 a	23 a	23 a	25 a
LSD (P=.05)	4.6	4.6	4.8	3.9	2.6	4.2	5.9	3.5
Standard Deviation	2.0	2.0	2.1	1.7	1.2	1.9	2.6	1.6
CV	8.42	8.6	8.49	6.93	4.67	7.71	10.69	6.18
Bartlett's X2	0.635	0.677	1.338	0.42	0.54	0.11	0.455	1.916
P(Bartlett's X2)	0.426	0.411	0.247	0.517	0.462	0.74	0.50	0.166

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

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## University of Georgia

Character Rated	plant 31	plant 32	plant 33	plant 34	plant 35	plant 36	plant 37	plant 38	
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	41	42	43	44	45	46	47	48
1	Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	24 a	23 a	25 a	25 a	24 a	26 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	25 a	25 a	26 a	25 a	24 a	26 a	24 b	26 a
LSD (P=.05)		5.9	6.4	3.4	4.6	5.6	3.5	1.3	6.3
Standard Deviation		2.6	2.9	1.5	2.0	2.5	1.6	0.6	2.8
CV		10.67	12.07	5.93	8.16	10.46	6.0	2.31	11.0
Bartlett's X2		0.187	3.486	0.88	2.447	0.359	0.038	0.057	3.264
P(Bartlett's X2)		0.666	0.062	0.348	0.118	0.549	0.846	0.811	0.071

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

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## University of Georgia

Character Rated	plant 39	plant 40	Avg40pla	plant 1	plant 2	plant 3	plant 4	plant 5
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	Sep-21-06	Sep-21-06	Sep-21-06	Sep-21-06	Sep-21-06
Trt-Eval Interval	69 DA-A	69 DA-A	69 DA-A	218 DA-A	218 DA-A	218 DA-A	218 DA-A	218 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	23 a	23 a	25 a	171 a	175 a	169 a	179 a	163 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	24 a	25 a	24 a	159 a	151 a	164 a	189 a	170 a
LSD (P=.05)	4.4	4.8	1.2	73.1	94.2	118.2	70.9	15.6
Standard Deviation	1.9	2.1	0.5	32.5	41.9	52.5	31.5	7.0
CV	8.33	8.84	2.18	19.7	25.69	31.57	17.17	4.18
Bartlett's X2	0.772	1.016	0.822	0.106	10.481	0.129	0.557	0.007
P(Bartlett's X2)	0.38	0.313	0.365	0.745	0.001*	0.719	0.456	0.931

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

Column 51: T1 = @AVG([C11].[C50])

## University of Georgia

Character Rated	plant 6	plant 7	plant 8	plant 9	plant 10	Avg10pla
Rating Data Type	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm
Rating Date	Sep-21-06	Sep-21-06	Sep-21-06	Sep-21-06	Sep-21-06	Sep-21-06
Trt-Eval Interval	218 DA-A	218 DA-A	218 DA-A	218 DA-A	218 DA-A	218 DA-A
ARM Action Codes						T2
Trt Treatment						
No. Name	57	58	59	60	61	62
1 Methyl bromide 400 lb broadcas LDPE black/black 1.25 mil	144 a	159 a	177 a	153 a	203 a	169 a
2 Telone II 12 G injected 12 in Pic 150 lb injected 8 in. Vapam 75 G injected 4 inch	161 a	149 a	136 a	165 a	187 a	163 a
LSD (P=.05)	108.6	36.5	60.2	48.5	107.2	35.7
Standard Deviation	48.3	16.2	26.8	21.6	47.6	15.8
CV	31.66	10.53	17.11	13.57	24.46	9.54
Bartlett's X2	0.145	0.334	0.179	0.578	0.289	3.009
P(Bartlett's X2)	0.704	0.563	0.672	0.447	0.591	0.083

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

Column 62: T2 = @AVG([C52].[C61])

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# University of Georgia

<b>Evaluating methyl bromide alternatives in large acreage on farm trials.</b>	
(MB vs. 3 way)	
Trial ID: Veg34-06	Study Dir.: Russ Hamilin
Location: Coggins (Sanders)	Investigator: Stanley Culpepper
<b>GENERAL TRIAL INFORMATION</b>	
<b>Study Director:</b> Russ Hamilin	<b>Title:</b> Coggins Farms
<b>Investigator:</b> Stanley Culpepper	<b>Title:</b> UGA Extension
<b>Trial Location:</b> Coggins (Sanders)	
<b>Blanket Treatment Cost:</b> _____	
<b>Conducted Under GLP (Y/N):</b> N	<b>Conducted Under GEP (Y/N):</b> N
<b>Guidelines:</b> _____ <b>Guideline Description:</b> _____	
<b>Objective:</b> Compare the 3-way fumigant alternative to methyl bromide for weed control and pepper growth.	
<b>Conclusions:</b>	

### CROP AND PEST DESCRIPTION

Pest	Code	Common Name	Scientific Name
1.	CYPZZ	nutsedge species	
2.	IPOLA	pitted morningglory	
3.	PORPI	pink purslane	
4.	CASOB	sicklepod	

**Crop 1:** CPSAN bell pepper **Variety:** Heritage  
**Planting Date:** Mar-05-06 **Planting Method:** transplant  
**Rate:** 1 ft **Depth:** 1 in **Perennial Age:** \_\_\_\_\_  
**Row Spacing:** 15 inch **Spacing Within Row:** 12 inch **Seed Bed:** raised/mulch  
**Soil Temperature:** \_\_\_\_\_ **Soil Moisture:** drip **Emergence Date:** \_\_\_\_\_

**Crop 2:** CUMSA CUCUMBER **Variety:** Thunder  
**Planting Date:** Aug-15-06 **Planting Method:** transplant  
**Rate:** 1 ft **Depth:** 1 in **Perennial Age:** \_\_\_\_\_  
**Row Spacing:** 5 ft **Spacing Within Row:** 12 inch **Seed Bed:** raised/mulch  
**Soil Temperature:** \_\_\_\_\_ **Soil Moisture:** drip **Emergence Date:** \_\_\_\_\_

### SITE AND DESIGN

**Plot Width, Unit:** 15 FT **Plot Length, Unit:** 300 FT **Reps:** 4  
**Site Type:** Coggins farms  
**Tillage Type:** conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

**Trial Initiation Comments:**

	Previous Crops	Previous Pesticides	Year
1.			

### MAINTENANCE

**Field Prep./Maintenance:**

No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

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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 inch
Crop 2 Code, Stage:	CUMSA preplant
Stage Scale:	not up
Height, Unit:	0 inch

### 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:	PORPI preplant
Infestation Level:	not up
Infestation Unit:	
Pest 4 Code, Stage:	CASOB preplant
Infestation Level:	not up
Infestation Unit:	

Trt No	Treatment Application Comment