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The North Central Regional Committee on Management of Small Grain Diseases (NCERA-184) has developed the following information on fungicide efficacy for control of certain foliar diseases of wheat for use by the grain production industry in the US. Efficacy ratings for each fungicide listed in the table were determined by field testing the materials over multiple years and locations by the members of the committee. Efficacy is based on proper application timing to achieve optimum effectiveness of the fungicide as determined by labeled instructions and overall level of disease in the field at the time of application. Differences in efficacy among fungicide products were determined by direct comparisons among products in field tests and are based on a single application of the labeled rate as listed in the table. Table includes most widely marketed products, and is not intended to be a list of all labeled products. *See next page for table footnotes.*

#### Efficacy of fungicides for wheat disease control based on appropriate application timing.

| Fungicide(s)                       |                                                                     |                                                     |                          | Powdery mildew | Stagonospora leaf/glume blotch | Septoria leaf blotch | Tan spot | Stripe rust    | Leaf rust       | Stem rust | Head scab <sup>4</sup> | Harvest Restriction        |
|------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------|--------------------------|----------------|--------------------------------|----------------------|----------|----------------|-----------------|-----------|------------------------|----------------------------|
| Class                              | Active ingredient                                                   | Product                                             | Rate/A (fl. oz)          |                |                                |                      |          |                |                 |           |                        |                            |
| Strobilurin                        | Picoxystrobin 22.5%                                                 | Approach SC                                         | 6.0 - 12                 | G <sup>1</sup> | VG <sup>2</sup>                | VG <sup>2</sup>      | VG       | E <sup>3</sup> | VG <sup>3</sup> | VG        | NL                     | Feekes 10.5                |
|                                    | Pyraclostrobin 23.6%                                                | Headline SC                                         | 6.0 - 9.0                | G              | VG <sup>2</sup>                | VG <sup>2</sup>      | E        | E <sup>3</sup> | E <sup>3</sup>  | G         | NL                     | Feekes 10.5                |
|                                    | Azoxystrobin 22.9%                                                  | Quadris 2.08 SC<br>Multiple generics <sup>5</sup>   | 4.0-12.0                 | G              | VG <sup>2</sup>                | VG <sup>2</sup>      | E        | E <sup>3</sup> | E <sup>3</sup>  | VG        | NL                     | Feekes 10.5.4              |
| Triazole                           | Metconazole 8.6%                                                    | Caramba 0.75 SL                                     | 10.0 - 17.0              | VG             | VG                             | VG                   | VG       | E              | E               | E         | G                      | 30 days                    |
|                                    | Tebuconazole 38.7%                                                  | Folicur 3.6 F<br>Multiple generics <sup>5</sup>     | 4.0                      | NL             | NL                             | NL                   | NL       | E              | E               | E         | F                      | 30 days                    |
|                                    | Prothioconazole 41%                                                 | Proline 480 SC                                      | 5.0 - 5.7                | --             | VG                             | VG                   | VG       | VG             | VG              | VG        | G                      | 30 days                    |
|                                    | Prothioconazole 19%<br>Tebuconazole 19%                             | Prosaro 421 SC                                      | 6.5 - 8.2                | G              | VG                             | VG                   | VG       | E              | E               | E         | G                      | 30 days                    |
|                                    | Propiconazole 41.8%                                                 | Tilt 3.6 EC<br>Multiple generics <sup>5</sup>       | 4.0                      | VG             | VG                             | VG                   | VG       | VG             | VG              | VG        | P                      | Feekes 10.5.4              |
|                                    | Metconazole 10.91%<br>Prothioconazole 18.19%                        | Sphaerex                                            | 4.0 - 7.3                | VG             | VG                             | VG                   | VG       | E              | E               | E         | G                      | 30 days                    |
|                                    | Flutriafol 11.8%                                                    | Topguard SC <sup>6</sup>                            | 10.0 - 14.0 <sup>6</sup> | G              | --                             | VG                   | VG       | VG             | G               | --        | P                      | 30 days                    |
|                                    |                                                                     |                                                     |                          |                |                                |                      |          |                |                 |           |                        |                            |
| Mixed modes of action <sup>7</sup> | Tebuconazole 22.6%<br>Trifloxystrobin 22.6%                         | Absolute Maxx SC                                    | 5.0                      | G              | VG                             | VG                   | VG       | VG             | E               | VG        | NL                     | 35 days                    |
|                                    | Azoxystrobin 15.7%<br>Fluindapyr 10.5%<br>Flutriafol 15.7%          | Adastrio SC                                         | 5.0 - 9.0                | --             | --                             | VG                   | VG       | E              | E               | VG        | NL                     | 30 days                    |
|                                    | Cyproconazole 7.17%<br>Picoxystrobin 17.94%                         | Approach Prima SC                                   | 3.4 - 6.8                | VG             | VG                             | VG                   | VG       | E              | VG              | --        | NR                     | 45 days                    |
|                                    | Prothioconazole 16.0%<br>Trifloxystrobin 13.7%                      | Delaro 325 SC                                       | 8.0                      | G              | VG                             | VG                   | VG       | VG             | VG              | VG        | NL                     | Feekes 10.5<br>35 days     |
|                                    | Pydiflumetofen 13.7%<br>Propiconazole 11.4%                         | Miravis Ace SE                                      | 13.7                     | VG             | VG                             | VG                   | VG       | VG             | VG              | VG        | G <sup>8</sup>         | Feekes 10.5.4              |
|                                    | Fluapyroxad 2.8%<br>Pyraclostrobin 18.7%<br>Propiconazole 11.7%     | Nexicor EC                                          | 7.0 - 13.0               | VG             | VG                             | E                    | E        | E              | E               | VG        | NL                     | Feekes 10.5                |
|                                    | Fluxapyroxad 14.3%<br>Pyraclostrobin 28.6%                          | Priaxor                                             | 4.0 - 8.0                | G              | VG                             | VG                   | E        | VG             | VG              | G         | NL                     | Feekes 10.5                |
|                                    | Prothioconazole 17.39%<br>Tebuconazole 8.7%<br>Fluopyram 8.7%       | Prosaro Pro SC                                      | 10.3 - 13.6              | G              | VG                             | VG                   | VG       | E              | E               | E         | G                      | 30 days                    |
|                                    | Propiconazole 11.7%<br>Azoxystrobin 13.5%                           | Quilt Xcel 2.2 SE<br>Multiple generics <sup>5</sup> | 10.5 - 14.0              | VG             | VG                             | VG                   | VG       | E              | E               | VG        | NL                     | Feekes 10.5.4              |
|                                    | Prothioconazole 10.8%<br>Trifloxystrobin 32.3%                      | Stratego YLD <sup>9</sup>                           | 4.0                      | G              | VG                             | VG                   | VG       | VG             | VG              | VG        | NL                     | Feekes 10.5<br>35 days     |
|                                    | Benzovindiflupyr 10.3%<br>Propiconazole 11.7%<br>Azoxystrobin 13.5% | Trivapro SE                                         | 9.4 - 13.7               | VG             | VG                             | VG                   | VG       | E              | E               | VG        | NL                     | Feekes 10.5.4              |
|                                    | Azoxystrobin 25.30%<br>Flutriafol 18.63%                            | Topguard EQ                                         | 4.0 - 7.0                | VG             | NL                             | VG                   | VG       | E              | E               | VG        | NL                     | Feekes 10.5 and<br>30 days |

