

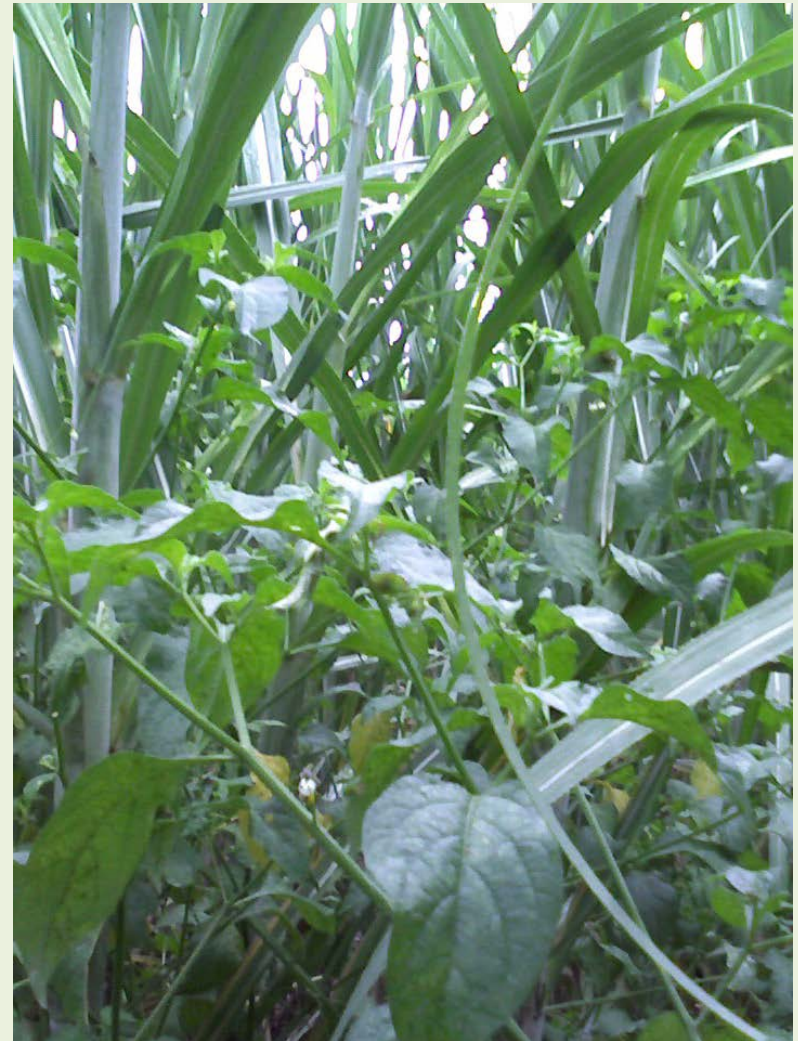
Eastern Black Nightshade – A New Problematic Weed For Louisiana

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Noticing EBN in Louisiana Sugarcane

- First noticed in fields in 2010.
- Reports that spring weed management strategies were ineffective.
- 2013 Plant Taxonomist at LSU ID it as Eastern Black Nightshade *Solanum ptycanthum* Dunal
- 2014 First management studies



Eastern Black Nightshade

Solanum ptycanthum Dunal



- Annual/short lived perennial
- Native to North America
 - East of the Rocky Mountains
- 2002 Perennial (Young et al. 2002)
 - Kentucky
 - Illinois
 - Indiana
 - Missouri
- Commonly misidentified or confused with Black, American, or Hairy Nightshade

Characteristics

- Leaf Characteristics
 - Highly Variable
 - Environment
 - Underside of young leaves red-purple

