2008

Insect Pest Management in Virginia Cotton, Peanut, and Soybean

Tidewater Agricultural Research and Extension Center
Virginia Agricultural Experiment Station

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INSECT PEST MANAGEMENT IN VIRGINIA

COTTON, PEANUT, AND SOYBEAN

2008

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Insect Rating Scales Used in Efficacy Trials and Abbreviations Used in this Publication

Thrips injury rating scale for cotton:
0 = no injury
1 = 10% injured leaves, no bud injury
2 = 25% injured leaves, no bud injury
3 = 75% injured leaves, 0-25% buds injured
4 = 90% injured leaves, >25% buds injured
5 = dead plants

Thrips injury rating scale for peanut:
0 = no injury
1 = 10% leaves injured
2 = 20% leaves injured
3 = 30% leaves injured
4 = 40% leaves injured
5 = ≥ 50% leaves injured + ≤ 5% terminal buds injured
6 = ≥ 50% leaves injured + 25% terminal buds injured
7 = ≥ 50% leaves injured + 50% terminal buds injured
8 = ≥ 50% leaves injured + 75% terminal buds injured
9 = ≥ 50% leaves injured + 90% terminal buds injured
10 = dead plants

Abbreviations used in this publication:
1st tl: first true leaf
ai: active ingredient
BC: broadcast
cotyl: cotyledon
cwt: hundred-weight
GC: ground-cracking
IF: in-furrow
RCBD: randomized complete block design
Tidewater AREC: Tidewater Agricultural Research and Extension Center

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Climatological Summary of the 2008 Growing Season—Tidewater AREC, Suffolk, VA

Table 1. Daily maximum and minimum temperatures (°F) for 2008.

	JAN		FEB		MAR		APR		MAY		JUN	
Day of month	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**
1	57	32	63	37	54	38	54	38	65	43	89	70
2	58	28	70	29	60	25	78	49	77	56	90	59
3	37	21	57	30	54	32	62	38	82	60	82	53
4	35	12	64	35	73	51	57	45	83	64	83	69
5	45	23	59	42	76	55	74	52	82	55	94	75
6	56	36	75	50	69	43	69	49	76	53	98	70
7	68	47	80	56	63	42	55	44	78	50	95	68
8	73	47	71	40	69	51	51	44	84	64	100	70
9	75	54	57	31	71	29	56	47	74	65	100	72
10	72	44	67	38	52	26	62	51	82	51	98	82
11	68	47	63	19	60	32	77	49	75	42	100	71
12	72	41	41	23	62	41	82	67	65	30	90	64
13	53	33	65	41	65	33	81	51	58	44	91	58
14	50	35	69	29	62	50	69	34	71	40	92	61
15	52	20	52	29	60	48	56	35	78	58	92	80
16	42	24	64	41	50	40	60	29	81	63	88	63
17	44	29	62	25	74	33	66	31	82	47	94	62
18	46	34	66	49	54	26	76	40	76	54	84	53
19	54	34	71	31	65	46	68	50	81	53	84	56
20	41	26	55	25	57	34	83	61	73	56	85	59
21	30	9	62	26	61	27	72	53	83	47	87	61
22	37	16	40	30	73	49	70	53	77	48	85	61
23	51	31	44	36	75	33	71	58	78	49	88	67
24	52	27	48	26	53	31	75	49	76	47	90	62
25	41	21	49	35	57	43	80	53	75	46	89	60
26	41	19	53	34	57	30	82	57	80	51	98	63
27	44	22	62	37	73	46	86	61	84	64	99	66
28	45	22	48	22	77	59	68	57	88	56	97	67
29	48	26	60	40	82	43	70	50	63	40	97	75
30	62	42			51	39	68	55	77	47	95	67
31	59	23			61	41			85	65		
Avg.	**51.9**	**29.8**	**59.9**	**34.0**	**63.5**	**39.2**	**69.3**	**48.3**	**77.1**	**51.9**	**91.8**	**65.5**

Table 1, continued. Daily maximum and minimum temperatures (°F) for 2008.

	JUL		AUG		SEP		OCT		NOV		DEC	
Day of month	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**
1	90	63	95	71	84	56	77	59	66	34		
2	85	58	92	69	85	54	77	46	75	35		
3	92	62	95	69	89	57	79	59	72	34		
4	92	68	91	63	92	59	75	45	63	57		
5	96	67	93	67	92	60	79	48	65	57		
6	89	67	95	76	84	74	82	49	65	56		
7	88	66	95	79	85	54	80	50	66	54		
8	90	70	88	65	89	61	70	41	76	54		
9	92	66	89	57	89	67	75	56	65	36		
10	83	69	87	63	90	69	76	52	64	31		
11	87	67	82	59	76	67	76	58	59	32		
12	88	62	84	52	79	63	75	53	55	35		
13	88	59	85	54	89	70	77	48	61	42		
14	89	65	79	56	94	72	78	46	64	54		
15	84	68	88	62	93	74	85	52	72	56		
16	86	69	88	61	90	67	86	54	76	41		
17	88	59	87	60	74	58	87	63	56	26		
18	100	78	87	60	77	52	66	50	52	30		
19	93	57	89	62	82	56	59	44	44	26		
20	92	69	92	64	75	67	61	34	43	27		
21	92	68	85	62	74	55	72	45	58	42		
22	95	73	84	57	78	60	65	45	45	20		
23	98	67	85	63	77	57	60	36	41	20		
24	89	68	86	64	76	57	65	36	50	22		
25	86	64	88	65	72	59	76	48	57	40		
26	85	60	93	69	73	60	74	45	53	25		
27	88	68	79	66	83	65	70	39	50	22		
28	90	67	77	70	85	64	57	32	58	30		
29	90	69	84	73	79	63	57	34	65	35		
30	94	72	90	71	79	58	55	35	50	42		
31	95	72	89	72			55	26				
Avg.	**90.1**	**66.4**	**87.8**	**64.5**	**82.8**	**61.8**	**71.8**	**46.1**	**59.5**	**37.2**		

Table 2. Daily precipitation (inches) for 2008—Tidewater AREC, Suffolk, VA.

Day of month	JAN	FEB	MAR	APR	MAY	JUN
1	0.01	0.5				
2		0.42		0.03		
3						
4				0.81		
5			0.73	0.29		0.01
6		0.06		0.58		
7				0.04		
8			1.11	0.02		
9			0.37	0.01	0.05	
10				0.01	0.12	
11	0.13			0.04	0.01	
12					1.16	
13		0.69		0.11		
14	0.02	1.11		0.03	0.02	
15		0.05				0.05
16			0.01		0.18	
17	0.05		0.28		0.01	0.84
18	0.43	0.58				
19	0.15	0.04			0.43	
20						
21	0.02			2.13	0.4	
22		0.41		1.2		0.06
23	0.22	0.46		0.05		0.05
24	0.02				0.08	0.01
25						
26						
27		0.06		0.95		
28				0.04	0.77	
29			0.07	1.18	0.2	
30	0.1					0.54
31			0.24			
Total	**1.15**	**4.38**	**2.81**	**7.52**	**3.43**	**1.56**

Table 2, continued. Daily precipitation (inches) for 2008—Tidewater AREC, Suffolk, VA.

Day of month	JUL	AUG	SEP	OCT	NOV	DEC
1		0.71		0.12		
2						
3						
4					0.38	
5	0.97	0.02			0.45	
6	1.54		1.33		0.1	
7	0.29		0.58			
8						
9	0.45				0.39	
10	0.44				0.03	
11		1.04	0.31			
12						
13					0.08	
14					0.83	
15	0.27				0.64	
16			0.08		0.15	
17		0.01	0.02			
18				0.58		
19						
20						
21						
22						
23						
24	1.19					
25			0.25	0.1	0.46	
26			3.31	0.07		
27			0.09			
28	0.43	0.23	0.04			
29		0.17				
30					0.61	
31						
Total	**5.58**	**2.18**	**6.01**	**0.87**	**4.12**	

2008

Cotton Insect Pest Management Tests and Demonstrations

TEST: CT08THP1, Compensation of three cotton varieties to thrips injury

EXPERIMENT TREATMENTS:

#	Variety and seed treatment
1	STN 4554 B2RF, untreated
2	STN 4554 B2RF, with Temik 15G @ 5 lb/A
3	STN 4554 B2RF, with Gaucho 600 seed trt
4	PHY 370 WR, untreated
5	PHY 370 WR, with Temik 15G @ 5 lb/A
6	PHY 370 WR, with Gaucho 600 seed trt
7	PHY 375 WRF, untreated
8	PHY 375 WRF, with Temik 15G @ 5 lb/A
9	PHY 375 WRF, with Gaucho 600 seed trt

Test #: CT08THP1	**Planting date:** May 2
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Cotton	**Row spacing:** 36”
Varieties: see treatment list	**Field #:** 4
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/03	Buccaneer	1 qt
5/03	Prowl	1.5 pt
5/03	Cotoran 4L	1 qt
5/30	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/16	Pentia* (Trts 2, 3, 5, 6, 8, 9)	8 oz
7/25	Pentia	8 oz

*With Induce 1 pt to 100 gal H_2O

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/26	N	30 units
6/26	Boron	1 qt
7/14	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
9/29	Finish	1 qt
9/29	Def	8 oz
9/29	Dropp	3 oz

Land preparation: Rip strip till on May 1
Soil pH: 6.3
Soil type(s): Uchee, Nansemond, Eunola
Nutrient analysis (ppm): P (20), K (53), Ca (424), Mg (36), Zn (0.6), Mn (2.3)
Harvest date 1: October 14
Harvest date 2: October 30 (repicked same rows)
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Comments: Seed provided by Scott Stewart, IPM Specialist, Univ. of Tennessee.

Table 3. Mean number of thrips per plant, CT08THP1. Tidewater AREC, Suffolk, VA, 2008.

#	Variety and seed treatment	May 19		May 27		Jun 2		Jun 9	
		Adult	Immature	Adult	Immature	Adult	Immature	Adult	Immature
1	STN 4554 B2RF, untreated	0.90 b[1]	0.50 ab	1.80 a	14.2 a	1.05 cd	15.9 a	0.89 c	6.6
2	STN 4554 B2RF, with Temik 15G @ 5 lb/A	0.05 e	0.05 c	0.40 b	1.3 b	1.90 a-c	2.5 cd	3.89 a	6.9
3	STN 4554 B2RF, with Gaucho 600 seed trt	0.25 c-e	0.00 c	1.05 ab	1.2 b	2.65 a	3.1 cd	4.00 a	9.4
4	PHY 370 WR, untreated	0.55 b-d	0.20 bc	1.60 a	15.2 a	0.65 d	16.8 a	1.56 bc	10.6
5	PHY 370 WR, with Temik 15G @ 5 lb/A	0.20 c-e	0.05 c	0.30 b	0.9 b	1.30 b-d	1.2 d	3.44 ab	5.8
6	PHY 370 WR, with Gaucho 600 seed trt	0.50 b-e	0.00 c	1.40 a	2.6 b	1.10 b-d	7.0 bc	3.22 ab	5.9
7	PHY 375 WRF, untreated	1.80 a	0.80 a	1.10 ab	11.5 a	1.05 cd	14.5 a	1.33 bc	8.4
8	PHY 375 WRF, with Temik 15G @ 5 lb/A	0.10 de	0.10 c	0.35 b	1.5 b	2.05 ab	2.1 d	3.44 ab	6.2
9	PHY 375 WRF, with Gaucho 600 seed trt	0.60 bc	0.05 c	0.95 ab	3.0 b	1.45 b-d	8.6 b	4.78 a	7.9
	LSD	0.49	0.39	0.89	4.39	0.99	4.84	2.31	NS

[1]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 4. Thrips injury ratings, plant height, and number of nodes per plant, CT08THP1. Tidewater AREC, Suffolk, VA, 2008.

#	Variety and seed treatment	Thrips injury rating[1]			Plant height (cm)[2]			Nodes[3]		
		May 27	Jun 2	Jun 9	May 30	Jun 10	Jun 25	May 30	Jun 13	Jun 25
1	STN 4554 B2RF, untreated	4.00 a[4]	4.69 a	4.63 a	3.16 c	4.80 d	8.03 d	0.90 d	2.75 e	6.75 c
2	STN 4554 B2RF, with Temik 15G @ 5 lb/A	1.38 c	1.94 e	1.56 d	4.04 a	8.48 a	17.45 a	2.13 a	6.40 a	8.75 a
3	STN 4554 B2RF, with Gaucho 600 seed trt	1.56 c	2.31 d	2.25 bc	3.56 b	7.30 b	13.90 c	1.95 ab	4.85 cd	8.55 a
4	PHY 370 WR, untreated	4.00 a	4.75 a	4.63 a	2.73 d	4.13 e	7.93 d	0.98 d	2.95 e	6.60 c
5	PHY 370 WR, with Temik 15G @ 5 lb/A	1.56 c	2.00 e	1.50 d	3.10 c	7.55 b	16.55 a	1.75 b	4.80 cd	8.40 a
6	PHY 370 WR, with Gaucho 600 seed trt	2.00 b	2.94 b	2.69 b	3.19 c	6.43 c	13.48 c	1.70 b	4.50 d	7.65 b
7	PHY 375 WRF, untreated	4.00 a	4.69 a	4.44 a	2.95 cd	4.95 d	8.70 d	1.35 c	2.85 e	6.45 c
8	PHY 375 WRF, with Temik 15G @ 5 lb/A	1.63 c	2.63 c	1.81 cd	3.61 b	8.38 a	17.55 a	1.93 ab	5.60 b	8.60 a
9	PHY 375 WRF, with Gaucho 600 seed trt	1.63 c	2.75 bc	2.56 b	3.66 b	7.48 b	15.30 b	2.15 a	5.15 bc	8.35 a
	LSD	0.26	0.30	0.58	0.25	0.61	1.12	0.27	0.51	0.59

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*Ten and five plants per plot were sampled on May 30 and June 10, respectively.*
[3]*Ten and five plants per plot were sampled on May 30 and June 13, respectively.*
[4]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 5. Nodes above cracked boll, open boll counts, and yield, CT08THP1. Tidewater AREC, Suffolk, VA, 2008.

#	Variety and seed treatment	NACB[1]	Open bolls per 40 ft[2]	Lint lb/acre[3]	
				Oct 14	Oct 30
1	STN 4554 B2RF, untreated	7.95 a[4]	44.8 c	762 d	106 ab
2	STN 4554 B2RF, with Temik 15G @ 5 lb/A	6.78 d	292.3 ab	1374 ab	66 c
3	STN 4554 B2RF, with Gaucho 600 seed trt	6.68 d	275.0 b	1254 b	66 c
4	PHY 370 WR, untreated	7.78 ab	47.0 c	903 cd	119 a
5	PHY 370 WR, with Temik 15G @ 5 lb/A	6.88 cd	389.0 a	1489 a	81 bc
6	PHY 370 WR, with Gaucho 600 seed trt	7.10 b-d	313.3 ab	1404 ab	78 bc
7	PHY 375 WRF, untreated	7.58 a-c	79.5 c	1022 c	123 a
8	PHY 375 WRF, with Temik 15G @ 5 lb/A	4.98 e	393.8 a	1505 a	71 c
9	PHY 375 WRF, with Gaucho 600 seed trt	7.23 b-d	374.3 ab	1504 a	80 bc
	LSD	0.71	107.8	158.6	28.3

[1]*NACB=Nodes above cracked boll (number of nodes above highest first position cracked boll to the highest harvestable boll). Ten plants per plot were sampled on September 16.*
[2]*Number of open bolls was recorded on September 19. A boll was considered "open" if lint was visible.*
[3]*Cotton was picked twice (same two rows, 16 days apart). To account for seed and trash on October 14, gross yields for STN 4554 B2RF were reduced by 61.5%; PHY 370 WR was reduced by 59.1%; and PHY 375 WRF was reduced by 59.3%. On October 30, gross yields were reduced by 61.1, 60.0, and 59.7% for STN 4554 B2RF, PHY 370 WR, and PHY 375 WRF, respectively.*
[4]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP2, Comparison of insecticide seed treatments, with and without Orthene 97 foliar sprays, for thrips injury and yield

EXPERIMENT TREATMENTS:

#	Material	Rate	Date(s) treated
1	Aeris	---	---
2	Avicta CP	---	---
3	Gaucho Grande	---	---
4	Aeris + Temik 15G	--- 5 lb/A (IF)	---
5	Temik 15G	5 lb/A (IF)	---
6	Aeris + Orthene 97	--- 4 oz/A (BC @ 1st tl)	--- May 23
7	Avicta CP + Orthene 97	--- 4 oz/A (BC @ 1st tl)	--- May 23
8	Gaucho Grande + Orthene 97	--- 4 oz/A (BC @ 1st tl)	--- May 23
9	Aeris + Temik 15G + Orthene 97	--- 5 lb/A 4 oz/A (BC @ 1st tl)	--- --- May 23
10	Temik 15G + Orthene 97	5 lb/A 4 oz/A (BC @ 1st tl)	--- May 23
11	Untreated	---	---

All seed has base +Trilex

Test #: CT08THP2	**Planting date:** May 2
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Cotton	**Row spacing:** 36”
Variety: ST 4498 B2RF	**Field #:** 4
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/03	Buccaneer	1 qt
5/03	Prowl	1.5 pt
5/03	Cotoran 4L	1 qt
5/30	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/16	Pentia* (Trts 1-10)	8 oz
7/25	Pentia	8 oz

*With Induce 1 pt to 100 gal H_2O

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/26	N	30 units
6/26	Boron	1 qt
7/14	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
10/06	Finish	1 qt
10/06	Def	8 oz
10/06	Dropp	3 oz

Land preparation: Rip strip till on May 1
Soil pH: 6.3
Soil type(s): Uchee, Nansemond, Eunola
Nutrient analysis (ppm): P (20), K (53), Ca (424), Mg (36), Zn (0.6), Mn (2.3)
Harvest date: October 21
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars
In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Table 6. Thrips injury ratings, nodes above cracked boll, open boll counts, and yield, CT08THP2. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Thrips injury rating[1]			NACB[2]	Open bolls per 35 ft[3]	Lint lb/acre[4]
			May 27	Jun 2	Jun 9			
1	Aeris		1.81 bc[5]	2.50 bc	2.56 bc	7.00 c-e	204.5 d	1687 a
2	Avicta CP		1.56 c-e	2.50 bc	2.50 c	7.48 bc	218.0 cd	1745 a
3	Gaucho Grande		2.06 b	2.69 b	2.94 b	8.00 b	215.8 cd	1513 a
4	Aeris + Temik 15G	 5 lb/A (IF)	1.44 de	1.56 e	0.56 f	6.30 f	308.5 a	1749 a
5	Temik 15G	5 lb/A (IF)	1.75 b-d	2.25 c	1.67 d	7.35 c	263.0 a-d	1701 a
6	Aeris + Orthene 97	 4 oz/A (BC @ 1st tl)	1.69 cd	1.56 e	1.19 e	7.13 cd	267.8 a-c	1658 a
7	Avicta CP + Orthene 97	 4 oz/A (BC @ 1st tl)	1.56 c-e	1.44 e	1.13 e	6.68 d-f	237.0 b-d	1571 a
8	Gaucho Grande + Orthene 97	 4 oz/A (BC @ 1st tl)	1.75 b-d	1.88 d	2.00 d	6.43 ef	206.3 d	1565 a
9	Aeris + Temik 15G + Orthene 97	 5 lb/A 4 oz/A (BC @ 1st tl)	1.31 e	1.00 f	0.50 f	7.00 c-e	253.0 a-d	1709 a
10	Temik 15G + Orthene 97	5 lb/A 4 oz/A (BC @ 1st tl)	1.44 de	1.56 e	0.63 f	7.35 c	279.5 ab	1719 a
11	Untreated	---	4.00 a	4.75 a	4.63 a	9.63 a	20.0 e	1085 b
	LSD		0.34	0.27	0.38	0.65	59.4	260.2

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*NACB=Nodes above cracked boll (number of nodes above highest first position cracked boll to the highest harvestable boll). Ten plants per plot were sampled on September 16.*
[3]*Number of open bolls was recorded on September 22. A boll was considered "open" if lint was visible.*
[4]*Cotton was harvested on October 21. Gross yields were reduced by 62.1% to account for seed and trash.*
[5]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP3, Evaluation of Syngenta seed treatments for thrips control, plant injury and yield

EXPERIMENT TREATMENTS:

#	Material*	Rate	Date(s) treated
1	Base	See below	---
2	Base + Cruiser 5FS	See below 0.342 mg ai/seed	---
3	Base + Cruiser 5FS + Avicta 4.17FS	See below 0.342 mg ai/seed 0.145 mg ai/seed	---
4	Base + Cruiser 5FS + Avicta 4.17FS + EXC211 EC	See below 0.342 mg ai/seed 0.145 mg ai/seed 0.06 mg ai/seed	---
5	Base + Cruiser 5FS + Avicta 4.17FS + EXC211 EC	See below 0.342 mg ai/seed 0.145 mg ai/seed 0.09 mg ai/seed	---
6	Base + Cruiser 5FS + Avicta 4.17FS + STP28271	See below 0.342 mg ai/seed 0.145 mg ai/seed 50 g ai/100 kg seed	---
7	Base + Temik 15G	See below 5 lb product/A (IF)	---
8	Base + Cruiser 5FS + Dimethoate 400EC	See below 0.342 mg ai/seed 8 oz product/A (BC @ 1st tl)	--- --- May 23
9	Base + Avicta 4.17FS + XED 175	 0.145 mg ai/seed 0.064 mg ai/seed	---
10	Base + Cruiser 5FS + Avicta 4.17FS + XED 175	 0.342 mg ai/seed 0.145 mg ai/seed 0.064 mg ai/seed	---
11	Base + Cruiser 5FS + Avicta 4.17FS + XED 175	 0.342 mg ai/seed 0.145 mg ai/seed 0.130 mg ai/seed	---

*All seed received a base treatment of: Apron XL 3LS @ 7.5 g ai/100 kg seed + Maxim 4FS @ 2.5 g ai/100 kg seed + Systhane 40WP 21 g ai/100 kg seed + Dynasty CST 125FS @ 0.034 mg ai/seed

Test #: CT08THP3	**Planting date:** May 5
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Cotton	**Row spacing:** 36”
Variety: DP 444 BG/RR	**Field #:** 4
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/03	Buccaneer	1 qt
5/03	Prowl	1.5 pt
5/03	Cotoran 4L	1 qt
5/30	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/16	Pentia* (Trts 2-10)	8 oz
7/25	Pentia	8 oz

*With Induce 1 pt to 100 gal H_2O

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/26	N	30 units
6/26	Boron	1 qt
7/14	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
9/29	Finish	1 qt
9/29	Def	8 oz
9/29	Dropp	3 oz

Land preparation: Rip strip till on May 1
Soil pH: 6.3
Soil type(s): Uchee, Nansemond, Eunola
Nutrient analysis (ppm): P (20), K (53), Ca (424), Mg (36), Zn (0.6), Mn (2.3)
Harvest date: October 14
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars
In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Comments: No phytotoxicity in any plot on May 20 (cotyledon stage) or on June 12 (Trt 1 = 2 true leaf; Trt 5 = 3-4 true leaf; all other treatments = 6 true leaf stage).
No aphids and 1 spider mite (Trt 4, Rep IV) on June 24.

