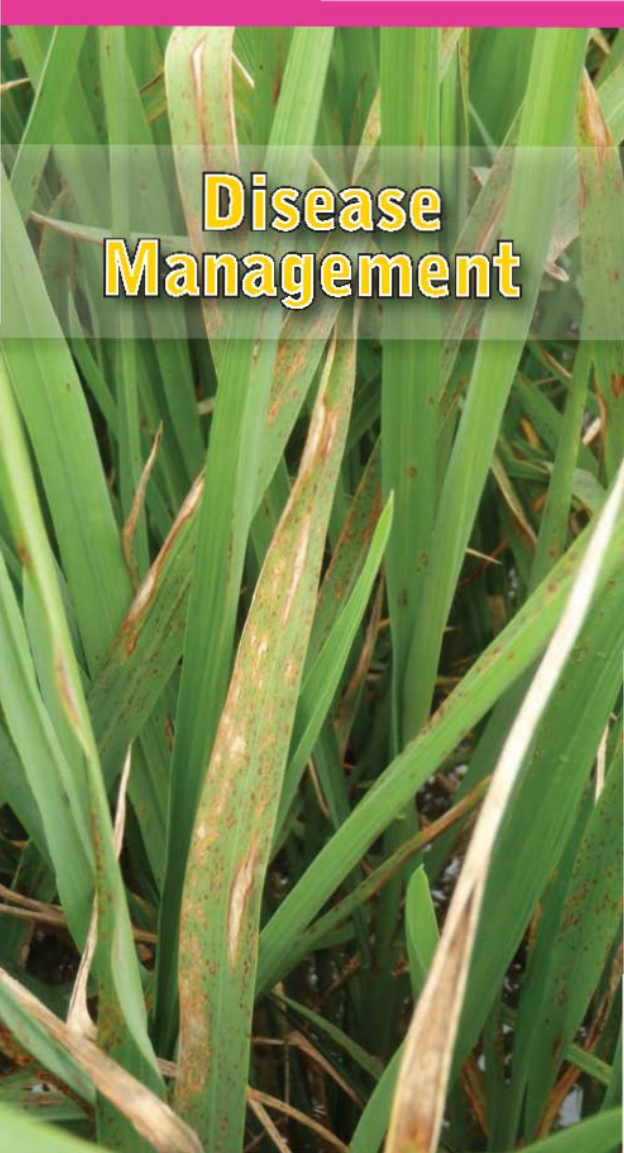
# Disease Management



## Rice Cultivar Reactions to Diseases, 2014

| Cultivar | Sheath Blight | Blast | Straight-head | Bacterial Panicle Blight | Narrow Brown Leaf Spot | Stem Rot | Kernel Smut | False Smut | Lodging | Black Sheath Rot |
|---|---|---|---|---|---|---|---|---|---|---|
| Antonio | S | S | -- | MS | MS | S | S | MS | MS | -- |
| Caffey | MS | MR | -- | S | R | -- | -- | MS | -- | -- |
| Cheniere | S | VS | VS | VS | S | S | S | S | MR | MS |
| CL111 | VS | MS | S | VS | VS | VS | S | S | MS | S |
| CL142 AR | MS | S | MS | S | S | S | S | S | S | S |
| CL151 | S | VS | VS | VS | S | VS | S | S | MR | S |
| CL152 | S | VS | S | S | MR | -- | VS | S | -- | -- |
| CL163 | MS | -- | -- | MS | -- | -- | -- | -- | -- | -- |
| CL172 | MS | -- | -- | MS | -- | -- | -- | S | -- | -- |
| CL261 | MS | VS | S | VS | S | VS | MS | S | MS | MS |
| CL271 | S | MR | -- | MS | MR | -- | -- | -- | -- | S |
| Cocodrie | S | S | VS | S | S | VS | S | S | MR | S |
| Colorado | S | VS | -- | S | MS | -- | -- | S | -- | -- |
| Della-2 | S | R | -- | S | MS | -- | -- | -- | -- | -- |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Francis | MS | VS | MR | VS | S | S | VS | S | MS | S |
| Jazzman | MS | S | S | S | S | S | MS | S | MS | MS |
| Jazzman-2 | VS | S | -- | VS | MR | -- | S | S | -- | -- |
| Jupiter | S | S | S | MR | MS | VS | MS | MS | MS | MR |
| LaKast | S | S | MS | S | MS | S | S | S | MS | MS |
| Mermentau | S | S | VS | MS | MS | -- | S | S | MS | -- |
| Neptune | MS | MS | VS | VS | MS | VS | MS | MS | MR | MR |
| Rex | S | S | S | S | MS | S | S | S | MR | S |
| Roy J | MS | S | S | S | MR | S | VS | S | MR | MS |
| RT CL XL729 | MS | R | MS | MR | MS | S | MS | S | S | S |
| RT CL XL745 | S | R | R | MR | MS | S | MS | S | S | S |
| RT XL723 | MS | R | S | MR | MS | S | MS | S | MS | S |
| RT XL753 | MS | R | MS | MR | -- | -- | MS | S | -- | S |
| Taggart | MS | MS | R | MS | MS | S | S | S | MS | MS |
| Wells | S | S | S | S | S | VS | S | S | MS | MS |

