



Red Stripe

Bacterium: *Acidovorax avenae* subsp. *avenae*

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USDA ARS

Two forms of the disease

Leaf Stripes



Top Rot





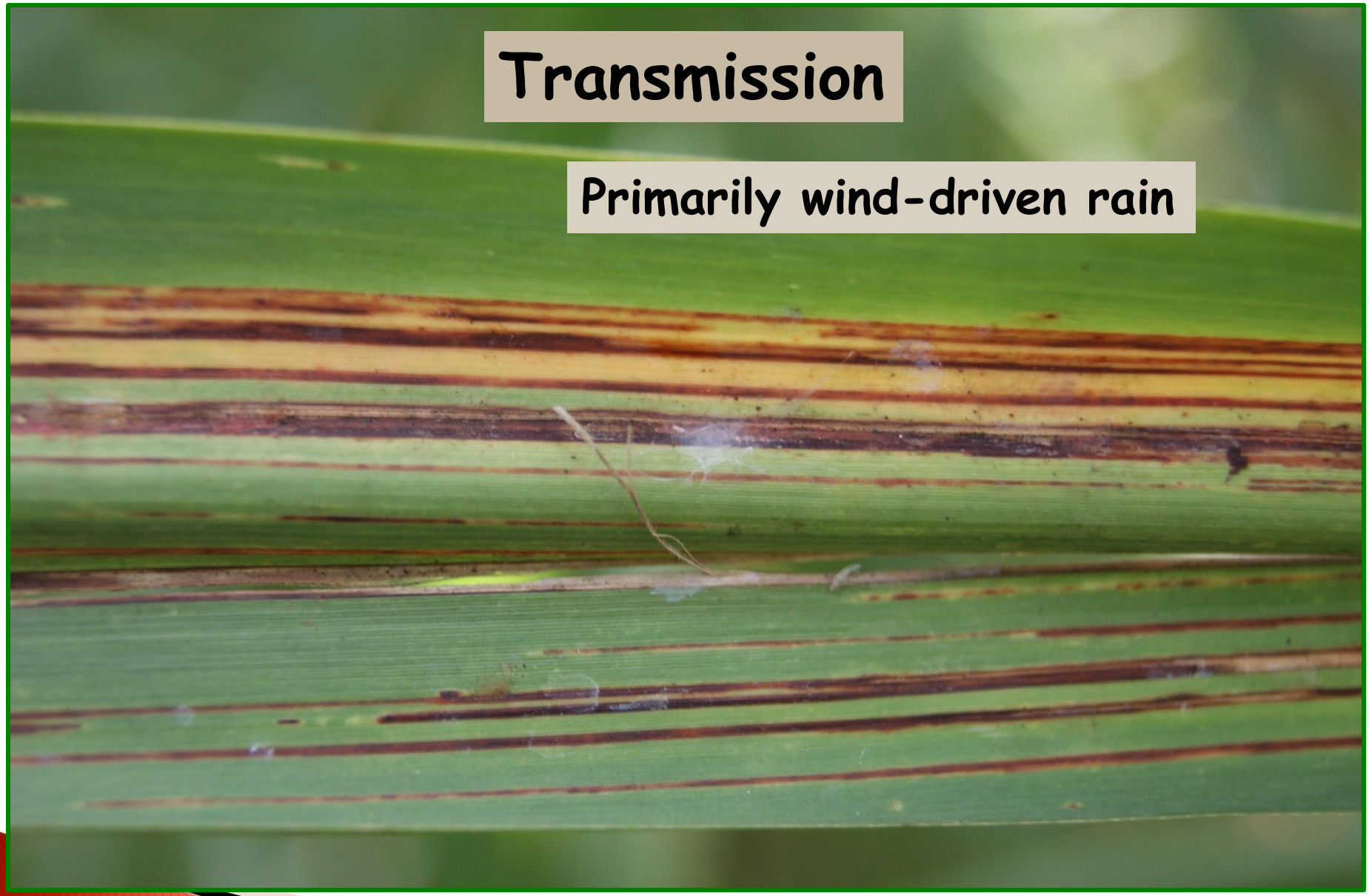











Transmission