Table 7. Mean number of thrips per plant, CT08THP3. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	May 19		May 27		Jun 5	
			Adult	Immat.	Adult	Immat.	Adult	Immat.
1	Base	See below	0.65 a[1]	0.13 ab	2.35 a	13.83 a	1.15 d	16.40 a
2	Base + Cruiser 5FS	See below 0.342 mg ai/seed	0.08 b	0.05 bc	1.13 b	0.75 cd	3.75 a-c	8.00 b
3	Base + Cruiser 5FS + Avicta 4.17FS	See below 0.342 mg ai/seed 0.145 mg ai/seed	0.13 b	0.03 bc	0.58 b	0.53 cd	3.05 b-d	4.00 b
4	Base + Cruiser 5FS + Avicta 4.17FS + EXC211 EC	See below 0.342 mg ai/seed 0.145 mg ai/seed 0.06 mg ai/seed	0.13 b	0.05 bc	0.65 b	0.98 cd	3.30 bc	4.50 b
5	Base + Cruiser 5FS + Avicta 4.17FS + EXC211 EC	See below 0.342 mg ai/seed 0.145 mg ai/seed 0.09 mg ai/seed	0.08 b	0.00 c	0.65 b	0.83 cd	4.75 ab	3.20 b
6	Base + Cruiser 5FS + Avicta 4.17FS + STP28271	See below 0.342 mg ai/seed 0.145 mg ai/seed 50 g ai/100 kg seed	0.15 b	0.00 c	0.93 b	1.15 cd	4.10 a-c	7.20 b
7	Base + Temik 15G	See below 5 lb product/A (IF)	0.25 b	0.08 bc	0.73 b	3.40 bc	2.40 cd	3.95 b
8	Base + Cruiser 5FS + Dimethoate 400EC	See below 0.342 mg ai/seed 8 oz/A (BC @ 1st tl)	0.10 b	0.05 bc	0.63 b	1.08 cd	5.75 a	2.95 b
9	Base + Avicta 4.17FS + XED 175	 0.145 mg ai/seed 0.064 mg ai/seed	0.38 ab	0.23 a	2.50 a	5.40 b	3.05 b-d	15.15 a
10	Base + Cruiser 5FS + Avicta 4.17FS + XED 175	 0.342 mg ai/seed 0.145 mg ai/seed 0.064 mg ai/seed	0.08 b	0.00 c	0.80 b	0.63 cd	4.65 ab	4.55 b
11	Base + Cruiser 5FS + Avicta 4.17FS + XED 175	 0.342 mg ai/seed 0.145 mg ai/seed 0.130 mg ai/seed	0.08 b	0.00 c	0.70 b	0.40 d	5.75 a	4.90 b
	LSD		0.33	0.12	0.74	2.89	2.14	5.84

All seed received a base treatment of: Apron XL 3LS @ 7.5 g ai/100 kg seed + Maxim 4FS @ 2.5 g ai/100 kg seed + Systhane 40WP 21 g ai/100 kg seed + Dynasty CST 125FS @ 0.034 mg ai/seed.

[1]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 8. Stand counts and vigor ratings[1], CT08THP3. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Plants per row ft		Vigor rating	
			May 20	May 27	May 20	Jun 12
1	Base	See below	2.89	2.93	90 a[2]	20.0 g
2	Base + Cruiser 5FS	See below 0.342 mg ai/seed	3.05	3.05	100 b	86.3 e
3	Base + Cruiser 5FS + Avicta 4.17FS	See below 0.342 mg ai/seed 0.145 mg ai/seed	2.96	2.91	100 b	90.0 d
4	Base + Cruiser 5FS + Avicta 4.17FS + EXC211 EC	See below 0.342 mg ai/seed 0.145 mg ai/seed 0.06 mg ai/seed	2.76	2.81	100 b	91.3 d
5	Base + Cruiser 5FS + Avicta 4.17FS + EXC211 EC	See below 0.342 mg ai/seed 0.145 mg ai/seed 0.09 mg ai/seed	2.93	3.04	100 b	90.0 d
6	Base + Cruiser 5FS + Avicta 4.17FS + STP28271	See below 0.342 mg ai/seed 0.145 mg ai/seed 50 g ai/100 kg seed	2.99	3.00	100 b	87.5 e
7	Base + Temik 15G	See below 5 lb/A	2.97	3.02	100 b	97.5 b
8	Base + Cruiser 5FS + Dimethoate 400EC	See below 0.342 mg ai/seed 8 oz/A (BC @ 1st tl)	2.87	2.99	100 b	90.0 d
9	Base + Avicta 4.17FS + XED 175	 0.145 mg ai/seed 0.064 mg ai/seed	2.82	2.86	100 b	55.0 f
10	Base + Cruiser 5FS + Avicta 4.17FS + XED 175	 0.342 mg ai/seed 0.145 mg ai/seed 0.064 mg ai/seed	2.94	2.94	100 b	100.0 a
11	Base + Cruiser 5FS + Avicta 4.17FS + XED 175	 0.342 mg ai/seed 0.145 mg ai/seed 0.130 mg ai/seed	2.96	3.11	100 b	93.8 c
	LSD		NS	NS	0.00	2.38

All seed received a base treatment of: Apron XL 3LS @ 7.5 g ai/100 kg seed + Maxim 4FS @ 2.5 g ai/100 kg seed + Systhane 40WP 21 g ai/100 kg seed + Dynasty CST 125FS @ 0.034 mg ai/seed.

[1]Stand counts are based on the number of plants in row 1. Vigor ratings are based on assigning 100 to the plot with highest vigor and basing all other plots relative to this plot.

[2]Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).

Table 9. Thrips injury ratings and yield, CT08THP3. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Thrips injury rating[1]			Lint lb/acre[2]
			May 27	Jun 2	Jun 9	
1	Base	See below	4.00 a[3]	4.75 a	4.56 a	1201 d
2	Base + Cruiser 5FS	See below 0.342 mg ai/seed	2.38 b	2.25 d	2.81 c	1602 ab
3	Base + Cruiser 5FS + Avicta 4.17FS	See below 0.342 mg ai/seed 0.145 mg ai/seed	2.19 b	1.63 f-h	1.63 ef	1564 ab
4	Base + Cruiser 5FS + Avicta 4.17FS + EXC211 EC	See below 0.342 mg ai/seed 0.145 mg ai/seed 0.06 mg ai/seed	2.19 b	1.75 ef	1.69 e	1673 ab
5	Base + Cruiser 5FS + Avicta 4.17FS + EXC211 EC	See below 0.342 mg ai/seed 0.145 mg ai/seed 0.09 mg ai/seed	2.13 b	1.44 h	1.38 ef	1479 bc
6	Base + Cruiser 5FS + Avicta 4.17FS + STP28271	See below 0.342 mg ai/seed 0.145 mg ai/seed 50 g ai/100 kg seed	2.19 b	1.94 e	2.25 d	1580 ab
7	Base + Temik 15G	See below 5 lb/A	2.25 b	2.50 c	1.56 ef	1606 ab
8	Base + Cruiser 5FS + Dimethoate 400EC	See below 0.342 mg ai/seed 8 oz/A (BC @ 1st tl)	2.06 b	1.50 gh	1.44 ef	1753 a
9	Base + Avicta 4.17FS + XED 175	 0.145 mg ai/seed 0.064 mg ai/seed	4.00 a	3.88 b	3.88 b	1263 cd
10	Base + Cruiser 5FS + Avicta 4.17FS + XED 175	 0.342 mg ai/seed 0.145 mg ai/seed 0.064 mg ai/seed	2.25 b	1.63 f-h	1.75 e	1593 ab
11	Base + Cruiser 5FS + Avicta 4.17FS + XED 175	 0.342 mg ai/seed 0.145 mg ai/seed 0.130 mg ai/seed	2.06 b	1.69 fg	1.25 f	1767 a
	LSD		0.39	0.20	0.42	241.1

All seed received a base treatment of: Apron XL 3LS @ 7.5 g ai/100 kg seed + Maxim 4FS @ 2.5 g ai/100 kg seed + Systhane 40WP 21 g ai/100 kg seed + Dynasty CST 125FS @ 0.034 mg ai/seed.

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*

[2]*Cotton was harvested on October 14. Gross yields were reduced by 59.2% to account for seed and trash.*

[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP4, Evaluation of Syngenta seed treatments for thrips control, plant injury and yield

EXPERIMENT TREATMENTS:

#	Material*	Rate	Date(s) treated
1	Base	See below	---
2	Base + Temik 15G	See below 5 lb product/A (IF)	---
3	Base + Dynasty 100FS + Cruiser 5FS + Avicta 4.17FS	See below 0.034 mg ai/seed 0.342 mg ai/seed 0.145 mg ai/seed	---
4	Base + Dynasty CST 125FS + A16115 SC [A;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	---
5	Base + Dynasty CST 125FS + A16115 SC [B;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	---
6	Base + Dynasty CST 125FS + A16115 SC [C;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	---
7	Base + A16115 SC + A15423 FS	See below 0.5 mg ai/seed 0.0124 mg ai/seed	---
8	Base + Allegiance LS FS + Baytan 30 FS + Trilex Flowable FS + STP15273 + STP17217	See below 15.0 g ai/100 kg seed 5.0 g ai/100 kg seed 10.0 g ai/100 kg seed 0.375 mg ai/seed 0.375 mg ai/seed	---
9	Base + Cruiser 5FS	See below 0.342 mg ai/seed	---

*All seed received a base fungicide treatment of: A15436 FS @ 31 g ai/100 kg seed

Test #: CT08THP4	**Planting date:** May 5
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Cotton	**Row spacing:** 36”
Variety: DP 143 B2RF	**Field #:** 4
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/03	Buccaneer	1 qt
5/03	Prowl	1.5 pt
5/03	Cotoran 4L	1 qt
5/30	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/16	Pentia* (Trts 2-9)	8 oz
7/25	Pentia	8 oz

*With Induce 1 pt to 100 gal H_2O

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/26	N	30 units
6/26	Boron	1 qt
7/14	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
10/06	Finish	1 qt
10/06	Def	8 oz
10/06	Dropp	3 oz

Land preparation: Rip strip till on May 1
Soil pH: 6.3
Soil type(s): Uchee, Nansemond, Eunola
Nutrient analysis (ppm): P (20), K (53), Ca (424), Mg (36), Zn (0.6), Mn (2.3)
Harvest date: October 21
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars

Comments: No phytotoxicity in any plot on May 20 (cotyledon stage) or on June 12.
No aphids and a total of 3 spider mites were collected in soapy water thrips samples collected on May 27 (2nd true leaf stage, data not shown). No aphids and 1 spider mite on June 5. No aphids or spider mites on June 24.

Table 10. Mean number of thrips, aphids, and mites per plant, CT08THP4. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	May 19[1]		May 27[1]		Jun 5[1]	
			Thrips		Thrips		Thrips	
			Adult	Immat.	Adult	Immat.	Adult	Immat.
1	Base	See below	1.80 a[2]	0.50 a	2.80 a	11.85 a	0.50 c	12.75 a
2	Base + Temik 15G	See below 5 lb/A	0.13 b	0.05 b	0.43 c	0.30 b	0.70 c	1.40 c
3	Base + Dynasty 100FS + Cruiser 5FS + Avicta 4.17FS	See below 0.034 mg ai/seed 0.342 mg ai/seed 0.145 mg ai/seed	0.30 b	0.10 b	1.13 bc	0.73 b	2.75 a	5.25 bc
4	Base + Dynasty CST 125FS + A16115 SC [A;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	0.30 b	0.03 b	0.98 bc	0.78 b	2.75 a	5.90 bc
5	Base + Dynasty CST 125FS + A16115 SC [B;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	0.30 b	0.00 b	0.93 bc	0.50 b	1.35 bc	3.45 bc
6	Base + Dynasty CST 125FS + A16115 SC [C;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	0.15 b	0.00 b	0.80 bc	0.60 b	2.20 ab	4.40 bc
7	Base + A16115 SC + A15423 FS	See below 0.5 mg ai/seed 0.0124 mg ai/seed	0.18 b	0.03 b	0.68 bc	1.03 b	2.70 ab	4.90 bc
8	Base + Allegiance LS FS + Baytan 30 FS + Trilex Flowable FS + STP15273 + STP17217	See below 15.0 g ai/100 kg seed 5.0 g ai/100 kg seed 10.0 g ai/100 kg seed 0.375 mg ai/seed 0.375 mg ai/seed	0.35 b	0.00 b	0.75 bc	0.35 b	3.05 a	6.05 b
9	Base + Cruiser 5FS	See below 0.342 mg ai/seed	0.18 b	0.03 b	1.40 b	1.28 b	2.35 ab	6.90 b
	LSD		0.59	0.21	0.97	2.43	1.38	4.57

All seed received a base fungicide treatment of: A15436 FS @ 31 g ai/100 kg seed.
[1]Due to very low aphid and mite counts in the samples, these arthropods were not analyzed.
[2]Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).

Table 11. Stand counts and vigor ratings[1], CT08THP4. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Plants per row ft		Vigor rating	
			May 20	Jun 2	May 20	Jun 12
1	Base	See below	2.80	2.75	92.5	23.8 f
2	Base + Temik 15G	See below 5 lb/A	2.38	2.61	92.5	98.8 a
3	Base + Dynasty 100FS + Cruiser 5FS + Avicta 4.17FS	See below 0.034 mg ai/seed 0.342 mg ai/seed 0.145 mg ai/seed	2.98	2.99	95.0	100.0 a
4	Base + Dynasty CST 125FS + A16115 SC [A;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	3.08	2.98	95.0	93.8 b
5	Base + Dynasty CST 125FS + A16115 SC [B;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	2.76	2.74	95.0	87.5 de
6	Base + Dynasty CST 125FS + A16115 SC [C;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	2.99	3.00	97.5	92.5 bc
7	Base + A16115 SC + A15423 FS	See below 0.5 mg ai/seed 0.0124 mg ai/seed	3.02	3.02	95.0	90.0 cd
8	Base + Allegiance LS FS + Baytan 30 FS + Trilex Flowable FS + STP15273 + STP17217	See below 15.0 g ai/100 kg seed 5.0 g ai/100 kg seed 10.0 g ai/100 kg seed 0.375 mg ai/seed 0.375 mg ai/seed	2.86	3.00	90.0	93.8 b
9	Base + Cruiser 5FS	See below 0.342 mg ai/seed	2.93	2.92	97.5	85.0 e
	LSD		NS	NS	NS	3.10

All seed received a base fungicide treatment of: A15436 FS @ 31 g ai/100 kg seed.
[1]Stand counts are based on the number of plants in row 1. Vigor ratings are based on assigning 100 to the plot with highest vigor and basing all other plots relative to this plot.
[2]Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).

Table 12. Thrips injury ratings and yield, CT08THP4. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Thrips injury rating[1]			Lint lb/acre[2]
			May 29	Jun 2	Jun 9	
1	Base	See below	4.56 a[3]	4.75 a	4.75 a	722 c
2	Base + Temik 15G	See below 5 lb/A	2.63 c-e	1.50 de	0.63 d	1429 a
3	Base + Dynasty 100FS + Cruiser 5FS + Avicta 4.17FS	See below 0.034 mg ai/seed 0.342 mg ai/seed 0.145 mg ai/seed	2.75 cd	1.81 c	0.94 cd	1264 b
4	Base + Dynasty CST 125FS + A16115 SC [A;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	2.06 f	1.63 c-e	0.94 cd	1373 ab
5	Base + Dynasty CST 125FS + A16115 SC [B;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	3.19 b	1.63 c-e	0.75 cd	1374 ab
6	Base + Dynasty CST 125FS + A16115 SC [C;UN]	See below 0.034 mg ai/seed 0.5 mg ai/seed	2.38 d-f	1.63 c-e	1.06 c	1404 a
7	Base + A16115 SC + A15423 FS	See below 0.5 mg ai/seed 0.0124 mg ai/seed	2.50 c-e	1.75 cd	1.00 cd	1296 ab
8	Base + Allegiance LS FS + Baytan 30 FS + Trilex Flowable FS + STP15273 + STP17217	See below 15.0 g ai/100 kg seed 5.0 g ai/100 kg seed 10.0 g ai/100 kg seed 0.375 mg ai/seed 0.375 mg ai/seed	2.31 ef	1.38 e	0.75 cd	1414 a
9	Base + Cruiser 5FS	See below 0.342 mg ai/seed	2.88 bc	2.56 b	1.50 b	1321 ab
	LSD		0.40	0.29	0.40	138.9

All seed received a base fungicide treatment of: A15436 FS @ 31 g ai/100 kg seed.
[1]Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.
[2]Cotton was harvested on October 21. Gross yields were reduced by 62.2% to account for seed and trash.
[3]Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).

TEST: CT08THP5, Evaluation of foliar applied Radiant SC for thrips control, plant injury and yield

EXPERIMENT TREATMENTS:

#	Material	Rate and application method	Dates treated
1	Radiant SC	0.75 oz/A (BC @ 1st tl and @ 2-3 tl)	May 21 and 30
2	Radiant SC	1.0 oz/A (BC @ 1st tl and @ 2-3 tl)	May 21 and 30
3	Radiant SC	1.5 oz/A (BC @ 1st tl and @ 2-3 tl)	May 21 and 30
4	Radiant SC	3.0 oz/A (BC @ 1st tl and @ 2-3 tl)	May 21 and 30
5	Orthene 97	3.3 oz/A (BC @ 1st tl and @ 2-3 tl)	May 21 and 30
6	Untreated	---	---

Test #: CT08THP5	**Planting date:** May 6
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Cotton	**Row spacing:** 36”
Variety: DP 444 BG/RR	**Field #:** 4
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/03	Buccaneer	1 qt
5/03	Prowl	1.5 pt
5/03	Cotoran 4L	1 qt
5/30	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/16	Pentia* (Trts 1-5)	8 oz
7/25	Pentia	8 oz

*With Induce 1 pt to 100 gal H_2O

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/26	N	30 units
6/26	Boron	1 qt
7/14	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
9/29	Finish	1 qt
9/29	Def	8 oz
9/29	Dropp	3 oz

Land preparation: Rip strip till on May 1
Soil pH: 6.3
Soil type(s): Uchee, Nansemond, Eunola
Nutrient analysis (ppm): P (20), K (53), Ca (424), Mg (36), Zn (0.6), Mn (2.3)
Harvest date: October 14
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Comments: Pre-treatment counts on May 19 indicated 0.93 adults and 0.03 immature thrips per plant.

