Fall Cabbage Insect Management - 2001: Promising new chemistry and labeled insecticides were evaluated for control of the cabbage insect complex. 'Blue Thunder' field-grown cabbage transplants were planted on July 26 at Papen Farms, Inc., Dover, DE. Plots consisted of one 20-ft-long row on 3-ft centers. Each treatment was replicated four times and arranged in a RCB design. The evaluated materials are listed in the tables and all materials were applied on Aug 9, 22, 31; and Sept 11. Applications were made with a CO_2 backpack sprayer with a one-row boom, having 3 hollow-cone nozzles per row (one over the top and one drop nozzle on each side) delivering 38 gpa at 40 psi. Latron CS-7 was included in all applications at a rate of 0.12% vol./vol. The number of Lepidopterous larvae on each of 5 randomly selected plants per plot was recorded on a weekly basis from August 13 through September 17. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).
DBM and CL populations were low- moderate throughout the season. All treatments provided significantly better DBM and CL control compared to the untreated check. No phytotoxicity was observed.

Treatment	Rate lb AI/A	Mean % Marketable Heads	Mean # Diamondback / 5 plants					
			Aug 13 4DAT	Aug 15 6 DAT	Aug 25 3DAT	Aug 30 8DAT	Sept 7 7DAT	Sept 17 6DAT
Untreated	-----	40.08d	2.75a	1.75a	2.75a	1.25ab	3.75a	2.25ab
Confirm 2F	0.120	78.10abc	0.25b	0.00b	1.25ab	2.25a	0.50bc	0.00c
Intreprid 80WSP	1 oz form.	71.48bc	1.00b	0.25b	0.50b	0.75ab	0.25bc	0.50bc
Intreprid 80WSP	2 oz form.	67.85c	0.00b	0.75ab	1.50ab	1.25ab	0.75bc	2.00ab
Intreprid 80WSP	3 oz form.	83.05abc	1.00b	0.75ab	1.00b	1.00ab	0.25bc	0.50bc
Spintor 2SC	0.063	94.73ab	0.00b	0.00b	0.00b	0.00b	0.00c	0.00c
Proclaim 5 SG	3.2 oz form.	94.80ab	0.00b	0.00b	0.00b	0.00b	0.25bc	0.00c
Avaunt 30 WDG	0.065	97.43a	0.00b	0.50ab	0.25b	0.00b	0.00c	0.00c
Avaunt 30 WDG Spintor 2 SC *	0.065 0.063	98.68a	0.00b	0.00b	0.25b	0.00b	0.00c	0.00c
F0570 0.8EW	0.017	85.43abc	0.00b	1.50ab	0.00b	1.25ab	0.00c	0.00c
Capture 2EC	0.033	72.03bc	0.00b	0.50ab	0.75b	1.50ab	1.50b	1.25abc
Capture 2EC	0.040	61.40c	0.25b	0.50ab	1.50ab	1.50ab	0.00c	2.75a

Treatment	Rate lb AI/A	Mean # Cabbage Looper / 5 plants				
		Aug 13 4DAT	Aug 25 3DAT	Aug 30 8DAT	Sept 4 4DAT	Sept 17 6DAT
Untreated	-----	1.25a	4.50a	4.75a	2.50a	2.00a
Confirm 2F	0.120	0.00b	0.50b	1.00b	0.50b	0.00b
Intreprid 80WSP	1 oz form.	0.00b	0.75b	1.50b	1.25ab	0.00b
Intreprid 80WSP	2 oz form.	0.25b	1.75b	1.50b	1.00ab	0.25b
Intreprid 80WSP	3 oz form.	0.00b	0.75b	0.75b	0.50b	0.00b
Spintor 2SC	0.063	0.00b	0.00b	1.00b	0.00b	0.00b
Proclaim 5 SG	3.2 oz form	0.25b	0.50b	2.25b	1.25ab	0.00b
Avaunt 30 WDG	0.065	0.00b	0.25b	1.25b	0.00b	0.00b
Avaunt 30 WDG Spintor 2 SC *	0.065 0.063	0.00b	0.25b	1.25b	0.00b	0.00b
F0570 0.8EW	0.017	0.00b	0.50b	1.75b	0.25b	0.00b
Capture 2EC	0.033	0.00b	0.00b	1.75b	0.00b	0.00b
Capture 2EC	0.040	0.00b	0.00b	1.00b	0.00b	0.00b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test)

- 2 applications of Avaunt followed by 2 applications of Spintor

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Cucumber Beetle Management in Cucumbers - 2001: 'Marketmore' cucumbers were planted on Aug 21 at the University of Delaware Research and Education Center near Georgetown, DE. Plots consisted of four 20-ft-long rows on 2.5-ft centers. Each treatment was replicated four times and arranged in a RCB design. The evaluated materials are listed in the tables and all in-furrow materials were applied on Aug 21 and foliar treatments on Sept 11. Application were made with a CO_2 backpack boom sprayer delivering 4 gpa @ 40 psi in-furrow and 22.5 gpa @ 40 psi for foliar applications. The number of cucumber beetles and damaged plants was recorded twice a week for 10 randomly selected plants per plot from September 4 through September 26. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Cucumber beetle pressure was low. On September 14, cucumber beetle counts and the percentage of damaged plants was significantly lower for all treatments compared to the untreated check.

