

ASANA FOR CORN ROOTWORM ADULT MANAGEMENT IN CORN WITH TRAITS

UNL - South Central Agricultural Laboratory

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Background information pertaining to above experiments conducted near Harvard, NE during 2016.

AGRONOMIC:

GPS Coordinates:	40.582231, -98.138603
Row Spacing:	30 inches
Row Orientation:	North-South
Planting Date:	June 7, 2016
Planter:	4-row 7300 JD Maximerge with vacuum seed metering units.
Planting Depth:	2½ inches
Corn Hybrid:	Syngenta G11U58-3111
Target Seeding Rate:	34,000 seeds per acre
Previous Crop:	Corn
Herbicides Applied:	<i>Broadcasted:</i> Lexar EZ @ 3 qt/acre on June 8, 2016. RoundUp PowerMax @ 40 fl oz/acre and AMS @ 17 lbs/100 gal water solution on Jul 30, 2016.
Fertilizer Applied:	180 lbs nitrogen applied as anhydrous fertilizer (82-0-0) on Mar 23, 2016. 5 GPA of 10-34-0 starter fertilizer applied at planting.

EXPERIMENTAL DESIGN:

Design:	Randomized complete block; replicated four times.
Plot Size:	8 rows x 23-26 ft long

APPLICATION EQUIPMENT:

Rear-mounted boom systems on a high clearance applicator. Liquid treatments were broadcast over the plant canopy in a 15 GPA water solution via 20-inch nozzle spacing (T-Jet 11002VS) @ 30 psi on 02 August 2016. Crop growth stage = R1.

ENVIRONMENTAL:

Weather conditions on 02 August 2016 at time of treatment applications (3 PM – 4 PM)

Wind direction and speed: E @ 5 mph

Relative Humidity: 74%

Air Temperature: 81°F

ENTOMOLOGICAL DATA:

Species present: Predominately western corn rootworm, *Diabrotica virgifera virgifera* LeConte and a few southern corn rootworm, *Diabrotica undecimpunctata howardi* Barber

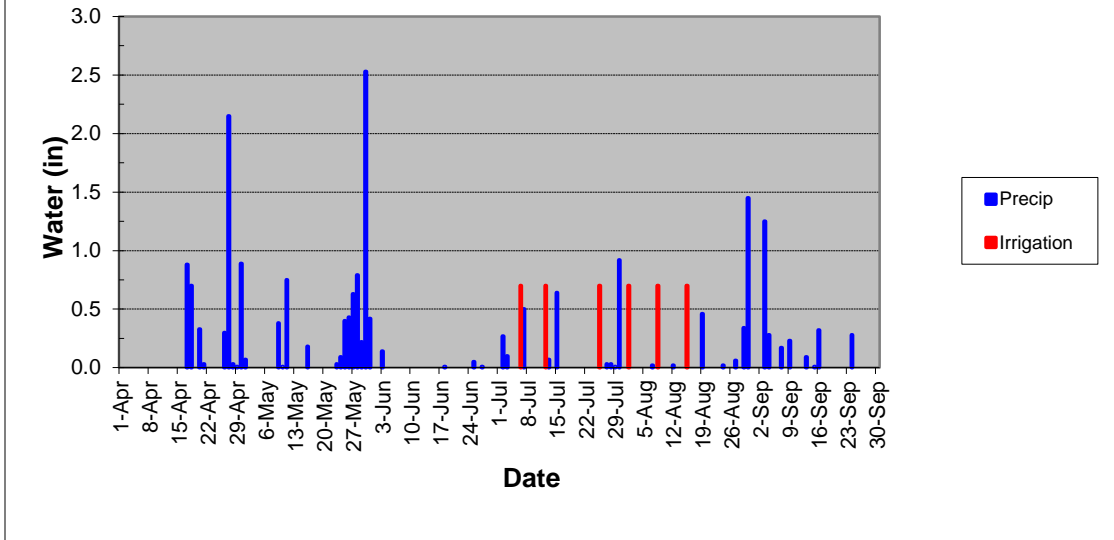
Egg Hatch: Initial egg hatch confirmed on June 2, 2016.

Adult Emergence: Initial adult western corn rootworm emergence witnessed on June 27, 2016.

Adult CRW Counts: The total number of western and southern corn rootworm adults was recorded within the ear zone of ten plants per plot prior to treatment application (01 August), 1 DAT (03 August), 3 DAT (5 August), and 7 DAT (09 August).

Harvest Evaluations: Plots were machine harvested on October 26, 2016. Pounds of grain and % moisture levels were recorded and converted to bushels per acre at 56 lbs/bu and 15.5% moisture.

Apr. 1 - Sept. 30 Growing Season Rainfall & Irrigation
SCAL HOBO Weather Station
(20.54 in. rain - 89% of normal and 4.20 in. irrigation)



<u>Month</u>	<u>HOBO Weather Station</u> <u>2016 Precip</u>	<u>30-yr</u> <u>Average</u>	<u>% Avg.</u>
Jan	0.19	0.59	32
Feb	0.08	0.68	12
Mar	0.24	1.90	13
April	5.32	2.53	210
May	6.93	4.41	157
June	0.21	3.90	5
July	2.57	3.60	71
Aug	2.37	3.20	74
Sept	<u>2.63</u>	<u>2.36</u>	<u>111</u>
Total>>	20.54	23.17	88.6

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PRODUCT	RATE (/ACRE)	AVG. NO. OF ADULT CORN ROOTWORM / PLANT EAR ZONE				YIELD ²
		PRE ²	1 DAT ¹	3 DAT ¹	7 DAT ¹	
Brigade	5 fl oz	0.10	0.00 a	0.03 a	0.00 a	224.4
Warrior II	1.92 fl oz	0.13	0.05 a	0.05 a	0.00 a	213.8
Asana	6 fl oz	0.15	0.05 a	0.18 a	0.05 a	217.4
Asana	8 fl oz	0.28	0.03 a	0.18 a	0.10 a	216.7
Untreated check	-----	0.23	0.35 b	0.45 b	0.45 b	212.3
<i>Treatment Probability</i>		0.3908	0.0225	0.0192	<0.0001	0.7430

¹Means in column followed by the same lowercase letter are not statistically different using the differences of least square means (MIXED; p|t|>0.05).

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