## Footnotes

<sup>1</sup>Efficacy categories: NL = Not Labeled; NR = Not Recommended; P = Poor; F = Fair; G = Good; VG = Very Good; E = Excellent; -- = Insufficient data to make statement about efficacy of this product.

<sup>2</sup>Product efficacy may be reduced in areas with fungal populations that are resistant to strobilurin fungicides.

<sup>3</sup>Efficacy may be significantly reduced if solo strobilurin products are applied after stripe rust infection has occurred.

<sup>4</sup>Application of products containing strobilurin active ingredients may result in elevated levels of the mycotoxin Deoxynivalenol (DON) in grain damaged by head scab.

<sup>5</sup>Multiple generic products containing the same active ingredients also may be labeled in some states.

<sup>6</sup>Supplemental labels have been approved for 5.0-7.0 fl oz/A rates to be applied early in the season or as split-rate applications in various states.

<sup>7</sup>Products with mixed modes of action generally combine triazole, strobilurin, and/or carboxamide active ingredients.

<sup>8</sup>Based on application timing at the beginning of anthesis (Feekes 10.5.1)

<sup>9</sup>Stratego is a product with the same active ingredients as Stratego YLD but a different formulation (11.4% Propiconazole and 11.4% Trifloxystrobin) and higher use rate (10 fl oz/A)

## Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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