

## Keith Jarvi, Tom Hunt, Jerry Echtenkamp

Background information pertaining to corn rootworm larva insecticide experiments conducted at the University of Nebraska Haskell Ag Lab near Concord, NE, 2001.

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### Species

*Diabrotica virgifera virgifera* LeConte (western corn rootworm)  
*Diabrotica barberi* Smith and Lawrence (northern corn rootworm)

### Agronomic

Hybrid:	Novartis 58D1
Row Spacing:	30 inches
Planting Date:	10 May
Furadan Application:	18 June
Planter:	John Deere Maxemerge, 2 row
Planting Depth:	2 inches
Planting rate:	22,100

#### Application Equipment:

Granules at planting: Planter mounted cone-belt system, except:

Aztec 4.67 G and Fortress 5 G applied with Smartbox system

Regent liquid formulations: Microtube in-furrow at 1 or 5 gal solution/acre

Capture liquid formulation: 5 inch T band at 5 gal solution/acre

All liquids applied at 24 psi

All seed treatments were pre-treated seed Novartis 58D1

Field Preparation	One tandem disk October of 2000 Tandem disked once day of planting
Fertilization:	20 Apr: 90 lb N Urea 46-0-0
Herbicides:	15 May Axiom (16 oz) + atrazine (1 lb) 18 June after Furadan application
Cultivation:	Corn (trap)
Previous Crop:	Kennebec silt loam
Soil Type:	3 %
Organic Matter:	6.5
ph	Late planted mixed variety field corn trap 2000
Field History:	None
Irrigation:	North-South
Plot Direction:	

### Experimental Design and Evaluation

Randomized complete block with 4 replications

Ratings: Iowa 0-3 scale

Dug and rated 16 and 19 July

**Comments:** Cold winter but snow provided insulation for eggs. Untreated check plot had moderately heavy damage. Slightly above average moisture through the rating dates. Growing degree-days near average. See attached sheet for rainfall events.

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**Application Methods:**

TB = 7 inch T-band in front of press wheel at planting time

IF = In-furrow in front of press wheel at planting time

TB Post = 15" Band over the row on 18 June

MT = Microtube at planting

ST = Seed Treatment

SB = Smartbox application

**Insecticide Screening Concord, NE 2001 Root Ratings**

Treatment	Applicat ion Method	Rate oz/1000 row ft	Rate lb ai/1000 row ft	Root Rating
Aztec 4.67 G SB	TB	3 oz	0.15	0.245 a
Force 3 G	TB	4 oz	0.12	0.250 a
Counter 20 CR	TB	6 oz	1.20	0.278 a b
Aztec 2.1 G BD	TB	6.7 oz	0.14	0.290 a b
Counter 20 CR	IF	6 oz	1.20	0.293 a b
Aztec 2.1 G BD	IF	5.025 oz	0.105	0.298 a b
Fortress 5 G SB	TB	3 oz	0.16	0.323 a b
Lorsban 15 G	TB	8 oz	1.20	0.366 a b
Aztec 2.1 G BD	IF	6.7 oz	0.14	0.375 a b
Fortress 5 G SB	IF	3 oz	0.16	0.388 a b
Regent 4 SC	MT 5 gal	.24 oz	0.13	0.390 a b
Force 3 G	IF	4 oz	0.12	0.418 a b
Force 3 G	IF	3 oz	0.09	0.428 a b
Aztec 2.1 G BD	IF	3.35 oz	0.07	0.443 a b
Counter 20 CR	IF	3 oz	0.60	0.468 a b
Force 3 G	IF	2 oz	0.06	0.480 a b
Counter 20 CR	IF	4.5 oz	0.90	0.485 a b
Aztec 4.67 G SB	IF	3 oz	0.15	0.493 a b
Lorsban 15 G	IF	8 oz	1.20	0.513 a b
Regent 4 SC	MT 1 gal	0.24 oz	0.13	0.585 a b c
Lorsban 15 G	IF	4 oz	0.60	0.620 a b c d
Capture 2 EC	5 in TB 5 gal	0.30 oz	0.0046	0.658 a b c d
Capture 1.15 G	IF	8 oz	0.0054	0.764 a b c d
Lorsban 15 G	IF	6 oz	0.90	0.803 b c d e
Clothianidin 600 FS	ST	1.25 mg/kernel		1.090 c d e
Prescribe 600 FS	ST	1.35 mg/kernel		1.115 c d e
Capture 1.15 G	TB	8 oz	0.0054	1.118 c d e
ProShield	ST			1.135 d e
Capture 1.15 G	IF	6 oz	0.0040	1.340 e f
Furadan 4 F	TB Post	1 qt formulation/acre broadcast rate		1.733 f g
Untreated				1.828 f g
Untreated				2.205 g

