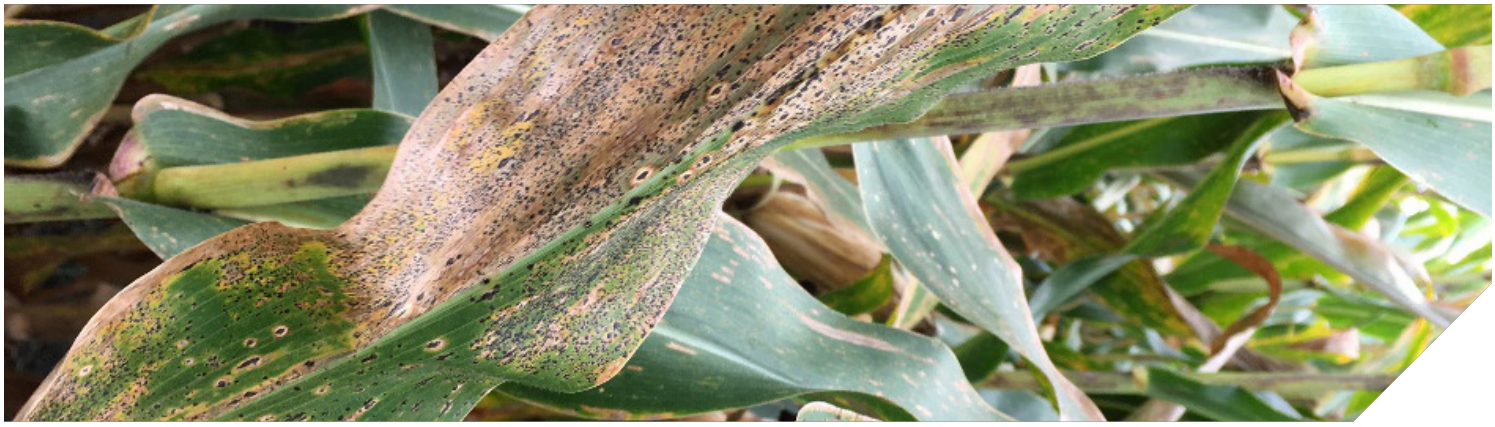
Aproach® Prima

Onmira™ active

FUNGICIDE

Protect corn plant health and yield from tar spot



Tar spot has quickly emerged as an agronomic and economic concern for corn farmers, particularly those in midwestern states. Outbreaks in recent years indicated that tar spot can cause significant yield loss. Severe tar spot infestations can reduce stalk quality, impacting the plant's ability to defend against soil-borne pathogens leading to issues like stalk rot and lodging.

While hybrid selection can help with tar spot, corn hybrids vary widely in tar spot susceptibility. Using a fungicide like Aproach® Prima fungicide with Onmira™ active can protect the plant and yield from tar spot.

Key benefits

- **Better movement. Complete protection.** Aproach Prima quickly surrounds the surface of the plant, is rapidly absorbed and then moves throughout, providing full protection of each leaf and stem — even those that have yet to emerge. Aproach Prima also helps protect leaf surfaces near the soil to control diseases where many pathogens originate.
- **Faster uptake. Flexible application.** Uptake of Aproach Prima occurs on day one, nearly twice as fast as the next leading competitor. It's rainfast within an hour for a more flexible application.
- **More green leaf area. Improved quality.** Aproach Prima improves green leaf area and chlorophyll production late into the season for stronger, more productive plants.
- **Long-lasting residual. Extended disease control.** With differentiated modes of action, Aproach Prima helps stop the spread of infection, prevent new infection for several weeks after treatment and slow disease development.

Controlling Tar Spot in Corn

Fungicide treatments can reduce tar spot symptoms and help protect yield. University trials indicate timing is critical to achieve control of tar pot and that more than one application may be needed in some cases.

A 2019 Purdue University study compared single-pass and two-pass treatments for tar spot control using Aproach® and Aproach® Prima fungicides under moderate to high tar spot severity (Da Silva et al., 2019). Fungicide treatments were applied at the VT and R2 stage. Results showed that all treatments significantly reduced tar spot symptoms relative to the nontreated check, with Aproach Prima applied at VT and two-pass treatments at VT and R2 providing the greatest reduction in tar spot stroma and associated chlorosis and necrosis on the ear leaf (Figure 1).

Aproach Prima applied at VT and the two-pass treatments all significantly increased yield relative to the nontreated check. Aproach Prima applied at VT followed by Aproach® fungicide at R2 had the greatest yield, although it was not significantly greater than Aproach followed by Aproach Prima (Figure 2).

Tar Spot Ear leaf

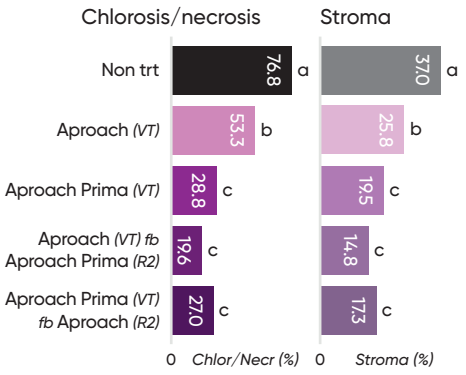


Figure 1. Fungicide treatment effects on tar spot symptoms in a 2019 Purdue University study. Visually assessed tar spot stroma and chlorosis/necrosis (0-100%) on the ear leaf.

Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference test (LSD; a=0.05)

Corn yield

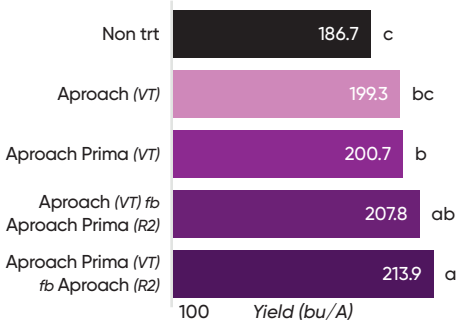


Figure 2. Fungicide treatment effects on corn yield in a 2019 Purdue University study.

Means followed by the same lettter are not significantly different based on Fisher's Least Significant Difference test (LSD; a=0.05)

CORTEVA™ agriscience

Identifying Tar Spot

Tar spot favors cool temperatures (60-70 F), high relative humidity (>75%), frequent cloudy days, and 7 or more hours of dew at night. Tar spot can rapidly spread through the corn canopy under favorable conditions, causing premature leaf senescence.

Tar spot emerges as black oval or circular lesions on the corn leaf (Figure 3). The texture of the leaf becomes bumpy and uneven when the fungal fruiting bodies called ascomata are present. These black structures can densely cover the leaf and may resemble the pustules of rust fungi (Figure 3 and 4). Tar spot spreads from the lowest leaves to the upper leaves, leaf sheathes, and eventually the husks of the developing ears (Bajet et al., 1994).

Tar spot reduces the photosynthetic capacity of leaves, causing rapid premature leaf senescence. This leads to reduced stalk quality and yield loss. University corn hybrid trials suggested tar spot can cause yield losses of up to 39 bu/acre under heavy infestations (Telenko et al., 2019), with longer maturing hybrids having a greater risk of yield loss from tar spot than shorter maturity hybrids.

Fungicide (common & trade names)	**Active ingredients**	**FRAC group**	**Company**	Tar spot
Aproach® Prima fungicide	Picoxystrobin Cyproconazole	11 3	Corteva Agriscience	
Headline AMP® fungicide	Pyraclostrobin Metconazole	11 3	BASF	
Priaxor® fungicide	Fluxapyroxad Pyraclostrobin	7 11	BASF	
Revytek™ fungicide 12	Mefentrifluconazole Fluxapyroxad Pyraclostrobin	3 7 11	BASF	
Veltyma™ fungicide	Mefentrifluconazole Pyraclostrobin	3 11	BASF	
Stratego® YLD fungicide 10	Prothioconazole Trifloxystrobin	3 11	Bayer	
Delaro® fungicide	Prothioconazole Trifloxystrobin	3 11	Bayer	
Lucento™ fungicide	Bixafen Flutriafol	7 3	FMC	
Trivapro® fungicide	Propiconazole Benzovindiflupyr Azoxystrobin	3 7 11	Syngenta	
Miravis Neo® fungicide	Pydiflumetofen Propiconazole Azoxystrobin	7 3 11	Syngenta	
Quilt XCEL® fungicide	Propiconazole Azoxystrobin	3 11	Syngenta	

Excellent | Very good | Good | Fair | Poor | Unknown | Not labeled

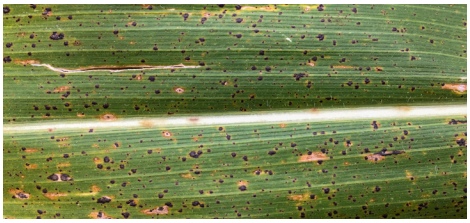


Figure 3. A corn leaf with tar spot symptoms.

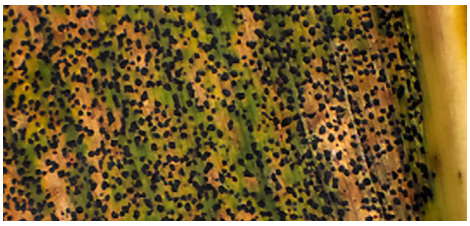
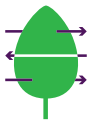


Figure 4. Corn leaf under magnification showing dense coverage with tar spot ascomata.

These black structures can densely cover the leaf and may resemble the pustules of rust fungi (Figure 3 & 4) but unlike rust pustules, tar spot ascomata are not removed by scratching them.

Four Movement Properties quickly surround, penetrate & protect leaves and stems



Translaminar Movement

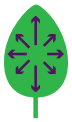
Moves through the leaf surface to protect top and bottom of the leaf

Xylem Systemic Activity

Moves through plant tissues to distribute throughout the leaf

Surface Redistribution

Protective barrier moves over the leaf surface



Wax Diffusion Activity

More consistent coverage across leaf and stem surface

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For more information on Aproach Prima, please contact your local Corteva Agriscience territory manager, call **1-833-Corteva,** or visit us at **AproachPrima.corteva.us**