R = Resistant; MR = Moderately resistant; MS = Moderately susceptible; S = Susceptible; VS = Very susceptible (cells with no values indicate no definitive Arkansas disease rating information is available at this time). Reactions were determined based on historical and recent observations from test plots and in grower fields across Arkansas. In general, these ratings represent expected cultivar reactions to disease under conditions that most favor severe disease development.

# Sheath Blight

## Sheath Blight Management

- Plant less susceptible cultivars.
- Avoid thick stands.
- Avoid excessive N fertilization.
- Scout fields from PI to 50% heading.

## Sheath Blight Treatment Thresholds

| Cultivar Reaction | Treatment Thresholds | | Comments |
|---|---|---|---|
| | % Positive Stops | % Infected Tillers | |
| VS | 35 | 5-10 | Scout starting at PI and be prepared to treat when canopy closes or shortly after, but before upper leaves are infected |
| S | 35 | 5-10 | Scout starting at midseason (PD) and treat when positive stop threshold is reached and upper 2-3 leaves threatened (early boot) |
| MS | 50 | 10-15 | Scout from 7 days after midseason (PD) to 50% heading and treat when positive stop threshold is reached and upper 2-3 leaves are threatened (mid to late booting) |
| MR | n/a | n/a | Spraying is not usually warranted |

VS = Very susceptible; MS = Moderately susceptible; MR = Moderately resistant

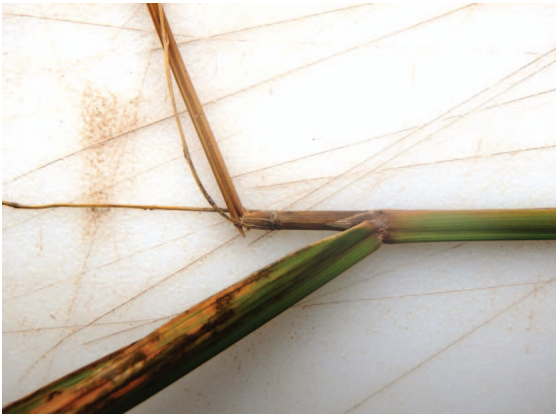
Scout entire field in a zigzag pattern stopping every 50 steps. Inspect a 3-foot long section of rice at each stop for sheath blight symptoms. If symptoms are present, the stop is positive. Make 50 stops per field, 1 stop per acre. If sheath blight is concentrated in certain areas, then treating only those areas with fungicide may be more economical. While experience may be substituted for scouting in fields with a history of sheath blight, the economic use of fungicides depends on adequate knowledge of the distribution of the disease in a field and its intensity between 1/2 inch internode elongation and early heading.

## Fungicides Recommended for Sheath Blight Control/Suppression

| Disease | Fungicide | Active Ingredient | Rate/Acre | Comments |
|---|---|---|---|---|
| Sheath Blight | Quadris 2.08 FL® | azoxystrobin | 8.5-12.3 fl oz | Lower rates may not provide adequate control under some conditions. DO NOT apply near fishponds or apple orchards. Use higher rates or two applications for severe sheath blight conditions on highly susceptible cultivars. |
| | GEM® | trifloxystrobin | 8-9.8 fl oz | |
| | Stratego® | trifloxystrobin + propiconazole | 16-19 fl oz | |
| | Quilt®/Quilt Xcel | azoxystrobin + propiconazole | 14-34/14-27 fl oz | Use highest rates earlier in season, and lower rates should be tank-mixed with Quadris to increase sheath blight control under certain circumstances. |

**Read and follow all label directions when using these products.**

## Blast



## Blast Management

- Plant resistant cultivars.
- Use clean, fungicide-treated seed.
- Plant early to avoid late-season blast pressure.
- Avoid excessive N fertilization.
- Maintain a consistent, deep flood (> 4 in).
- Scout fields.