Means with the same letter are not significantly different. (LSD = 0.5438; alpha = 0.05)

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**Insecticide Screening Concord, NE 2001**  
**Plant Population per 30 ft of row (10 July)**

Treatment	Application Method	Rate oz/1000 row ft	Rate lb ai/1000 row ft	Plant Population
Force 3 G	IF	3 oz	0.09	36.50 a
Capture 2 EC	TB	0.30 oz	0.0046	36.25 a
Regent 4 SC	MT 1 gal	0.24	0.13	36.25 a
Force 3 G	IF	2 oz	0.06	36.25 a
Aztec 2.1 G BD	IF	3.35 oz	0.07	35.75 a
Aztec 2.1 G BD	TB	6.7 oz	0.14	35.50 a
Capture 1.15 G	IF	6 oz	0.0040	35.25 ab
Untreated				35.25 ab
Fortress 5 G SB	TB	3 oz	0.16	35.25 ab
Aztec 4.67 G SB	IF	3 oz	0.15	35.00 abc
Force 3 G	TB	4 oz	0.12	34.50 abc
Aztec 2.1 G BD	IF	6.7 oz	0.14	34.50 abc
Lorsban 15 G	IF	6 oz	0.90	34.25 abc
Lorsban 15 G	IF	4 oz	0.60	34.25 abc
Fortress 5 G SB	IF	3 oz	0.16	34.25 abc
Force 3 G	IF	4 oz	0.12	34.00 abc
Counter 20 CR	IF	3 oz	0.60	34.00 abc
Aztec 2.1 G BD	IF	5.025	0.105	34.00 abc
ProShield	ST			33.75 abc
Counter 20 CR	TB	6 oz	1.20	33.75 abc
Aztec 4.67 G SB	TB	3 oz	0.15	33.50 abc
Regent 4 SC	MT 5 gal	0.24 oz	0.13	33.25 abc
Lorsban 15 G	IF	8 oz	1.20	33.25 abc
Clothianidin 600 FS	ST	1.25 mg/kernel		33.25 abc
Counter 20 CR	IF	4.5 oz	0.90	33.00 abc
Counter 20 CR	IF	6 oz	1.20	32.50 abc
Capture 1.15 G	IF	8 oz	0.0054	32.50 abc
Capture 1.15 G	TB	8 oz	0.0054	32.50 abc
Prescribe	ST	1.35 mg/kernel		32.50 abc
Furadan 4 F	TB Post	1 qt		31.25 bc
		formulation/acre		
		broadcast rate		
Untreated				31.25 bc
Lorsban 15 G	TB	8 oz	1.20	31.00 c

Means with the same letter are not significantly different. (LSD = 4.0071; alpha = 0.05)

**Rainfall at the Haskell Ag Lab, Concord, NE Automated Weather Station  
January 1 – July 16, 2001**

No precipitation data recorded January - March

Month	Date	Amount	Month	Date	Amount
April	3	.11	July	1	.43
	5	.02		2	.72
	6	.53		3	.01
	7	.30		8	.14
	10	.18		11	.11
	11	1.84		12	.06
	12	.02		16	1.41
	13	.03		17	0.06
	20	.15		Total	2.94
	21	.01			
	22	.86			
	23	.02			
	28	.04			
	29	.53			
30	.36				
Total	5.36				
May	1	.48			
	2	.47			
	3	.26			
	4	.37			
	5	.72			
	6	.04			
	12	.21			
	19	.83			
	20	.21			
	21	.01			
	23	.03			
	24	.03			
	29	.01			
	30	.33			
31	.25				
Total	4.25				
June	4	.28			
	5	.02			
	10	.05			
	12	.11			
	13	.16			
	14	.09			
	25	.44			
Total	1.15				