

## Foliar Fungicide Applications in Corn

It is important to apply fungicides in a timely manner before significant corn leaf damage has occurred. Fields should be scouted prior to tasseling (V10 to V14), applications made from full tassel through blister (VT through R2), with the goal of protecting foliage from the ear leaf and above during grain fill (silking through black layer or R1 through R6).

### Scouting

**Prioritizing Fields.** Environments favorable for disease and most likely to provide positive response to foliar fungicides include:

- Corn on corn
- River bottoms and near creeks
- Fields planted to corn with weaker plant health packages
- Rain and/or fog forecasted

**Disease Symptoms.** Some of the major corn foliar diseases include gray leaf spot (GLS), Northern corn leaf blight, Southern corn leaf blight, and common corn rust. Examples of identifying symptoms are given in Figures 1 and 2.

**Timing.** For fungicide applications, determining time of tasseling is critical. Tasseling date can be predicted by pulling whorls and counting the remaining leaves to unroll. Just prior to tassel emergence it takes about 60 growing degree days for each leaf to unroll or 2.5 typical summer days. Thus, a field that has 3 leaves left to unroll should tassel in approximately 7 to 8 days.

### Application

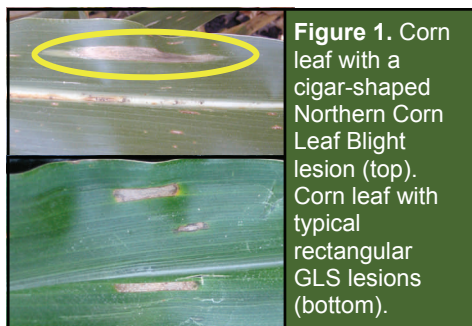
Because the ear leaf and leaves above the ear contribute over 75 percent of the corn plant carbohydrates, these

Table 1. Recommended adjuvant usage with Headline® fungicide at 6 to 9 oz. per acre when applied at different growth stages and with different application techniques.

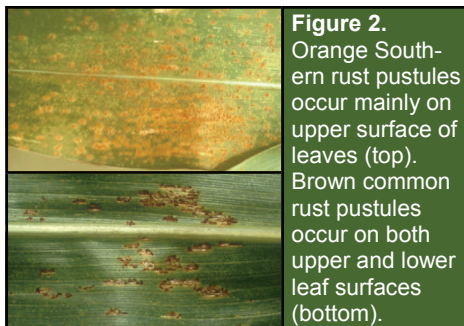
Application Method	Vegetative Stages	VT* Stage or Later
Ground	No adjuvant	Flexible adjuvant
Aerial (2 to <5 gpa)	Not recommended	Crop Oil
Aerial (>5 gpa)	No adjuvant	Flexible adjuvant

\*VT stage begins when the last branch of the tassel is completely visible outside of the whorl. Refer to the Headline label for specific rates and directions.

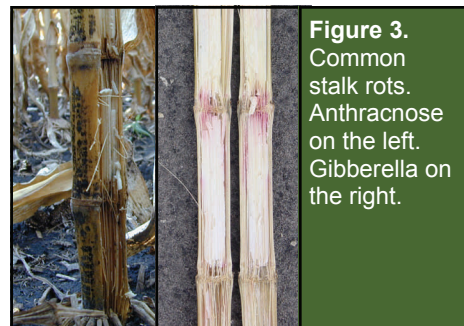
leaves should be protected from leaf diseases during the grain fill period (silking to black layer) to help protect yield potential. It has also been seen that by maintaining better plant health, corn is less susceptible to stalk rot pathogens such as Anthracnose and Gibberella (Figure 3). The period of foliar fungicide activity typically ranges from 14 to 21 days; therefore, timing of fungicide application is critical. Applications are recommended if a few lesions are observed on the leaves below the ear leaf prior to or at silking. Fields must be scouted regularly to determine if a fungicide application is needed.



**Figure 1.** Corn leaf with a cigar-shaped Northern Corn Leaf Blight lesion (top). Corn leaf with typical rectangular GLS lesions (bottom).



**Figure 2.** Orange Southern rust pustules occur mainly on upper surface of leaves (top). Brown common rust pustules occur on both upper and lower leaf surfaces (bottom).