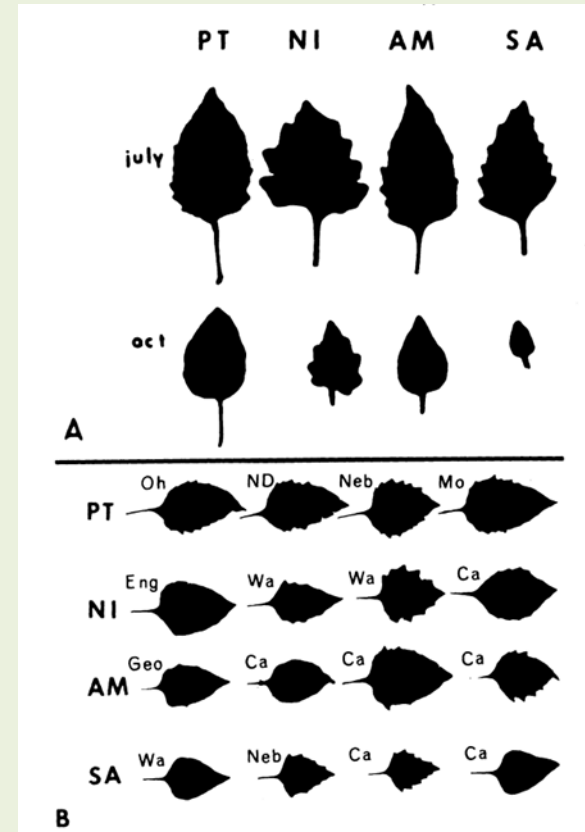


Figure 1. Variation in leaves as an example of variation in vegetative characteristics. *S. ptycanthum* (PT), *S. nigrum* (NI), *S. americanum* (AM), *S. sarraiboides* (SA).

- A. Variation in relative size and leaf margin of one plant of each of the four species at different times during the growing season.
 B. Variation in leaf margin in four accessions of each species grown under uniform conditions (California [Ca], England [Eng], Georgia [Geo], Missouri [Mo], Nebraska [Neb], North Dakota [ND], Washington [Wa]).

Characterization of Black Nightshade (*Solanum nigrum*) and Related Species in the United States' A. G. OGG, JR., B. S. ROGERS, and E. E. SCHILLING. 1981. *Weed Sci.* 29:27-32.



Characteristics

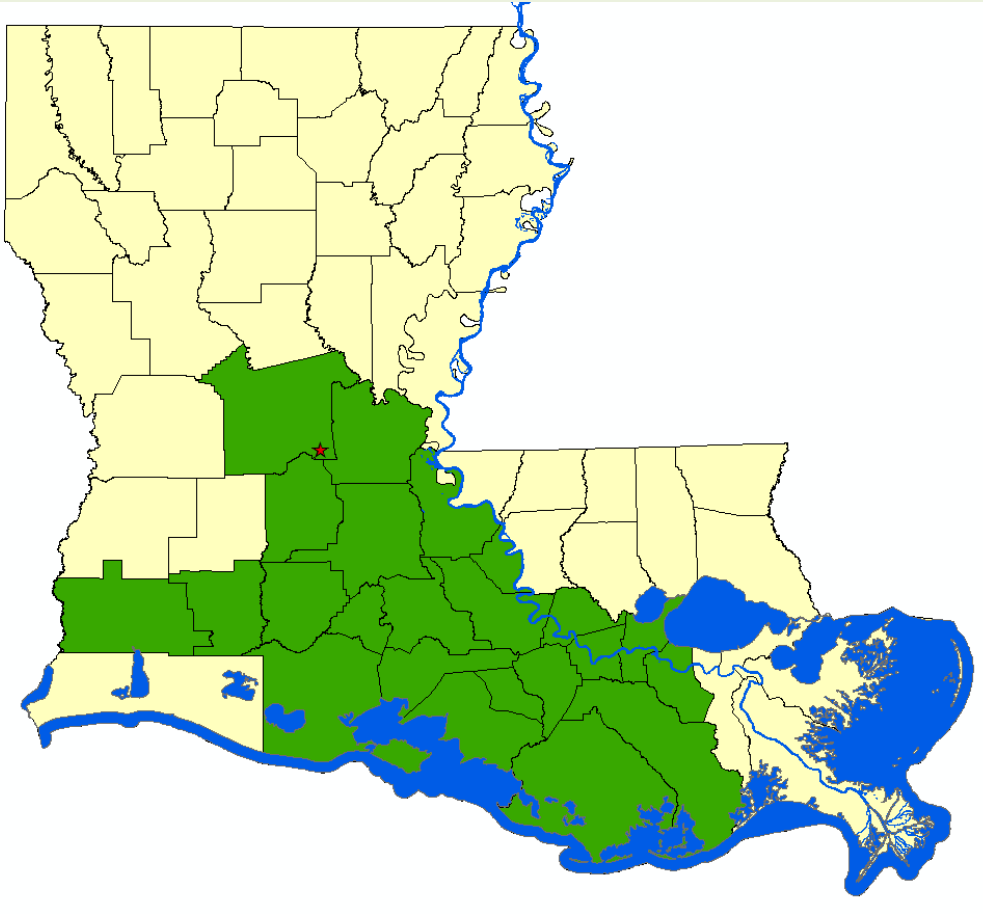
- Inflorescence
 - Star-shaped, white
- Fruit – Berry
 - Green, dark green, purplish black
 - Seeds are viable 2-4 weeks after anthesis
- Seeds
 - Tan
 - 50-110 per berry