Table 13. Mean number of thrips per plant, CT08THP5. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	May 23		May 27		Jun 2		Jun 9	
			Adult	Immat.	Adult	Immat.	Adult	Immat.	Adult	Immat.
1	Radiant SC	0.75 oz/A (BC @ 1st tl and @ 2-3 tl)	1.5 a[1]	0.8	3.5 a	11.6	0.5	9.6 b	2.1	7.0 ab
2	Radiant SC	1.0 oz/A (BC @ 1st tl and @ 2-3 tl)	1.3 a	0.4	3.3 a	9.4	0.9	9.5 b	2.4	8.6 a
3	Radiant SC	1.5 oz/A (BC @ 1st tl and @ 2-3 tl)	1.7 a	0.3	3.4 a	12.7	0.8	7.4 bc	1.8	6.1 ab
4	Radiant SC	3.0 oz/A (BC @ 1st tl and @ 2-3 tl)	1.5 a	0.3	3.7 a	10.3	1.7	5.2 bc	1.7	4.0 bc
5	Orthene 97	3.3 oz/A (BC @ 1st tl and @ 2-3 tl)	0.3 b	0.5	1.1 b	6.2	0.4	2.5 c	1.6	1.3 c
6	Untreated	---	1.9 a	1.1	3.3 a	12.8	0.7	18.9 a	0.9	4.4 bc
	LSD		0.95	NS	1.03	NS	NS	6.66	NS	3.18

[1]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 14. Thrips injury ratings, vigor ratings, and yield, CT08THP5. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]			Vigor rating[2]	Lint lb/acre[3]
			May 29	Jun 2	Jun 9	Jun 13	
1	Radiant SC	0.75 oz/A (BC @ 1st tl and @ 2-3 tl)	3.63 a[4]	4.50 b	4.25 ab	4.0 a	1202 b
2	Radiant SC	1.0 oz/A (BC @ 1st tl and @ 2-3 tl)	4.00 a	4.50 b	4.06 bc	4.0 a	1199 b
3	Radiant SC	1.5 oz/A (BC @ 1st tl and @ 2-3 tl)	4.00 a	4.50 b	4.00 bc	4.0 a	1175 b
4	Radiant SC	3.0 oz/A (BC @ 1st tl and @ 2-3 tl)	4.00 a	4.38 b	3.75 c	3.0 b	1217 b
5	Orthene 97	3.3 oz/A (BC @ 1st tl and @ 2-3 tl)	2.88 b	2.88 c	2.25 d	1.0 c	1527 a
6	Untreated	---	4.00 a	4.75 a	4.50 a	4.0 a	1112 b
	LSD		0.46	0.13	0.35	0.00	226.8

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*Vigor ratings are based on a scale of 1-5, where 1= most vigorous and 5 = least vigorous.*
[3]*Cotton was harvested on October 14. Gross yields were reduced by 59.1% to account for seed and trash.*
[4]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP6a, Evaluation of foliar applied Nichino America, Inc. insecticides for thrips injury and yield

EXPERIMENT TREATMENTS:

#	Material	Rate and application method	Date(s) treated
1	Aeris + NNI-0101	0.75 mg ai/seed 3.19 oz/A (BC @ 1st tl)	--- May 23
2	Aeris + NNI-0101	0.75 mg ai/seed 6.37 oz/A (BC @ 1st tl)	--- May 23
3	Aeris + NAI-2302	0.75 mg ai/seed 21 oz/A (BC @ 1st tl)	--- May 23
4	Aeris + Portal	0.75 mg ai/seed 16 oz/A (BC @ 1st tl)	--- May 23
5	Aeris + Orthene 97	0.75 mg ai/seed 4 oz/A (BC @ 1st tl)	--- May 23
6	Aeris	0.75 mg ai/seed	---
7	Untreated	---	---

Aeris seed treatment on all treatments (except #7); used a non-ionic surfactant @ 0.25% v/v with all insecticide treatments except Orthene.

Test #: CT08THP6a	**Planting date:** May 1
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Cotton	**Row spacing:** 36”
Variety: ST 4498 B2RF	**Field #:** 15
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/02	Buccaneer	1 qt
5/01	Prowl	1.5 pt
5/01	Cotoran 4L	1 qt
5/30	Roundup	20 oz
6/06	Roundup	20 oz
7/17	Envoke	0.1 oz
7/17	MSMA	1 qt
7/17	Caparol	1.5 pt
8/19	Select	12 oz

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/15	Pentia	8 oz
7/25	Pentia	8 oz

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/25	N	30 units
6/25	Boron	1 qt
7/12	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
9/29	Finish	1 qt
9/29	Def	8 oz
9/29	Dropp	3 oz

Land preparation: Rip strip till on May 1
Soil pH: 6.96
Soil type(s): Emporia, Nansemond
Nutrient analysis (ppm): P (62), K (61), Ca (314), Mg (72), Zn (0.8), Mn (4.4)
Harvest date: October 9
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Comments: Three replicates

Table 15. Thrips injury ratings and yield, CT08THP6a. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]			Lint lb/acre[2]
			May 27	Jun 2	Jun 9	
1	Aeris + NNI-0101	0.75 mg ai/seed 3.19 oz/A (BC @ 1st tl)	2.92 b[3]	2.08 c	1.08 cd	1261 a
2	Aeris + NNI-0101	0.75 mg ai/seed 6.37 oz/A (BC @ 1st tl)	2.75 b	2.33 bc	0.75 e	1357 a
3	Aeris + NAI-2302	0.75 mg ai/seed 21 oz/A (BC @ 1st tl)	3.00 b	2.17 c	0.83 de	1377 a
4	Aeris + Portal	0.75 mg ai/seed 16 oz/A (BC @ 1st tl)	3.00 b	2.75 b	1.75 b	1388 a
5	Aeris + Orthene 97	0.75 mg ai/seed 4 oz/A (BC @ 1st tl)	2.67 b	1.92 c	0.67 e	1292 a
6	Aeris	0.75 mg ai/seed	2.58 b	2.67 b	1.17 c	1303 a
7	Untreated	---	3.92 a	4.33 a	3.92 a	1035 b
	LSD		0.49	0.43	0.29	164.6

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*Cotton was harvested on October 9. Gross yields were reduced by 62.3% to account for seed and trash.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP6b, Evaluation of foliar applied Nichino America, Inc. insecticides for thrips injury and yield

EXPERIMENT TREATMENTS:

#	Material	Rate and application method	Date(s) treated
1	Aeris + NNI-0101	0.75 mg ai/seed 1.59 oz/A (BC @ 1st tl)	--- May 23
2	Aeris + NNI-0101	0.75 mg ai/seed 3.19 oz/A (BC @ 1st tl)	--- May 23
3	Aeris + NNI-0101	0.75 mg ai/seed 6.37 oz/A (BC @ 1st tl)	--- May 23
4	Aeris + NAI-2302	0.75 mg ai/seed 14 oz/A (BC @ 1st tl)	--- May 23
5	Aeris + NAI-2302	0.75 mg ai/seed 21 oz/A (BC @ 1st tl)	--- May 23
6	Aeris + Portal	0.75 mg ai/seed 16 oz/A (BC @ 1st tl)	--- May 23
7	Aeris + Orthene 97	0.75 mg ai/seed 4 oz/A (BC @ 1st tl)	--- May 23
8	Aeris	0.75 mg ai/seed	---
9	Untreated	---	---

Aeris seed treatment on all treatments (except #9); used a non-ionic surfactant @ 0.25% v/v with all insecticide treatments except Orthene.

Test #: CT08THP6b	**Planting date:** May 7
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Cotton	**Row spacing:** 36”
Variety: ST 4498 B2RF	**Field #:** 36
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/21	Buccaneer	1 qt
5/08	Prowl	1 qt
5/08	Cotoran 4L	1 qt
5/30	Roundup	20 oz
6/09	Roundup	20 oz
7/17	Envoke	0.1 oz
7/17	MSMA	1 qt
7/17	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/15	Pentia	8 oz
7/25	Pentia	8 oz

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/25	N	30 units
6/25	Boron	1 qt
7/12	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
10/03	Finish	1 qt
10/03	Def	8 oz
10/03	Dropp	3 oz

Land preparation: Rip strip till May 7
Soil pH: 6.49
Soil type(s): Uchee, Nansemond
Nutrient analysis (ppm): P (56), K (46), Ca (225), Mg (30), Zn (0.5), Mn (2.8)
Harvest date: October 15
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Table 16. Thrips injury ratings and yield, CT08THP6b. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]			Lint lb/acre[2]
			May 29	Jun 2	Jun 9	
1	Aeris + NNI-0101	0.75 mg ai/seed 1.59 oz/A (BC @ 1st tl)	2.31 b-d[3]	1.75 cd	0.56 b	1462 bc
2	Aeris + NNI-0101	0.75 mg ai/seed 3.19 oz/A (BC @ 1st tl)	2.19 b-d	1.75 cd	0.56 b	1606 ab
3	Aeris + NNI-0101	0.75 mg ai/seed 6.37 oz/A (BC @ 1st tl)	2.13 cd	1.69 cd	0.69 b	1612 ab
4	Aeris + NAI-2302	0.75 mg ai/seed 14 oz/A (BC @ 1st tl)	2.44 bc	1.94 c	0.69 b	1728 a
5	Aeris + NAI-2302	0.75 mg ai/seed 21 oz/A (BC @ 1st tl)	2.06 de	1.63 cd	0.63 b	1441 bc
6	Aeris + Portal	0.75 mg ai/seed 16 oz/A (BC @ 1st tl)	2.38 b-d	2.38 b	0.75 b	1750 a
7	Aeris + Orthene 97	0.75 mg ai/seed 4 oz/A (BC @ 1st tl)	1.75 e	1.38 d	0.56 b	1585 ab
8	Aeris	0.75 mg ai/seed	2.50 b	1.81 c	0.75 b	1803 a
9	Untreated	---	3.94 a	4.25 a	3.75 a	1249 c
	LSD		0.37	0.40	0.21	233.2

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*Cotton was harvested on October 15. Gross yields were reduced by 60.8% to account for seed and trash.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP7, Evaluation of cotton lines for potential resistance to thrips

EXPERIMENT TREATMENTS:

#	Variety	Treatments	Date(s) treated
1	TX281	---	---
2	TX284	---	---
3	PHY 485 WRF	---	---
4	TX281	Temik 15G @ 5 lb/A (IF) + Orthene 97 @ 6 oz/A (BC at 1-2 tl)	--- May 23
5	PHY 485 WRF	Temik 15G @ 5 lb/A (IF) + Orthene 97 @ 6 oz/A (BC at 1-2 tl)	--- May 23

Trt 2 was hand-planted into row 1 (80 seed/row) and rows 2-4 were PHY 485 WRF

Test #: CT08THP7	**Planting date:** May 7
Year: 2008	**Plot size:** 2 rows x 20’
Crop: Cotton	**Row spacing:** 36”
Varieties: TX281, TX284, PHY485WRF	**Field #:** 67
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/01	Buccaneer	1 qt
5/07	Prowl	1 qt
5/07	Cotoran 4L	1 qt
6/11	Select	1 pt
7/17	Envoke	0.1 oz
7/17	MSMA	1 qt
7/17	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/16	Pentia* (Trts 1, 3, 4, 5)	8 oz
7/25	Pentia	8 oz

*With Induce 1 pt to 100 gal H_2O

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/25	N	30 units
6/25	Boron	1 qt
7/13	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
9/29	Finish	1 qt
9/29	Def	8 oz
9/29	Dropp	3 oz

Land preparation: Rip strip till on May 5
Soil pH: 6.34
Soil type(s): Eunola, Emporia, Nansemond
Nutrient analysis (ppm): P (23), K (47), Ca (380), Mg (31), Zn (0.5), Mn (2.8)

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars
In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Comments: Test was not harvested. Irrigated with 0.8” water on June 12.

Table 17. Mean number of thrips per plant, CT08THP7. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Material and rate	May 19		May 27		Jun 2		Jun 9	
			Adult	Immat.	Adult	Immat.	Adult	Immat.	Adult	Immat.
1	TX281	---	1.70	0.45	2.85 ab[1]	8.05 a	1.35	30.35 a	2.56	6.00
2	TX284	---	0.85	0.40	2.50 b	2.90 b	1.75	14.85 b	4.11	11.67
3	PHY 485 WRF	---	0.90	0.45	4.60 a	7.55 a	1.25	28.90 a	1.44	13.33
4	TX281	Temik 15G @ 5 lb/A + Orthene 97 @ 6 oz/A (BC at 1-2 tl)	0.25	0.10	0.50 c	0.45 b	0.80	0.60 c	3.67	7.11
5	PHY 485 WRF	Temik 15G @ 5 lb/A + Orthene 97 @ 6 oz/A (BC at 1-2 tl)	0.30	0.05	0.50 c	0.85 b	1.70	0.75 c	5.00	6.67
	LSD		NS	NS	1.86	3.35	NS	10.85	NS	NS

[1]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 18. Thrips injury ratings, CT08THP7. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Material and rate	Thrips injury rating[1]		
			May 29	Jun 3	Jun 9
1	TX281	---	3.75 a[2]	4.13 a	4.25 a
2	TX284	---	*	4.06 a	4.25 a
3	PHY 485 WRF	---	3.75 a	4.19 a	4.31 a
4	TX281	Temik 15G @ 5 lb/A + Orthene 97 @ 6 oz/A (BC at 1-2 tl)	1.69 c	0.50 c	0.56 b
5	PHY 485 WRF	Temik 15G @ 5 lb/A + Orthene 97 @ 6 oz/A (BC at 1-2 tl)	2.06 b	0.81 b	0.56 b
	LSD		0.21	0.24	0.23

**Nothing visible for rating.*
[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP9, Evaluation of foliar applied Ecotech AG for thrips control, plant injury and yield

EXPERIMENT TREATMENTS:

#	Material	Rate	Date(s) treated
1	Aeris + Ecotec AG	--- 2 pt/A (BC @ 1st tl)	--- May 21
2	Aeris + Orthene 97	--- 4 oz/A (BC @ 1st tl)	--- May 21
3	Aeris + Ecotec AG + Orthene 97	--- 2 pt/A (BC @ 1st tl) 4 oz/A (BC @ 1st tl)	--- May 21
4	Ecotec AG	2 pt/A (BC @ 1st tl and @ 2-3 tl)	May 21 and 30
5	Orthene 97	4 oz/A (BC @ 1st tl and @ 2-3 tl)	May 21 and 30
6	Ecotec AG + Orthene 97	2 pt/A (BC @ 1st tl and @ 2-3 tl) 4 oz/A (BC @ 1st tl and @ 2-3 tl)	May 21 and 30
7	Untreated	---	---

Test #: CT08THP9	**Planting date:** May 7
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Cotton	**Row spacing:** 36”
Variety: ST 4498 B2RF	**Field #:** 66
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/02	Buccaneer	1 qt
5/07	Prowl	1 qt
5/07	Cotoran 4L	1 qt
6/09	Roundup	20 oz
6/30	Roundup	20 oz
7/17	Envoke	0.1 oz
7/17	MSMA	1 qt
7/17	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/25	Orthene 97	8 oz
8/04	Baythroid	2 oz
8/12	Baythroid	3 oz
8/12	Centric	2 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/15	Pentia	8 oz
7/25	Pentia	8 oz

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/25	N	30 units
6/25	Boron	1 qt
7/13	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
10/03	Finish	1 qt
10/03	Def	8 oz
10/03	Dropp	3 oz

Land preparation: Rip strip till on May 5
Soil pH: 6.91
Soil type(s): Nansemond, Emporia
Nutrient analysis (ppm): P (29), K (64), Ca (406), Mg (45), Zn (0.6), Mn (2.7)
Harvest date: October 15
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Table 19. Mean number of thrips per plant, CT08THP9. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	May 23		May 29		Jun 3		Jun 10	
			Adult	Immature	Adult	Immature	Adult	Immature	Adult	Immature
1	Aeris + Ecotec AG	2 pt/A (BC @ 1st tl)	0.4 b[1]	0.00 c	1.1	0.13 c	2.2 a	2.2 c	2.4 ab	10.2
2	Aeris + Orthene 97	4 oz/A (BC @ 1st tl)	0.4 b	0.03 c	1.0	0.05 c	2.3 a	1.9 c	2.3 ab	5.1
3	Aeris + Ecotec AG + Orthene 97	2 pt/A (BC @ 1st tl) 4 oz/A (BC @ 1st tl)	0.3 b	0.00 c	0.6	0.03 c	1.0 bc	1.0 c	2.8 ab	3.7
4	Ecotec AG	2 pt/A (BC @ 1st tl and @ 2-3 tl)	1.0 a	0.58 a	1.2	1.23 ab	1.3 a-c	21.6 a	1.6 bc	9.1
5	Orthene 97	4 oz/A (BC @ 1st tl and @ 2-3 tl)	0.4 b	0.13 bc	1.2	1.53 ab	0.4 c	1.3 c	3.3 a	1.3
6	Ecotec AG + Orthene 97	2 pt/A (BC @ 1st tl and @ 2-3 tl) 4 oz/A (BC @ 1st tl and @ 2-3 tl)	0.1 b	0.10 bc	0.7	0.70 bc	0.6 bc	0.8 c	2.4 ab	2.0
7	Untreated	---	1.3 a	0.28 b	1.3	2.10 a	1.6 ab	16.0 b	0.8 c	14.8
	LSD		0.46	0.22	NS	1.05	1.22	4.60	1.29	NS

[1]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 20. Thrips injury ratings and yield, CT08THP9. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]			Lint lb/acre[2]
			May 29	Jun 3	Jun 9	
1	Aeris + Ecotec AG	 2 pt/A (BC @ 1st tl)	2.38 d[3]	2.38 d	1.13 cd	1683 a
2	Aeris + Orthene 97	 4 oz/A (BC @ 1st tl)	2.00 e	2.06 de	0.81 de	1689 a
3	Aeris + Ecotec AG + Orthene 97	 2 pt/A (BC @ 1st tl) 4 oz/A (BC @ 1st tl)	1.56 f	1.75 e	0.50 e	1696 a
4	Ecotec AG	2 pt/A (BC @ 1st tl and @ 2-3 tl)	3.88 b	4.25 a	4.25 a	1119 c
5	Orthene 97	4 oz/A (BC @ 1st tl and @ 2-3 tl)	3.00 c	3.56 b	2.44 b	1523 b
6	Ecotec AG + Orthene 97	2 pt/A (BC @ 1st tl and @ 2-3 tl) 4 oz/A (BC @ 1st tl and @ 2-3 tl)	2.31 d	2.81 c	1.44 c	1663 ab
7	Untreated	---	4.25 a	4.50 a	4.44 a	1079 c
	LSD		0.15	0.31	0.48	146.0

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*Cotton was harvested on October 15. Gross yields were reduced by 60.4% to account for seed and trash.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP_Edwards, On-farm evaluation of foliar applied insecticides for control of western flower thrips

EXPERIMENT TREATMENTS:

#	Material	Rate	Date(s) treated
1	Orthene 97	12 oz/A	May 29
2	Orthene 97 + Ecotec AG	12 oz/A 2 pt/A	May 29
3	Orthene 97 + Karate Z	12 oz/A 1.28 oz/A	May 29
4	Karate Z	1.28 oz/A	May 29
5	Radiant	3 oz/A	May 29
6	Untreated	---	---

Test #: CT08THP_Edwards	**Plot size:** 2 rows x 150’
Year: 2008	**Row spacing:** 36”
Crop: Cotton	**Location:** Kenny Edwards farm, Southampton Co., VA
Experimental design: Strip	
Planting date: April 25	

Comments: Johnny and Danny Parker are acknowledged for their assistance with this test. Pre-treatment counts on May 29 indicated 1.9 adult western flower thrips and 2.4 immature thrips per plant. Cotton in this test was treated with Temik 15G @ 5 lb/A (IF) and Orthene 97 @ 6 oz/A on May 18.

Table 21. Mean number of thrips per plant, CT08THP_Edwards (Kenny Edwards farm, Southampton Co., VA). Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	May 31		Jun 4		Jun 10	
			Adult	Immature	Adult	Immature	Adult	Immature
1	Orthene 97	12 oz/A	2.5 a-c[1]	0.1	6.3	5.3 bc	2.4	2.2
2	Orthene 97 + Ecotec AG	12 oz/A 2 pt/A	1.9 bc	0.3	7.3	3.8 cd	1.7	6.3
3	Orthene 97 + Karate Z	12 oz/A 1.28 oz/A	1.0 c	0.2	7.6	3.5 cd	3.1	6.1
4	Karate Z	1.28 oz/A	2.8 ab	0.6	6.5	8.2 b	1.3	6.6
5	Radiant	3 oz/A	1.7 bc	0.1	6.8	1.2 d	2.0	3.1
6	Untreated	---	4.2 a	0.8	8.2	12.2 a	2.2	8.2
	LSD		1.79	NS	NS	3.32	NS	NS

[1]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08THP_Francis, On-farm evaluation of foliar applied insecticides for control of western flower thrips

EXPERIMENT TREATMENTS:

#	Material	Rate	Date(s) treated
1	Orthene 97	12 oz/A	Jun 2
2	Orthene 97	16 oz/A	Jun 2
3	Orthene 97 + Ecotec AG	12 oz/A 2 pt/A	Jun 2
4	Orthene 97 + Karate Z	12 oz/A 1.28 oz/A	Jun 2
5	Karate Z	1.28 oz/A	Jun 2
6	Radiant	3 oz/A	Jun 2
7	Untreated	---	---

Test #: CT08THP_Francis	**Plot size:** 2 rows x 150’
Year: 2008	**Row spacing:** 36”
Crop: Cotton	**Location:** Glenn Francis farm, Southampton Co., VA
Experimental design: Strip	
Planting date: May 1	

Comments: Johnny Parker is acknowledged for his assistance with this test. Pre-treatment counts on June 2 indicated 4.3 adults (mostly western flower thrips) and 14.3 immature thrips per plant. Cotton in this test was treated with Avicta and Orthene 97 @ 6 oz/A on May 26.