I. Cucumber Beetle Data

Treatment	Rate/A	Mean Number Cucumber Beetle per 10 plants *					
		Sept 4	Sept 10	Sept 14	Sept 18	Sept 21	Sept 26
Platinum 2SC	7 oz in-furrow	0.00a	1.00a	0.75b	1.00ab	4.00b	5.50a
Platinum 2SC	9 oz in-furrow	1.25a	1.25a	0.50b	1.25ab	3.75b	4.25a
Admire 2F	16 oz in-furrow	0.00a	1.50a	1.75b	2.00ab	3.50b	3.75a
Actara 25WG	1.5 oz foliar	0.50a	2.75a	0.50b	0.00b	3.25b	2.25a
Actara 25WG	3 oz foliar	1.00a	2.50a	0.75b	1.25ab	3.50b	2.50a
Untreated	-----	0.75a	2.75a	4.50a	3.50a	6.50a	3.00a

* Combination of Spotted and Striped Cucumber Beetles

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

II. Cucumber Beetle Damage and Bacterial Wilt Infestation

Treatment	Rate/A	Mean % Cucumber Beetle Damaged Plants		
		Sept 4	Sept 10	Sept 14
Platinum 2SC	7 oz in-furrow	52.50ab	35.00a	2.5b
Platinum 2SC	9 oz in-furrow	50.00ab	40.00a	2.5b
Admire 2F	16 oz in-furrow	32.50b	37.50a	12.5b
Actara 25WG	1.5 oz foliar	62.50ab	62.50a	5.00b
Actara 25WG	3 oz foliar	60.00ab	57.50a	5.00b
Untreated	-----	70.00a	70.00a	40.00a

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Insect Management in Late Planted Lima Beans - 2001: 'Maffei-15' lima beans were planted on July 16 at the Research and Education Center near Georgetown, DE. Plots consisted of four 20-ft-long rows on 2.5-ft centers. Each treatment was replicated four times and arranged in a RCB design. The evaluated materials are listed in the tables and materials were applied on Aug 29 and Sept 14. The evaluated materials are listed in the tables and all materials were applied on Aug 29 and Sept 14. Application were made with a CO_2 backpack boom sprayer delivering 22.5 gpa @ 40 psi. The number of thrips per 10 leaves was evaluated 6 days after the first application, the number of lygus per 5 sweeps was recorded 3 days after the second application and the corn earworm per 6 foot of row was recorded 3 and 7 DAT. At harvest maturity (Sept 27), all the pods from 6 foot of row were harvested and evaluated for pod damage. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

All treatments provided significantly better thrips and corn earworm control compared to the untreated check. All treatments provided better lygus control compared to the untreated check except Lannate, Avaunt and the low rate of Spintor. No phytotoxicity was observed.

Treatment	Rate lb AI/A	Thrips/10 Lvs	Lygus per 5 Sweeps	CEW per 6 Foot of Row		% CEW Damage Pods
		6 DAT Sept 4	3 DAT Sept 17	3 DAT Sept 17	7 DAT Sept 21	Sept 27
Untreated	-----	6.25a	2.00a	1.50a	4.50a	5.43a
Lannate LV	0.450	0.25b	0.75ab	0.25b	0.00b	2.77ab
Warrior T	0.025	0.25b	0.00b	0.00b	0.00b	0.00b
Capture 2EC	0.025	1.50b	0.00b	0.00b	0.00b	2.85ab
Capture 2EC	0.033	1.33b	0.00b	0.00b	0.75b	0.56b
Capture 2EC	0.040	1.50b	0.25b	0.00b	0.25b	1.19b
Capture 2EC	0.0625	1.00b	0.00b	0.00b	0.25b	0.24b
Avaunt 30WDG	0.065	2.25b	1.00ab	0.00b	0.00b	1.02b
Spintor 2SC	0.094	0.50b	0.00b	0.00b	0.00b	0.85b
Spintor 2SC	0.062	2.00b	0.75ab	0.25b	0.00b	1.89ab

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Insect Management in Potatoes - 2001: ' Superior' potatoes were planted at the University of Delaware Research and Education Center located in Georgetown, DE on April 4. Plots consisted of three 20 ft-long rows on 3-ft centers. Each treatment was replicated four times and arranged in a RCB design. At-planting treatments were applied with a hand held one nozzle backpack sprayer delivering 6 gpa@ 40 psi. Applications of foliar insecticides were broadcast applied when threshold levels of CPB were detected in each treatment. A CO_2 pressurized backpack sprayer delivered 22 gpa at 40 psi. Data were taken weekly from May 14 through June 25 from the center row of each plot and included the following: the number of CPB adults, egg masses, small and large larvae/5 randomly selected stems in each plot, the number of ECB damaged stems/ 10 randomly selected stems per plot, the number of potato leafhopper adults and nymphs per 5 sweeps and a visual defoliation ranking (1= 1-20%, 2 = 21-30%, 3= 31-50%, 4 = 51-80% and 5 = 81-100%) within each plot. The center row of each plot was harvested on July 9 and all A- grade tubers were weighed. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Colorado potato beetle, potato leafhopper and European corn borer pressure was moderate. All treatments provided significantly better control of small and large CPB larvae compared to the untreated control except Avaunt on June 4. Admire, Platinum and Avaunt provided the best potato leafhopper control. Baythroid provided the best European corn borer control. No phytotoxicity was observed.

I. CPB Small Larvae

Trt	Rate/A	Timing	Mean Number per 5 plants							
			5/14	5/17	5/22	5/31	6/4	6/11	6/17	6/25
Admire 2F	16 oz/A	IF at planting	0.0a	0.0b	0.0b	0.0b	0.0b	2.3a	1.25a	0.25a
Admire 2F Baythroid 2	16 oz 2 oz	IF May 18&24 for ECB	0.0a	0.0b	0.0b	0.0b	0.0b	8.5a	3.25a	0.50a
Provado 1.6 F	3.75 oz	May 18 & June 13	12.0a	16.5ab	4.8b	5.3b	4.5b	11.3a	0.00a	0.00a
Leverage 2.7	3.75 oz	May 18 & June 13	0.0a	29.3a	10.5b	1.0b	5.5b	11.5a	0.00a	0.25a
Platinum 2SC	.44 oz/1000 ft	IF at planting	0.0a	0.0b	0.0b	.75b	0.0b	2.3a	0.50a	0.50a
Avaunt 30WG	3.5 oz	May 18, 24 & 31; June 13	7.5a	20.3ab	47.3a	30.0ab	12.0ab	6.0a	3.75a	0.00a
Actara 25WG	3 oz	May 18	6.8a	12.3ab	8.0b	2.0b	.5b	5.8a	4.75a	0.25a
Untreated	---	----	4.3a	30.75a	43.5a	51.8a	23.3a	7.8a	1.25a	0.75a