2014 Spring EBN Studies



Cheneyville Study



- March 10, 2014
- 2-4 inch EBN
- RCB, 4 Reps, 6'X40'
- Treatments
 - Atrazine 2 qt/a
 - TriCor 2 lb/a
 - Brash 1 qt/a
 - Callisto 3 oz/a
 - Nontreated
 - All treatments had NIS added at 0.25%

14 Days After Treatment



Atrazine



TriCor



Nontreated



Brash



Callisto

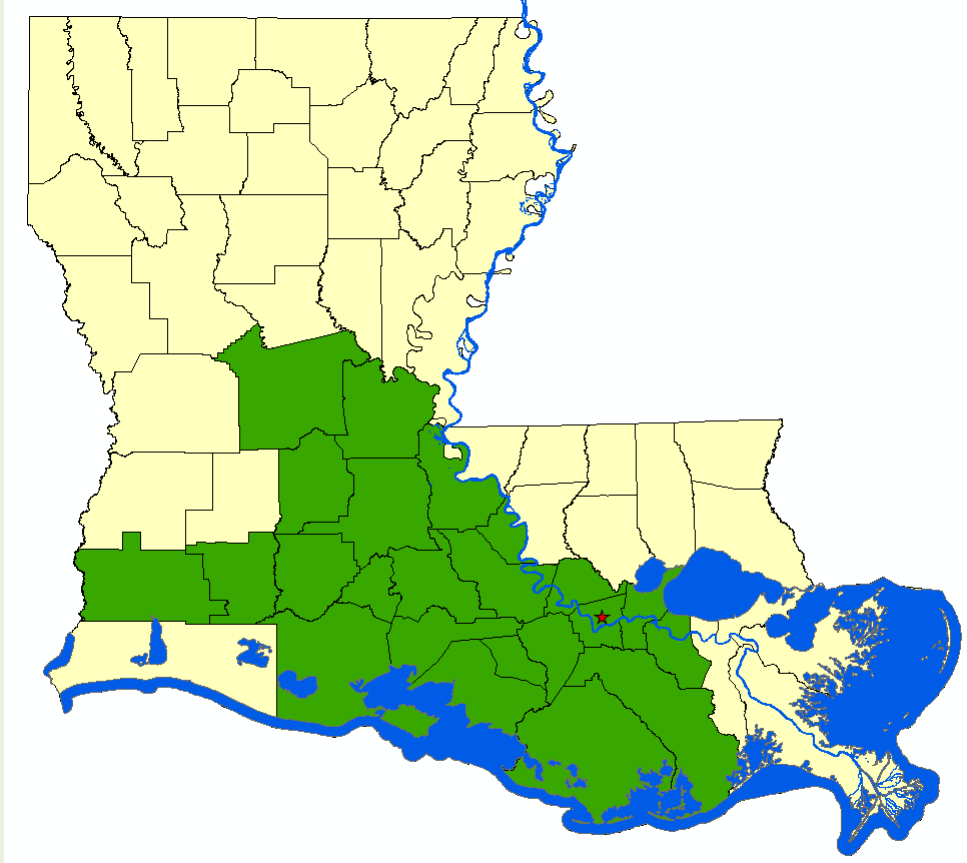
2-4 inch Eastern Black Nightshade

			Mar-17-2014	Mar-24-2014	Mar-31-2014	Apr-9-2014
			-----% Control-----			
Treatment	Rate	Unit	7 DAT	14 DAT	21 DAT	42 DAT
Atrazine	2	qt/a	33.8	52.5	50.0	42.5
TriCor	2	lb/a	32.5	32.5	43.8	20.0
Brash	2	pt/a	51.3	65.0	86.3	86.3
Callisto	3	oz/a	45.0	72.5	91.3	92.5
Nontreated			0.0	0.0	0.0	0.0