Table 22. Mean number of thrips per plant, CT08THP_Francis (Glenn Francis farm, Southampton Co., VA). Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Jun 5		Jun 10	
			Adult	Immature	Adult	Immature
1	Orthene 97	12 oz/A	2.85 b[1]	2.10 b	5.3	2.0
2	Orthene 97	16 oz/A	3.05 b	2.00 b	5.4	1.3
3	Orthene 97 + Ecotec AG	12 oz/A 2 pt/A	3.50 b	1.50 b	7.7	3.0
4	Orthene 97 + Karate Z	12 oz/A 1.28 oz/A	3.15 b	2.65 b	8.7	2.2
5	Karate Z	1.28 oz/A	7.25 a	6.15 a	4.0	5.3
6	Radiant	3 oz/A	3.40 b	1.55 b	6.9	1.0
7	Untreated	---	6.70 a	3.25 b	4.3	4.3
	LSD		1.61	1.78	NS	NS

[1]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08BW1, Evaluation of 16 cotton varieties, with and without foliar insecticide treatments, for bollworm damage to bolls and yield

EXPERIMENT TREATMENTS:

#	Variety*
1	BCSX 0702 B2F
2	BCSX 0721 B2F
3	BCSX 0704 B2F
4	FM 1740 B2F
5	ST 4427 B2RF
6	ST 4554 B2RF
7	ST 5327 B2RF
8	ST 4498 B2RF
9	ST 5458 B2RF
10	DP 0935 B2RF
11	DP 0924 B2RF
12	DPX 440 DF
13	DP 143 B2RF
14	PHY 485 WRF
15	PHY 375 WRF
16	PHY 425 RF

*Each variety was treated with insecticides (Baythroid XL and Centric) and untreated.

Test #: CT08BW1	**Planting date:** May 14
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Cotton	**Row spacing:** 36”
Varieties: see treatment list	**Field #:** 63a
Experimental design: Split-plot	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/02	Buccaneer	1 qt
5/15	Prowl	1.5 pt
5/15	Cotoran	1 qt
5/29	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
5/14	Temik 15G	5 lb
5/29	Orthene 97	6 oz
7/11	Centric	2 oz
7/26	Orthene 97	8 oz
8/04	Baythroid XL (Trts 12, 16)	1.6 oz
8/12	Baythroid XL ("Treated" plots only)	2.6 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/12	Pentia	10 oz
7/26	Pentia	10 oz

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/25	N	30 units
6/25	Boron	1 qt
7/13	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
10/06	Finish	1 qt
10/06	Def	8 oz
10/06	Dropp	3 oz

Land preparation: Rip strip till on May 13
Soil pH: 6.04
Soil type(s): Emporia, Nansemond
Nutrient analysis (ppm): P (20), K (51), Ca (275), Mg (22), Zn (0.4), Mn (1.7)
Harvest date: October 27
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18" **PSI:** 30 **GPA:** 16.5

Table 23. Square retention, CT08BW1. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Percent square retention[1]	
		Protected	Not protected
1	BCSX 0702 B2F	96.9	91.5
2	BCSX 0721 B2F	94.6	96.3
3	BCSX 0704 B2F	94.8	97.4
4	FM 1740 B2F	95.6	95.0
5	ST 4427 B2RF	95.3	96.4
6	ST 4554 B2RF	96.7	93.7
7	ST 5327 B2RF	93.3	98.1
8	ST 4498 B2RF	95.7	93.7
9	ST 5458 B2RF	96.5	93.1
10	DP 0935 B2RF	97.4	96.8
11	DP 0924 B2RF	98.6	94.3
12	DPX 440 DF	97.0	95.7
13	DP 143 B2RF	99.0	91.6
14	PHY 485 WRF	97.4	94.6
15	PHY 375 WRF	97.7	97.1
16	PHY 425 RF	96.6	95.8
	LSD	NS	NS

[1]*Five plants per plot were sampled on July 11.*
Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).

Treatment mean (percent square retention)

1. With insecticide	96.4
2. Without insecticide	95.1
LSD	NS

Variety mean (percent square retention)

1. BCSX 0702 B2F	94.3
2. BCSX 0721 B2F	95.4
3. BCSX 0704 B2F	96.0
4. FM 1740 B2F	95.3
5. ST 4427 B2RF	95.8
6. ST 4554 B2RF	95.2
7. ST 5327 B2RF	95.7
8. ST 4498 B2RF	94.7
9. ST 5458 B2RF	94.8
10. DP 0935 B2RF	97.1
11. DP 0924 B2RF	96.5
12. DPX 440 DF	96.3
13. DP 143 B2RF	95.3
14. PHY 485 WRF	96.0
15. PHY 375 WRF	97.4
16. PHY 425 RF	96.2
LSD	NS

Split plot analysis (percent square retention)

Treatment	0.06
Variety	0.97
Treatment x variety	0.14

Table 24. Internal boll damage, CT08BW1. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Percent internal boll damage[1]
		Not protected
1	BCSX 0702 B2F	10.0 b-d
2	BCSX 0721 B2F	0.0 d
3	BCSX 0704 B2F	15.0 a-d
4	FM 1740 B2F	15.0 a-d
5	ST 4427 B2RF	5.0 cd
6	ST 4554 B2RF	5.0 cd
7	ST 5327 B2RF	25.0 ab
8	ST 4498 B2RF	10.0 b-d
9	ST 5458 B2RF	30.0 a
10	DP 0935 B2RF	25.0 ab
11	DP 0924 B2RF	5.0 cd
12	DPX 440 DF	5.0 cd
13	DP 143 B2RF	15.0 a-d
14	PHY 485 WRF	10.0 b-d
15	PHY 375 WRF	20.0 a-c
16	PHY 425 RF	15.0 a-d
	LSD	17.02

[1]*Five bolls per plot were sampled on July 31.*
Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).

Table 25. Percent external bollworm damage[1] and yield, CT08BW1. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Aug 21		Aug 27		Sep 4		Lint lb/acre[2]	
		Protected	Not protected	Protected	Not protected	Protected	Not protected	Protected	Not protected
1	BCSX 0702 B2F	0.0	0.0 b[3]	0.0	1.0 b	0.0	1.0 b	1517 f	1463 e
2	BCSX 0721 B2F	0.0	0.0 b	0.0	2.0 b	0.0	1.0 b	1716 a-e	1631 a-e
3	BCSX 0704 B2F	0.0	0.0 b	0.0	1.0 b	1.0	1.0 b	1694 a-f	1630 a-e
4	FM 1740 B2F	0.0	1.0 b	0.0	2.0 b	0.0	0.0 b	1793 a-d	1804 a
5	ST 4427 B2RF	0.0	0.0 b	0.0	1.0 b	0.0	3.0 b	1697 a-e	1656 a-d
6	ST 4554 B2RF	0.0	0.0 b	0.0	0.0 b	0.0	2.0 b	1610 ef	1575 c-e
7	ST 5327 B2RF	0.0	0.0 b	0.0	1.0 b	0.0	2.0 b	1648 c-f	1653 a-d
8	ST 4498 B2RF	0.0	0.0 b	0.0	0.0 b	0.0	1.0 b	1687 b-f	1555 de
9	ST 5458 B2RF	1.0	0.0 b	0.0	0.0 b	0.0	2.0 b	1867 a	1766 ab
10	DP 0935 B2RF	1.0	0.0 b	0.0	2.0 b	0.0	0.0 b	1708 a-e	1672 a-d
11	DP 0924 B2RF	0.0	1.0 b	0.0	0.0 b	0.0	0.0 b	1628 d-f	1547 de
12	DPX 440 DF	0.0	2.0 b	0.0	1.0 b	0.0	0.0 b	1856 ab	1751 a-c
13	DP 143 B2RF	0.0	0.0 b	0.0	0.0 b	0.0	0.0 b	1649 c-f	1615 b-e
14	PHY 485 WRF	0.0	0.0 b	1.0	3.0 b	0.0	3.0 b	1863 ab	1684 a-d
15	PHY 375 WRF	0.0	1.0 b	1.0	1.0 b	0.0	2.0 b	1721 a-e	1467 e
16	PHY 425 RF	0.0	10.0 a	2.0	42.0 a	1.0	23.0 a	1824 a-c	1108 f
	LSD	NS	3.19	NS	4.7	NS	5.64	178.0	181.8

[1]*External bollworm damage based on a sample of 25 bolls per plot.*
[2]*Cotton was harvested on October 27. Gross yields were reduced for each individual plot (54-67%) to account for seed and trash.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Treatment means (% bollworm damage)	Aug 21	Aug 27	Sep 4	Yield
1. With insecticide	0.1250	0.2500	0.1250	1716
2. Without insecticide	0.9375	3.5625	2.5625	1607
LSD	--	--	--	--

Variety mean (% bollworm damage)	Aug 21	Aug 27	Sep 4	Yield
1. BCSX 0702 B2F	0.0	0.5	0.5	1490
2. BCSX 0721 B2F	0.0	1.0	0.5	1674
3. BCSX 0704 B2F	0.0	0.5	1.0	1657
4. FM 1740 B2F	0.5	1.0	0.0	1799
5. ST 4427 B2RF	0.0	0.5	1.5	1676
6. ST 4554 B2RF	0.0	0.0	1.0	1593
7. ST 5327 B2RF	0.0	0.5	1.0	1651
8. ST 4498 B2RF	0.0	0.0	0.5	1612
9. ST 5458 B2RF	0.5	0.0	1.0	1817
10. DP 0935 B2RF	0.5	1.0	0.0	1690
11. DP 0924 B2RF	0.5	0.0	0.0	1593
12. DPX 440 DF	1.0	0.5	0.0	1796
13. DP 143 B2RF	0.0	0.0	0.0	1632
14. PHY 485 WRF	0.0	2.0	1.5	1773
15. PHY 375 WRF	0.5	1.0	1.0	1576
16. PHY 425 RF	5.0	22.0	12.0	1517
LSD	--	--	--	--

Split plot analysis (% bollworm damage)	Aug 21	Aug 27	Sep 4	Yield
Treatment	0.0065	0.0283	0.0178	0.0322
Variety	<0.0001	<0.0001	<0.0001	<0.0001
Treatment x variety	<0.0001	<0.0001	<0.0001	0.0002

TEST: CT08BW2, Evaluation of 5 Phytogen cotton varieties for bollworm damage to bolls and yield

EXPERIMENT TREATMENTS:

#	Variety
1	PHY 375WRF
2	PHY 485WRF
3	PHY 315RF
4	PHY 425RF
5	PHY 370WR

Test #: CT08BW2	**Planting date:** May 14
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Cotton	**Row spacing:** 36”
Varieties: see treatment list	**Field #:** 63a
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/02	Buccaneer	1 qt
5/15	Prowl	1.5 pt
5/15	Cotoran	1 qt
5/29	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
5/14	Temik 15G	5 lb
5/29	Orthene 97	6 oz
7/11	Centric	2 oz
7/26	Orthene 97	8 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/12	Pentia	10 oz
7/26	Pentia	10 oz

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/25	N	30 units
6/25	Boron	1 qt
7/13	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
10/06	Finish	1 qt
10/06	Def	8 oz
10/06	Dropp	3 oz

Land preparation: Rip strip till on May 13
Soil pH: 6.04
Soil type(s): Emporia, Nansemond
Nutrient analysis (ppm): P (20), K (51), Ca (275), Mg (22), Zn (0.4), Mn (1.7)
Harvest date: October 27
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 30 **GPA:** 16.5

Table 26. Plant height, number of nodes per plant, stand counts[1], square retention, and internal boll damage, CT08BW2. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Plant height (cm)[2]		Nodes per plant[2]		Plants per row ft	Percent square retention[2]	Percent internal boll damage[3]
		Jun 16	Jun 26	Jun 16	Jun 25	Jun 16	Jul 11	Jul 30
1	PHY 375WRF	12.2	19.6 d[4]	4.4	7.4	3.25 ab	96.3	5.0
2	PHY 485WRF	13.3	21.3 c	4.5	7.4	3.08 c	98.5	10.0
3	PHY 315RF	13.0	24.1 a	4.7	7.7	3.36 a	98.8	5.0
4	PHY 425RF	13.1	22.2 b	4.5	7.5	3.28 ab	92.9	0.0
5	PHY 370WR	12.7	20.6 c	4.3	7.2	3.19 bc	94.0	10.0
	LSD	NS	0.81	NS	NS	0.16	NS	NS

[1]*Stand counts are based on the number of plants in rows 1 and 2.*
[2]*Five plants per plot were sampled.*
[3]*Five bolls per plot were sampled.*
[4]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 27. Percent external bollworm damage and yield, CT08BW2. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Percent external damage[1]			Lint lb/acre[2]
		Aug 19	Aug 26	Sep 3	
1	PHY 375WRF	1.0 b[3]	2.0 b	5.0 bc	1657 a
2	PHY 485WRF	3.0 b	4.0 b	10.0 ab	1683 a
3	PHY 315RF	33.0 a	39.0 a	17.0 a	1253 b
4	PHY 425RF	24.0 a	39.0 a	15.0 a	1122 c
5	PHY 370WR	1.0 b	1.0 b	0.0 c	1605 a
	LSD	11.8	16.2	7.69	110.3

[1]*External bollworm damage based on a sample of 25 bolls per plot.*
[2]*Cotton was harvested on October 27. Gross yields were reduced for each individual plot (59-65%) to account for seed and trash.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08BW3, Evaluation of foliar applied insecticides for bollworm damage to bolls and yield

EXPERIMENT TREATMENTS:

#	Material	Rate	Date(s) treated
1	Coragen 1.67SC	0.088 lb ai/A (BC @ ET)	Aug 4
2	Coragen 1.67SC	0.088 lb ai/A (BC @ ET) 0.066 lb ai/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
3	Coragen 1.67SC	0.088 lb ai/A (BC @ ET) 0.088 lb ai/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
4	Belt SC	3 oz/A (BC @ ET) 3 oz/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
5	Baythroid XL	1.6 oz/A (BC @ ET) 2.6 oz/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
6	Leverage 2.7	3.8 oz/A (BC @ ET) 5.0 oz/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
7	Endigo ZC	4 oz/A (BC @ ET) 4 oz/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
8	Untreated	---	---

Test #: CT08BW3	**Planting date:** May 14
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Cotton	**Row spacing:** 36”
Variety: DP 434 RR	**Field #:** 63b
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/01	Buccaneer	1 qt
5/15	Prowl	1.5 pt
5/15	Cotoran	1 qt
5/29	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
5/14	Temik 15G	5 lb
5/29	Orthene 97	6 oz
7/19	Orthene 97	8 oz
7/26	Orthene 97	8 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/12	Pentia	10 oz
7/26	Pentia	16 oz

Lime & Fertilizer		
Date	**Product**	**Rate/A**
2/05	Lime	1000 lb
4/03	6-16-39	300 lb
6/26	N	30 units
6/26	Boron	1 qt
7/11	Boron	1 qt
7/15	N	30 units

Defoliation		
Date	**Product**	**Rate/A**
10/06	Finish	1 qt
10/06	Def	8 oz
10/06	Dropp	3 oz

Land preparation: Rip strip till on May 14
Soil pH: 6.18
Soil type(s): Nansemond, Emporia
Nutrient analysis (ppm): P (24), K (82), Ca (355), Mg (47), Zn (0.4), Mn (1.8)
Harvest date: October 21
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 30 **GPA:** 16.5

Table 28. Percent external bollworm damage and yield, CT08BW3. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Percent external damage[1]			Lint lb/acre[2]
			Aug 19	Aug 26	Sep 2	
1	Coragen 1.67SC	0.088 lb ai/A (BC @ ET)	2.0 c[3]	3.0 b	1.0 b	1490 b
2	Coragen 1.67SC	0.088 lb ai/A (BC @ ET) 0.066 lb ai/A (BC @ 5-7 days after ET)	4.0 bc	3.0 b	2.0 b	1716 a
3	Coragen 1.67SC	0.088 lb ai/A (BC @ ET) 0.088 lb ai/A (BC @ 5-7 days after ET)	2.0 c	1.0 b	0.0 b	1523 ab
4	Belt SC	3 oz/A (BC @ ET) 3 oz/A (BC @ 5-7 days after ET)	9.0 b	6.0 b	6.0 b	1630 ab
5	Baythroid XL	1.6 oz/A (BC @ ET) 2.6 oz/A (BC @ 5-7 days after ET)	0.0 c	2.0 b	3.0 b	1672 ab
6	Leverage 2.7	3.8 oz/A (BC @ ET) 5.0 oz/A (BC @ 5-7 days after ET)	0.0 c	0.0 b	2.0 b	1616 ab
7	Endigo ZC	4 oz/A (BC @ ET) 4 oz/A (BC @ 5-7 days after ET)	0.0 c	1.0 b	5.0 b	1541 ab
8	Untreated	---	35.0 a	28.0 a	15.0 a	1240 c
	LSD		5.2	9.4	7.30	195.9

[1]*External bollworm damage based on a sample of 25 bolls per plot.*
[2]*Cotton was harvested on October 21. Gross yields were reduced by 60.6% to account for seed and trash.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08BW4, Evaluation of foliar applied insecticides for bollworm damage to bolls and yield

EXPERIMENT TREATMENTS:

#	Material	Rate	Date(s) treated
1	Coragen 1.67SC	0.088 lb ai/A (BC @ ET)	Aug 4
2	Coragen 1.67SC	0.088 lb ai/A (BC @ ET) 0.066 lb ai/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
3	Coragen 1.67SC	0.088 lb ai/A (BC @ ET) 0.088 lb ai/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
4	Belt SC	3 oz/A (BC @ ET) 3 oz/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
5	Baythroid XL	1.6 oz/A (BC @ ET) 2.6 oz/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
6	Leverage 2.7	3.8 oz/A (BC @ ET) 5.0 oz/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
7	Endigo ZC	4 oz/A (BC @ ET) 4 oz/A (BC @ 5-7 days after ET)	Aug 4 Aug 12
8	Untreated	---	---

Test #: CT08BW4	**Planting date:** May 15
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Cotton	**Row spacing:** 36”
Variety: DP 434 RR	**Field #:** 51
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
3/21	Gramoxone	1.5 pt
3/21	Banvel	8 oz
5/01	Roundup	1 qt
5/15	Prowl	1.5 pt
5/15	Cotoran	1 qt
6/05	Buccaneer	1 qt
6/13	Roundup	20 oz
7/19	Envoke	0.1 oz
7/19	MSMA	1 qt
7/19	Roundup	22 oz

Additional Insecticides		
Date	**Product**	**Rate/A**
5/15	Temik 15G	5 lb
7/19	Orthene 97	8 oz
7/26	Orthene 97	8 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/12	Pentia	12 oz
7/26	Pentia	16 oz
8/05	Pix Plus	10 oz

Lime & Fertilizer		
Date	**Product**	**Rate/A**
4/03	6-16-39	300 lb
6/25	N	30 units
6/25	Boron	1 qt
7/13	N	30 units
7/15	Boron	1 qt

Defoliation		
Date	**Product**	**Rate/A**
10/14	Finish	1 qt
10/14	Def	8 oz
10/14	Dropp	3 oz

Land preparation: Rip strip till on May 15
Soil pH: 6.42
Soil type(s): Nansemond, Pactolus
Nutrient analysis (ppm): P (31), K (135), Ca (631), Mg (119), Zn (0.8), Mn (3.4)
Harvest date: October 31
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 30 **GPA:** 16.5

Table 29. Percent external bollworm damage and yield, CT08BW4. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Percent external damage[1]			Lint lb/acre[2]
			Aug 19	Aug 26	Sep 3	
1	Coragen 1.67SC	0.088 lb ai/A (BC @ ET)	4.0 b[3]	9.0 b	2.0 b	1474 a
2	Coragen 1.67SC	0.088 lb ai/A (BC @ ET) 0.066 lb ai/A (BC @ 5-7 days after ET)	2.0 b	3.0 b	2.0 b	1518 a
3	Coragen 1.67SC	0.088 lb ai/A (BC @ ET) 0.088 lb ai/A (BC @ 5-7 days after ET)	2.0 b	2.0 b	1.0 b	1463 a
4	Belt SC	3 oz/A (BC @ ET) 3 oz/A (BC @ 5-7 days after ET)	12.0 b	10.0 b	4.0 b	1450 a
5	Baythroid XL	1.6 oz/A (BC @ ET) 2.6 oz/A (BC @ 5-7 days after ET)	4.0 b	5.0 b	4.0 b	1417 a
6	Leverage 2.7	3.8 oz/A (BC @ ET) 5.0 oz/A (BC @ 5-7 days after ET)	2.0 b	1.0 b	5.0 b	1538 a
7	Endigo ZC	4 oz/A (BC @ ET) 4 oz/A (BC @ 5-7 days after ET)	4.0 b	7.0 b	5.0 b	1464 a
8	Untreated	---	36.0 a	29.0 a	18.0 a	1076 b
	LSD		15.7	13.6	7.80	142.9