II. CPB Large Larvae

Trt	Rate/A	Timing	Mean Number per 5 plants							
			5/14	5/17	5/22	5/31	6/4	6/11	6/17	6/25
Admire 2F	16 oz/A	IF at planting	0.0a	0.0a	0.0a	0.0b	0.00b	0.00b	1.5a	2.5a
Admire 2F Baythroid 2	16 oz 2 oz	IF May 18&24 for ECB	0.0a	0.0a	0.0a	0.0b	0.00b	0.25b	2.5a	2.75a
Provado 1.6 F	3.75 oz	May 18 & June 13	0.0a	0.0a	0.0a	0.0b	1.25b	17.25ab	0.0a	0.25a
Leverage 2.7	3.75 oz	May 18 & June 13	0.0a	0.0a	0.0a	0.0b	1.00b	6.50ab	0.0a	0.25a
Platinum 2SC	.44 oz/1000 ft	IF at planting	0.0a	0.0a	0.0a	0.0b	0.00b	0.00b	1.75a	1.75a
Avaunt 30WG	3.5 oz	May 18, 24 & 31; June 13	0.0a	0.0a	0.0a	15.75b	23.75a	5.50ab	1.25a	5.0a
Actara 25WG	3 oz	May 18	0.0a	0.0a	0.0a	0.0b	0.00b	2.00b	5.0a	1.75a
Untreated	---	----	0.0a	0.0a	0.0a	69.00a	80.50a	19.75a	4.25a	1.25a

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

III. Potato Leafhopper, European Corn Borer and Yield Data

Trt	Rate/A	Timing	# Leafhoppers/5 sweeps		% ECB Infested Stems (6/25)	Yield CWT/Acre
			6/4	6/11		
Admire 2F	16 oz/A	IF at planting	2.00bc	3.50a	42.5ab	392.04a
Admire 2F Baythroid 2	16 oz 2 oz	IF May 18&24 for ECB	0.25c	1.75a	17.5b	361.86ab
Provado 1.6 F	3.75 oz	May 18 & June 13	5.00ab	5.00a	40.00ab	282.87ab
Leverage 2.7	3.75 oz	May 18 & June 13	3.00abc	6.25a	10.00b	324.13ab
Platinum 2SC	.44 oz/1000 ft	IF at planting	1.25c	3.00a	35.0ab	353.02ab
Avaunt 30WG	3.5 oz	May 18, 24 & 31; June 13	1.75bc	6.25a	27.50ab	312.64ab
Actara 25WG	3 oz	May 18	3.00abc	2.25a	42.50ab	343.49ab
Untreated	---	----	5.75a	3.75a	65.0a	242.76b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

European Corn Borer Management in Potatoes - 2001: 'Superior' potatoes were planted on April 6 on the Joseph Jackewicz Farm located near Magnolia, DE. Plots consisted of four 50 ft-long rows on 3-ft centers. Each treatment was replicated four times and arranged in a RCB design. Applications of Furadan were broadcast applied at a rate of 1 qt per acre and 3 treatment timings were evaluated: (1) Peak pheromone trap counts: first application 3-5 days after peak and second application one week later, (2) 700 DD, Base 50 starting Jan 1: first application 3-5 days after reaching 700DD and second application one week later, and (3) One Application at 300 DD, base 50, after peak catch in pheromone trap. Bravo was applied at a rate of 1 lb/acre on May 15, 24, 30; June 6, 13, 20 and 27. Provado was applied for CPB and leafhopper control at a rate of 3.75 oz/A on May 24, 30; June 13 and 27. An ATV 4 CO_2 pressurized ATV sprayer delivered 23gpa at 40 psi. Data were taken weekly from May 14 through June 27 from the center row of each plot and included the following: the number of CPB adults, egg masses, small and large larvae/5 randomly selected stems in each plot, the number of ECB damaged stems/ 10 randomly selected stems per plot on June 27, and the number of potato leafhopper adults and nymphs per 5 sweeps. One row of each plot was harvested on July 20 and all A- grade tubers were weighed. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

European corn borer pressure was moderate. Two applications of Furadan based on peak trap catches and 700 DD from Jan. 1 provided significantly better ECB control compared to the single application 300 DD after peak catch. No yield differences or phytotoxicity were observed.

Treatment and Rate/Acre	Date of Application	Timing of Application	Percent ECB Damaged Stems June 27	Yield CWT/Acre
Furadan 1 qt	May 24 and June 6	Based on Pheromone Trap Counts: 3-5 days after peak, then 7 days later	2.50c	350.56a
Furadan 1 qt	June 6 and June 13	Using Degree Days: calculated on base 50 starting Jan 1, first spray 3-5 days after 700 DD, second spray one week later	2.50c	368.03a
Furadan 1 qt	June 13	Used BLT peak catch then timed spray for 300DD (base 50) after peak	16.25b	356.06a
Untreated	-------	--------	32.50a	340.26a

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Fall Snap Bean Insect Management- 2001: 'Slenderette' snap beans were planted on July 23 at the University of Delaware's Research and Education Center located near Georgetown, DE. Plots consisted of four 20 ft-long plots on 30-inch centers. Foliar treatments were applied Aug 24 (bud-stage), Aug 29 (pin-stage) and Sep 5 (one week before harvest) except Orthene 75S which was only applied on Aug 24 and 29. Applications were applied as a broadcast spray with a CO_2 pressurized back pack sprayer delivering 22.5 gpa at 40 psi.. At harvest maturity (Sep 12), all the beans in 6 ft of row were harvested and evaluated for CEW and ECB damage. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

CEW and ECB pressure was very light. No significant differences in worm damage and phytotoxicity was observed.

