

2008 Solution Days

Disease & Management

Strategies in Corn on Corn –

Tamra Jackson

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Diseases and Management Strategies in Corn on Corn

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Diseases Favored by Planting Continuous Corn

- Gray Leaf Spot
- Eyespot
- NCLB, SCLB, NCLS
- Anthracnose
- Stalk Rots
- Ear Rots
- Corn Lethal Necrosis
- Goss's Wilt
- Corn Nematodes



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Disease Management in Corn-on-Corn

- Crop Rotation
- Resistance or tolerance
 - Correct disease ID
- Fungicide application
 - Correct disease ID
 - ~\$16-21/A (including \$5/A application)
 - +2-3 bu/A needed (\$7.00/bu corn)
 - Fungicides differ by PHI
- Tillage (when practical) to promote breakdown of debris

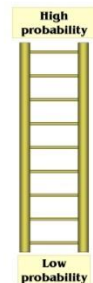
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Will I get a return on my investment for a foliar fungicide application in corn?

FACTORS:

- Susceptible hybrid
- Continuous corn
- No-till
- Late planting
- High yield potential
- Irrigation
- Early disease activity
- Field history of severe disease
- Favorable weather for disease

The "Probability Ladder"



Adapted from F. Viscoff, UNK

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Common Rust vs. Southern Rust

Characteristic	Common Rust	Southern Rust
Causal agent	<i>Puccinia sorghi</i>	<i>Puccinia polysora</i>
Pustule location	Both leaf surfaces	Mainly upper leaf surface
Pustule color	Brick red, golden brown to cinnamon brown	Light cinnamon brown to orange
Pustule distribution	Sparsely scattered	Dense clusters
Optimal temperatures	61-77°F	77-82°F
Management	Resistance, fungicide application, and avoid late planting	

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Common Rust vs. Southern Rust



Appearance may differ by:

- Plant genetics
- Environmental conditions
- Time of season

Management

- Limited resistance available
- Planting date
- Fungicides

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Potential Yield Loss

- **Common Rust**
 - 6% yield loss for each 10% leaf area affected
- **Gray Leaf Spot**

Percent ear leaf area affected by early dent stage	Approximate yield loss expected
5% or less	0-2% loss
6-25 %	2-10% loss
25% - 75%	5-20% loss
75%-dead leaf	15-50% loss

P. Lipps, Ohio State University

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Goss's Bacterial Wilt and Blight



Increased incidence recently

- Especially western NE, CO, WY, SD
- Pathogen survives in residue
- Requires wounding
- Symptoms
 - “Freckles”
 - Exudate
- Hybrid resistance (not immunity) is available
- Fungicides NOT effective

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