Nontreated
42 Days After
Treatment

Uncle Sam Studies



Belmont Farms,
Uncle Sam, LA

March 10, 2014

1.5 pt/a of

Weedmaster +

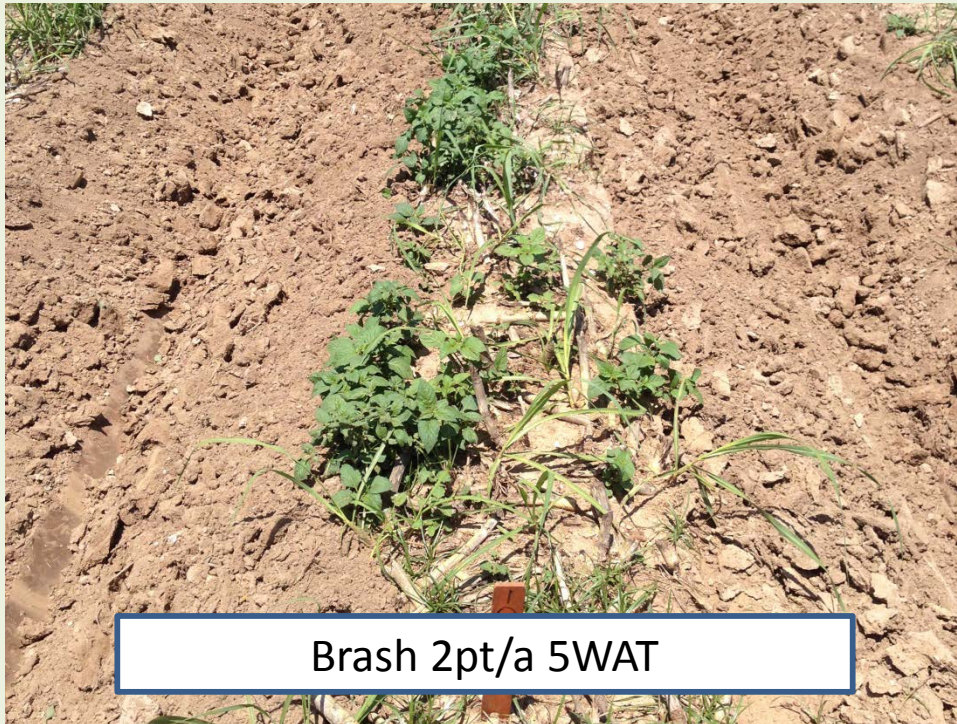
1.25 lb/a of TriCor

75 DF

4-8 inch Eastern Black Nightshade

- March 26, 2014
- RCB, 4 Reps, 6'X40'

Treatment	Rate	% Control 5 WAT
Callisto 4L	3 oz/a	60
Brash 3.87L	2 pt/a	43
Brash 3.87L	5.6 pt/a	68
Clarity 4L	1 qt/a	64
Outlaw 2.54L	2 pt/a	59
Nontreated		0



8-12 inch Eastern Black Nightshade

- April 9, 2014
- RCB, 4 Reps, 6'X40'

Treatment	Rate	% Control 5 WAT
Callisto 4L	3 oz/a	26
Brash 3.87L	2 pt/a	25
Brash 3.87L	5.6 pt/a	35
Clarity 4L	1 qt/a	23
Nontreated		0



July 14, 2014
in shaded
sugarcane

Large Scale At-Planting Study

August 20, 2014



- H.E. Harper Cheneyville, LA
5 rows 1 acre plots
4 Reps
L01-299
- Authority MTZ 32 oz/a
- Valor 6 oz/a
- Nontreated
 - August 27th
- TriCor 2 lb/a
 - September 17th