Treatment	Rate/A	Mean Percent Damaged Beans	
		Corn Borer	Corn Earworm
Untreated	------	0.67a	3.64a
Spintor 2SC	6 oz	0.00a	0.50a
Spintor 2SC	3 oz	0.33a	1.17a
Intreprid 80WP	6 oz	0.00a	0.37a
Confirm 2SC	8 oz	0.27a	0.92a
Proclaim 5SG	3.2 oz	0.37a	3.45a
Avaunt 30WG	3.5 oz	0.13a	0.39a
Orthene 75S	1.33 lb	0.00a	1.76a
Warrior T	3.2 oz	0.42a	0.09a
Capture 2EC	2.6 oz	0.00a	0.22a

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Worm Management in Fall Spinach- 2001: ' Seven-R' spinach was on Aug 21at the University of Delaware Research and Education Center located near Georgetown, DE. Twenty-five ft long plots planted 6 ft wide replicated 4 times and arranged in a RCB design. All treatments were broadcast applied on Sept 11 and 21. Treatments were applied with a CO_2 pressurized backpack sprayer delivering 22.5 gpa @ 40 psi. The number of Lepidopterous larvae on each of 10 randomly selected plants per plot was recorded on Sept 14, 18, 26 and Oct3. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Webworm pressure was low. All treatments provided significantly better webworm control compared to the untreated check on Sept 18, 26 and Oct 3.

Treatment	Rate/A	Mean Number webworms per 10 plants				
		Pre-Count Sept 10	3 DAT Sept 14	7 DAT Sept 18	5 DAT Sept 26	12 DAT Oct 3
Untreated	-----	1.75a	3.00a	2.75a	2.00a	2.25a
Confirm 2F	8 oz	2.00a	2.00ab	1.00b	0.25b	0.50b
Intreprid 80WSP	1 oz	1.50a	1.50ab	0.75b	0.25b	0.50b
Intreprid 80 WSP	2 oz	1.50a	1.75ab	0.50b	0.25b	0.25b
Intreprid 80WSP	3 oz	2.00a	1.00ab	1.00b	0.00b	0.75b
Spintor 2SC	4 oz	1.25a	0.50b	0.75b	0.25b	0.00b
Proclaim 5SG	3.2 oz	1.75a	1.50ab	0.75b	0.00b	0.25b
Avaunt 30WG	3.5 oz	2.00a	1.25ab	0.75b	0.00b	0.50b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Aphid Management in Fall Spinach - 2001: 'Tyee' spinach was planted on August 22 at the University of Delaware Research and Education Center located near Georgetown, DE. Twenty-five ft long plots planted 6 ft wide replicated 4 times and arranged in a RCB design. The at-planting Admire treatment was applied on Aug 22 using a one nozzle backpack sprayer delivering 6 gpa@ 40 psi. Provado was applied on Sept 11 and Messenger on Aug 31, Sept 19 and Oct 4. All foliar treatments were broadcast applied with a CO_2 pressurized backpack sprayer delivering 22.5 gpa @ 40 psi. The number of aphids on each of 10 randomly selected plants per plot was recorded on Sept 14, 10, 14 and 18. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Aphid pressure was low. Aphid counts were significantly lower on Sept 14 and 18 in the Provado and Admire plots compared to the untreated check.

Treatments	Rate/A	Appl Dates	Mean Number Aphids per 10 plants			
			Sept 4	Sept 10	Sept 14	Sept 18
Untreated	-----	-----	.25a	1.00a	2.25a	2.00a
Admire 2F	10 oz	Aug 22- at planting	.25a	1.50a	0.25b	0.50b
Provado 1.6F	3.75 oz	Sept 11	.25a	1.75a	0.50b	0.25b
Messenger	3 oz	Aug 31, Sept 19, Oct 4	.50a	0.75a	2.75a	2.00a

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Late Planted Sweet Corn - Silk Spray Trial - 2001: 'Dynamo' sweet corn was planted on July 6 at the University of Delaware Research and Education Center located near Georgetown, DE. Plots consisted of two row, 20 ft-long plots planted on 30-inch centers. Each treatment was replicated 4 times and arranged in a RCB design. All treatments listed in the table were applied on a 3-4 day schedule (Aug 20, 23, 28,31; Sept 4and 7). Applications of foliar insecticides were applied with a CO_2 pressurized back sprayer using 4 nozzles per row delivering 36 gpa at 40 psi. At harvest (Sep 10), 40 ears from each plot were husked and evaluated for damage as fresh market ears (no damage) and processing ears (no damage + damage only within 1.5 inches from the tip). The total number of larvae of each species was also counted. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Corn earworm was high. Corn borer pressure was low-moderate. All treatments provided a significantly higher percentage of processing ears and a lower percentage of insect damaged ears compared to the untreated check. All treatments provided a significantly higher percentage of fresh market ears compared to the untreated check except Avaunt.

Treatment	Rate/Acre lb ai.acre	Mean % Fresh Market Ears	Mean % Processing Ears	Means % Damaged Ears		
				Corn Earworm	European corn Borer	Fall Armyworm
Untreated	-----	0.00f	9.38d	100.00a	24.38a	2.50a
XR-225	3.2 oz (formulated)	21.25e	58.13c	77.50b	3.75b	0.00b
Warrior T	0.025 lb	76.88ab	86.88ab	23.13ef	0.63b	0.00b
XR-225	3.84 oz (formulated)	56.88cd	79.38ab	42.50cd	1.25b	0.00b
Warrior T	0.030 lb	87.50a	92.50a	11.88f	0.63b	0.00b
Spintor 2SC + Dyne-Amic	.063 lb 0.1 % v/v	18.75e	50.63c	80.63b	1.88b	0.00b
F0570 0.8EW	0.017 lb	44.38d	74.44b	53.75c	2.50b	0.00b
F0570 0.8EW	0.021 lb	60.63bcd	81.25ab	39.38cde	2.50b	0.00b
Avaunt 30 WDG	0.065 lb	14.91ef	51.25c	82.50b	0.00b	0.00b
Baythroid 2	0.044 lb	73.75abc	88.75ab	25.63def	0.63b	0.00b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Insect Management in Early Planted Bt Sweet Corn - 2001: 'Prime Plus' (non-Bt) and 'Attribute Bt' sweet corn were planted on April 27 at the University of Delaware Research and Education Center located near Georgetown, DE. Plots consisted of two 50 ft-long plots on 30-inch centers. Each treatment was replicated 4 times and arranged in a RCB design. All treated plots received Warrior T at a rate of 3.84 oz/acre. The first application on all treatments was applied at 5 % silk Treatments were applied with a CO_2 pressurized back sprayer using 4 nozzles per row delivering 36 gpa at 40 psi. At harvest on July 5 and the second harvest on July 16, 25 and 50 ears from each plot were husked and evaluated for damage as fresh market ears (no damage) and processing ears (no damage + damage only within 1.5 inches from the tip). The total number of insects of each species was also counted. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

At the first harvest date populations were extremely low and all treatments provided better ECB control compared to the untreated non-Bt variety. At the second harvest date, all treatments provided a significantly higher percentage of fresh market and processing ears as well as a lower percentage of insect damaged ears compared to the untreated non-Bt variety. Under relatively low insect pressure, no insecticide treatments should be needed on early planted Bt sweet corn.