Primarily wind-driven rain

Distribution & Host Range

- Reported from several areas of the state

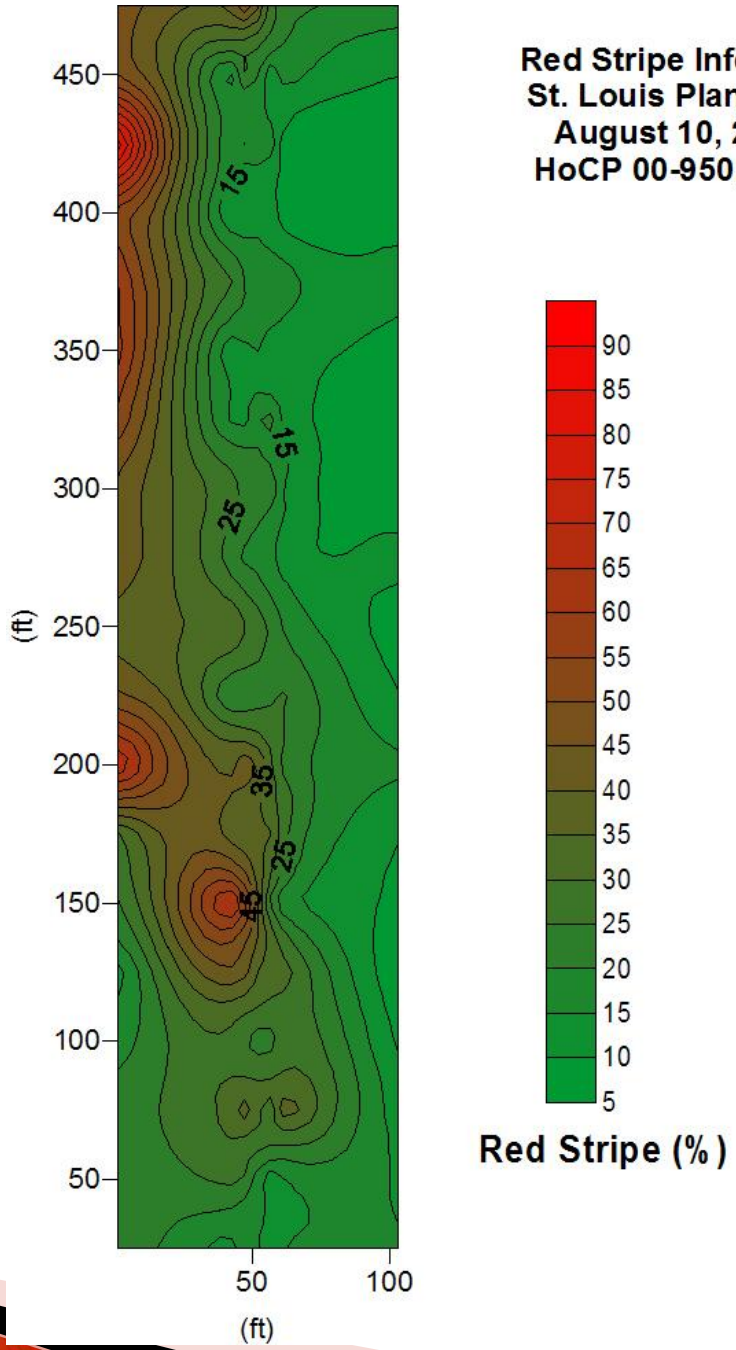
- Sugarcane (Plant Cane & Ratoon Crops)
  - HoCP 00-950
  - HoCP 96-540
  - L 99-226
- Maize
- Sorghum
- Other cultivated grasses

