Enhanced Pest Control Systems for Mid-South Soybean Production

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MSSB Board Meeting
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Seedling Disease Issues

Rhizoctonia
Pythium
Others

$24 million in losses in 2014

Soilborne Diseases – Sudden Death Syndrome

Soilborne Diseases – Charcoal Rot

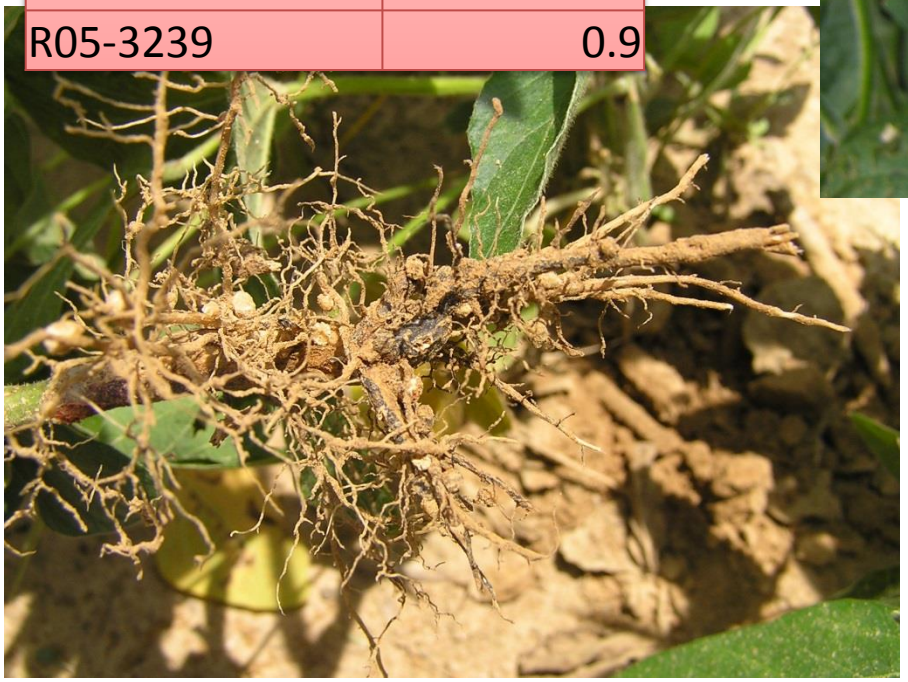
$157 million in losses in 2014 due to SDS and CR

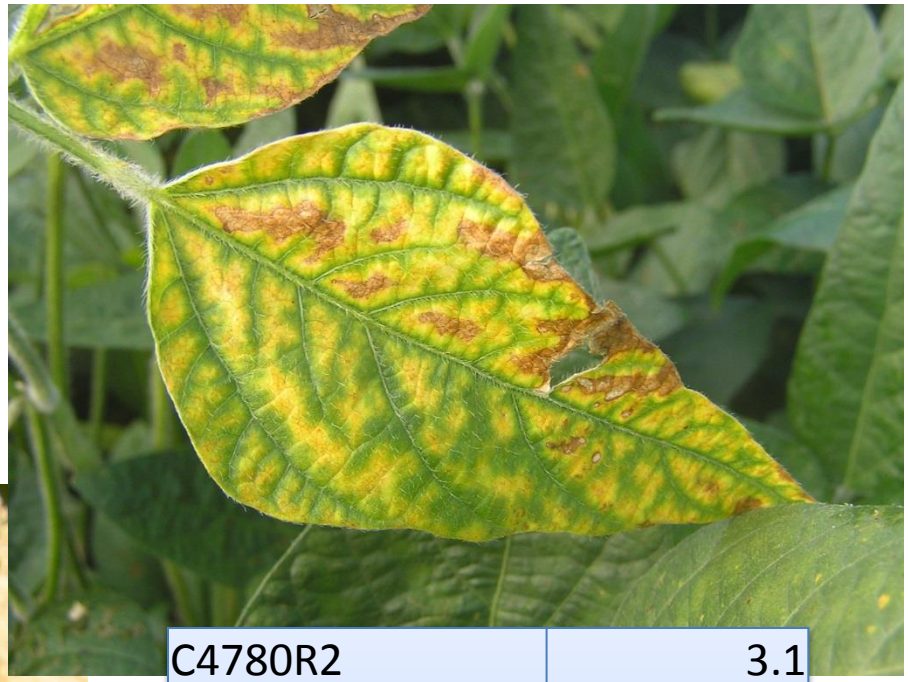
Soilborne Disease? – Taproot Decline

Losses significant – estimates currently unavailable.