Table 1. First Harvest: July 5 - sampled 25 ears per plot

Variety	Number Applications Treatment Date	% Damaged Ears		
		Corn Earworm	European Corn Borer	Sap Beetle
Attribute BT	1: June 26	0.00a	0.00b	0.00a
Attribute BT	2: June 26 and 29	0.00a	0.00b	0.00a
Attribute BT	3: June 26, 29; July 3	0.00a	0.00b	0.00a
Attribute BT	4: June 26,29; July 3,6	0.00a	0.00b	0.00a
Attribute BT	5: June 26, 29; July 3,6,10	0.00a	0.00b	0.00a
Attribute BT	6: June 26,29; July 3,6,10,13	0.00a	0.00b	1.00a
Attribute BT	Untreated	0.00a	0.00b	0.00a
Prime Plus	Untreated	4.00a	3.00a	2.00a
Prime Plus	6: June 26,29; July 3,6,10,13	0.00a	2.00ab	0.00a

Table II. Second Harvest: July 16 - sampled 50 ears per plot

Variety	% Fresh Market Ears	% Procc. Ears	% Damaged Ears	
			Corn Earworm	Sap Beetle
Attribute BT	91.00a	95.00a	0.00b	9.00b
Attribute BT	91.00a	97.00a	0.00b	9.00b
Attribute BT	99.00a	99.50a	0.00b	1.00b
Attribute BT	95.00a	97.00a	0.00b	5.00b
Attribute BT	98.00a	98.50a	0.00b	2.00b
Attribute BT	95.00a	98.50a	0.00b	5.00b
Attribute BT	82.50a	93.00a	0.50b	17.00b
Prime Plus	37.00b	70.50b	3.00a	57.00a
Prime Plus	90.00a	95.50a	0.00b	10.00b

Flea Beetle and Stewart's Wilt Management in Sweet Corn Using Seed Treatments - 2001

Investigators*:* Joanne Whalen, Marty Spellman (Entomology); Jim Hawk and Tecle Weldekidan, (Plant and Soil Science)

Sweet corn plots were established at the University of Delaware Research Farm in Newark, DE. Two Stewart's Wilt susceptible varieties, Lumina and Jubilee, were planted on April 25. Plots consisted of ten 17.5 ft long rows on 30-inch centers. Each treatment was replicated four times and arranged in a RCB design. Seed treatments were applied commercially by Gustafson Inc. and Syngenta Seeds. Stand counts and plants with flea beetle damage per 35 ft were recorded for six weeks after plant emergence. Stewart's wilt was rated as percent infected plants from May 30 through June 22. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Flea beetle pressure was extremely low. In the Lumina variety, all treatments provided a significantly lower percentage of Stewart's Wilt infected plants on June 4 and June 12 compared to the untreated check. In the Jubilee variety, all treatments provided a significantly lower percentage of Stewart's wilt infected plants on June 12 compared to the untreated check except for the GH2690 variety.

I. Lumina Variety: Flea Beetle Data

Trt	Rate	% Beetle Damaged Plants					
		May 9 1-2 leaf	May 16 4-6 leaf	May23 6-7 leaf	May 30 8 leaf	June 7 10 leaf	June 14 12 leaf
Untrt	-----	3.91a	2.50a	3.5a	0.00a	1.50a	0.00a
Adage	50g ai / 100 kg	1.44a	0.00b	0.00b	0.50a	0.50a	0.00a
Adage	100g ai / 100kg	0.00a	0.00b	1.00ab	0.00a	0.00a	0.00a
Adage	200g ai / 100 kg	0.00a	0.00b	0.50ab	0.00a	0.00a	0.00a
Gaucho 600FS	6.4 oz/ cwt	0.00a	0.00b	0.00b	0.00a	1.00a	0.00a
Gaucho 480	4 oz/ cwt	1.92a	0.00b	0.00b	0.50a	0.50a	0.00a
Gaucho 480	6 oz/cwt	0.00a	0.00b	1.00ab	0.00a	0.50a	0.00a
Gaucho 480	8 oz/cwt	0.00a	0.50b	0.00b	0.00a	0.00a	0.00a
Clothianidin	.25 mg ai/seed	0.00a	0.00b	0.00b	0.00a	0.00a	0.50a
Clothianidin	3.2 oz/cwt	1.56a	0.00b	0.50ab	0.00a	0.00a	0.00a
Clothianidin	4.8 oz/cwt	0.00a	0.00b	0.50ab	0.00a	0.00a	0.00a
GH 2690	Untreated	0.00a	0.50b	1.50ab	0.00a	1.00a	0.50a

II. Lumina Variety: Stewart's Wilt Data

Trt	Rate	% Stewart's Wilt Infected Plants			
		May 30	June 4	June 12	June 22
Untrt	----------	.69a	1.89a	7.93a	8.55a
Adage	50g ai / 100 kg	.28a	0.48b	0.58b	1.79b
Adage	100g ai / 100kg	.00a	0.28b	0.57b	1.77b
Adage	200g ai /100 kg	.09a	0.31b	0.90b	1.78b
Gaucho 600FS	6.4 oz/ cwt	.28a	0.47b	0.47b	1.82b
Gaucho 480	4 oz/ cwt	.19a	0.29b	0.60b	1.49b
Gaucho 480	6 oz/cwt	.11a	0.32b	0.63b	2.23b
Gaucho 480	8 oz/cwt	.09a	0.09b	0.29b	2.45b
Clothianidin	.25 mg ai/seed	.40a	0.50b	0.59b	1.69b
Clothianidin	3.2 oz/cwt	.09a	0.29b	0.68b	1.67b
Clothianidin	4.8 oz/cwt	.00a	0.00b	0.29b	2.07b
GH2690 variety	untreated	.29a	0.87b	2.31b	6.50ab

