

# Old and New Foes: More than One Rust and RSD

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# Rust in LCP 85-384 during 2007



# Effect of Fungicides in LCP 85-384 Experiment during 2007

Fungicide	Spring rust severity (%)	Tons of cane per acre	Sugar per acre (lbs.)
Non-treated control	17.5	37.9	7,611
Headline alone	1.3	45.3	8,842
Headline + Caramba	1.7	48.1	9,728
Headline + Muscle	1.7	47.1	9,602
Bayer pre-mix	2.9	43.0	8,767

# Effect of Fungicides in Ho 95-988 Experiment during 2007

Fungicide	Spring rust severity (%)	Tons of cane per acre	Sugar per acre (lbs.)
Non-treated control	15.8	40.5	8,886
Headline alone	3.7	43.1	9,705
Bayer pre-mix	5.8	45.0	9,673
Quilt	5.7	43.8	9,496

# Can Fungicides Provide Alternative Rust Control Method?

- Efficacy test results indicate answer is “yes”
- Strobilurins superior to triazoles
- Headline appears to be best product
- Will also need a triazole to manage fungicide resistance
- Will continue to evaluate fungicide treatments
- Need to identify times when fungicides will pay and times when they will not

# Status of Fungicide Labels

- Section 18 Emergency Use Label submitted for Headline alone in 2008
- USDA IR-4 funding obtained to support residue testing for Headline and Caramba during 2008
- Regular labels still two years away
- Quarantine Section 18 to be sought by Florida; Louisiana will “piggy-back”

# Brown Rust Outlook for 2008

- Recent freeze killed all above ground plant material in north but not south
- 384 acreage decreasing rapidly; will be very little plant cane
- 988 susceptible but not increasing much in acreage
- Mild rust observed in 540 during 2007; acreage up dramatically
- Big question: Will 540 remain resistant?

# Factors Contributing to On-Going Rust Problem

- Difficult to develop varieties that perform well under Louisiana growing conditions
- Historically, number of varieties available for cultivation has been low
- Repeated pattern of widespread cultivation of a few varieties
- Climate works against us and for us
- Adaptability of rust pathogen
- Complete reliance on host plant resistance



# Orange Rust: A New Threat to Louisiana?

- Found in Florida during 2007
- Pathogens transmitted through air will move to Louisiana
- Resistance status of Louisiana varieties unknown
- Time of arrival and impact in Louisiana uncertain
- Need to be on the lookout and report any suspicious rust infections during 2008

# Orange Rust



- Orange colored lesions and spores
- Lesions may occur in clusters
- Lesions will occur on leaf base
- Disease occurs in summer and fall







# New varieties have other disease problems

- Need full productivity from new varieties
- Each has a potential weak spot with disease
- Diseases of concern include: smut, leaf scald, yellow leaf, mosaic, and ratoon stunting
- All are systemic diseases that can be controlled with a tissue-culture based healthy seedcane program

# Effect of RSD – TCA

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	HWT	RSD	% Diff.
HoCP 96-540	40.1	41.9	+4.5
Ho 95-988	38.3	38.7	+1.2
L 97-128	33.2	31.9	-3.9
L 99-226	36.3	32.4	-10.7
L 99-233	33.6	24.8	-26.2
HoCP 00-950	35.7	32.4	-9.2

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# Colonized Vascular Bundles (%)

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	% Diff. TSPA	CVB (%)
HoCP 96-540	+7.8	9
Ho 95-988	+2.0	2
L 97-128	-0.5	14
L 99-226	-5.7	69
L 99-233	-22.0	86
HoCP 00-950	-12.2	77

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# RSD: Down But Not Out

- Most important disease for many years now under control (less than 1% infection)
- Not eliminated from all farms
- No visible external symptoms
- Healthy seedcane program still important
- RSD monitoring available through Sugarcane Disease Detection Lab at no charge