Variety Trials – DLRS 2014 – MG4

HBK LL4953	0.2
Go Soy 4713	0.4
DG 4775 RR2	0.4
Go Soy 4914	0.6
HALO 4:76 LL	0.6
HALO 4.97 LL/STS	0.8
DG 4981 LL/STS	0.9
CZ 4959 RY	0.9
R05-3239	0.9

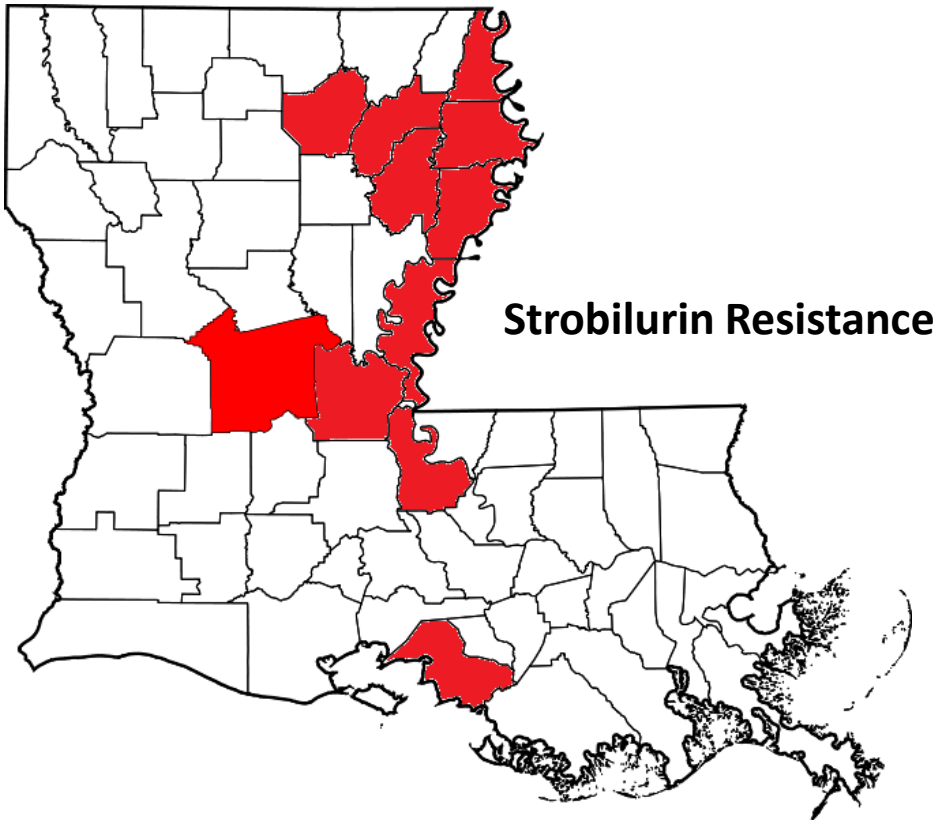




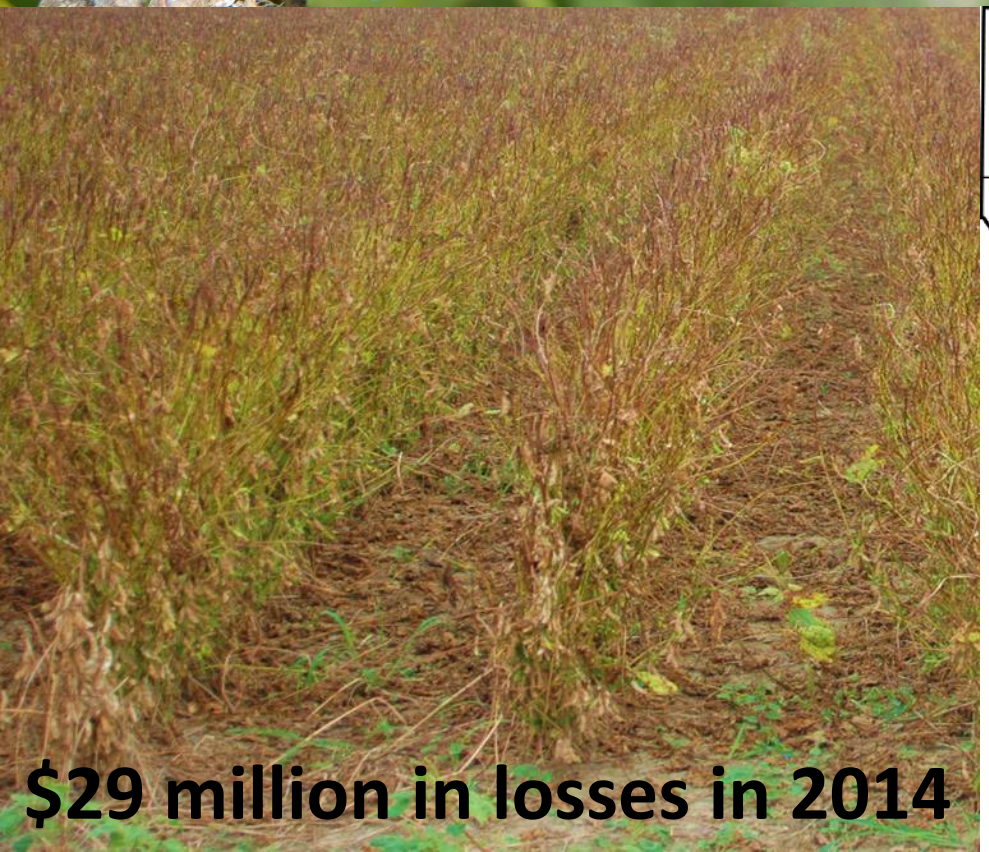
C4780R2	3.1
Dyna-Gro 31RY45	3.1
Dyna-Gro S48RS53	3.1
46-R65	3.1
REV 46R64	3.3
AG 4534	3.7
DG 4685 RR2	3.9
DG 4670 RR2	4
REV 48R44	4.2