III. Jubilee Variety: Flea Beetle Data

Trt	Rate	% Beetle Damaged Plants					
		May 9 1-2 leaf	May 16 4-6 leaf	May23 6-7 leaf	May 30 8 leaf	June 7 10 leaf	June 14 12 leaf
Untrt	----------	3.28a	2.50a	2.50a	.75a	1.00a	0.00b
Adage	50g ai / 100 kg	0.00a	0.00b	0.50ab	0.00a	0.00a	0.00b
Adage	100g ai / 100kg	1.83a	0.00b	0.50ab	0.50a	0.00a	1.00a
Adage	200g ai / 100 kg	0.00a	0.50ab	0.00b	0.00a	0.00a	0.00b
Gaucho 600FS	6.4 oz/ cwt	0.00a	0.50ab	0.00b	0.00a	0.00a	0.00b
Gaucho 480	4 oz/ cwt	0.49a	0.00b	0.00b	0.00a	0.00a	0.00b
Gaucho 480	6 oz/cwt	0.83a	0.50ab	0.50ab	0.00a	0.50a	0.00b
Gaucho 480	8 oz/cwt	2.14a	0.00b	0.00b	1.00a	0.00a	0.00b
Clothianidin	.25 mg ai/seed	2.63a	0.00b	0.00b	0.00a	0.50a	0.00b
Clothianidin	3.2 oz/cwt	0.00a	0.00b	0.50ab	0.50a	0.00a	0.00b
Clothianidin	4.8 oz/cwt	0.49a	0.00b	0.00b	0.00a	0.00a	0.00b
GH2690 variety	untreated	0.74a	0.00b	2.50a	0.50a	1.00a	0.00b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

IV. Jubilee Variety: Stewart's Wilt Data

Trt	Rate	% Stewart's Wilt Infected Plants			
		May 30	June 4	June 12	June 22
Untrt	----------	.99ab	2.21a	7.01a	8.70a
Adage	50g ai / 100 kg	.60abc	1.16abc	2.61b	7.65ab
Adage	100g ai / 100kg	.20bc	0.49c	1.34b	2.59ab
Adage	200g ai /100 kg	.20bc	0.50c	1.28b	2.63ab
Gaucho 600FS	6.4 oz/ cwt	.49bc	0.88bc	1.29b	3.86ab
Gaucho 480	4 oz/ cwt	.00c	0.61c	1.01b	2.86ab
Gaucho 480	6 oz/cwt	.00c	0.42c	1.37b	3.54ab
Gaucho 480	8 oz/cwt	.29bc	0.39c	0.79b	3.89ab
Clothianidin	.25 mg ai/seed	.40bc	0.69c	1.09b	1.59b
Clothianidin	3.2 oz/cwt	.28bc	0.66c	1.04b	3.64ab
Clothianidin	4.8 oz/cwt	.39bc	1.08abc	1.17b	3.21ab
GH2690Variety	untreated	1.35a	2.05ab	5.30a	4.81ab

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Spider Mite Management in Watermelons - 2001: 'Royal Majesty' watermelon transplants were planted on May 31 at the University of Delaware Research and Education Center located near Georgetown, DE. Plots consisted of two 35 ft-long rows on 8 ft centers. Each treatment was replicated four times and arranged in a RCB design. Treatments were applied as a broadcast spray on June 28 and July 19. All foliar treatments were applied with a CO_2 pressurized ATV 4-wheeled sprayer delivering 23 gpa at 60 psi. Mite populations were evaluated on a weekly basis from June 26 through July 31 by looking at 5 plants per plot to determine the percent infested plants and by collecting 20 leaves per plot and using a mite brushing machine to determine the number of mites per 20 leaves. On Aug 7, all fruit was harvested and weighed. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

All treatments provided significantly better spider mite control compared to the untreated check on July 10 and 25 except for Metasystox-R. No phytotoxicity was observed.

Treatment	Rate/A	Mean Percent Infested Plants					
		Pre-count June 26	5 DAT July 3	12 DAT July 10	Pre-count July 17	6 DAT July 25	12DAT July 31
Agri-Mek	4 oz	90a	20.00c	5.00b	5.00bc	10.00b	15.00b
Agri-Mek	8 oz	75a	0.00c	0.00b	30.00bc	10.00b	20.00b
Agri-Mek	16 oz	90a	0.00c	0.00b	0.00c	5.00b	10.00b
Capture	6.4 oz	85a	15.00c	15.00b	60.00ab	20.00b	30.00b
MESA	24 oz	80a	20.00c	20.00b	30.00bc	5.00b	25.00b
Metasystox-R	2 pts	85a	85.00a	85.00a	100.00a	90.00a	85.00b
Savey	4 oz	80a	40.00bc	10.00b	40.00bc	15.00b	15.00b
Acramite 50 WP	1 lb	85a	15.00c	10.00b	10.00bc	20.00b	20.00b
Acramite 50WP	0.75 lb	80a	60.00ab	20.00b	35.00bc	15.00b	10.00b
Untreated	-----	75a	95.00a	75.00a	95.00a	85.00a	40.00b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Treatment	Mean Number Mites per 20 Leaves					
	Pre-count June 26	July 3	July 10	Pre-count July 17	July 25	July 31
Agri-Mek	80.00a	0.00b	0.00b	4.50b	4.50c	12.00b
Agri-Mek	49.25a	0.00b	0.00b	1.50b	1.50c	2.00b
Agri-Mek	63.75a	0.00b	0.00b	3.00b	3.00c	1.50b
Capture	75.00a	0.00b	5.25b	36.00b	6.00c	6.00b
MESA	130.25a	1.50b	8.25b	1.50b	0.00c	13.50b
Metasystox-R	159.25a	12.00b	56.25a	208.50a	145.50a	112.50a
Savey	31.25a	10.50b	0.00b	1.50b	1.50c	4.50b
Acramite 50 WP	83.50a	4.50b	2.25b	0.00b	1.50c	0.00b
Acramite 50WP	86.75a	6.00b	6.00b	30.00b	9.00c	3.00b
Untreated	55.10a	60.00a	56.25a	94.50b	66.00b	42.00b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Wireworm Management in Field Corn Using Seed Treatments - 2001: Pioneer '3394' was planted on May 2 at Murray Brothers Farms located near Selbyville, DE at a rate of 68 seeds per 40 foot of row. Four-row 40 foot long plots on 30-inch centers were replicated 4 times in a RCB design. Seeds treatments were commercially applied by Gustafson and Syngenta Seeds. The in-furrow application of Force 3G was applied in-furrow at-planting. Stand counts and wireworm damaged plant per 80 foot of row were evaluated on a 7-10 day basis from May 14 through June 4. Yields were taken from all four rows of each plot on September 21. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Wireworm pressure was high. All treatments provided significantly better wireworm control and yield compared to the untreated check. Overall the seed treatments provided the best wireworm control and yield.