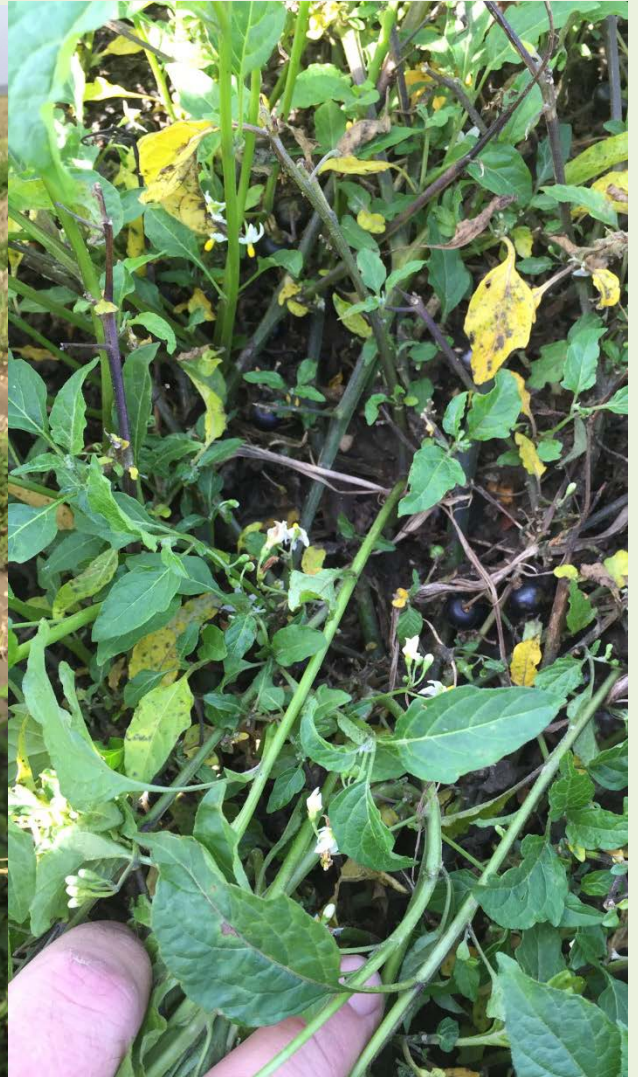


14 days after 1 lb metribuzin Nov 24th

Spring 2015-The Great Expansion



March 16, 2015





Spring EBN Studies

Paincourtville

- March 16, 2015
- RCB, 4 Reps, 6'X40'

Cheneyville

- March 19, 2015
- RCB, 4 Reps, 6'X40'

		8-10"	2-4"	
		% Control	% Control	
Treatment	Rate	6 WAT Plattenville	6 WAT Cheneyville	6 WAT Avg
Clarity + NIS	1 qt	97.4	77.0	86.7 ab
Callisto + NIS	3 oz	62.5	46.0	54.1 bc
Callisto + Aatrex + NIS	3 oz + 19.2 oz	85.0	61.8	73.1 abc
Garlon + NIS	1 qt	100.0	94.0	97.0 a
Brash + NIS	1 qt	62.5	39.0	50.5 bcd
Brash + COC	1 qt	60.0	39.0	49.3 cd
Brash + NIS	2 qt	77.5	52.0	64.5 abc
Untreated Check		0.0	0.0	0.0 e

28 Days After Treatment



Clarity + NIS



Callisto + NIS



Callisto + Aatrex + NIS



Garlon + NIS



Brash 1 qt + NIS



Brash 1 qt+ COC



Brash 2 qt + NIS



Untreated Check

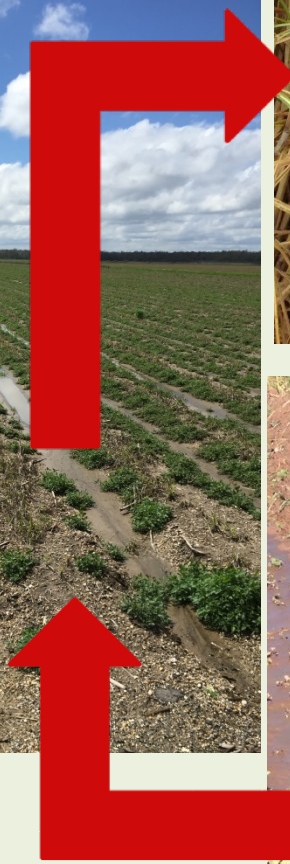


The Yield Effect of Eastern Black Nightshade on Sugarcane

Location	Treatment	Population Stalks/A	Mean Stalk Wt. lb	Est. Tonnage Tons/A	TRS lb/Ton	Sugar/A lb/A
Paincourtville	Garlon EC	44786	1.76	39.25	216	8397
	Untreated	37752	1.53	28.33	194	5525
	% reduction from EBN	19%	15%	39%	11%	52%

Cheneyville	Garlon EC	31726	2.11	33.68	247	8295
	Untreated	27007	1.78	24.05	236	5680
	% reduction from EBN	17%	19%	40%	5%	46%

AVERAGE	Garlon EC	38256	1.94	36.47	232	8346
	Untreated	32380	1.66	26.19	215	5603
	% reduction from EBN	18%	17%	39%	8%	49%



Managing Eastern Black Nightshade

Feb.-May

- Scout fields, if detected rogue plants from fields
- Apply Clarity or Callisto + Atrazine with spring burndown herbicide program
- Scout fields 6-8 weeks after spring burndown and treat with Clarity or Callisto + Atrazine if present

June-Nov.

- Scout seedcane fields, if detected rogue plants from fields
- Apply preemergence herbicide immediately after covering and packing of newly planted cane
- Scout newly planted fields in October and November for seedling Eastern black nightshade, if present, treat field(s) dicamba

REMEMBER

**Triclopyr is NOT
labeled in
sugarcane**

Questions???