## Fungicides Recommended for Use in Management of Blast

| Fungicide | Active Ingredient | Rate/Acre[1] | Comments |
|---|---|---|---|
| Quadris 2.08 FL® | azoxystrobin | 12.3 fl oz | Use on susceptible cultivars if leaf/collar blast present or field has history of blast. Apply at late boot to 10% heading (50% of main tillers are cracking the boot). Make a second application 5 to 7 days later when one-half of main tillers have 70%-90% of panicles emerged, but bases of panicles are still in the boot. Lower than label rates NOT recommended. |
| GEM® | trifloxystrobin | 6.4-9.8 fl oz | |
| Stratego® | trifloxystrobin + propiconazole | 19 fl oz | |
| Quilt Xcel® | azoxystrobin + propiconazole | 21-27 fl oz | |

**Read and follow all label directions when using these products.**

[1]Assumes proper application and typical weather. Adverse conditions may decrease the performance of fungicides. Fungicide performance is greatly enhanced when plants are grown using proper cultural practices including maintaining continuous deep flood and using recommended N rates for the cultivar. Proper cultural practices greatly enhance the field resistance of ric

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# Stem Rot

## Stem Rot Management

- Soil sample.
- Apply K fertilizer recommended by soil test.
- Avoid excessive N fertilization.

# Crown (Black) Sheath Rot

## Crown Sheath Rot Management

- Soil sample.
- Apply K fertilizer recommended by soil test.
- Avoid excessive N fertilization.

# Kernel Smut

## Kernel Smut Management

- Plant less susceptible cultivars.
- Avoid excessive N fertilization.
- Apply a fungicide containing propiconazole.

# False Smut

## False Smut Management

- Plant less susceptible cultivars.
- Plant early.
- Avoid excessive N fertilization.

## Fungicides Recommended for Suppression of Kernel Smut and False Smut

| Fungicide | Active Ingredient | Rate/Acre[1] | Comments |
|---|---|---|---|
| Tilt 428C® | propiconazole | 6 fl oz | Apply from boot to boot split before heading begins as a preventative treatment for kernel smut and/or to suppress false smut. Propiconazole fungicides can be tank-mixed with certain sheath blight fungicides or follow them as needed. |
| Propimax® | propiconazole | 6 fl oz | |
| Bumper® | propiconazole | 6 fl oz | |
| Stratego® | trifloxystrobin + propiconazole | 19 fl oz | |
| Quilt Xcel® | azoxystrobin + propiconazole | 21 fl oz | |

**Read and follow all label directions when using these products.**

[1]Suppression only of kernel smut and false smut. For lower fungicide rates, apply when main tillers are at late boot stage but prior to any head emergence. Earlier applications of low fungicide rates may not be effective. Applications after heads start to emerge are NOT legal. Fields with disease history, high N rates or thick stands most likely to benefit from disease suppression with fungicides.

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# Bacterial Panicle Blight

## Bacterial Panicle Blight Management

- Plant MR/R cultivars.
- Plant early.
- Avoid water stress.
- Avoid excessive N fertilization.

## Brown Spot

*Severe brown spot disease of potassium-deficient rice plants on leaves and panicles.*

## Brown Spot Management

- Plant R cultivars.
- Use clean, fungicide-treated seed.
- Soil sample.
- Avoid excessive N fertilization.

# Straighthead

*Straighthead of rice. Note the distortions (parrot-beaking) of the grains.*

*Straighthead (left) versus normal (center) versus Glyphosate (right) affected panicles.*

## Straighthead Management

- Plant less susceptible cultivars.
- “Drain and dry” soil to aerate roots (consult DD50 for timing).
- Fields with silt or sandy loam high in organic matter favor straighthead.

# Autumn Decline (Akiochi)

*Autumn decline symptoms without crown rot (top) and with crown rot (bottom).*

*Autumn decline, possibly caused by hydrogen sulfide toxicity.*

## Autumn Decline Management

- Begin scouting 10 days after permanent flood.
- Use “drain and dry” strategy if symptoms present.
- Check water source for presence of sulfur – change to different water source.
- Consider short-season cultivars.

# Narrow Brown Leaf Spot

*Narrow brown leaf spot lesions.*

*Narrow brown leaf spot lesion on sheath late in the season.*

## Narrow Brown Leaf Spot Management

- Avoid highly susceptible cultivars.
- Soil test.
- Plant early.

# Other Minor Diseases

*Bordered sheath spot.*

*Aggregate sheath rot.*

*Leaf smut.*

*Sheath rot.*

*Head scab.*

*Scald.*