Foliar Diseases – Frogeye leaf spot

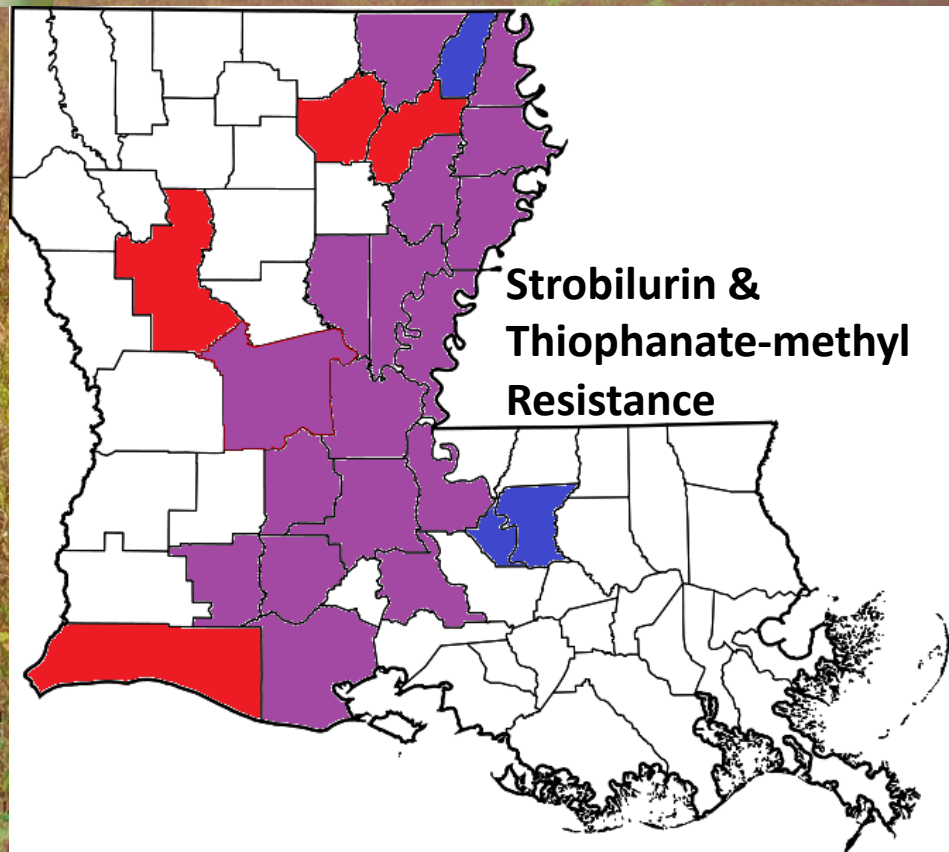
$96 million in losses in 2014



Foliar Diseases – Cercospora leaf blight



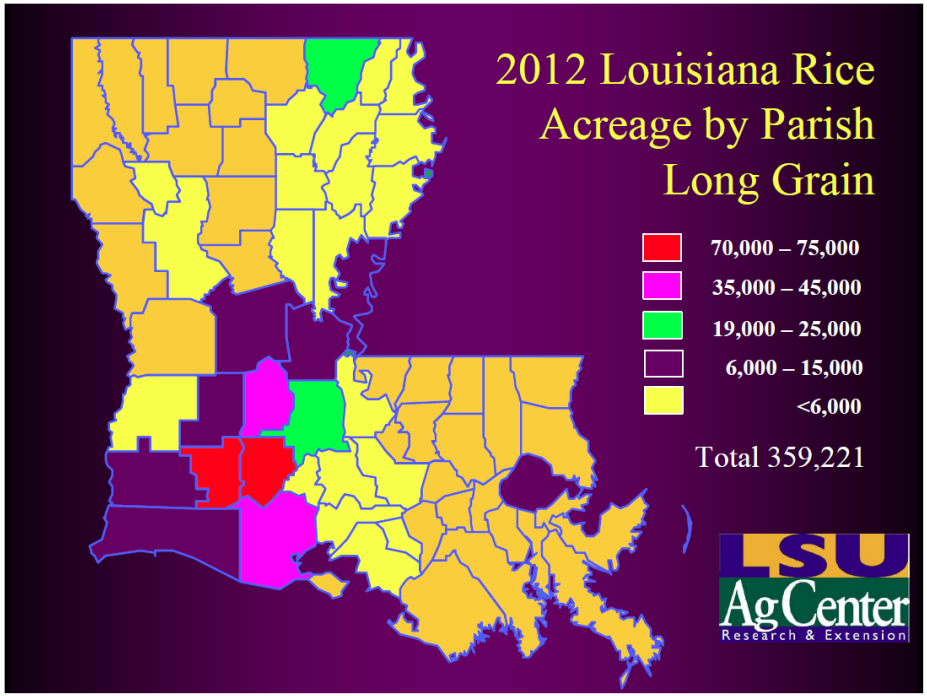