Alternate hosts play little role in transmission

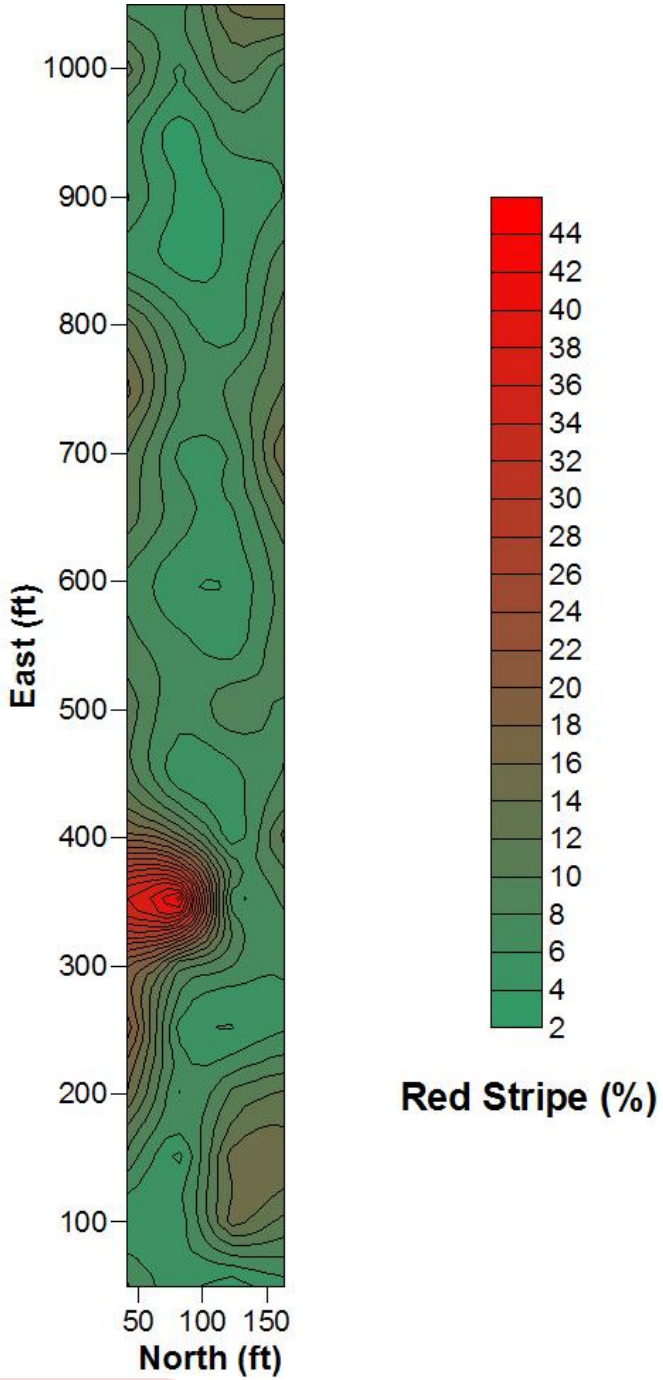
Why Now?

Genetics verses Environment

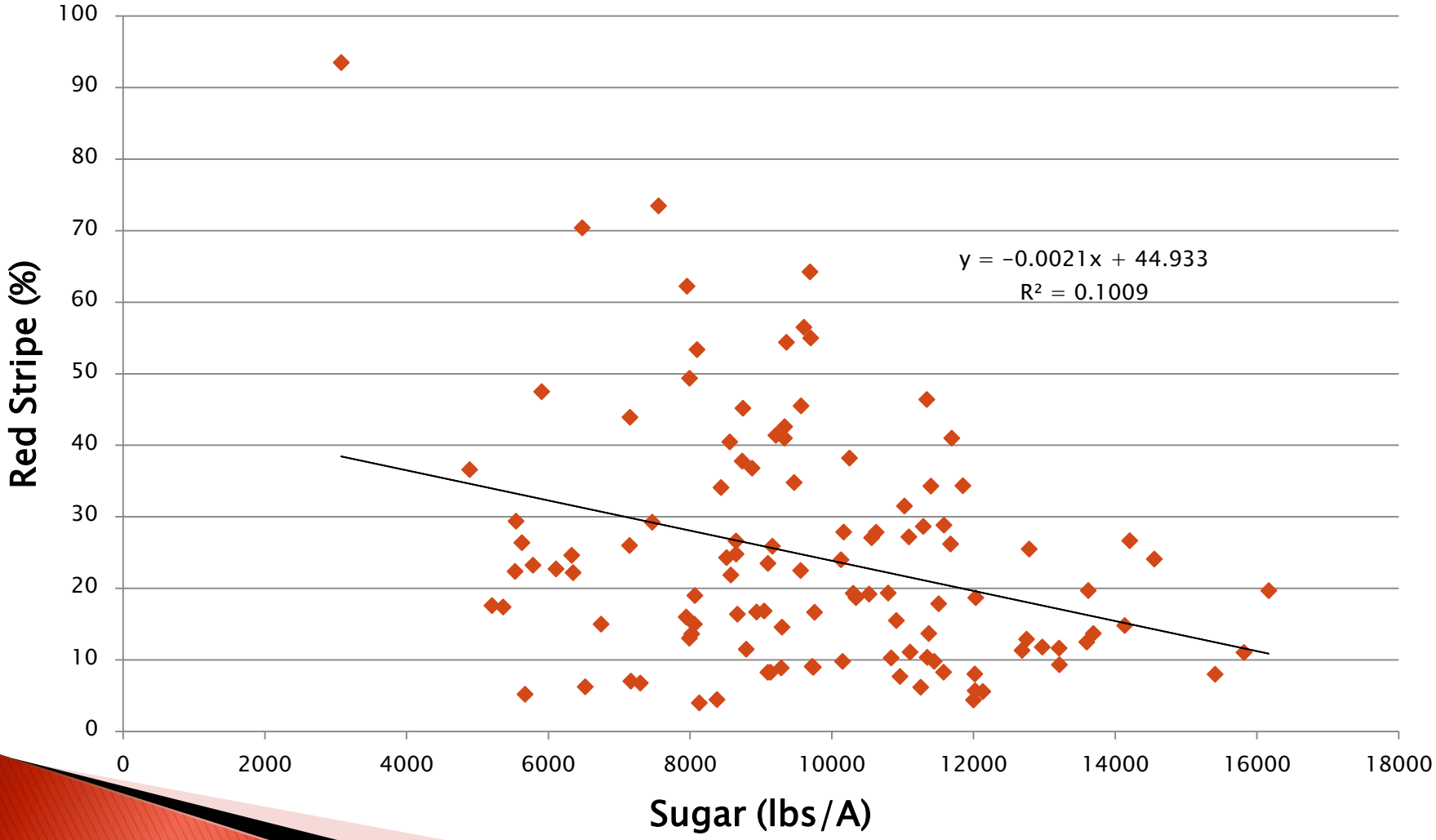
- Disease favored by
  - High rainfall
  - High temperature
    (following dry spring)
  - Soils with lower water-holding capacity


