

Management of Southern and Northern Corn Leaf Blights with Fungicides

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Fungal Diseases of Sweet Corn

- Common Rust
- Southern Corn Rust
- Southern Corn Leaf Blight
- Northern Corn Leaf Blight
- Northern Corn Leaf Spot

Common Corn Rust

- Caused by *Puccinia sorghi*
- Considered to be a “cool temperature” disease
- Favored by temperatures of 16 to 25 C
- Most commonly observed in spring season
- Most aggressive on newly expanding leaf tissue
- Varietal resistance is available



Southern Corn Rust

- Caused by *Puccinia polysora*
- Considered to be a “warm to hot temperature” disease
- Favored by temperatures of 23 to 33 C
- Most commonly observed in fall or late spring season
- Aggressive on both newly expanded and older leaf tissue
- Varietal resistance is available but not common



Southern Corn Leaf Blight

- Caused by *Bipolaris maydis*
- Considered to be a “warm to hot temperature” disease
- Favored by temperatures of 20 to 32 C
- Most commonly observed in fall or late spring season
- Aggressive on both newly expanded and older leaf tissue
- Varietal resistance is available but not common



Northern Corn Leaf Blight

- Caused by *Exserohilum turcicum*
- Considered to be a “cool to moderate temperature” disease
- Favored by temperatures of 18 to 27 C
- Most commonly observed during spring season
- Aggressive on older leaf tissue
- Varietal resistance is available



Northern Corn Leaf Spot

- Caused by *Bipolaris zeicola*
- Considered to be a “cool to moderate temperature” disease
- Favored by temperatures of 18 to 27 C
- Most commonly observed during mid winter, during transition from fall to spring season
- Aggressive on young, expanding leaf tissue
- Varietal resistance is available



Sweet Corn Foliar Fungicides

- Broad Spectrum Protectants
 - Triazoles (DMIs)
 - Carboxamides (SDHIs)
 - Strobilurins (QoIs)
 - Potassium Phosphite

Broad Spectrum Protectants (Multi-site FRAC Group M)

- Sulfur (M2) – Somewhat active against rusts, but also offers mite suppression. Do not use during hot weather, or following oils. Short PHI (1 day).
- Mancozeb (M3) – Active against both rusts and leaf blights. May offer some Mn nutrition. 7-day PHI.
- Chlorothalonil (M5) – Active against both rusts and leaf blights. 7-day PHI.

Triazoles

(Demethylation Inhibitors – FRAC grp 3)

- Propiconazole
 - Tebuconazole
 - Metconazole
 - Prothioconazole
- In general, the most efficacious group against foliar blights
 - Typically have a longer pre-harvest interval (7 to 14 days)
 - Protectant, translaminar and curative properties
 - Read labels for plant-back and re-entry restrictions, particularly for tebuconazole.

Strobilurins

(Quinone Outside Inhibitors – FRAC grp 11)

- Azoxystrobin
 - Pyraclostrobin
 - Picoxystrobin
 - Trifloxystrobin
 - Fluoxastrobin
- In general, the most efficacious group against both common and southern rusts
 - Also very effective against foliar blights
 - Typically have a short pre-harvest interval (7 days)
 - Protectant, translaminar and curative properties
 - Read labels for use and rotational restrictions

Carboxamides

(FRAC grp 7)

- Penthiopyrad
 - Benzovindiflupyr
 - Fluxapyroxad
 - Pydiflumetofen
- Strengths vary from compound to compound
 - Most are used only in pre-mixtures due to the threat of insensitivity
 - Typically have a short pre-harvest interval (7 days)
 - Protectant, translaminar and curative properties
 - Read labels for use and rotational restrictions

Pre-mixtures

(Multiple FRAC Groups)

- Most are very efficacious against both rusts and foliar blights
- Typically have a longer pre-harvest interval (7-14 days)
- Protectant, translaminar and curative properties
- May offer longer residual activity than solo compounds
- Read labels for use and rotational restrictions

Pre-Mixtures

Fungicide	Active Ingredients	FRAC Grp
Elatus	Benzovindiflupyr & Azoxystrobin	7 & 11
Evito T	Fluoxastrobin & Tebuconazole	3 & 11
Headline Amp	Pyraclostrobin & Metconazole	3 & 11
Miravis Neo	Pydiflumetofen & Axoxystrobin & Propiconazole	3 & 7 & 11
Priaxor	Pyraclostrobin & Fluxapyroxad	7 & 11
Prosaro	Tebuconazole & Prothioconazole	3 & 3
Quilt	Azoxystrobin & propiconazole	3 & 11
Quilt XCEL	Azoxystrobin & propiconazole	3 & 11
Stratego YLD	Trifloxystrobin & Prothioconazole	3 & 11
Trivapro	Benzovindiflupyr & Azoxystrobin & Propiconazole	3 & 7 & 11
Miravis Neo	Pydiflumetofen & Azoxystrobin & Propiconazole	3 & 7 & 11
Unicorn	Sulfur & Tebuconazole	M2 & 3
Viathon	Tebuconazole & Potassium Phosphite	3 & 33

Management Strategies

- Start clean in a field free of corn debris
- Be aware of your surroundings
- Scout early and thoroughly
- Read the Ext. Newsletters (Chris Miller and Gene McAvoy)
- Use available host-plant resistance
- Use a spreader-sticker
- When possible, spray by ground (particularly at mature whorl stage)
- Be aware of PHIs, Re-entries, and Plant-Backs
- Alternate chemistries (modes-of-action)
- Stay ahead of the disease
- “An ounce of prevention is worth a pound of cure”

Tar Spot

- Caused by *Phyllachora maydis*
- First reported in FL during 2016
- Lesions appear as small black, raised spots
- Fish eye symptoms occasionally observed
- Appears in late spring, primarily on field corn
- Notify us if observed



Thank You!

QUESTIONS?