$29 million in losses in 2014

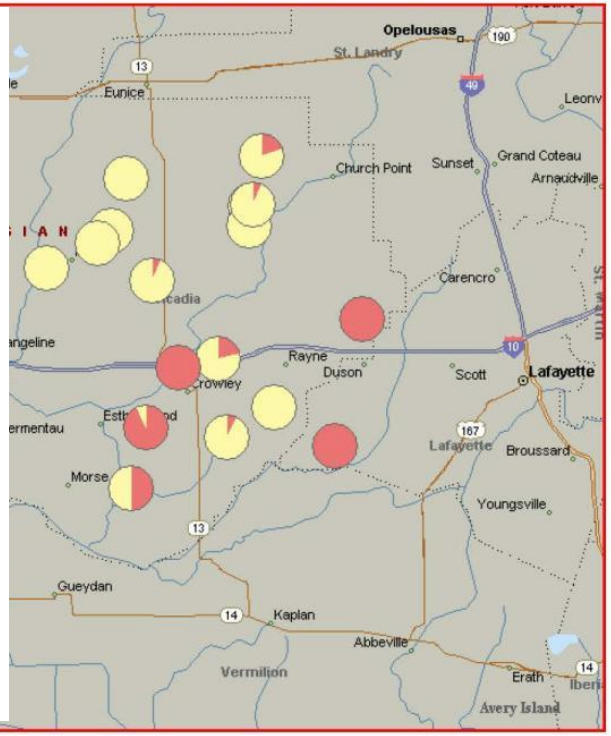


Foliar Diseases – Aerial Blight

AZO resistance monitoring of *Rhizoctonia solani* isolates:

Frequency of azoxystrobin sensitive and resistant isolates

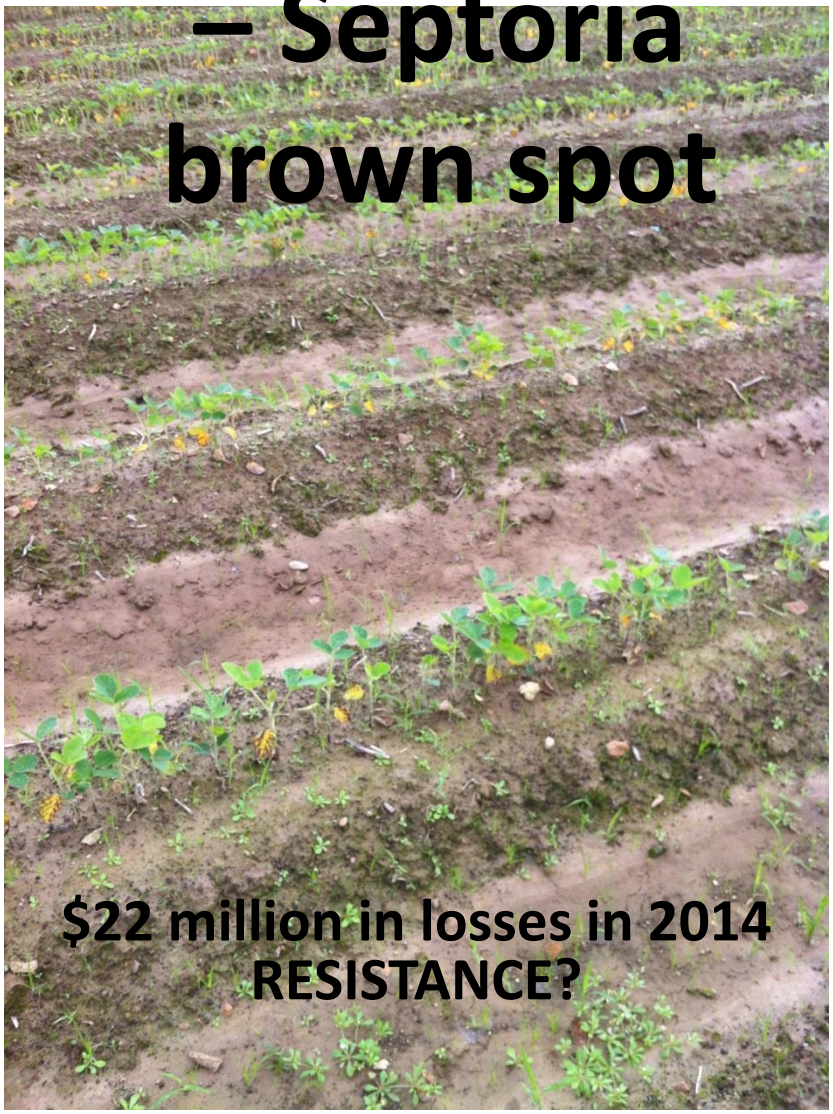




Disclaimer: The map indicates solely where viable samples were isolated and tested. Growers should be aware of previous fungicide performance and scout fields early after application in 2012 for possible disease breakthroughs due to resistance.

syngenta

Foliar Diseases – Septoria brown spot



Stinkbug Complex

Variety Development – Regionwide

Objectives

- **To evaluate core commercial varieties, plant introductions, and selections in 13 locations throughout the Mid-South for disease (foliar and soilborne) and insect resistance.**
- **To define the scope of current disease and insect pest problems and identify changes in frequency and distribution of economically important pests across locations.**
- **ID resistance to CLB, identify QTL/markers for resistance, and develop competitive cultivars with resistance.**
- **Screening soybean crosses for resistance to stink bugs under laboratory and field conditions.**
- **ID specific mechanisms of resistance to stink bugs in soybean.**

Expected Outcomes

- Short term: Annual publication detailing disease reactions to specific diseases.
- Short term: Breeding stock identified serving as a guide for breeder selections.
- Long term: High-yielding, locally adapted varieties resistant to diseases and insects.
- Long term: ID of resistance mechanisms to diseases and insects.