Red Stripe Infection
St. Louis Plantation
August 10, 2010
HoCP 00-950, 2010
450
400
350
300
250
200
150
100
50
(ft)
15
15
25
35
25
45
50
100
(ft)
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
Red Stripe (%)

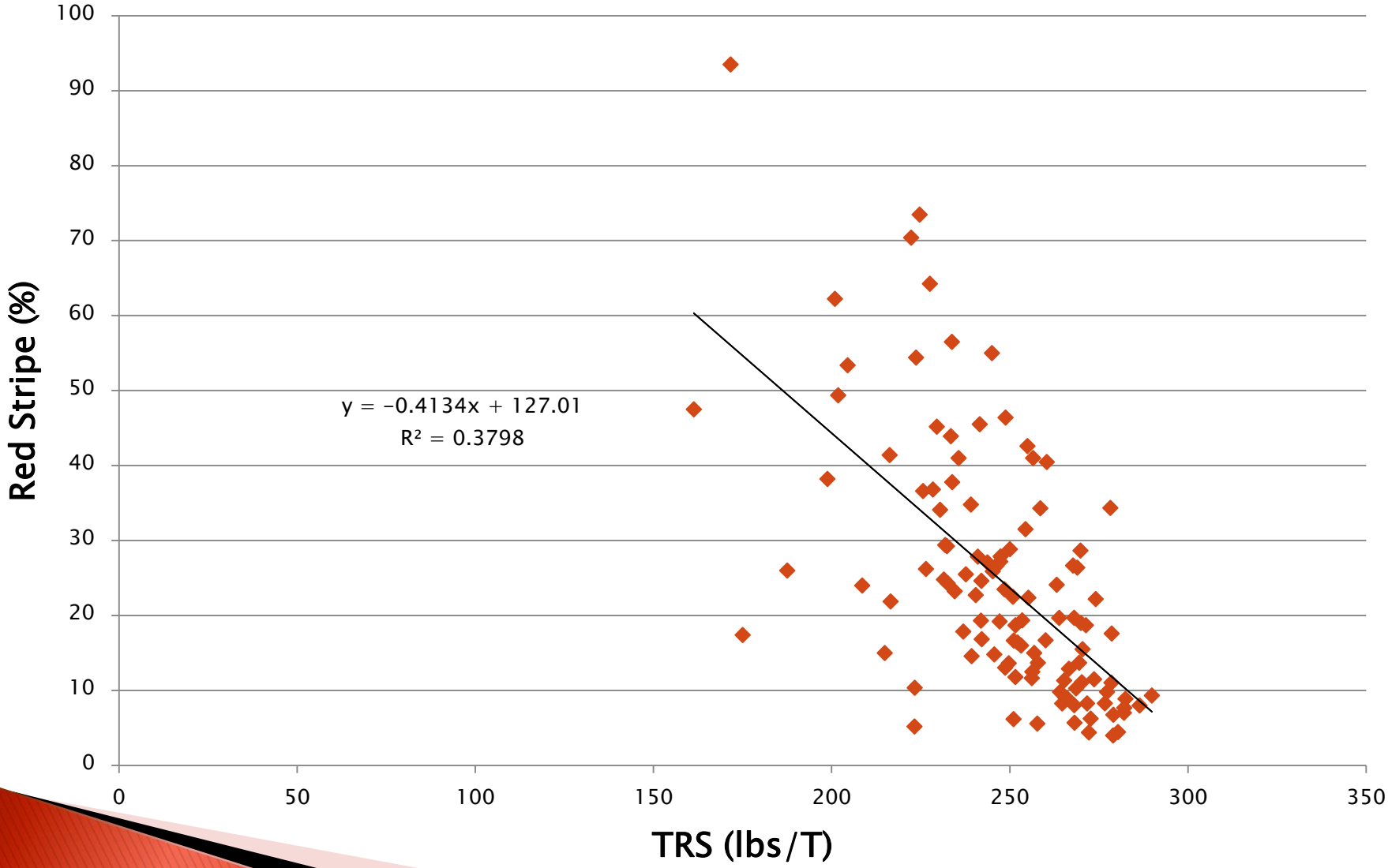
Red Stripe Infection
Magnolia Plantation
HoCP 00-950, 2010