[1]*External bollworm damage based on a sample of 25 bolls per plot.*
[2]*Cotton was harvested on October 31. Gross yields were reduced by 58.9% to account for seed and trash.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08SB1, Evaluation of foliar applied insecticides for stink bug damage to bolls and yield

EXPERIMENT TREATMENTS:

#	Material	Rate	Date(s) treated
1	Belay 2.13SC	1.8 oz/A	Jul 29 and Aug 5
2	Belay 2.13SC	2.8 oz/A	Jul 29 and Aug 5
3	Venom 70SG	2.0 oz/A	Jul 29 and Aug 5
4	Venom 70SG	3.0 oz/A	Jul 29 and Aug 5
5	Centric 40WG	2 oz/A	Jul 29 and Aug 5
6	Trimax Pro	1.8 oz/A	Jul 29 and Aug 5
7	Orthene 97	8 oz/A	Jul 29 and Aug 5
8	Baythroid XL	2.6 oz/A	Jul 29 and Aug 5
9	Endigo ZC	4 oz/A	Jul 29 and Aug 5
10	Karate Z	2.56 oz/A	Jul 29 and Aug 5
11	Untreated	---	---

Test #: CT08SB1	**Planting date:** May 14
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Cotton	**Row spacing:** 36”
Variety: DP 434 RR	**Field #:** 63b
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/01	Buccaneer	1 qt
5/15	Prowl	1.5 pt
5/15	Cotoran	1 qt
5/29	Roundup	20 oz
6/09	Roundup	20 oz
7/18	Envoke	0.1 oz
7/18	MSMA	1 qt
7/18	Caparol	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
5/14	Temik 15G	5 lb
5/29	Orthene 97	6 oz
7/19	Orthene 97	8 oz
7/26	Orthene 97	8 oz

Growth Regulators		
Date	**Product**	**Rate/A**
7/11	Pentia	10 oz
7/26	Pentia	16 oz

Lime & Fertilizer		
Date	**Product**	**Rate/A**
2/05	Lime	1000 lb
4/03	6-16-39	300 lb
6/26	N	30 units
6/26	Boron	1 qt
7/11	Boron	1 qt
7/15	N	30 units

Defoliation		
Date	**Product**	**Rate/A**
10/06	Finish	1 qt
10/06	Def	8 oz
10/06	Dropp	3 oz

Land preparation: Rip strip till on May 4
Soil pH: 6.18
Soil type(s): Nansemond, Emporia
Nutrient analysis (ppm): P (24), K (82), Ca (355), Mg (47), Zn (0.4), Mn (1.8)
Harvest date: October 21
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 30 **GPA:** 16.5

Comments: No spider mites noted on August 1 or 8 (examined 2 leaves per plot). No phytotoxicity noted on August 1 or 8. Pre-treatment counts: Field 63b had 18% internal bug damage on July 23, 2008 (50 dime to nickel-sized bolls sampled).

Table 30. Internal boll damage and yield, CT08SB1. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Percent internal boll damage[1]	Lint lb/acre[2]
1	Belay 2.13SC	1.8 oz/A	25.0 a-c[3]	1546
2	Belay 2.13SC	2.8 oz/A	15.0 b-d	1460
3	Venom 70SG	2.0 oz/A	25.0 a-c	1435
4	Venom 70SG	3.0 oz/A	30.0 ab	1480
5	Centric 40WG	2 oz/A	5.0 d	1396
6	Trimax Pro	1.8 oz/A	10.0 cd	1467
7	Orthene 97	8 oz/A	10.0 cd	1641
8	Baythroid XL	2.6 oz/A	10.0 cd	1563
9	Endigo ZC	4 oz/A	10.0 cd	1728
10	Karate Z	2.56 oz/A	0.0 d	1484
11	Untreated	---	40.0 a	1461
	LSD		17.85	NS

[1]*Five bolls per plot were sampled on August 12.*
[2]*Cotton was harvested on October 21. Gross yields were reduced by 59.4% to account for seed and trash.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: CT08SB2, Evaluation of foliar applied insecticides for stink bug damage to bolls and yield

EXPERIMENT TREATMENTS:

#	Material	Rate	Date(s) treated
1	Belay 2.13SC	1.8 oz/A	Aug 1
2	Belay 2.13SC	2.8 oz/A	Aug 1
3	Venom 70SG	2.0 oz/A	Aug 1
4	Venom 70SG	3.0 oz/A	Aug 1
5	Centric 40WG	2 oz/A	Aug 1
6	Trimax Pro	1.8 oz/A	Aug 1
7	Orthene 97	8 oz/A	Aug 1
8	Baythroid XL	2.6 oz/A	Aug 1
9	Endigo ZC	4 oz/A	Aug 1
10	Karate Z	2.56 oz/A	Aug 1
11	Untreated	---	---

Test #: CT08SB2	**Experimental design:** RCBD
Year: 2008	**Plot size:** 2 rows x 40’
Crop: Cotton	**Location:** Cherry & Bateman farm, Terrell Co., NC
Variety: DP 444 BG/RR	

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Comments: Louis Smith, Ken Cherry, and Hal Bateman are acknowledged for their assistance with this test.

Table 31. Mean number of stink bugs per 10-ft beat cloth sample, CT08SB2 (Cherry & Bateman farm, Terrell Co., NC). Tidewater AREC, Suffolk, VA, 2008. Insecticide treatments were applied on August 1.

#	Material	Rate	Aug 2					Aug 5				
			GSBA[1]	GSBN	BSBA	BSBN	Total	GSBA	GSBN	BSBA	BSBN	Total
1	Belay 2.13SC	1.8 oz/A	1.6 b[2]	0.4	0.1	0.3	2.4 b	2.3 a	1.4 a-c	0.1	0.9	4.6 a
2	Belay 2.13SC	2.8 oz/A	1.1 bc	0.3	0.1	0.3	1.8 b-d	1.5 ab	0.1 d	0.0	0.1	1.8 bc
3	Venom 70SG	2.0 oz/A	1.0 b-d	0.1	0.1	0.0	1.3 b-e	0.6 bc	0.4 cd	0.0	0.0	1.0 c
4	Venom 70SG	3.0 oz/A	0.0 e	0.1	0.1	0.1	0.4 de	0.9 bc	0.8 b-d	0.3	0.0	1.9 bc
5	Centric 40WG	2 oz/A	0.5 c-e	0.5	0.0	0.1	1.1 b-e	1.1 bc	0.5 cd	0.1	0.3	2.0 bc
6	Trimax Pro	1.8 oz/A	0.9 b-e	0.8	0.5	0.0	2.1 bc	1.6 ab	1.9 a	0.1	0.6	4.3 a
7	Orthene 97	8 oz/A	1.1 bc	0.8	0.1	0.1	2.1 bc	0.9 bc	0.4 cd	0.5	0.1	1.9 bc
8	Baythroid XL	2.6 oz/A	0.1 de	0.1	0.0	0.0	0.3 e	0.3 c	0.1 d	0.3	0.0	0.6 c
9	Endigo ZC	4 oz/A	0.3 c-e	0.4	0.1	0.0	0.8 c-e	0.4 c	0.1 d	0.3	0.0	0.8 c
10	Karate Z	2.56 oz/A	0.0 e	0.0	0.0	0.0	0.0 e	0.4 c	0.0 d	0.0	0.0	0.4 c
11	Untreated	---	2.6 a	1.3	0.1	0.0	4.0 a	1.5 ab	1.8 ab	0.1	0.1	3.5 ab
	LSD		0.95	NS	NS	NS	1.39	1.04	1.07	NS	NS	1.96

[1]*GSBA = green stink bug adults, GSBN = green stink bug nymphs, BSBA = brown stink bug adults, BSBN = brown stink bug nymphs.*
[2]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

2008

Peanut Insect Pest Management Tests and Demonstrations

TEST: PT08THP1, Evaluation of in-furrow applied HGW86 20SC for thrips control, plant injury, incidence of TSWV and yield

EXPERIMENT TREATMENTS:

#	Material	Rate and application method
1	DPX-HGW86 20SC	0.044 lb ai/A (IF)
2	DPX-HGW86 20SC	0.088 lb ai/A (IF)
3	DPX-HGW86 20SC	0.134 lb ai/A (IF)
4	Thimet 20G	5.0 lb/A (IF)
5	Temik 15G	7 lb/A (IF)
6	Untreated	---

Test #: PT08THP1	**Planting date:** May 8
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Peanut	**Row spacing:** 36”
Variety: CHAMPS	**Field #:** 14
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/19	Prowl	1 pt
4/19	Dual	1 pt
5/14	Gramoxone	12 oz
5/14	Intro	2 qt
6/20	Storm	1.5 pt
7/17	Intro	1 qt
7/30	Poast Plus	2 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/30	Baythroid	1.8 oz

Fungicides		
Date	**Product**	**Rate/A**
7/16	Folicur	7.2 oz
8/13	Provost	8 oz
8/13	Omega	1 pt
9/03	Headline	9 oz
9/03	Omega	1 pt

Lime, Fertilizer, Landplaster, and Adjuvants		
Date	**Product**	**Rate/A**
6/16	Land plaster	1200 lb
7/02	Boron	1 qt
7/02	Tech Magnum	1 qt
7/16	Boron	1 qt
7/16	Tech Magnum	1 qt
8/13	Tech Magnum	1 qt

Fumigants		
Date	**Product**	**Rate/A**
4/18	Metam	8 gal

Land preparation: Moldboard plow on February 7; cultivation on July 8
Soil pH: 6.69
Soil type(s): Nansemond, Emporia, Dragston
Nutrient analysis (ppm): P (19), K (72), Ca (235), Mg (47), Zn (0.4), Mn (1.8)
Dig date: September 30
Harvest date: October 6
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars
	Liquid	**Nozzle type:** Microtubing **Nozzle spacing:** 36” **psi:** 31 **gpa:** 5

Table 32. Thrips injury ratings and thrips counts, PT08THP1. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]				Thrips counts[2]							
							May 29		Jun 2		Jun 11		Jun 17	
			May 29	Jun 3	Jun 11	Jun 18	Adult	Immat.	Adult	Immat.	Adult	Immat.	Adult	Immat.
1	DPX-HGW86 20SC	0.044 lb ai/A (IF)	0.75 b[3]	1.25 b	4.50 b	4.75 b	0.43 b	0.0	0.50 bc	0.0	0.20	1.30 b	0.08	0.13
2	DPX-HGW86 20SC	0.088 lb ai/A (IF)	0.50 c	0.69 cd	3.25 c	4.00 c	0.40 b	0.0	0.63 bc	0.0	0.08	1.03 bc	0.03	0.08
3	DPX-HGW86 20SC	0.134 lb ai/A (IF)	0.50 c	0.81 c	3.00 d	3.50 d	0.18 b	0.0	0.98 ab	0.0	0.13	1.18 bc	0.03	0.18
4	Thimet 20G	5.0 lb/A (IF)	0.50 c	0.75 c	1.00 e	0.50 e	0.25 b	0.0	0.43 bc	0.0	0.05	0.20 c	0.03	0.00
5	Temik 15G	7 lb/A (IF)	0.63 bc	0.50 d	1.00 e	0.50 e	0.20 b	0.0	0.20 c	0.0	0.15	1.08 bc	0.00	0.10
6	Untreated	---	1.75 a	3.50 a	5.75 a	5.38 a	1.38 a	0.0	1.20 a	0.1	0.08	3.73 a	0.15	0.20
	LSD		0.18	0.25	0.00	0.15	0.73	NS	0.55	NS	NS	1.04	NS	NS

[1]*Thrips injury rated on a 0-10 scale, 0 = no injury and 10 = dead plants. Peanut was planted on May 8.*
[2]*Mean number of thrips per terminal leaflet. Ten leaflets were sampled per plot on each date.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 33. Vigor ratings, TSWV hits, and yield, PT08THP1. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Vigor rating[1]	TSWV hits/70 row ft		Yield lb/acre[2]
			Jun 3	Aug 1	Sep 23	
1	DPX-HGW86 20SC	0.044 lb ai/A (IF)	2.75 b[3]	1.0 ab	13.3 b	5436 a
2	DPX-HGW86 20SC	0.088 lb ai/A (IF)	2.00 c	0.0 b	9.3 b	5135 a
3	DPX-HGW86 20SC	0.134 lb ai/A (IF)	2.00 c	0.8 ab	11.0 b	5073 a
4	Thimet 20G	5.0 lb/A (IF)	1.75 c	0.3 b	8.3 b	5285 a
5	Temik 15G	7 lb/A (IF)	1.00 d	0.0 b	10.8 b	4971 a
6	Untreated	---	4.00 a	1.8 a	24.8 a	4023 b
	LSD		0.45	1.18	5.46	745.5

[1]*Vigor rated on a 1-5 scale, 1 = best and 5 = worst plants.*
[2]*Yield based on weight of peanut with moisture content of 7%. Dig date = September 30 and harvest date = October 6.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: PT08THP2, Evaluation of foliar applied QRD 416 for thrips injury, incidence of TSWV and yield

EXPERIMENT TREATMENTS:

#	Material*	Rate	Date treated
1	QRD 416	8 oz/A (BC @ late GC and again in 7 days)	May 29 and June 4
2	QRD 416	16 oz/A (BC @ late GC and again in 7 days)	May 29 and June 4
3	QRD 416	32 oz/A (BC @ late GC and again in 7 days)	May 29 and June 4
4	Orthene 97	6 oz/A (BC @ late GC and again in 7 days)	May 29 and June 4
5	Temik 15G	7 lb/A (IF)	---
6	Untreated	---	---

*Applied QRD 416 with non-ionic surfactant (Induce 1 pt/100 gal water)

Test #: PT08THP2	**Planting date:** May 8
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Peanut	**Row spacing:** 36”
Variety: CHAMPS	**Field #:** 14
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/19	Prowl	1 pt
4/19	Dual	1 pt
5/14	Gramoxone	12 oz
5/14	Intro	2 qt
6/20	Storm	1.5 pt
7/17	Intro	1 qt
7/30	Poast Plus	2 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/30	Baythroid	1.8 oz

Fungicides		
Date	**Product**	**Rate/A**
7/16	Folicur	7.2 oz
8/13	Provost	8 oz
8/13	Omega	1 pt
9/03	Headline	9 oz
9/03	Omega	1 pt

Lime, Fertilizer, Landplaster, and Adjuvants		
Date	**Product**	**Rate/A**
6/16	Land plaster	1200 lb
7/02	Boron	1 qt
7/02	Tech Magnum	1 qt
7/16	Boron	1 qt
7/16	Tech Magnum	1 qt
8/13	Tech Magnum	1 qt

Fumigants		
Date	**Product**	**Rate/A**
4/18	Metam	8 gal

Land preparation: Moldboard plow on February 7; cultivation on July 8
Soil pH: 6.69
Soil type(s): Nansemond, Emporia, Dragston
Nutrient analysis (ppm): P (19), K (72), Ca (235), Mg (47), Zn (0.4), Mn (1.8)
Dig date: September 30
Harvest date: October 6
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars
In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **psi:** 18 **gpa:** 14.3

Table 34. Thrips injury ratings and thrips counts, PT08THP2. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]			Thrips counts[2]					
						Jun 2		Jun 11		Jun 17	
			Jun 3	Jun 11	Jun 19	Adult	Immat.	Adult	Immat.	Adult	Immat.
1	QRD 416	8 oz/A (BC @ late GC and again in 7 days)	3.50 a[3]	5.56 a	5.50 a	1.90 a	0.18 b	0.03	2.23 a	0.05	0.35
2	QRD 416	16 oz/A (BC @ late GC and again in 7 days)	3.50 a	5.50 ab	5.38 ab	1.80 a	0.60 a	0.05	1.80 a	0.03	0.10
3	QRD 416	32 oz/A (BC @ late GC and again in 7 days)	3.50 a	5.38 b	5.31 b	1.35 ab	0.20 b	0.05	1.43 ab	0.08	0.08
4	Orthene 97	6 oz/A (BC @ late GC and again in 7 days)	0.75 b	1.75 c	1.31 c	0.35 c	0.03 b	0.05	0.30 b	0.03	0.05
5	Temik 15G	7 lb/A	0.50 c	1.00 d	0.50 d	0.78 bc	0.05 b	0.08	0.60 b	0.10	0.20
6	Untreated	---	3.50 a	5.63 a	5.50 a	1.58 ab	0.20 b	0.05	1.25 ab	0.05	0.28
	LSD		0.00	0.15	0.14	0.81	0.25	NS	1.15	NS	NS

[1]*Thrips injury rated on a 0-10 scale, 0 = no injury and 10 = dead plants. Peanut was planted on May 8.*
[2]*Mean number of thrips per terminal leaflet. Ten leaflets were sampled per plot on each date.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 35. TSWV hits and yield, PT08THP2. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	TSWV hits/70 row ft		Yield lb/acre[1]
			Aug 1	Sep 23	
1	QRD 416	8 oz/A (BC @ late GC and again in 7 days)	2.0 a[2]	17.3 b	4867 bc
2	QRD 416	16 oz/A (BC @ late GC and again in 7 days)	1.5 ab	10.8 c	5331 ab
3	QRD 416	32 oz/A (BC @ late GC and again in 7 days)	0.5 bc	10.3 cd	4586 c
4	Orthene 97	6 oz/A (BC @ late GC and again in 7 days)	0.0 c	9.5 cd	4968 bc
5	Temik 15G	7 lb/A	0.3 c	6.3 d	5561 a
6	Untreated	---	0.5 bc	22.8 a	5145 ab
	LSD		1.16	4.04	509.6

[1]*Yield based on weight of peanut with moisture content of 7%. Dig date = September 30 and harvest date = October 6.*
[2]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05 [TSWV hits] or P=0.10 [yield]).*

TEST: PT08THP3, Evaluation of foliar applied Ecotech AG for thrips control, plant injury and yield

EXPERIMENT TREATMENTS:

#	Material	Rate and application method	Date treated
1	Ecotec AG	1.5 pt/A (BC @ late GC + 7 days)	May 29 and June 4
2	Orthene 97	6 oz/A (BC @ late GC + 7 days)	May 29 and June 4
3	Ecotec AG + Orthene 97	1.5 pt/A (BC @ late GC + 7 days) 6 oz/A (BC @ late GC + 7 days)	May 29 and June 4
4	Temik 15G	7 lb/A	---
5	Untreated	---	---

Test #: PT08THP3	**Planting date:** May 9
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Peanut	**Row spacing:** 36”
Variety: CHAMPS	**Field #:** 39
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/19	Prowl	1 pt
4/19	Dual	1 pt
5/14	Gramoxone	12 oz
5/14	Intro	2 qt
6/20	Storm	1.5 pt
7/08	Intro	1 qt
7/30	Poast Plus	2 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/30	Baythroid	1.8 oz

Fungicides		
Date	**Product**	**Rate/A**
7/16	Folicur	7.2 oz
8/13	Provost	8 oz
8/13	Omega	1 pt
9/03	Headline	9 oz
9/03	Omega	1 pt

Lime, Fertilizer, Landplaster, and Adjuvants		
Date	**Product**	**Rate/A**
6/16	Land plaster	1200 lb
7/02	Boron	1 qt
7/02	Tech Magnum	1 qt
7/16	Boron	1 qt
7/16	Tech Magnum	1 qt
8/13	Tech Magnum	1 qt

Fumigants		
Date	**Product**	**Rate/A**
4/18	Metam	8 gal

Land preparation: Moldboard plow on February 11; cultivation on July 8
Soil pH: 6.64
Soil type(s): Emporia, Eunola
Nutrient analysis (ppm): P (15), K (91), Ca (475), Mg (66), Zn (0.5), Mn (1.6)
Dig date: October 2
Harvest date: October 7
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars
In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **psi:** 18 **gpa:** 14.3

