

2021 CORN FUNGICIDE MANAGEMENT GUIDE



Gray Leaf Spot



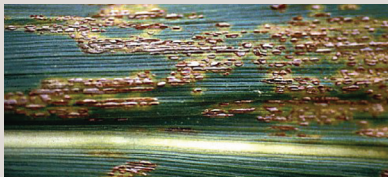
Extended periods of leaf wetness (13 hours) allow infection of leaves. Lesions are rectangular with straight edges. High relative humidity (>90 percent) can lead to increased disease.

Northern Leaf Blight



Infection occurs with free water on the leaf surface for 6-18 hours and temperatures are 65-80°F. Lesions 1 to 6 inches long and cigar shaped. Yield losses most severe when the disease infects plants early.

Common Rust



Favored by relatively cool temperatures (60 to 77°F) and humid conditions. Hot, dry conditions typically slow down or stop development.

Tar Spot



Favored by sustained temperatures between 60-70°F and high relative humidity (above 75%) for a 30-day period. Genetic tolerance varies greatly.

GENETICS ▪ ENVIRONMENT ▪ MANAGEMENT

Pioneer® has the products, the tools and the knowledge to protect yield on every acre.

FACTORS AFFECTING PLANT DISEASES

Favorable environment (a)

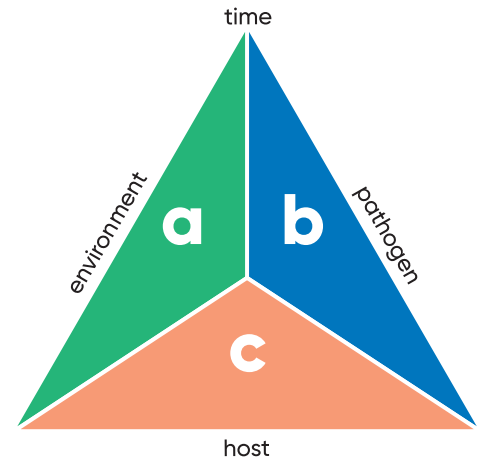
- Moderate temperatures
- Frequent rainfall
- High humidity
- Long dew periods

Pathogen (b)

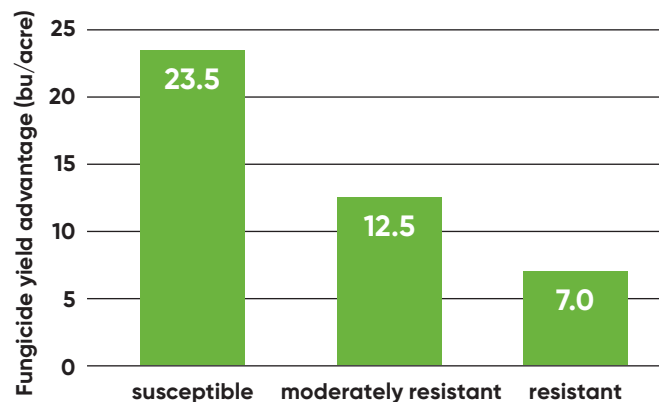
- Abundant inoculum
- Large amounts of residue
- Early, continuous infections

Host (c)

- Susceptibility level of the hybrid
- If disease resistance is a 6 or greater, fungicide may not provide a benefit
- Rating of 4 or less have a higher likelihood of response to fungicide application



HYBRID GENETIC RESISTANCE TO GRAY LEAF SPOT



Average yield increase of hybrids susceptible, moderately resistant, and resistant to gray leaf spot due to foliar fungicide application in a three-year University of Tennessee/DuPont Pioneer research study.

Approach Prima controls all phases of a pathogen's life cycle.

Preventive – stops spore germination and penetration, spore-kill.

Curative – stops the fungus from completing its life cycle, even after initial infection but before visual symptoms.

Eradicant – stops the sporulating lesion to shut down the epidemic.