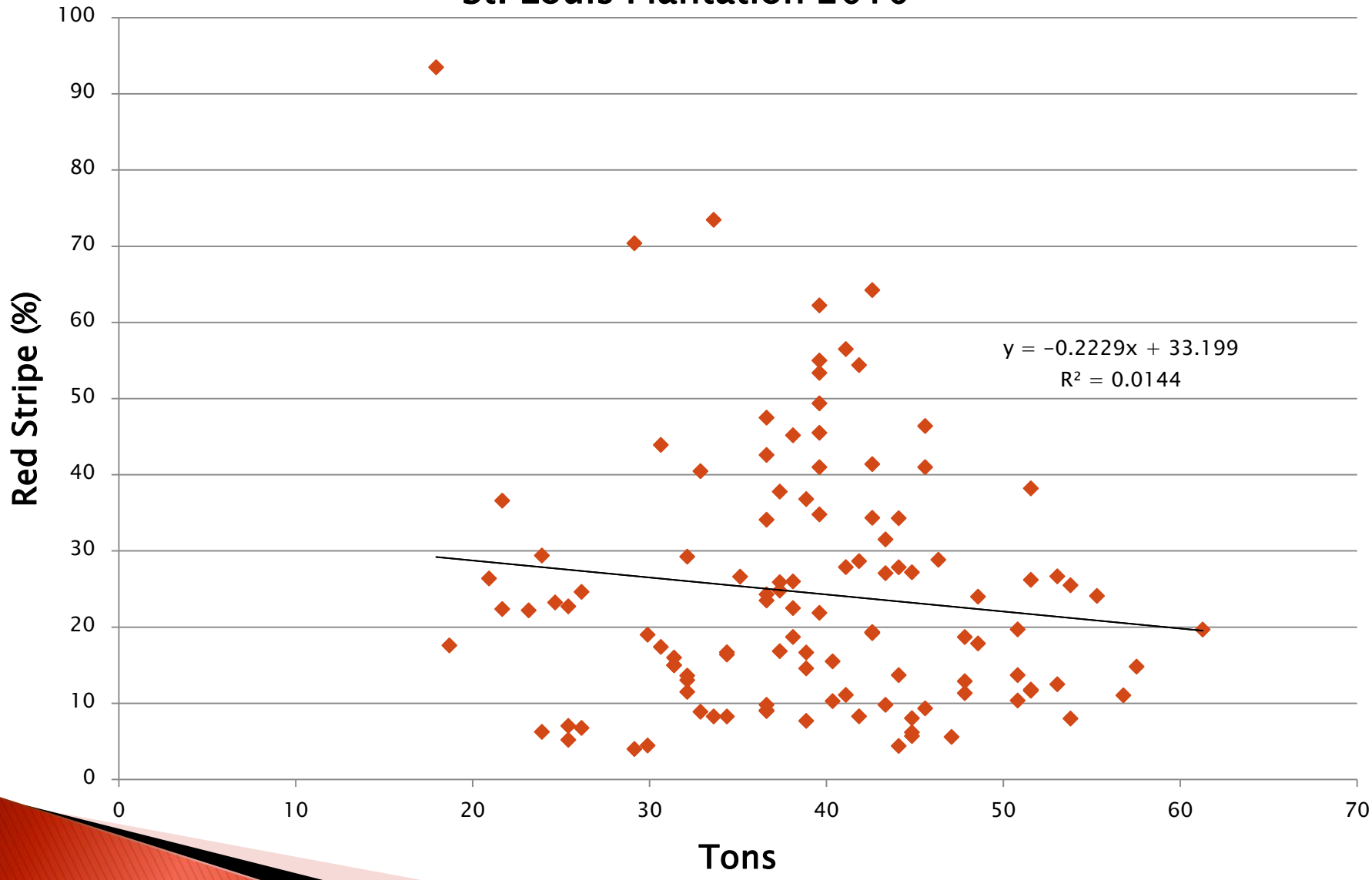


Effect of Red Stripe Infection on Sugar
St. Louis Plantation 2010

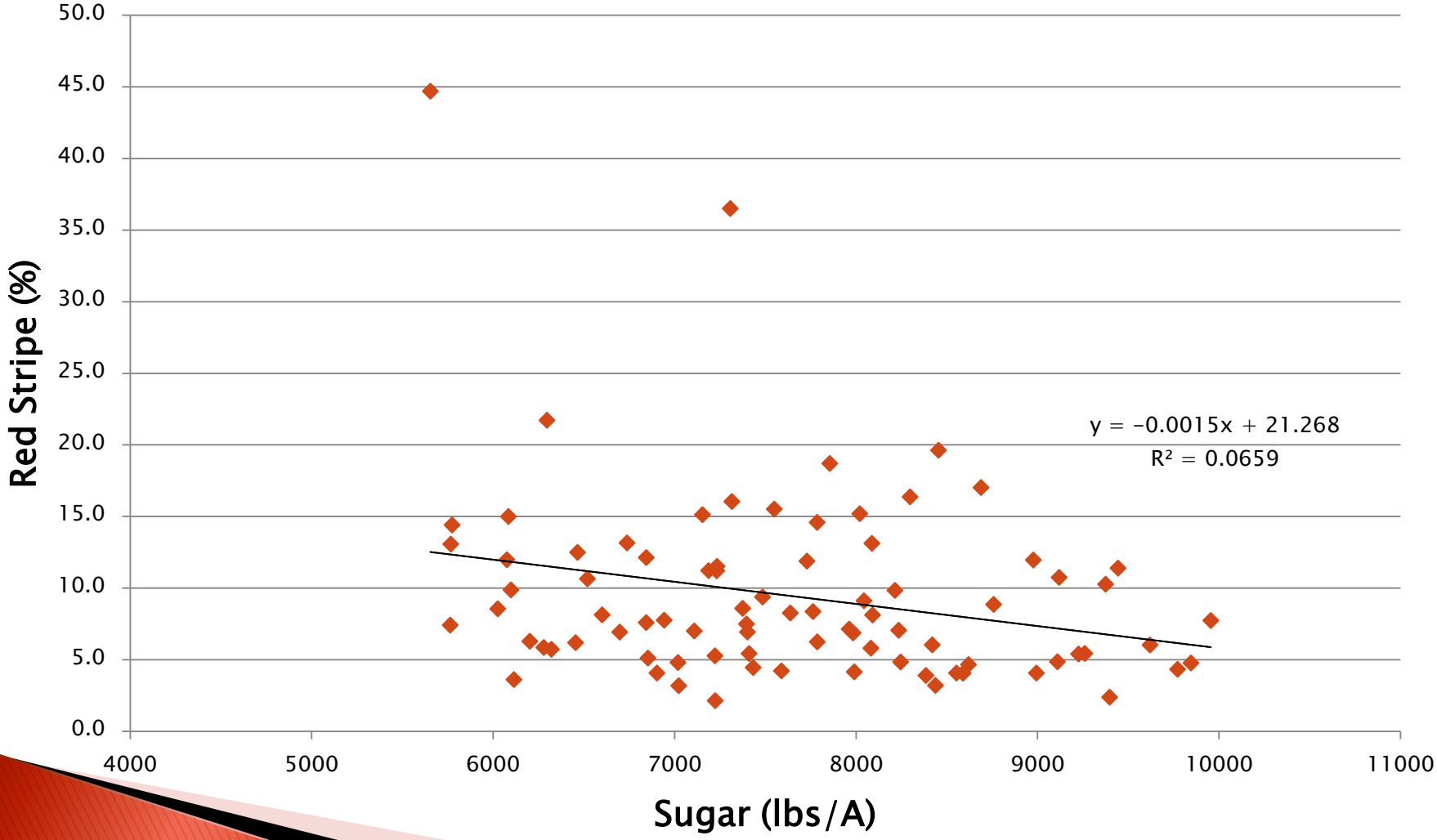