Table 36. Thrips injury ratings, thrips counts, and yield, PT08THP3. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]			Thrips counts[2]						Yield lb/ acre[3]
						Jun 2		Jun 11		Jun 17		
			Jun 3	Jun 11	Jun 19	Adult	Immat	Adult	Immat	Adult	Immat	
1	Ecotec AG	1.5 pt/A (BC @ late GC + 7 days)	3.50 a[4]	6.38 a	5.63 a	0.55 b	0.35 a	0.05 b	2.65 a	0.05 b	0.15	5350
2	Orthene 97	6 oz/A (BC @ late GC + 7 days)	0.88 b	2.19 b	1.25 b	0.20 b	0.05 bc	0.28 a	0.18 b	0.20 a	0.08	5814
3	Ecotec AG + Orthene 97	1.5 pt/A (BC @ late GC + 7 days) 6 oz/A (BC @ late GC + 7 days)	0.75 c	1.75 c	0.94 c	0.35 b	0.05 bc	0.13 b	0.70 b	0.05 b	0.05	5665
4	Temik 15G	7 lb/A	0.50 d	1.50 c	0.81 c	0.33 b	0.00 c	0.05 b	0.18 b	0.05 b	0.00	5909
5	Untreated	---	3.50 a	6.44 a	5.63 a	1.45 a	0.28 ab	0.03 b	3.10 a	0.08 b	0.08	5394
	LSD		0.10	0.38	0.17	0.37	0.23	0.14	1.40	0.09	NS	NS

[1]*Thrips injury rated on a 0-10 scale, 0 = no injury and 10 = dead plants. Peanut was planted on May 9.*
[2]*Mean number of thrips per terminal leaflet. Ten leaflets were sampled per plot on each date.*
[3]*Yield based on weight of peanut with moisture content of 7%. Dig date = October 2 and harvest date = October 7.*
[4]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: PT08THP4, Evaluation of in-furrow applied HGW86 20SC for thrips control, plant injury, incidence of TSWV and yield

EXPERIMENT TREATMENTS:

#	Material	Rate and application method
1	DPX-HGW86 20SC	0.044 lb ai/A (IF)
2	DPX-HGW86 20SC	0.088 lb ai/A (IF)
3	DPX-HGW86 20SC	0.134 lb ai/A (IF)
4	Thimet 20G	5.0 lb/A (IF)
5	Temik 15G	7 lb/A (IF)
6	Untreated	---

Test #: PT08THP4	**Planting date:** May 9
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Peanut	**Row spacing:** 36”
Variety: CHAMPS	**Field #:** 39
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/19	Prowl	1 pt
4/19	Dual	1 pt
5/14	Gramoxone	12 oz
5/14	Intro	2 qt
6/20	Storm	1.5 pt
7/08	Intro	1 qt
7/30	Poast Plus	2 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/30	Baythroid	1.8 oz

Fungicides		
Date	**Product**	**Rate/A**
7/16	Folicur	7.2 oz
8/13	Provost	8 oz
8/13	Omega	1 pt
9/03	Headline	9 oz
9/03	Omega	1 pt

Lime, Fertilizer, Landplaster, and Adjuvants		
Date	**Product**	**Rate/A**
6/16	Land plaster	1200 lb
7/02	Boron	1 qt
7/02	Tech Magnum	1 qt
7/16	Boron	1 qt
7/16	Tech Magnum	1 qt
8/13	Tech Magnum	1 qt

Fumigants		
Date	**Product**	**Rate/A**
4/18	Metam	8 gal

Land preparation: Moldboard plow on February 11; cultivation on July 8
Soil pH: 6.64
Soil type(s): Emporia, Eunola
Nutrient analysis (ppm): P (15), K (91), Ca (475), Mg (66), Zn (0.5), Mn (1.6)
Dig date: October 2
Harvest date: October 7
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars
	Liquid	**Nozzle type:** Microtubing **Nozzle spacing:** 36” **psi:** 31 **gpa:** 5

Comments: Soapy water thrips counts from untreated peanuts on May 29 indicated 0.65 adults and 0.0 immature thrips per unopened leaflet.

Table 37. Thrips injury ratings, vigor ratings, TSWV hits, and yield, PT08THP4. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]				Vigor rating[2]	TSWV hits/80 row ft		Yield lb/acre[3]
			May 29	Jun 3	Jun 11	Jun 19	Jun 3	Aug 1	Sep 23	
1	DPX-HGW86 20SC	0.044 lb ai/A (IF)	0.69 b[4]	1.31 b	3.88 b	4.00 b	2.00 b	1.0	23.8 bc	5648 b
2	DPX-HGW86 20SC	0.088 lb ai/A (IF)	0.56 bc	0.94 c	3.25 c	3.50 c	2.00 b	2.8	26.0 ab	5194 c
3	DPX-HGW86 20SC	0.134 lb ai/A (IF)	0.56 bc	0.56 e	2.75 d	2.63 d	2.00 b	1.0	23.8 bc	5805 ab
4	Thimet 20G	5.0 lb/A (IF)	0.50 bc	0.75 d	1.31 f	0.75 e	1.00 c	0.5	25.5 ab	5788 b
5	Temik 15G	7 lb/A (IF)	0.44 c	0.50 e	1.56 e	0.63 e	1.00 c	0.5	17.5 c	6191 a
6	Untreated	---	1.50 a	3.50 a	6.19 a	5.63 a	3.00 a	1.3	30.5 a	5545 bc
	LSD		0.20	0.12	0.19	0.21	0.00	NS	6.30	385.2

[1]*Thrips injury rated on a 0-10 scale, 0 = no injury and 10 = dead plants. Peanut was planted on May 9.*
[2]*Vigor rated on a 1-5 scale, 1 = best and 5 = worst plants.*
[3]*Yield based on weight of peanut with moisture content of 7%. Dig date = October 2 and harvest date = October 7.*
[4]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: PT08THP5, Evaluation of foliar applied QRD 416 for thrips injury, incidence of TSWV and yield

EXPERIMENT TREATMENTS:

#	Material*	Rate	Date treated
1	QRD 416	8 oz/A (BC @ late GC and again in 7 days)	May 29 and June 4
2	QRD 416	16 oz/A (BC @ late GC and again in 7 days)	May 29 and June 4
3	QRD 416	32 oz/A (BC @ late GC and again in 7 days)	May 29 and June 4
4	Orthene 97	6 oz/A (BC @ late GC and again in 7 days)	May 29 and June 4
5	Temik 15G	7 lb/A	May 8
6	Untreated	---	---

*Applied QRD 416 with non-ionic surfactant (Induce 1 pt/100 gal water)

Test #: PT08THP5	**Planting date:** May 9
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Peanut	**Row spacing:** 36”
Variety: CHAMPS	**Field #:** 39
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/19	Prowl	1 pt
4/19	Dual	1 pt
5/14	Gramoxone	12 oz
5/14	Intro	2 qt
6/20	Storm	1.5 pt
7/08	Intro	1 qt
7/30	Poast Plus	2 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
7/30	Baythroid	1.8 oz

Fungicides		
Date	**Product**	**Rate/A**
7/16	Folicur	7.2 oz
8/13	Provost	8 oz
8/13	Omega	1 pt
9/03	Headline	9 oz
9/03	Omega	1 pt

Lime, Fertilizer, Landplaster, and Adjuvants		
Date	**Product**	**Rate/A**
6/16	Land plaster	1200 lb
7/02	Boron	1 qt
7/02	Tech Magnum	1 qt
7/16	Boron	1 qt
7/16	Tech Magnum	1 qt
8/13	Tech Magnum	1 qt

Fumigants		
Date	**Product**	**Rate/A**
4/18	Metam	8 gal

Land preparation: Moldboard plow on February 11; cultivation on July 8
Soil pH: 6.64
Soil type(s): Emporia, Eunola
Nutrient analysis (ppm): P (15), K (91), Ca (475), Mg (66), Zn (0.5), Mn (1.6)
Dig date: October 2
Harvest date: October 7
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Granular IF**	Tractor-mounted inverted jars
In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **psi:** 18 **gpa:** 14.3

Table 38. Thrips injury ratings, TSWV hits, and yield, PT08THP5. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Thrips injury rating[1]			TSWV hits/80 row ft		Yield lb/acre[2]
			Jun 3	Jun 11	Jun 19	Aug 1	Sep 23	
1	QRD 416	8 oz/A (BC @ late GC and again in 7 days)	3.50 a[3]	6.00 a	4.94 b	1.0	28.8 ab	5324
2	QRD 416	16 oz/A (BC @ late GC and again in 7 days)	3.50 a	5.88 ab	4.75 c	0.5	19.0 c	5548
3	QRD 416	32 oz/A (BC @ late GC and again in 7 days)	3.50 a	5.75 b	4.00 d	0.0	25.8 a-c	5718
4	Orthene 97	6 oz/A (BC @ late GC and again in 7 days)	1.00 b	1.88 c	1.06 e	0.3	21.3 bc	6138
5	Temik 15G	7 lb/A	0.50 c	1.25 d	0.75 f	2.0	21.0 c	6088
6	Untreated	---	3.50 a	6.00 a	5.44 a	1.0	32.8 a	5720
	LSD		0.00	0.13	0.14	NS	7.58	NS

[1]*Thrips injury rated on a 0-10 scale, 0 = no injury and 10 = dead plants. Peanut was planted on May 9.*
[2]*Yield based on weight of peanut with moisture content of 7%. Dig date = October 2 and harvest date = October 7.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: PT08SCR1, Evaluation of in-furrow and foliar applied HGW86 20SC for rootworm control, pod injury and yield

EXPERIMENT TREATMENTS:

#	Material	Rate and application method	Date treated
1	DPX-HGW86 20SC	0.134 lb ai/A (IF)	---
2	DPX-HGW86 20SC	0.134 lb ai/A (BC at early pegging)	July 7
3	Lorsban 15G	13 lb/A at early pegging	July 7
4	Untreated	---	---

Test #: PT08SCR1	**Planting date:** May 9
Year: 2008	**Plot size:** 4 rows x 35’
Crop: Peanut	**Row spacing:** 36”
Variety: CHAMPS	**Field #:** 14
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/19	Prowl	1 pt
4/19	Dual	1 pt
5/14	Gramoxone	12 oz
5/14	Intro	2 qt
6/20	Storm	1.5 pt
7/17	Intro	1 qt

Additional Insecticides		
Date	**Product**	**Rate/A**
6/06	Orthene 97	6 oz

Fungicides		
Date	**Product**	**Rate/A**
7/16	Folicur	7.2 oz
8/13	Provost	8 oz
8/13	Omega	1 pt
9/03	Headline	9 oz
9/03	Omega	1 pt

Lime, Fertilizer, Landplaster, and Adjuvants		
Date	**Product**	**Rate/A**
6/16	Land plaster	1200 lb
7/02	Boron	1 qt
7/02	Tech Magnum	1 qt
7/16	Boron	1 qt
7/16	Tech Magnum	1 qt
8/13	Tech Magnum	1 qt

Fumigants		
Date	**Product**	**Rate/A**
4/18	Metam	8 gal

Land preparation: Moldboard plow on February 7; cultivation on July 8
Soil pH: 6.69
Soil type(s): Nansemond, Emporia, Dragston
Nutrient analysis (ppm): P (19), K (72), Ca (235), Mg (47), Zn (0.4), Mn (1.8)
Dig date: September 30
Harvest date: October 6
Row feet harvested: 70
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Liquid**	**Nozzle type:** Microtubing **Nozzle spacing:** 36” **psi:** 31 **gpa:** 5
Early pegging	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **psi:** 18 **gpa:** 14.3
	Granular	Lorsban 15G applied in a 12-14” band over the row with a field cycle-mounted Noble applicator (setting = 8)

Table 39. Potato leafhopper population and damage ratings, southern corn rootworm mean percent pod injury, and yield, PT08SCR1. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Leafhopper counts[1]		Leafhopper percent visual damage[2]		Mean percent pod injury[3]		Yield lb/acre[4]
			Jul 25	Aug 19	Jul 25	Aug 19	Scarified	Penetrated	
1	DPX-HGW86 20SC	0.134 lb ai/A (IF)	9.3	19.0 a[5]	3.5 a	4.0 a	12.3 b	0.5	5190 a
2	DPX-HGW86 20SC	0.134 lb ai/A (BC at early pegging)	6.5	16.3 ab	1.8 bc	3.8 a	15.3 ab	0.0	4207 b
3	Lorsban 15G	13 lb/A (early pegging)	2.8	4.0 c	1.0 c	1.0 c	5.5 c	0.0	4727 ab
4	Untreated	---	8.8	12.5 b	2.5 ab	2.3 b	19.0 a	0.5	4741 ab
	LSD		NS	5.37	1.01	1.19	6.04	NS	538.3

[1]*Based on 15 sweeps per plot using a 15-inch diameter sweep net.*
[2]*Based on one visual sample per plot.*
[3]*A pre-harvest sample of 100 full-sized pods were randomly selected per plot after digging. Samples were taken on October 2.*
[4]*Yield based on weight of peanut with moisture content of 7%. Dig date = September 30 and harvest date = October 6.*
[5]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05 [leafhopper counts, leafhopper percent visual damage, and mean percent pod injury] or P=0.10 [yield]).*

TEST: PT08SCR2, Evaluation of in-furrow and foliar applied HGW86 20SC for rootworm control, pod injury and yield

EXPERIMENT TREATMENTS:

#	Material	Rate and application method	Date treated
1	DPX-HGW86 20SC	0.134 lb ai/A (IF)	---
2	DPX-HGW86 20SC	0.134 lb ai/A (BC at early pegging)	July 7
3	Lorsban 15G	13 lb/A at early pegging	July 7
4	Untreated	---	---

Test #: PT08SCR2	**Planting date:** May 14
Year: 2008	**Plot size:** 4 rows x 40’
Crop: Peanut	**Row spacing:** 36”
Variety: CHAMPS	**Field #:** 63d
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
4/19	Prowl	1 pt
4/19	Dual	1 pt
5/14	Gramoxone	12 oz
5/14	Intro	2 qt
6/11	Storm	1.5 pt
6/11	Select	1 pt
7/17	Intro	1 qt

Additional Insecticides		
Date	**Product**	**Rate/A**
6/06	Orthene 97	6 oz

Fungicides		
Date	**Product**	**Rate/A**
7/16	Folicur	7.2 oz
8/13	Provost	8 oz
8/13	Omega	1 pt
9/03	Headline	9 oz
9/03	Omega	1 pt

Lime, Fertilizer, Landplaster, and Adjuvants		
Date	**Product**	**Rate/A**
6/16	Land plaster	1200 lb
7/02	Boron	1 qt
7/02	Tech Magnum	1 qt
7/16	Boron	1 qt
7/16	Tech Magnum	1 qt
8/13	Tech Magnum	1 qt

Fumigants		
Date	**Product**	**Rate/A**
4/18	Metam	8 gal

Land preparation: Moldboard plow on February 20; cultivation on July 8
Soil pH: 6.2
Soil type(s): Nansemond, Emporia
Nutrient analysis (ppm): P (14), K (85), Ca (313), Mg (34), Zn (0.3), Mn (1.8)
Dig date: September 29
Harvest date: October 6
Row feet harvested: 80
Harvest technique: 2-row commercial picker modified for research plots

Treatment application information:

At Planting	**Liquid**	**Nozzle type:** Microtubing **Nozzle spacing:** 36” **psi:** 31 **gpa:** 5
Early pegging	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **psi:** 18 **gpa:** 14.3
	Granular	Lorsban 15G applied in a 12-14” band over the row with a field cycle-mounted Noble applicator (setting = 8)

Table 40. Potato leafhopper population and damage ratings, southern corn rootworm mean percent pod injury, and yield, PT08SCR2. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate and application method	Leafhopper counts[1]		Leafhopper percent visual damage[2]		Mean percent pod injury[3]		Yield lb/acre[4]
			Jul 25	Aug 19	Jul 25	Aug 19	Scarified	Penetrated	
1	DPX-HGW86 20SC	0.134 lb ai/A (IF)	10.0	20.3	4.0 a[5]	7.0 a	4.5 b	0.0	5907
2	DPX-HGW86 20SC	0.134 lb ai/A (BC at early pegging)	6.3	18.3	2.0 b	5.0 b	5.0 b	0.0	5422
3	Lorsban 15G	13 lb/A (early pegging)	3.5	10.0	1.0 b	2.0 c	4.0 b	0.0	5506
4	Untreated	---	9.3	24.8	4.0 a	5.0 b	10.0 a	0.5	5208
	LSD		NS	NS	1.25	1.96	4.00	NS	NS

[1]*Based on 15 sweeps per plot using a 15-inch diameter sweep net.*
[2]*Based on one visual sample per plot.*
[3]*A pre-harvest sample of 100 full-sized pods were randomly selected per plot after digging. Samples were taken on September 30.*
[4]*Yield based on weight of peanut with moisture content of 7%. Dig date = September 29 and harvest date = October 6.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: PT08SCR3, Evaluation of three varieties, with and without Lorsban 15G at pegging, for rootworm control, pod injury and yield

EXPERIMENT TREATMENTS:

#	Variety	Material	Rate and application method Amount of product	Date treated
1	Wilson	Lorsban 15G	13 lb/A at early pegging	July 15
2	Wilson	Untreated	---	---
1	Gregory	Lorsban 15G	13 lb/A at early pegging	July 15
2	Gregory	Untreated	---	---
1	CHAMPS	Lorsban 15G	13 lb/A at early pegging	July 15
2	CHAMPS	Untreated	---	---

Applied to side of test (4 rows x 40' x 4 reps):
DPX-HGW86 20SC @ 0.134 lb ai/A (14.1 ml in 2500 ml H_2O, acidified with 6 ml buffer) was broadcast with a CO_2-pressurized backpack sprayer calibrated to deliver 14.3 gpa at 18 psi through four 8002VS nozzles spaced 18" apart on the boom at early pegging (July 15).

Test #: PT08SCR3	**Planting date:** May 17
Year: 2008	**Plot size:** 4 rows x 800 to 1000'
Crop: Peanut	**Row spacing:** 34"
Varieties: Wilson, Gregory, CHAMPS	**Field #:** n/a
Experimental design: split-plot	**Location:** Steven and Michael Pittman farm, Surry Co.

Herbicides		
Date	**Product**	**Rate/A**
5/17	Dual Magnum	1.3 pt
5/17	Pursuit	2 oz
6/14	Dual Magnum	1.3 pt
6/14	Pursuit	2 oz
6/14	Butyrac	8 oz
6/19	Storm	1.5 pt
6/19	Butyrac	10 oz
6/20	Poast	1.5 pt

Additional Insecticides		
Date	**Product**	**Rate/A**
5/17	Temik 15G	7 lb

Fungicides		
Date	**Product**	**Rate/A**
6/25	Bravo WS	0.5 pt
7/17	Provost	10 oz
7/31	Provost	10 oz
8/18	Provost	10 oz
8/18	Omega	1 pt
9/04	Provost	7 oz
9/04	Bravo WS	1 pt
9/22	Bravo WS	1.5 pt

Lime, Fertilizer, Landplaster, and Adjuvants		
Date	**Product**	**Rate/A**
6/24	420 Plaster	1100 lb

Fumigants		
Date	**Product**	**Rate/A**
5/05	Vapam	8 gal

Land preparation: Moldboard plowed and land conditioned; cultivation on June 18
Soil pH: 6.4
Soil type(s): Emporia, Jedberg, Slagle
Nutrient analysis (ppm): P (26), K (111), Ca (534), Mg (67), Zn (0.4), Mn (1.5)
Dig date: October 7
Harvest date: October 15
Row feet harvested: 800 or 1000’
Harvest technique: 2-row commercial picker

Comments: Steven and Michael Pittman are acknowledged for their assistance with this test. Irrigated 0.75” on July 28, August 4, 17, and 24. Graded treated and untreated peanut (data not shown).

Table 41. Potato leafhopper population and damage ratings, PT08SCR3. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Material	Leafhopper counts[1]	Leafhopper percent visual damage[2]
1	Wilson	Lorsban 15G @ 13 lb/A (early pegging)	0.6	1.1 b[3]
2	Wilson	Untreated	0.1	2.0 a
	LSD		NS	0.57

#	Variety	Material	Leafhopper counts	Leafhopper percent visual damage
1	Gregory	Lorsban 15G @ 13 lb/A (early pegging)	0.3	1.0
2	Gregory	Untreated	0.3	1.3
	LSD		NS	NS

#	Variety	Material	Leafhopper counts	Leafhopper percent visual damage
1	CHAMPS	Lorsban 15G @ 13 lb/A (early pegging)	0.1	0.8
2	CHAMPS	Untreated	0.1	1.1
	LSD		NS	NS

[1]*Based on two 15 sweeps per plot using a 15-inch diameter sweep net on July 25.*
[2]*Based on two visual samples per plot on July 25.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Treatment means for July 25	**Leafhopper counts**	**% Visual damage**
1. With insecticide	0.33	0.96
2. Without insecticide	0.17	1.46
LSD	--	--

Variety mean for July 25	**Leafhopper counts**	**% Visual damage**
1. Wilson	0.4	1.6 a
2. Gregory	0.3	1.1 a
3. CHAMPS	0.1	0.9 a
LSD	--	0.65

Split plot analysis for July 25	**Leafhopper counts**	**% Visual damage**
Treatment	0.3081	0.0577
Variety	0.2805	0.0023
Treatment x variety	0.1872	0.1601

Table 42. Southern corn rootworm mean percent scarified pods and yield, PT08SCR3. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Material	Mean percent scarified pods[1]	Yield lb/acre[2]
1	Wilson	Lorsban 15G @ 13 lb/A (early pegging)	4.5 b[3]	5256
2	Wilson	Untreated	9.3 a	5124
	LSD		2.00	NS

#	Variety	Material	Mean percent scarified pods	Yield lb/acre
1	Gregory	Lorsban 15G @ 13 lb/A (early pegging)	4.5 b	5394
2	Gregory	Untreated	12.5 a	5151
	LSD		3.44	NS

#	Variety	Material	Mean percent scarified pods	Yield lb/acre
1	CHAMPS	Lorsban 15G @ 13 lb/A (early pegging)	3.5 b	5202 a
2	CHAMPS	Untreated	11.5 a	5057 b
	LSD		4.68	138.4

[1]*A pre-harvest sample of 100 full-sized pods were randomly selected per plot after digging. Samples were taken on October 8. There were no pods penetrated by southern corn rootworm.*
[2]*Yield based on weight of peanut with moisture content of 7%. Dig date = Oct. 7 and harvest date = Oct. 15.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Treatment means for:	**% scarified pods**	**Yield**
1. With insecticide	4.2 b	5284
2. Without insecticide	11.1 a	5111
LSD	1.81	NS

Variety mean for:	**% scarified pods**	**Yield**
1. Wilson	6.9	5190
2. Gregory	8.5	5272
3. CHAMPS	7.5	5130
LSD	NS	NS

Split plot analysis for:	**% scarified pods**	**Yield**
Treatment	0.0012	0.0623
Variety	0.3748	0.2038
Treatment x variety	0.2849	0.7302

Table 43. Southern corn rootworm mean percent scarified pods and yield, PT08SCR3. Tidewater AREC, Suffolk, VA, 2008.