**Figure 3.** Common stalk rots. Anthracnose on the left. Gibberella on the right.

to pg. 2 

▶ from previous page

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### Headline® Fungicide

Headline is a broad-spectrum fungicide that can provide protection against the major foliar diseases in corn. The optimal application timing for Headline in corn begins at VT (full tassel) and extends through R2 (blister), or prior to the onset of disease pressure. Waiting a few days past silking is preferred to reduce the risk of interference with pollination. Recommendations for surfactant usage at various stages of growth and different applications methods are given in Table 1 and Figure 4. Adjuvant recommendations for aerial and ground applications are flexible for either crop oil concentrate or non-ionic surfactant. Applications made after V8 and prior to VT should have no adjuvant added. Headline may be mixed

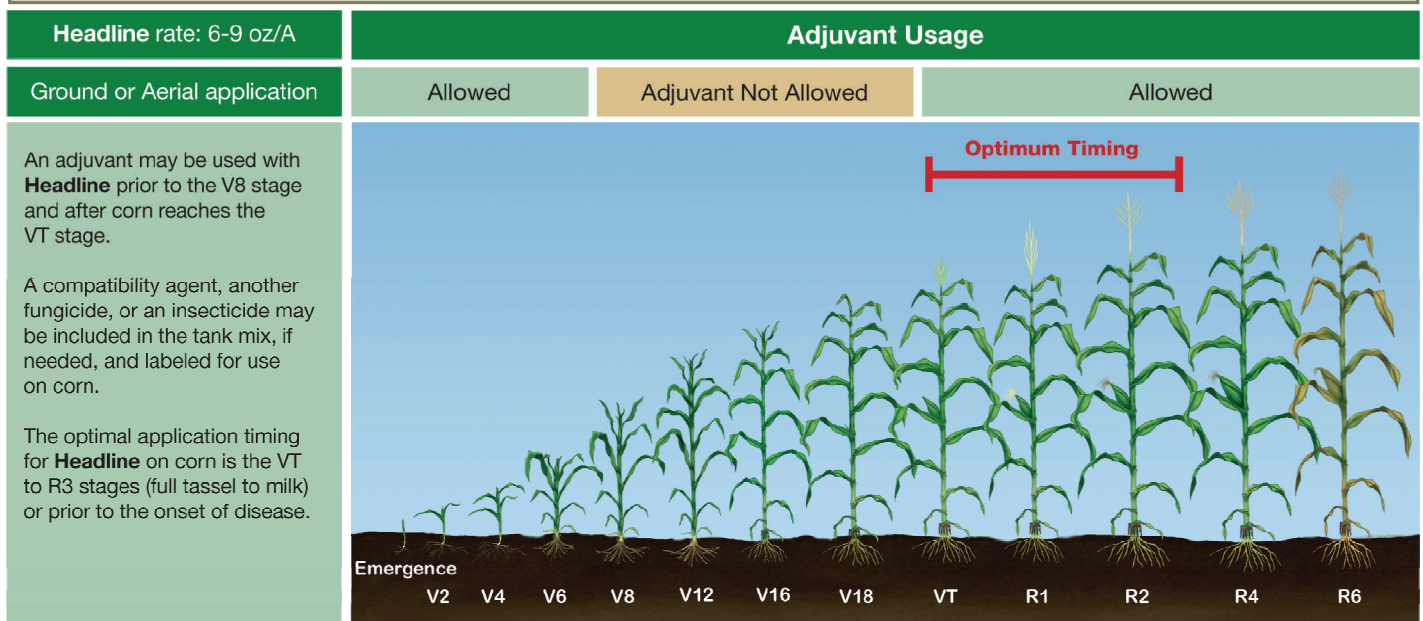
with insecticides or other fungicides. Do not combine other products or adjuvants with Headline after V8 and prior to VT growth stage.

#### **Always read and follow pesticide label directions.**

Sources: A. Robertson and G. Munkvold. 2007. Disease management in corn-following-corn fields. Integrated Crop Management. Iowa State Univ. Extension. IC-498(1). Feb. 12, 2007.

Headline® fungicide product label. BASF.

**Figure 4. Application recommendations for Headline® at 6 to 9 oz. per acre.**



\*VT stage begins when the last branch of the tassel is completely visible outside of the whorl.

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** Technology Development by Monsanto and Design(SM) is a servicemark of Monsanto Technology LLC. Headline® is a registered trademark of BASF Corporation. ©2010 Monsanto Company. 07012009EJP; 06242010ABT