Effect of Red Stripe Infection on TRS
St. Louis Plantation 2010

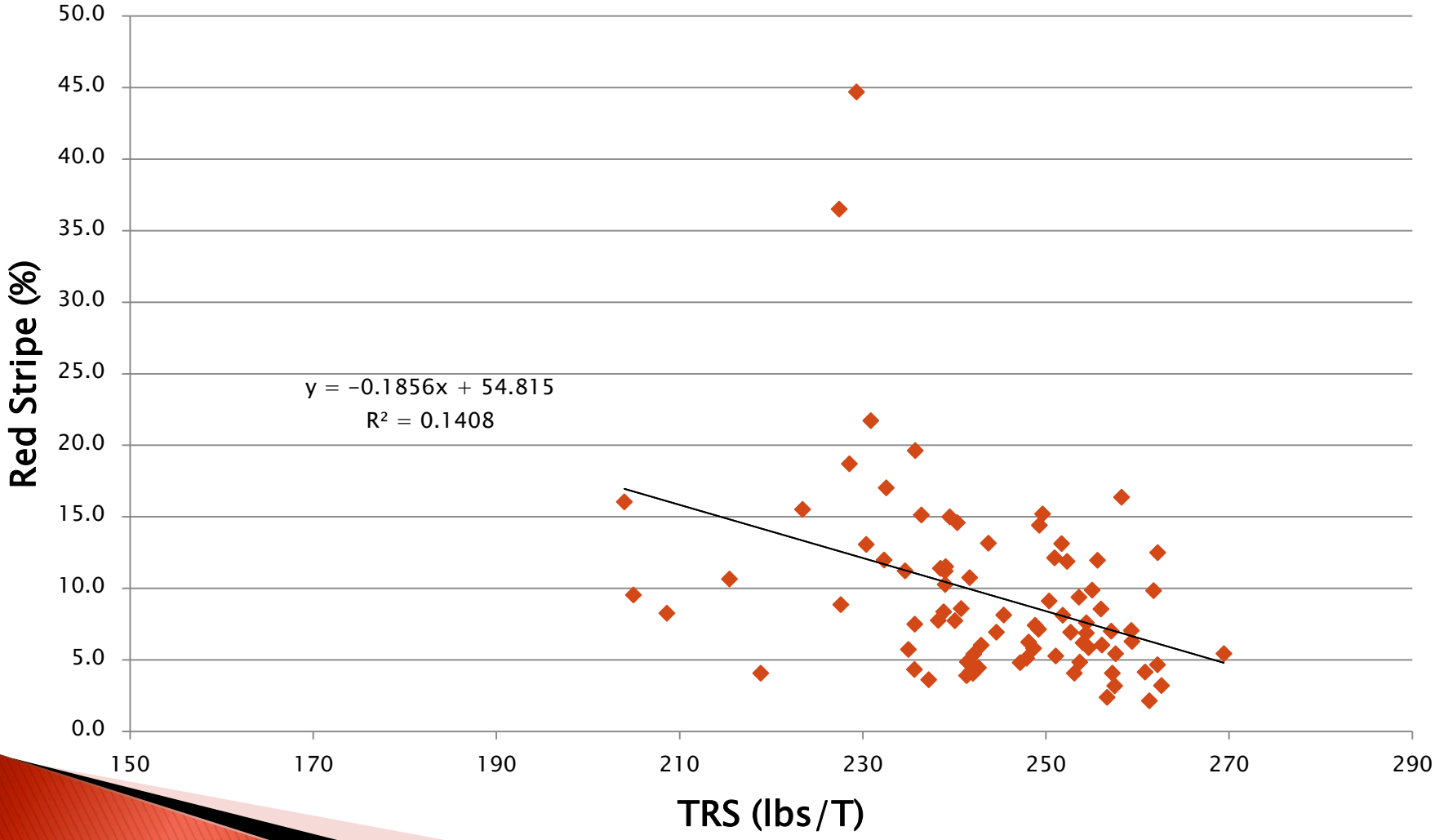



Effect of Red Stripe Infection on Tonnage
St. Louis Plantation 2010
Red Stripe (%)
Tons
y = -0.2229x + 33.199
R² = 0.0144
0
10
20
30
40
50
60
70
80
90
100