#	Variety	Material	Mean percent scarified pods[1]
1	CHAMPS	DPX-HGW86 20SC @ 0.134 lb ai/A (BC at early pegging)	16.3 a[2]
2	CHAMPS	Untreated	11.5 b
	LSD		4.18

[1]*A pre-harvest sample of 100 full-sized pods were randomly selected per plot after digging. Samples were taken on October 8. There were no pods penetrated by southern corn rootworm.*
[2]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: PT08CEW1, Evaluation of foliar applied insecticides for corn earworm control

EXPERIMENT TREATMENTS:

#	Material	Rate	Date treated
1	Baythroid XL	1.8 oz/A	Aug 15
2	Baythroid XL	2.4 oz/A	Aug 15
3	Karate Z	1.28 oz/A	Aug 15
4	Karate Z	1.92 oz/A	Aug 15
5	Belt 480SC	3.0 oz/A	Aug 15
6	Coragen	5.06 oz/A	Aug 15
7	Coragen	6.74 oz/A	Aug 15
8	Steward EC	6.7 oz/A	Aug 15
9	Steward EC	11.3 oz/A	Aug 15
10	Intrepid	6 oz/A	Aug 15
11	Tracer	2 oz/A	Aug 15
12	Untreated	---	---

Test #: PT08CEW1	**Plot size:** 2 rows x 30’
Year: 2008	**Row spacing:** 38”
Crop: Peanut	**Field #:** n/a
Variety: Perry	**Location:** Sidney Stallings farm, Sunbury, NC
Experimental design: RCBD	
Planting date: May 25	

Comments: Dale Weeks is acknowledged for his assistance with this test. We would also like to thank Sidney Stallings for his cooperation. Pre-treatment samples: 10.0 medium-sized corn earworm larvae per 6-ft beat cloth sample.

Table 44. Mean number of corn earworm larvae per 3-ft beat cloth sample[1] in peanut, PT08CEW1 (Sidney Stallings farm, Sunbury, NC). Tidewater AREC, Suffolk, VA, 2008. Insecticide treatments were applied on August 15.

#	Material	Rate	Aug 18				Aug 20				Aug 25				CLD[2]
			Small	Medium	Large	Total	Small	Medium	Large	Total	Small	Medium	Large	Total	
1	Baythroid XL	1.8 oz/A	0.13	0.88 c[3]	0.00 b	1.00 b	0.00	1.13 ab	0.88 b-d	2.00 bc	0.00	0.13 d	0.63	0.75 d	9.9
2	Baythroid XL	2.4 oz/A	0.00	0.63 c	0.25 b	0.88 b	0.25	0.75 b	0.25 cd	1.25 b-e	0.00	0.75 b-d	0.25	1.00 cd	7.8
3	Karate Z	1.28 oz/A	0.25	0.88 c	0.38 b	1.50 b	0.13	1.13 ab	0.63 b-d	1.88 b-d	0.00	0.25 d	0.75	1.00 cd	10.6
4	Karate Z	1.92 oz/A	0.38	1.13 c	0.25 b	1.75 b	0.00	0.25 b	0.13 cd	0.38 e	0.13	1.50 ab	0.63	2.25 b	8.7
5	Belt 480SC	3.0 oz/A	0.38	3.63 a	0.38 b	4.38 a	0.13	0.88 b	0.25 cd	1.25 b-e	0.00	0.75 b-d	0.25	1.00 cd	11.3
6	Coragen	5.06 oz/A	0.88	2.75 ab	0.13 b	3.75 a	0.00	0.38 b	0.00 d	0.38 e	0.00	0.25 d	0.25	0.50 d	6.3
7	Coragen	6.74 oz/A	0.00	1.00 c	0.25 b	1.25 b	0.00	0.25 b	0.25 cd	0.50 de	0.00	0.50 cd	0.13	0.63 d	4.6
8	Steward EC	6.7 oz/A	0.00	0.50 c	0.25 b	0.75 b	0.13	0.63 b	0.38 cd	1.13 b-e	0.13	0.25 d	0.75	1.13 b-d	7.5
9	Steward EC	11.3 oz/A	0.25	0.75 c	0.38 b	1.38 b	0.00	0.25 b	0.38 cd	0.63 c-e	0.00	1.25 bc	0.75	2.00 bc	8.6
10	Intrepid	6 oz/A	0.13	2.38 b	1.13 a	3.63 a	0.13	1.13 ab	1.00 bc	2.25 b	0.00	0.38 cd	0.13	0.50 d	12.8
11	Tracer	2 oz/A	0.75	1.13 c	0.13 b	2.00 b	0.13	0.38 b	1.38 ab	1.88 b-d	0.00	1.25 bc	0.38	1.63 b-d	12.7
12	Untreated	---	0.50	2.63 ab	1.38 a	4.50 a	0.25	2.00 a	2.00 a	4.25 a	0.00	2.38 a	1.38	3.75 a	28.8
	LSD		NS	1.22	0.61	1.44	NS	0.96	0.97	1.46	NS	0.90	NS	1.18	--

[1]*Two 3-ft samples were taken per plot.*

[2]*Cumulative larval days (CLD) are calculated with the following equation:* $\Sigma (X_{i+1} - X_i)[(Y_i + Y_{i+1})/2]$, *where* X_i *and* X_{i+1} *are adjacent sample dates and* Y_i *and* Y_{i+1} *are corresponding points of total larvae per 3 row ft beat cloth sample.*

[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

2008

Soybean Insect Pest Management Tests and Demonstrations

TEST: SB08SEED1, Seed treatments for early season soybean insect pest management

EXPERIMENT TREATMENTS:

#	Material	Rate
1	Cruiser 5FS	1.28 oz/cwt
2	Gaucho 600	1.6 oz/cwt
3	Regent TS	50 g ai/kg
4	V-10226 0.24SC V-10170 5.0FS	3.5 oz/cwt 1.28 oz/cwt
5	Temik 15G	6.0 lb/A
6	Untreated	---

Test #: SB08SEED1	**Planting date:** May 21
Year: 2008	**Plot size:** 4 rows x 24’
Crop: Soybean	**Row spacing:** 36”
Variety: USG 7553nRS	**Field #:** 13
Experimental design: RCBD	**Location:** Tidewater AREC

Herbicides		
Date	**Product**	**Rate/A**
3/27	Roundup	22 oz
5/24	Prowl	1 pt
6/08	Roundup	20 oz
7/08	Roundup	22 oz
7/08	First Strike	0.3 oz

Additional Insecticides		
Date	**Product**	**Rate**

Fungicides		
Date	**Product**	**Rate**

Lime & Fertilizer		
Date	**Product**	**Rate**
4/03	6-16-39	300 lb
6/30	Mn	1.5 qt
7/13	Mn	1.5 qt

Fumigants		
Date	**Product**	**Rate**

Soil pH: 6.24
Soil type(s): Rains, Dragston
Nutrient analysis (ppm): P (40), K (124), Ca (386), Mg (51), Zn (0.4), Mn (2.0)
Harvest date: December 4
Row feet harvested: 48
Harvest technique: Small plot combine

Comments: UniSouth Genetics 'USG 7553nRS' soybean seed, 80% germination, 3493 seed/lb, came treated with Apron/Maxim fungicide/Moly. .

Rigid beat sheet samples (2/plot) on Aug. 6 indicated very low populations of green stink bug, brown stink bug, and bean leaf beetle; and no Dectes stem borer (data not presented).

Table 45. Stand counts, thrips injury ratings, percent defoliation, mean number of thrips per plant, plant height and width, and yield, SB08SEED1. Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Plants /row ft[1]	Thrips injury rating[2]			% Defoliation[3]			Thrips per plant or terminal[4]						Height (in)[5]	Width (in)[5]	Yield bu/A[6]
										Jun 11		Jun 19		Jun 24				
				Jun 11	Jun 19	Jun 24	Jun 11	Jun 19	Jun 24	Adult	Immat	Adult	Immat	Adult	Immat	Jul 1	Jul 1	
1	Cruiser 5FS	1.28 oz/cwt	2.95	0.69 bc[7]	0.25 b	0.00 c	0.5 b	1.5 b	1.9 b	---	---	---	---	---	---	8.4	15.5	63.0
2	Gaucho 600	1.6 oz/cwt	2.69	0.69 bc	0.25 b	0.13 b	1.2 b	1.8 b	1.5 b	---	---	---	---	---	---	8.4	15.5	62.9
3	Regent TS	50 g ai/kg	2.98	0.94 b	0.25 b	0.06 bc	1.3 b	2.5 b	1.6 b	---	---	---	---	---	---	8.4	15.1	63.0
4	V-10226 0.24SC V-10170 5.0FS	3.5 oz/cwt 1.28 oz/cwt	2.80	0.94 b	0.25 b	0.00 c	1.3 b	2.0 b	1.0 b	---	---	---	---	---	---	9.0	15.1	63.5
5	Temik 15G	6.0 lb/A	2.73	0.50 c	0.25 b	0.06 bc	0.6 b	1.0 b	1.3 b	---	---	---	---	---	---	8.7	15.2	59.5
6	Untreated	---	2.79	1.81 a	1.13 a	0.81 a	5.5 a	7.5 a	6.5 a	1.2	6.3	0.3	0.2	0.1	0.3	8.3	15.0	62.6
	LSD		NS	0.30	0.09	0.12	1.86	2.84	3.07	---	---	---	---	---	---	NS	NS	NS

[1]*Stand counts are based on the number of plants in rows 1 and 2 on June 11.*
[2]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[3]*Percent defoliation based on visual estimate.*
[4]*Thrips counts are based on cutting 5 whole plants (June 11) or 10 plant terminals (June 19 and 24) per plot and placing them in jars of soapy water to extract thrips. Species included soybean, onion, and tobacco thrips.*
[5]*Plant height and width are based on sampling 5 plants per plot.*
[6]*Yield based on weight of soybean with moisture content of 13%.*
[7]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: SB08SEED2, Seed treatments for early season soybean insect pest management (on-farm trial)

EXPERIMENT TREATMENTS:

#	Material	Rate
1	Cruiser 5FS	1.28 oz/cwt
2	Gaucho 600	1.6 oz/cwt
3	Regent TS	50 g ai/kg
4	V-10226 0.24SC V-10170 5.0FS	3.5 oz/cwt 1.28 oz/cwt
5	Temik 15G	6.0 lb/A
6	Untreated	---

Test #: SB08SEED2	**Planting date:** June 3
Year: 2008	**Plot size:** 12.5' wide x 24' long
Crop: Soybean	**Row spacing:** 15"
Variety: USG 7553nRS	**Field #:** n/a
Experimental design: RCBD	**Location:** Chesapeake, VA

Harvest date: November 10
Row feet harvested: 51
Harvest technique: Small plot combine

Comments: UniSouth Genetics 'USG 7553nRS' soybean seed, 80% germination, 3493 seed/lb, came treated with Apron/Maxim fungicide/Moly.

Rigid beat sheet samples (2/plot) on Aug. 6 indicated very low populations of green stink bug and brown stink bug; and no bean leaf beetle or Dectes stem borer (data not presented).

Table 46. Thrips injury ratings, percent defoliation, mean number of thrips per terminal, plant height and width, and yield, SB08SEED2 (Chesapeake, VA). Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Thrips injury rating[1]		% Defoliation[2]		Thrips per terminal[3]				Height (in)[4]	Width (in)[4]	Yield bu/A[5]
							Jun 18		Jun 24				
			Jun 18	Jun 24	Jun 18	Jun 24	Adult	Immat.	Adult	Immat.	Jun 30	Jun 30	
1	Cruiser 5FS	1.28 oz/cwt	0.25	0.00	0.00 c[6]	0.19	---	---	---	---	5.2 b	9.0 cd	47.4
2	Gaucho 600	1.6 oz/cwt	0.25	0.00	0.05 bc	0.38	---	---	---	---	5.8 a	9.5 bc	50.9
3	Regent TS	50 g ai/kg	0.31	0.00	0.14 ab	0.25	---	---	---	---	5.6 a	9.7 ab	56.5
4	V-10226 0.24SC V-10170 5.0FS	3.5 oz/cwt 1.28 oz/cwt	0.25	0.00	0.05 bc	0.38	---	---	---	---	5.6 a	9.9 ab	54.8
5	Temik 15G	6.0 lb/A	0.31	0.00	0.00 c	0.00	---	---	---	---	5.0 b	10.1 a	56.6
6	Untreated	---	0.31	0.31	0.18 a	0.69	0.96	0.36	1.66	2.86	5.2 b	8.7 d	54.2
	LSD		NS	NS	0.09	NS	---	---	---	---	0.30	0.62	NS

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*Percent defoliation based on visual estimate.*
[3]*Thrips counts are based on cutting 5plant terminals per plot and placing them in jars of soapy water to extract thrips. The majority were soybean thrips, with some tobacco thrips also present.*
[4]*Plant height and width are based on sampling 10 plants per plot.*
[5]*Yield based on weight of soybean with moisture content of 13%.*
[6]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: SB08SEED3, Seed treatments for early season soybean insect pest management (on-farm trial)

EXPERIMENT TREATMENTS:

#	Material	Rate	Date treated
1	Cruiser 5FS	1.28 oz/cwt	---
2	Gaucho 600	1.6 oz/cwt	---
3	Baythroid XL	1.2 oz/A	Jun 5
4	Untreated	---	---

Test #: SB08SEED3	**Planting date:** May 23
Year: 2008	**Plot size:** 22 rows wide (30') x approx. 1000'
Crop: Soybean	**Row spacing:** 15"
Variety: USG 7553nRS	**Location:** Steven and Michael Pittman farm, Surry Co.
Experimental design: Replicated strip	

Harvest date: November 6
Row feet harvested: 17' header width x variable length (896-1020')
Harvest technique: Combine

Treatment application information:

In-Season	**Liquid**	Nozzle type: 8002 Nozzle spacing: 17" psi: 35 gpa: 12.5

Comments: UniSouth Genetics 'USG 7553nRS' soybean seed, 80% germination, 3493 seed/lb, came treated with Apron/Maxim fungicide/Moly.

Rigid beat sheet samples (2/plot) on Aug. 7 indicated very low populations of brown stink bug, bean leaf beetle, and Dectes stem borer; and no green stink bugs (data not presented).

Table 47. Thrips injury ratings, percent defoliation, mean number of thrips per plant, plant height and width, and yield, SB08SEED3 (Steven & Michael Pittman Farm, Surry Co., VA). Tidewater AREC, Suffolk, VA, 2008.

#	Material	Rate	Thrips injury rating[1]			% Defoliation[2]			Thrips per plant or terminal[3]						Height (in)[4]	Width (in)[4]	Yield bu/A[5]
									Jun 11		Jun 18		Jun 24				
			Jun 11	Jun 18	Jun 24	Jun 11	Jun 18	Jun 24	Adult	Immat	Adult	Immat	Adult	Immat	Jun 30	Jun 30	
1	Cruiser 5FS	1.28 oz/cwt	0.25 c[6]	0.25 b	0.00 b	0.01 b	0.15 b	0.23	---	---	---	---	---	---	7.7	15.9	47.3
2	Gaucho 600	1.6 oz/cwt	0.37 b	0.25 b	0.00 b	0.03 b	0.20 b	0.28	---	---	---	---	---	---	7.7	15.0	47.2
3	Baythroid XL	1.2 oz/A	1.00 a	0.25 b	0.00 b	2.67 a	0.20 b	0.20	---	---	---	---	---	---	7.8	15.3	48.4
4	Untreated	---	1.00 a	1.17 a	0.50 a	2.83 a	1.25 a	0.58	4.5	13.2	0.43	0.07	0.07	0.43	7.8	14.6	48.1
	LSD		0.03	0.14	0.00	0.37	0.74	NS	---	---	---	---	---	---	NS	NS	NS

[1]*Thrips injury rated on a 0-5 scale, 0 = no injury and 5 = dead plants.*
[2]*Percent defoliation based on visual estimate.*
[3]*Thrips counts are based on cutting 5 whole plants (June 11) or 10 plant terminals (June 18 and 24) per plot and placing them in jars of soapy water to extract thrips.*
[4]*Plant height and width are based on sampling 5 plants per plot.*
[5]*Yield based on weight of soybean with moisture content of 13%.*
[6]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: SB08StinkBug1, Foliar broadcasts for management of stink bugs in soybean

EXPERIMENT TREATMENTS:

#	Material	Rate	Date treated
1	Belay 2.13SC	1.8 oz/A	Sep 8
2	Belay 2.13SC	2.8 oz/A	Sep 8
3	Venom 70SG	2.0 oz/A	Sep 8
4	Venom 70SG	3.0 oz/A	Sep 8
5	Centric 40WG	2 oz/A	Sep 8
6	Trimax Pro	1.8 oz/A	Sep 8
7	Orthene 97	8 oz/A	Sep 8
8	Baythroid XL	2.6 oz/A	Sep 8
9	Endigo ZC	4 oz/A	Sep 8
10	Karate Z	2.56 oz/A	Sep 8
11	Cobalt	19 oz/A	Sep 8
12	Untreated	---	---

Test #: SB08StinkBug1	**Planting date:** May 20
Year: 2008	**Plot size:** 8 rows x 100’
Crop: Soybean	**Row spacing:** 24”
Variety: S39-A3 (late group III)	**Location:** Joel Ferebee farm, Chesapeake
Experimental design: RCBD	

Treatment application information:

In-Season	**Liquid**	**Nozzle type:** 8002VS **Nozzle spacing:** 18” **PSI:** 18 **GPA:** 14.3

Comments: Stan Winslow, Dalton Edge, Joel Ferebee, and Johnny Knowles are acknowledged for their assistance with this test.

Table 48. Mean number of stink bugs per 15-sweep sample[1], SB08StinkBug1 (Joel Ferebee farm, Chesapeake, VA). Tidewater AREC, Suffolk, VA, 2008. Insecticide treatments were applied on September 8.

