Corn Hybrid Response to Foliar Fungicides

Hybrid Response to Foliar Fungicides

To help evaluate the potential benefits of a corn fungicide application, Syngenta agronomic research provides ratings on the relative hybrid response to an R1 application of foliar fungicide. There are many factors that go into making fungicide application decisions. Scouting and timely applications should always be the biggest drivers in the final decision.

Yield Response Potential

Roughly 30 fungicide trials are established each year using Miravis® Neo fungicide applied at the R1* growth stage to evaluate consistency of individual hybrids response. Yield response varied greatly across hybrids and locations, allowing response ratings in both high and low disease environments. Yield response was used to rate the potential for fungicide response of each hybrid in the following method:

- Compare yield benefits of each hybrid to the same hybrid without fungicide
- Evaluate individual hybrid response relative to the response of other hybrids in the trial
- Understand the frequency of response across trials
- Combine results into four response potential categories: **Best**, **Good**, **Fair, Poor**

** Miravis Neo at 13.7 fl.oz/A*

Key Management Considerations

To help make a decision on a corn fungicide application, consider the following management-related questions. If you answer yes to any of these questions, the benefits of applying a fungicide may increase.

- Was the field in corn last year?
- Is the field a high yield environment with high plant populations?
- Does the field have a history of disease pressure?
- Is the field in minimum or no-till production?
- Does the hybrid that was planted have a known disease susceptibility?
- Are the environmental conditions conducive to disease development?
- During scouting, have you observed disease symptoms?

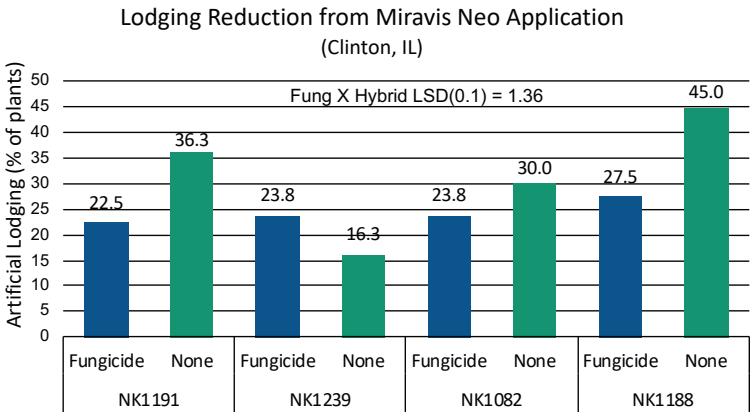
Benefits Beyond Yield – Stronger Stalks

In addition to disease control and potential yield response benefits, fungicide applications can also help improve standability at time of harvest. Consistent force was applied to multiple stalks and plants subsiding to the pressure were recorded as % of plants artificially lodging. Multiple hybrids treated with fungicide showed significant reduction of lodging (Graph 1).

The data indicates that utilizing a foliar fungicide can:

- Improve stalk integrity
- Reduce stalk lodging
- Decrease harvest losses
- Reduce harvest time

An additional benefit observed with Miravis Neo is plants stay green longer, helping to extend photosynthesis and grain fill time later into the season. Also, water loss has been found to be reduced in short periods of drought, helping corn better tolerate stress.



Graph 1. Improved stalk quality from Miravis Neo fungicide application in 2020 at Clinton, Illinois

LOW DISEASE FUNGICIDE RESPONSE

- Utilize "Low Disease Fungicide Response ratings" to understand which hybrids have the best chance of responding in these conditions.
- Best or Good indicates the hybrid responded more often and at a greater magnitude.
- Fair or Poor indicates responses may be smaller and less consistent.

HIGH DISEASE FUNGICIDE RESPONSE

- Utilize hybrid diseases susceptibility ratings specific to disease of concern from chart below to understand which hybrids are more vulnerable to yield loss.
- Scout fields and apply timely fungicide at sight of symptoms, focusing on most susceptible hybrids at first.

NK Hybrid Series	RM	Low Disease Fungicide Response	High Disease – Hybrid Susceptibility Rating			
			GLS	NCLB	SR	TS
NK7837	78	Good	-	-	-	-
NK8005	80	Good	-	5	-	-
NK8204	82	Good	-	4	-	-
NK8519	85	Good	-	3	-	-
NK8618	86	Good	-	3	-	2
NK8881	88	Best	-	3	-	-
NK8920	89	Fair	-	4	-	2
NK9023	90	Best	-	3	-	-
NK9175	91	Good	-	3	-	2
NK9227	92	Fair	-	3	-	3
NK9231	92	Fair	-	-	-	-
NK9347	93	Good	-	4	-	-
NK9468	94	Good	-	3	-	1
NK9535	95	Good	4	5	-	3
NK9653	96	Good	3	2	-	2
NK9738	97	Good	4	4	-	3
NK9922	99	Good	3	3	-	3
NK9930	99	Good	3	5	-	2
NK9991	99	Fair	2	2	-	4
NK0007	100	Fair	3	3	-	4
NK0243	102	Fair	3	4	-	4
NK0314	103	Best	5	3	-	4
NK0440	104	Good	4	4	-	4
NK0472	104	Best	4	5	3	3
NK0624	106	Fair	5	2	-	5
NK0696	106	Best	-	-	-	-
NK0748	107	Good	3	3	3	5

NK Hybrid Series	RM	Low Disease Fungicide Response	High Disease – Hybrid Susceptibility Rating			
			GLS	NCLB	SR	TS
NK0760	107	Fair	3	2	6	4
NK0821	108	Best	4	2	5	4
NK0877	108	Best	5	3	-	-
NK0886	108	Good	3	3	-	7
NK0962	109	Good	5	2	5	4
NK1026	110	Good	2	2	4	3
NK1082	110	Good	4	6	4	4
NK1188	111	Best	4	3	4	4
NK1205	112	Best	4	5	4	3
NK1239	112	Fair	3	3	4	2
NK1321	113	Fair	4	2	2	4
NK1349	113	Fair	3	3	3	3
NK1354	113	Fair	4	3	5	4
NK1364	113	Best	6	4	6	-
NK1452	114	Fair	5	4	4	3
NK1460	114	Best	4	5	5	3
NK1523	115	Best	4	2	4	2
NK1573	115	Good	3	4	5	7
NK1661	116	Best	3	3	3	4
NK1677	116	Fair	3	4	3	-
NK1694	116	Fair	5	4	5	3
NK1701	117	Good	2	3	3	3
NK1748	117	Best	3	4	4	-
NK1755	117	Poor	4	3	4	-
NK1808	118	Fair	3	3	3	2
NK1822	118	Good	6	7	-	-
NK1860	118	Fair	6	6	6	-

Hybrid Response Ratings: Best | Good | Fair | Poor

Disease Resistance Rating Scale: 1-2 = Highly Resistant; 3-4 = Resistant; 5-6 = Moderately Resistant; 7-8 = Moderately Susceptible; 9 = Susceptible; - = Insufficient data; GLS = Gray Leaf Spot; NCLB = Northern Corn Leaf Blight; SR = Southern Rust; TS = Tar Spot

Product performance assumes disease presence.

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