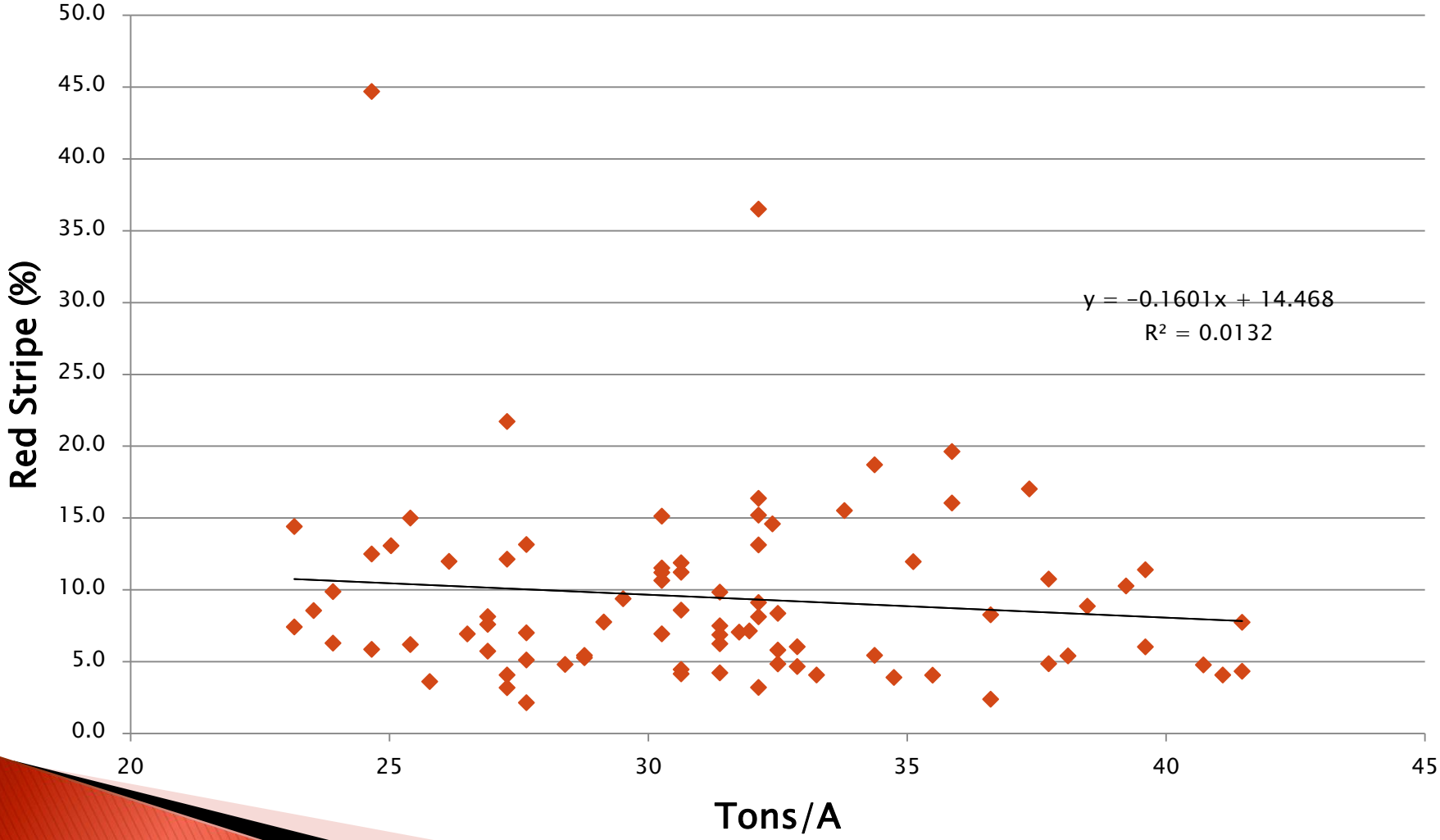
Effect of Red Stripe Infection on Sugar
Magnolia Plantation 2010
7/19/2010



Effect of Red Stripe Infection on TRS
Magnolia Plantation 2010
7/19/2010



Effect of Red Stripe Infection on Tonnage
Magnolia Plantation 2010
7/19/2010



Effect of Seed Cane on Fall Shoot Counts

Treatment	9/15	10/8
Control	85	96
Harvester Simulation	62	82
Mild Red Stripe	82	97
Severe Red Stripe	32	38

Effect of Yield When Planted with Infected Seed Cane

Treatment	T/ha	S(kg)/T	S(kg)/T
Control	96	127	12,252
Harvester Simulation	90	124	11,159
Mild Red Stripe	78	128	9,928
Severe Red Stripe	75	126	9,489

Influence of Nitrogen Fertility on Red Stripe Incidence

	Shoots with Red Stripe			
Lbs. N/Acre	Heavy soil		Light soil	
160	142	a	97	a
120	128	ab	94	a
80	106	bc	92	a
40	91	c	83	a
Control	34	d	28	b



Control

Resistant Varieties



Acknowledgements

Kathy Warnke
Jeri Maggio

Randy Richard

Blaine Viator
Paul Templet

Anna Hale