Treatment	Rate	Yield BU/A	% Wireworm Damaged Plants**			Stand Count - Plants per 80 foot of row		
			May 14	May 22	June 4	May 14	May 22	June 4
Untreated	----	65.99d	9.5c	9.8a	14.5a	57.75c	56.5c	53c
Force 3G *	5.5 lbs/A	132.78c	3.3b	3.8b	2.8bc	82.25b	85b	84b
Gaucho	.161 mg ai/seed	156.18bc	0.6a	2.0b	10.0ab	120.25a	122.2a	114.5a
Prescribe	1.34 mg ai/seed	187.32ab	0.4a	0.8b	1.3c	121.00a	125.8a	126.3a
Clothianidin	.25 mg ai/seed	201.82a	0.4a	1.0b	2.0bc	123.00a	122.8a	119.0a
Adage	50 g ai/100 kg of seed	174.78ab	0.8a	1.0b	4.3bc	119.5a	124.5a	118.8a

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).
* No rain for one month following application.

Soil Insect Management in Field Corn Using Seed Treatments - 2001: Pioneer '3394' was planted on April at the University of Delaware Research and Education Center located near Georgetown, DE at a rate of 68 seeds per 40 foot of row. Four-row 40 foot long plots on 30-inch centers were replicated 4 times in a RCB design. Seeds treatments were commercially applied by Gustafson and Syngenta Seeds. The in-furrow application of Force 3G was applied in-furrow at-planting. Stand counts and grub damaged plants (* 10 Stunted Plants dug up and found grubs under plants) per 80 foot of row were evaluated on a 7-10 day basis from May 7 through May 31. Yields were taken from all four rows of each plot on September 11. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

No significant difference was observed between the treatments and the untreated check.

Treatment	Rate	Yield BU/A	% White Grub Damaged Plants *	Grubs per 3 foot of row	% White Grub Damaged Plants *	Stand Count - Plants per 80 foot of row (2 row plots)		
			May 7	May 15	May 31	May 7	May 15	May 31
Untreated	----	117.39a	2.5a	.75a	17.5a	113.0a	103.3a	116.5a
Force 3G *	5.5 lbs/A	126.97a	7.5a	.50a	9.3a	119.0a	122.8a	123.0a
Gaucho	.161 mg ai/seed	151.79a	2.5a	.75a	9.3a	123.5a	121.0a	122.0a
Prescribe	1.34 mg ai/seed	130.36a	7.5a	.50a	7.8a	118.5a	111.0a	118.0a
Clothianidin	.25 mg ai/seed	127.17a	10.0a	.50a	8.5a	116.8a	118.5a	117.3a
Adage	50 g ai/100 kg of seed	133.34a	5.0a	.75a	7.3a	120.3a	124.5a	121.0a

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Two-Spotted Spider Mite Management in Soybeans - 2001: Southern States 'RT-4495' were planted on May 20 at the University of Delaware, Research and Education Center located near Georgetown, DE. Four-row, 25 ft long plots on 30-inch centers were replicated 4 times in a RCB design. Materials were applied on June 26 and July 19. All foliar treatments were broadcast applied with a CO_2 pressurized backpack sprayer delivering 17.2 gpa @ 40 psi. Mite populations were evaluated on a weekly basis from June 26 through July 31 by collecting 10 leaflets per plot and using a mite brushing machine to determine the number of mites per leaflet. Yield data was taken from the entire plot on October 18. . Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Spider mite pressure was moderately high. All treatments provided significantly better spider mite control compared to the untreated check. Capture and MESA provided significantly better yields compared to the untreated check.

Treatment	Rate/A	Mean Number Mites per Leaf						Yield BU/A
		June 26 Pre	July 3 6 DAT	July 10 13DAT	July 17 20DAT	July 24 5 DAT	July 31 12DAT	
Acramite 50WP	0.75 lb	18.90a	4.20b	6.00b	19.20bc	9.30b	0.15b	41.66ab
Acramite 50WP	0.50 lb	18.90a	8.70b	9.45b	27.90bc	6.60b	1.80b	39.07ab
Capture 2EC	5.12 oz	18.00a	4.10b	9.00b	25.80bc	0.45b	0.75b	45.52a
Danitol 2.4EC	10.7 oz	18.30a	6.30b	12.83b	57.10bc	10.35b	1.80b	41.67ab
MESA	24 oz	20.25a	0.75b	3.45b	9.45c	1.65b	0.15b	44.50a
Savey 50WP	4 oz	19.80a	6.15b	4.80b	18.00bc	8.70b	0.30b	39.55ab
Dimethoate 4 EC	16 oz	16.35a	14.85b	27.60b	45.15bc	19.05b	1.20b	39.86ab
Agri-Mek 0.15EC	8 oz	27.90a	4.05b	4.65b	8.40c	6.75b	0.60b	41.59ab
Lorsban 4EC	16 oz	13.80a	7.65b	13.95b	73.50b	14.40b	3.60b	41.98ab
Untreated	-----	20.85a	66.00a	85.20a	182.40a	73.95a	10.05a	30.71b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