#	Material	Rate	Sep. 12					Sep. 15				
			GSBA[2]	GSBN	BSBA	BSBN	Total	GSBA	GSBN	BSBA	BSBN	Total
1	Belay 2.13SC	1.8 oz/A	0.00 c[3]	0.13 b	0.04 b	0.00	0.17 bc	0.13 c	0.17 bc	0.04 b	0.00	0.33 b-f
2	Belay 2.13SC	2.8 oz/A	0.13 bc	0.13 b	0.17 b	0.04	0.46 b	0.04 c	0.00 c	0.00 b	0.00	0.04 f
3	Venom 70SG	2.0 oz/A	0.17 bc	0.00 b	0.04 b	0.08	0.29 bc	0.17 bc	0.04 bc	0.00 b	0.00	0.21 c-f
4	Venom 70SG	3.0 oz/A	0.00 c	0.13 b	0.04 b	0.00	0.17 bc	0.08 c	0.38 b	0.04 b	0.00	0.50 b-e
5	Centric 40WG	2 oz/A	0.17 bc	0.00 b	0.08 b	0.00	0.25 bc	0.17 bc	0.25 bc	0.13 ab	0.08	0.63 bc
6	Trimax Pro	1.8 oz/A	0.00 c	0.25 b	0.04 b	0.00	0.29 bc	0.21 bc	0.21 bc	0.08 b	0.04	0.54 b-d
7	Orthene 97	8 oz/A	0.00 c	0.00 b	0.04 b	0.00	0.04 c	0.46 a	0.17 bc	0.00 b	0.04	0.67 b
8	Baythroid XL	2.6 oz/A	0.00 c	0.04 b	0.00 b	0.00	0.04 c	0.13 c	0.00 c	0.04 b	0.00	0.17 d-f
9	Endigo ZC	4 oz/A	0.04 bc	0.04 b	0.00 b	0.00	0.08 c	0.00 c	0.00 c	0.08 b	0.00	0.08 ef
10	Karate Z	2.56 oz/A	0.00 c	0.00 b	0.00 b	0.00	0.00 c	0.08 c	0.04 bc	0.00 b	0.00	0.13 d-f
11	Cobalt	19 oz/A	0.21 b	0.08 b	0.00 b	0.00	0.29 bc	0.21 bc	0.25 bc	0.04 b	0.04	0.54 b-d
12	Untreated	---	0.58 a	1.21 a	0.71 a	0.04	2.54 a	0.38 ab	1.29 a	0.25 a	0.04	1.96 a
	LSD		0.17	0.28	0.20	NS	0.31	0.22	0.36	0.14	NS	0.44

[1]*Six samples were taken per plot on each date.*
[2]*GSBA = green stink bug adults, GSBN = green stink bug nymphs, BSBA = brown stink bug adults, BSBN = brown stink bug nymphs.*
[3]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

TEST: SB08CEW1, Efficacy of insecticides against corn earworm in soybean

EXPERIMENT TREATMENTS:

#	Material	Rate	Date treated
1	Belt 480SC	3 oz/A	Sept 2
2	Larvin 3.2	10 oz/A	Sept 2
3	Tracer	2 oz/A	Sept 2
4	Radiant SC	3 oz/A	Sept 2
5	Cobalt	19 oz/A	Sept 2
6	Coragen	5.06 oz/A	Sept 2
7	Coragen	6.74 oz/A	Sept 2
8	Steward EC	4.6 oz/A	Sept 2
9	Steward EC	6.0 oz/A	Sept 2
10	Baythroid XL	2.8 oz/A	Sept 2
11	Karate Z	1.92 oz/A	Sept 2
12	Untreated	---	---

Test #: SB08CEW1	**Planting date:** July 7
Year: 2008	**Plot size:** 12 rows x 50’
Crop: Soybean	**Row spacing:** 15”
Variety: SS 591	**Location:** Taliaferro farm, Middlesex Co.
Experimental design: RCBD	

Treatment application information:

In-Season	**Liquid**	Nozzle type: 8002VS Nozzle spacing: 18” psi: 18 gpa: 14.3

Comments: David Moore and David Taliaferro are acknowledged for their assistance with this test. David Moore and Howard Chandler are acknowledged for their assistance with a second corn earworm test in soybean (larval collection/resistance testing) in King and Queen Co.

Pre-treatment counts: 20 medium to large larvae per 15 sweeps.

Table 49. Mean number of corn earworm larvae per 15 sweeps with a sweep net, SB08CEW1 (David Taliaferro farm, Middlesex Co., VA). Tidewater AREC, Suffolk, VA, 2008. Insecticide treatments were applied on September 2.

#	Material	Rate	Sep 5				Sep 8			
			Small	Medium	Large	Total	Small	Medium	Large	Total
1	Belt 480SC	3 oz/A	0.00	0.75 bc[1]	0.75 b	1.50 b	0.00	0.25 b	0.00 c	0.25 bc
2	Larvin 3.2	10 oz/A	0.00	0.50 bc	0.25 b	0.75 bc	0.00	0.00 b	0.25 bc	0.25 bc
3	Tracer	2 oz/A	0.00	0.25 bc	0.50 b	0.75 bc	0.00	0.00 b	0.25 bc	0.25 bc
4	Radiant SC	3 oz/A	0.00	0.50 bc	0.25 b	0.75 bc	0.00	0.00 b	0.25 bc	0.25 bc
5	Cobalt	19 oz/A	0.25	0.50 bc	0.25 b	1.00 bc	0.00	0.25 b	0.75 b	1.00 b
6	Coragen	5.06 oz/A	0.00	1.25 b	0.25 b	1.50 b	0.00	0.00 b	0.00 c	0.00 c
7	Coragen	6.74 oz/A	0.25	0.25 bc	0.00 b	0.50 bc	0.00	0.00 b	0.50 bc	0.50 bc
8	Steward EC	4.6 oz/A	0.00	0.50 bc	0.00 b	0.50 bc	0.00	0.00 b	0.25 bc	0.25 bc
9	Steward EC	6.0 oz/A	0.00	0.00 c	0.00 b	0.00 c	0.00	0.25 b	0.50 bc	0.75 bc
10	Baythroid XL	2.8 oz/A	0.00	0.25 bc	0.50 b	0.75 bc	0.00	0.00 b	0.25 bc	0.25 bc
11	Karate Z	1.92 oz/A	0.00	0.00 c	0.00 b	0.00 c	0.00	0.00 b	0.25 bc	0.25 bc
12	Untreated	---	0.00	4.50 a	4.75 a	9.25 a	0.25	2.50 a	3.75 a	6.50 a
	LSD		NS	1.19	0.99	1.38	NS	0.45	0.70	0.86

[1]*Means within a column followed by the same letter(s) are not significantly different (Protected LSD, P=0.05).*

Table 50. 2008 Corn earworm survey. A representative sample of Bt and non-Bt cornfields in eastern Virginia counties were surveyed for presence and age of corn earworm larvae in ears. Percent ears infested was used to predict infestation severity in soybean and other crops.

County	# Fields	# Ears Sampled	% Ears Infested	Field types
Eastern Shore				
Accomack	5	250	54.0	random sample
Northampton	5	250	47.2	random sample
Regional avg. %			*50.6*	
Mid-Eastern				
Charles City	5	250	37.2	random sample
Essex	5	250	22.0	random sample
Gloucester	5	250	44.0	2 Bt, 3 non-Bt
Henrico	5	250	64.8	random sample
King and Queen	5	250	50.8	1 Bt, 4 non-Bt
King William	5	250	47.6	random sample
Mathews	5	250	54.8	random sample
Middlesex	5	250	46.0	1 Bt, 4 non-Bt
New Kent	5	250	36.8	4 Bt, 1 non-Bt
Regional avg. %			*44.9*	
Southeast				
Chesapeake	5	250	42.0	4 Bt, 1 non-Bt
Dinwiddie	5	250	75.2	5 non-Bt
Greensville	5	250	58.0	random sample
Isle of Wight	5	250	60.8	1 Bt, 4 non-Bt
Prince George	5	250	64.0	random sample
Southampton	5	250	60.0	2 Bt, 3 non-Bt
Suffolk	5	250	48.4	random sample
Surry	5	250	25.2	3 Bt, 2 non-Bt
Sussex	5	250	54.0	random sample
Virginia Beach	5	250	61.2	random sample
Regional avg. %			*54.9*	
Northern Neck				
Lancaster	5	250	13.2	3 Bt, 2 non-Bt
Northumberland	5	250	12.8	3 Bt, 2 non-Bt
Richmond County	5	250	21.6	5 non-Bt
Westmoreland	5	250	54.4	random sample
Regional avg. %			*25.5*	
Northern				
Caroline	5	250	37.2	1 Bt, 4 non-Bt
King George	5	250	17.6	3 Bt, 2 non-Bt
Regional avg. %			*27.4*	
State average			***44.8%***	

Table 51. Results of the 2008 Virginia soybean insecticide usage survey.

District	Acres in region	Estimated acreage treated for:[1]											Acres scouted	Acres treated[2]	Acres over-treated	Acres under-treated
		CEW-1	CEW-2	SBA	GCW	MITE	BLB	GH	THP	SB	Complex	Other				
CENTRAL																
Orange	3,000	0	0	0	0	0	0	0	0	0	900	0	450	900	500	0
Central Total	**3,000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**900**	**0**	**450**	**900**	**500**	**0**
EASTERN																
Eastern Shore																
Accomack	33,000	27,000	5,000	0	0	100	0	0	0	3,500	0	0	30,000	35,600	0	2,500
East. Shore Total	**33,000**	**27,000**	**5,000**	**0**	**0**	**100**	**0**	**0**	**0**	**3,500**	**0**	**0**	**30,000**	**35,600**	**0**	**2,500**
Mid-Eastern																
Caroline	18,500	2,000	0	200	0	300	0	0	0	0	0	0	10,000	2,500	0	0
Essex	20,000	12,000	0	0	300	0	0	300	0	0	0	0	12,000	12,600	1,000	500
King & Queen	14,000	9,000	0	0	0	0	0	0	0	0	0	0	10,000	9,000	500	500
King William	14,500	8,500	0	0	0	0	0	0	0	0	0	0	10,000	8,500	500	500
Middlesex, Mathews, Gloucester	22,000	19,000	1,000	0	0	500	0	0	0	0	2,500	200	15,000	23,200	2,000	500
Mid-East. Total	**89,000**	**50,500**	**1,000**	**200**	**300**	**800**	**0**	**300**	**0**	**0**	**2,500**	**200**	**57,000**	**55,800**	**4,000**	**2,000**
Southeast																
Chesapeake	27,500	20,000	500	0	0	1,000	2,000	4,000	0	3,000	0	0	10,000	30,500	3,000	500
Dinwiddie	14,000	5,000	0	0	200	100	0	200	0	300	0	0	12,000	5,800	2,000	1,000
Greensville	13,688	4,000	0	0	0	0	0	800	0	0	0	0	8,000	4,800	1,000	500
Isle of Wight	22,592	12,000	1,000	0	0	100	0	0	0	1,000	0	0	14,000	14,100	0	0
Prince George	10,100	5,000	0	0	0	0	0	0	0	0	0	0	6,000	5,000	1,000	500
Southampton	30,000	20,000	5,000	0	0	0	0	500	0	20,000	0	0	20,000	45,500	5,000	0
Suffolk	20,338	18,900	1,200	0	0	0	0	0	0	0	0	0	19,321	20,100	0	700
Surry	17,300	15,000	6,000	0	0	0	0	0	0	0	0	0	13,000	21,000	4,000	5,000
Sussex	28,000	5,150	0	0	0	0	0	0	0	500	0	0	15,600	5,650	2,200	550
Southeast Total	**183,518**	**105,050**	**13,700**	**0**	**200**	**1,200**	**2,000**	**5,500**	**0**	**24,800**	**0**	**0**	**117,921**	**152,450**	**18,200**	**8,750**
Northern Neck																
Lancaster	6,656	4,000	0	0	0	0	0	0	0	0	0	0	4,000	4,000	1,000	500
Northumberland	16,852	12,000	0	0	0	0	0	0	0	0	0	0	10,000	12,000	3,000	1,000
Richmond	13,975	10,000	3,000	0	0	0	0	0	0	0	0	0	9,000	13,000	1,000	700
N. Neck Total	**37,483**	**26,000**	**3,000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23,000**	**29,000**	**5,000**	**2,200**
GRAND TOTAL	**346,001**	**208,550**	**22,700**	**200**	**500**	**2,100**	**2,000**	**5,800**	**0**	**28,300**	**3,400**	**200**	**228,371**	**273,750**	**27,700**	**15,450**

[1]*CEW-1 = acres treated once for corn earworm; CEW-2 = acres treated twice for corn earworm; SBA = soybean aphid; GCW = green cloverworm; MITE = spider mite; BLB = bean leaf beetle; GH = grasshopper; THP = thrips; SB = stink bug; Complex = multiple insect pest species.*
[2]*Treated acreage may exceed actual acreage due to some acres being treated more than once.*

Table 52. 2008 Virginia soybean insecticide usage percentages by district and state total.

District	Total acreage	% Acreage scouted	% Acreage treated[1]	% Acreage overtreated	% Acreage undertreated
Central	3,000	15.0	30.0	16.7	0.0
Eastern (total)	343,001	66.4	79.5	7.9	4.5
Eastern Shore	33,000	90.9	107.9	0.0	7.6
Mid-Eastern	89,000	64.0	62.7	4.5	2.2
Southeast	183,518	64.3	83.1	9.9	4.8
Northern Neck	37,483	61.4	77.4	13.3	5.9
STATE TOTAL[2]	**346,001**	**66.0**	**79.1**	**8.0**	**4.5**

[1]*Acreage treated for all arthropod pests, combined. Treated acreage may exceed actual acreage due to some acres being treated more than once.*
[2]*State totals are determined using grand total data from Table 51, not by means of district data.*

Figure 1. Corn earworm regression. Relationship between the percentage of total soybean acreage treated for corn earworm from 1976-2008 and the percentage of corn ears infested in mid-July. Eastern Virginia, 2008. Y = 1.07x – 3.98; R^2 = 0.55

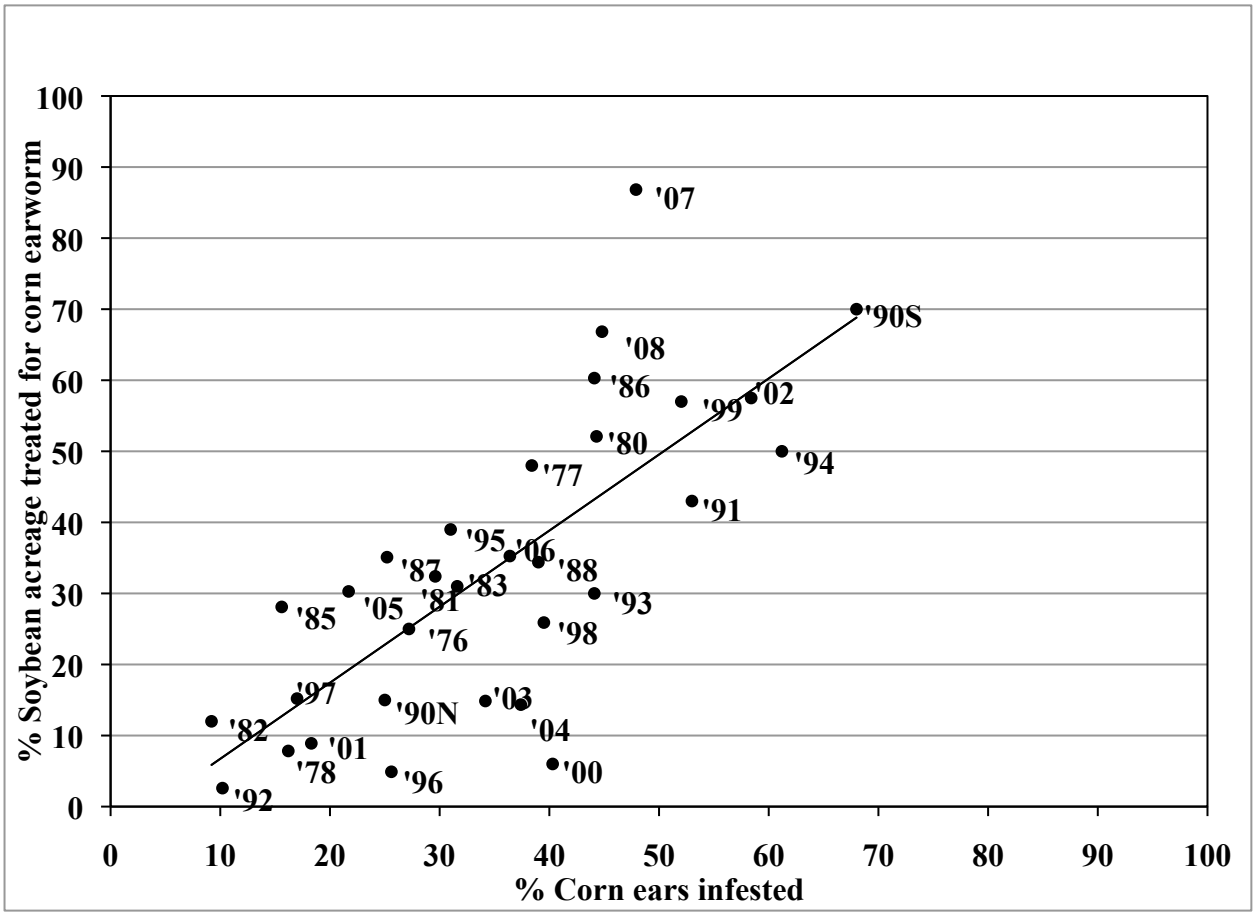

Table 53. Black light and pheromone trap captures. Average daily number of corn earworm moths captured in eastern Virginia, 2008. Pheromone trap counts are indicated with an asterisk.

	Nightly trap catch average for week ending:																	
Location (county-town)	5/29	6/05	6/12	6/19	6/26	7/03	7/10	7/17	7/24	7/31	8/07	8/14	8/21	8/28	9/04	9/11	9/18	9/25
Southeast/Eastern Shore																		
Accomack-Painter	n/a	n/a	2.3	n/a	0.0	n/a	21.2*	0.8, 5.5*	3.6*	1.4, 1.4*	1.3, 12.6*	2.6, 21*	7.3, 83*	4.6, 25*	7*, 4	7.3*	15*, 2	n/a
Accomack-Bobtown	n/a	n/a	n/a	n/a	n/a	n/a	6.8*	0.2*	0.6*	0.0*	0.1*	0.1*	1.6*	1.3*	0.6*	1.1*	0.3*	n/a
Accomack-Melfa	n/a	n/a	n/a	n/a	n/a	n/a	0.1*	0.2*	0.1*	0.0*	0.0*	0.0*	0.1*	n/a	n/a	n/a	n/a	n/a
Chesapeake	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.9	24.1	12.6	4.1	n/a	n/a	n/a	n/a	n/a
Dinwiddie-Carson	n/a	8.0	6.3	1.0	1.1	2.9	2.3	4.0	n/a	10.9	24.7	17.5	11.1	5.4	15.9	5.0	2.7	n/a
Dinwiddie-Stony Creek	n/a	n/a	n/a	1.7	2.1	2.9	4.3	5.6	6.3	7.4	19.4	21.0	7.0	n/a	n/a	n/a	n/a	n/a
Greensville-Emporia	n/a	1.3	0.6	0.3	n/a	n/a	n/a	n/a	0.5	3.6	17.1	17.5	13.0	19.4	18.7	11.3	6.9	2.0
Greensville-Skippers	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Northampton-Cheriton	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.8	3.4	1.1	3.0	35.6	16.4	11.9	7.3	10.4	2.1	n/a
Northampton-Nassawadox	n/a	n/a	n/a	n/a	n/a	n/a	8.6*	7.2*	6.1*	1.1*	6.7*	13.7*	8.0*	4.9*	0.6*	1.4*	2.6*	n/a
Northampton-Eastville	n/a	n/a	n/a	n/a	n/a	n/a	1.4*	0.3*	0.6*	0.3*	1.4*	4.6*	29.7*	10.6*	9.9*	6.0*	5.1*	n/a
Petersburg	5.3	6.3	6.1	2.0	1.9	3.7	4.9	3.7	0.4	1.7	5.6	16.1	19.9	14.2	11.9	6.7	2.0	2.4
Prince George-Disputanta 1	n/a	6.0	3.7	0.7	1.0	1.3	1.4	2.7	n/a	5.3	6.7	4.3	4.1	1.6	2.7	1.0	1.0	n/a
Prince George-Disputanta 2	n/a	6.0	3.3	0.7	0.0	0.9	1.6	3.3	n/a	6.2	11.7	12.2	7.3	4.6	3.6	3.4	2.0	n/a
Southampton-Courtland	13.0	9.0	1.7	n/a	n/a	n/a	n/a	n/a	n/a	7.4	17.7	15.7	3.3	7.8	11.7	15.4	4.6	1.8
Southampton-Newsoms	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Suffolk-Holland	2.1	1.7	1.4	0.3	0.7	1.7	1.4	3.6	1.4	8.3	17.0	17.0	18.1	22.3	7.9	12.6	2.3	3.7
Surry	n/a	4.8	5.0	2.0	0.3	2.0	0.0	0.0	0.0	3.0	12.0	6.0	4.0	3.0	n/a	n/a	n/a	n/a
Sussex-Waverly	n/a	n/a	n/a	n/a	n/a	n/a	0.0	3.3	3.2	5.2	8.9	2.6	5.4	17.7	5.2	7.4	5.2	4.3
North of James River																		
Essex	n/a	n/a	n/a	n/a	n/a	n/a	0.0	0.0	n/a	0.5	1.0	2.5	5.7	3.0	1.9	n/a	n/a	n/a
Gloucester	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	28.0	19.0	53.0	18.0	n/a	n/a	n/a	n/a
King William	n/a	n/a	8.0	2.3	5.7	n/a	n/a	n/a	7.0	n/a	11.0	10.8	26.5	26.5	20.3	24.8	n/a	n/a
Lancaster	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.5	12.1	14.6	29.7	24.7	n/a	21.6	11.6	9.0	n/a	0.5
Middlesex	n/a	n/a	n/a	n/a	n/a	n/a	1.0	1.5	5.5	16.5	23.0	25.0	48.0	14.0	n/a	n/a	n/a	n/a
New Kent	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.3	6.0	n/a	7.0	5.0	n/a	n/a	n/a	n/a	n/a
Richmond Co.-Warsaw	13.7	15.6	14.6	5.9	1.1	5.1	9.1	15.8	7.5	29.0	40.0	35.0	64.9	50.7	22.9	21.5	6.3	1.6

n/a = report not available.