Hybrid Family ¹	CRM ²	Silk CRM	Gray Leaf Spot ³	Foliar Fungicide Response - GLS ⁴	Northern Leaf Blight ⁵	Foliar Fungicide Response - NLB ⁶	Staygreen	Stalk Strength	Late Harvest
P0075	100	103	5	MP	6	LP	5	6	S
P0306	103	101	4	HP	5	MP	6	6	S
P0343	103	102	3	HP	6	LP	5	5	S
P0404	104	102	5	MP	5	MP	4	6	S
P0622	106	102	3	HP	5	MP	5	5	S
P0688	106	103	5	MP	4	HP	6	7	S
P0908	109	107	6	LP	4	HP	5	6	S
P0924	109	109	5	MP	6	LP	6	5	S
P0934	109	108	5	MP	5	MP	8	7	HS
P0977	109	110	5	MP	5	MP	6	5	S
P0995	109	105	5	MP	5	MP	6	5	HS
P1018	110	109	6	LP	5	MP	8	6	HS
P1077	110	111	5	MP	5	MP	6	5	S
P1089	110	109	6	LP	6	LP	5	6	HS
P1093	110	113	4	HP	6	LP	7	6	HS
P1108	111	110	5	MP	5	MP	7	6	S
P1120W	111	110	5	MP	5	MP	5	5	HS
P1138	111	111	4	HP	4	HP	5	5	S
P1151	111	106	4	HP	5	MP	6	5	S
P1185	111	110	4	HP	6	LP	6	6	HS
P1197	111	113	5	MP	6	LP	8	7	HS
P1237	112	113	5	MP	4	HP	7	5	HS
P1244	112	108	4	HP	5	MP	6	6	S
P1278	112	113	6	LP	4	HP	8	5	HS
P1289	112	113	5	MP	6	LP	7	6	HS
P1306W	113	111	6	LP	6	LP	7	8	S
P1359	113	113	5	MP	5	MP	8	6	HS
P1366	113	111	4	HP	6	LP	7	5	S
P1408W	114	114	4	HP	5	MP	5	5	HS
P1415	114	113	6	LP	6	LP	8	6	S
P1477W	114	111	6	LP	6	LP	8	8	HS
P1498	114	110	6	LP	5	MP	7	6	S
P1548	115	112	5	MP	4	HP	7	5	S
P1563	115	117	4	HP	6	LP	7	5	S
P1572	115	117	4	HP	4	HP	8	5	S
P1639W	116	118	5	MP	5	MP	7	8	HS
P1656W	116	119	6	LP	7	LP	8	5	S
32B10	117	117	5	MP	5	MP	6	7	S
P1716	117	112	5	MP	4	HP	7	5	S
P1718	117	117	5	MP	4	HP	5	4	S
P1828	118	114	4	HP	4	HP	8	5	HS
P1847	118	112	5	MP	5	MP	7	4	S
P1903	119	115	6	LP	4	HP	6	4	HS
P2042	120	116	5	MP	4	HP	4	4	S

HP High Probability MP Moderate Probability LP Low Probability HS High Suitability S Suitable



IMPORTANT: Trait rating scores provide key information useful in selection and management of Pioneer® brand products in your area. Information and ratings are based on comparisons with other Pioneer brand products, not competitive products. Information and scores are assigned by Pioneer Research Managers. Scores are based on period-of-years testing through 2020 harvest and were the latest available at time of printing. Some scores may change after 2021 harvest. Scores represent an average of performance data across areas of adaptation, multiple growing conditions, and a wide range of both climate and soil types, and may not predict future results. All products within a hybrid family receive the same score unless observations indicate a significant difference. Individual product responses are variable and subject to a variety of environmental, disease and pest pressures. Please use this information as only one component of your product positioning decision. Refer to www.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product and for product placement and management suggestions specific to your operation and local conditions.

RATINGS: 9 = Outstanding; 1 = Poor; Blank = Insufficient Data.

WHITE AND WAXY CORN RATINGS: Based on comparisons with other Pioneer brand products, not competitive products. Trait ratings for white and waxy products reflect comparison with non-modified yellow products of a similar maturity.

1 HYBRID FAMILY: Hybrid family identifies products that have the same base genetics. Manage products within the same family similarly.

MARKET SEGMENT: Designations indicate product is also suitable for the following market: **HAE** – High Available Energy (Pork & Poultry Feed); **HTF** – High Total Fermentables (Dry-Grind Ethanol); **HES** – High Extractable Starch (Wet Milling); **WX** – Waxy; **WH** – White food corn; **YFC** – Yellow food corn; **AQ** – Optimum® AQUAmax® product; **BMR** – Brown MidRib Corn.

2 CRM (Comparative Relative Maturity): There is not an industry standard for maturity ratings so comparing product maturity and harvest moisture ratings between companies is usually difficult. Use the CRM rating to compare Pioneer® brand products with competitive products of a similar maturity and harvest moisture. CRM ratings, and harvest moistures, for products within a family may vary slightly, depending upon the level of insect (ECB and CRW) infestation. Conventional and straight products with the RR2 gene within a family will usually be 1-2 CRMs earlier than indicated, when insect infestations are moderate to heavy. One CRM difference is about ½ point of moisture difference at harvest.

3 GRAY LEAF SPOT PRECAUTION: Avoid planting products with a lower gray leaf spot (GLS) rating in continuous corn fields that have a history of GLS infection, unless tillage operations that bury significant amounts of corn residue and inoculum are practiced.

4 FOLIAR FUNGICIDE RESPONSE – GLS: Probability of positive yield response to foliar fungicide applications when significant levels of Gray Leaf Spot (GLS) leaf disease is present. **HP** - High Probability; **MP** - Moderate Probability; **LP** - Low Probability. Probabilities based upon product disease scores. Because of the unlimited number of growing environments, cropping practices, and foliar fungicide active ingredients combinations possible, Pioneer makes no warranty regarding this foliar fungicide crop response information.

5 NORTHERN LEAF BLIGHT CAUTION: In conditions where northern leaf blight (NLB) risk is high, growers should consider planting only products with at least moderate NLB resistance ratings of 4 or higher.

6 FOLIAR FUNGICIDE RESPONSE – NLB: Probability of positive yield response to foliar fungicide applications when significant levels of Northern Leaf Blight (NLB) leaf disease is present. **HP** - High Probability; **MP** - Moderate Probability; **LP** - Low Probability. Probabilities based upon product disease scores. Because of the unlimited number of growing environments, cropping practices, and foliar fungicide active ingredients combinations possible, Pioneer makes no warranty regarding this foliar fungicide crop response information.

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