Evaluation of Seed Treatments for Soybean Insect Management - 2001:

Investigators: J. Whalen, B. Uniatowski, M.Spellman and J. Clark

Early and late plantings of Round-Up Ready 'CL-48" soybeans were planted at Baker Farms Inc. near Middletown, DE and at the University of Delaware Research and Education Center near Georgetown, DE. Ten row 46 ft long plots on 15-inch center were replicated 6 times in a RCB design. Gaucho seed treatments were commercially applied by Clark Seed Company. Insect populations and stand counts were evaluated weekly for six weeks after plant emergence. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

I. University of Delaware, Research and Education Center, Georgetown, DE

Planting Date # 1: April 16 Harvest Date: October 4

Treatment	Rate/100 lbs of seed	Yield - BU/A	Mean Stand Count (33.5" diameter hula hoop)		Mean Percent Bean Leaf Beetle Damaged Plants	
			May 15	May 31	May 15	May 31
Gaucho	2 oz	25.72a	83.83a	77.00a	0.00b	3.00a
Gaucho	1 oz	26.23a	84.50a	85.33a	0.33b	4.68a
Untreated	------	27.49a	78.67a	83.17a	2.17a	5.67a

Planting Date #2: May 25 Harvest Date: October 18

Treatment	Rate/100 lbs of seed	Yield - BU/A	Mean Stand Count (33.5" diameter hula hoop) June 13	Mean # Thrips / 10 leaves June 13	% Bean Leaf Beetle Damaged Plants June 13
Gaucho	2 oz	25.72a	83.83a	1.50b	3.50b
Gaucho	1 oz	26.23a	85.67a	2.17b	4.67b
Untreated	-----	27.49a	86.00a	9.33a	7.83a

II. **Baker Farms Demonstration Site, Middletown, DE**

Planting Date # 1: April 24 Harvest Date: October 10

Treatment	Rate/100 lb of seed	Yield - BU/A	Stand Count	Mean # Thrips/ 10 leaves - June 6	% Bean Leaf Beetle Damaged Plants	
					May 17	June 6
Gaucho	2 oz	32.38a	67.33a	3.33b	1.50b	25.00b
Gaucho	1 oz	30.52a	73.17a	4.33b	1.50b	35.00b
Untreated	-----	31.59a	73.17a	7.83a	7.50a	85.00a

Planting Date # 2: June 6 **Harvest Date: October 19**

Treatment	Rate/100 lb of seed	Yield - BU/A	Stand Count June 15	Mean #Thrips/10 Leaves - June 15
Gaucho	2 oz	33.43a	80.40a	1.33b
Gaucho	1 oz	33.99a	89.60a	2.00b
Untreated	-----	33.88a	89.33a	4.83a

Aphid and Diseases Management in Wheat Using Seed Treatments - 2001:

Investigators: J. Whalen, B. Mulrooney, M.Spellman, B. Uniatowski

' Southern States 555W' was planted on October 9 at the Baker demonstration farm in Middletown, DE. Five row 40 ft long plots on 7.5 inch centers were replicated 4 times in a RCB design. Seed treatments were commercially applied by Gustafson.

Treatment	Rate/cwt	# Aphids per 3 ft of row		
		10/31/00	11/21/00	4/24/01
Untreated	-----	44.75a	13.5a	0.00a
Raxil-Thiram	3.5 fl oz	37.00a	10.00a	1.00a
Dividend XL	1.0 fl oz	35.75a	11.75a	0.75a
Raxil XT	0.16 oz wt	46.50a	10.00a	0.00a
Raxil MD	5.0 fl oz	37.25a	7.50a	0.00a
Gaucho XT	3.4 fl oz	6.75bc	4.25a	0.00
Baytan 30 Thiram 42S	1.25 fl oz 2.0 fl oz	29.25ab	7.25a	0.25a
Baytan 30 Allegiance	1.25 fl oz 0.1 fl oz	24.00abc	12.00a	0.00a
Baytan 30 Allegiance Gaucho 480	1.25 fl oz 0.1 fl oz 1 fl oz	0.75 c	1.00a	0.00a

Hessian Fly Management in Wheat - 2001:
Investigators: J. Whalen, M. Spellman, and B. Uniatowski

I. Middletown, DE Planting Date: September 18, 2000

Variety	Hessian Fly – Biotype Resistance	Number of Puparia/Tiller		Yield BU/Acre July 6
		February 20	Pre-Harvest June 20	
Pioneer 2552	"Susceptible"	.06	.023a	107.30a
Roane	B,C,E,GP	.04	.003a	96.30ab
INW9811	Resistant to Biotype L	.04	.010a	87.80bc
Pioneer 26R61	Resistant to Biotype L	.08	.000a	85.59bc
Jackson	'Susceptible"	.03	.010a	85.36bc
Madison	GP	.05	.008a	84.49cd
Patton	B,C,E,GP	.06	.005a	84.35cd
Pioneer 2691	Resistant to Biotype L	.05	.000a	81.77cd
Patton	B,C,E,GP	.04	.005a	84.35cd
Coker 9663	All except L	.01	.003a	73.92d

II. Georgetown, DE Planting Date: September 29, 2000

Variety	Hessian Fly – Biotype Resistance	Number of Puparia/Tiller June 20	Yield (BU/Acre)
Patton	B,C,E,GP	0.35a	62.56a
Madison	GP	0.20a	59.58ab
Roane	B,C,E,GP	0.32a	57.26abc
INW9811	Resistant to Biotype L	0.10a	51.69abc
Pioneer 26R61	Resistant to Biotype L	0.43a	51.02bc
Pioneer 2691	Resistant to Biotype L	0.17a	50.98bc
FFF522W	A,B,E,H,I,M,GP	0.41a	48.72bc
Coker 9663	All except L	0.21a	48.30c
Jackson	‘Susceptible”	0.21a	46.92c
Pioneer 2552	“Susceptible”	0.32a	46.38c