
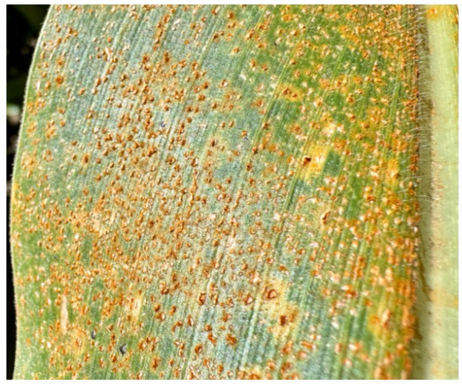


Wisconsin Field Crops Pathology Fungicide Test and Disease Management Summary

2025

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Trial 1: Evaluation of in-furrow and foliar fungicides for control of foliar diseases of dent corn in Arlington, Wisconsin, 2025- Experiment #1

DENT CORN (*Zea mays* 'CP3899VT2P/RIB')
Southern rust; *Puccinia polysora*
Tar spot; *Phyllachora maydis*

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The corn hybrid 'CP3899VT2P/RIB' was planted 30 April in a field consisting of a Plano silt loam soil (0 to 2% slopes). The trial was arranged in a randomized complete block design with four replications. Plots consisted of four 30-in spaced rows, 20 ft long and 10 ft wide with 5-ft alleys. Standard corn production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and 13 fungicide treatments. Some treatments applied at R1 and R3 were mixed with the non-ionic surfactant, Induce 90SL, 0.25% v/v. Foliar fungicides were applied using a CO_2-pressurized backpack sprayer equipped with TeeJet XR 8002-VS flat fan nozzles on a 10-ft boom calibrated to deliver 20 GPA at 40 psi. At-plant application equipment was calibrated to deliver 5 GPA at 14 psi. Treatments were applied at plant on 30 April, at plant followed by R3 on 7 Aug, V10 on 7 Jul, R1 on 18 Jul, or R1 followed by R3. The trial was planted in a field with moderate tar spot pressure. Southern rust was visually assessed by estimating average severity (% ear leaf with symptoms) on five leaves per plot with the aid of standardized area diagrams on 25 Aug. Tar spot severity was rated late R5 on 17 Sep. Tar spot was visually assessed by estimating average severity (% stroma on ear leaf) per plot with the aid of standardized area diagrams. Yield (corrected to 15.5% moisture) was determined by harvesting the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Temperatures during the trial were generally above average for the growing region with adequate precipitation throughout the growing season. Southerly winds with warm humid temperatures led to southern rust pressure in this trial. Moderate levels of tar spot on the ear leaves were also observed. Applications of Xyway at plant followed by Veltyma at R1, Adastrio at R1, Delaro Complete at R1 followed by Delaro at R3, Miravis Neo at R1, and Experimental 2 and 3 at R1 had significantly higher canopy greening compared to the non-treated check (Table 1). All treatments significantly reduced Southern rust severity compared to not treating. Xyway at plant followed by Veltyma at R1, Topguard EQ at V10 followed by Adastrio at R3, Delaro Complete at R1, and Delaro Complete at R1 followed by Delaro at R3 significantly reduced tar spot severity compared to the non-treated control. Test weight and yield resulted in no significant differences among treatments. Phytotoxicity was not observed for any treatment.

Table 1. Canopy greening, Southern rust severity, tar spot severity, test weight, and yield for dent corn treated with fungicide or not treated with fungicide in Wisconsin in 2025.

Treatment and rate/A (growth stage at application)	Canopy Greening (%)[z,y]	Southern Rust Severity (%)[x,y]	Tar Spot Severity (%)[w,y]	Test Weight (lb/A)	Yield (bu/A)
Non-treated control	8.1 c	3.9 a	8.6 a	57.5	279.6
Xyway LFR 15.2 fl oz (Furrow jet at plant) Adastrio 4.0SC 8.0 fl oz (R3)	11.3 a-c	0.1 cd	6.8 a-c	57.1	282.8
Xyway LFR 15.2 fl oz (Furrow jet at plant) Veltyma 3.34SC 7.0 fl oz (R3)	21.3 ab	0.3 bc	3.1 e	57.5	286.4
Adastrio 4.0SC 8.0 fl oz (R3)	15.0 bc	0.2 cd	6.1 a-d	57.2	286.3
Topguard EQ 4.29SC 7.0 fl oz (V10) Adastrio 4.0SC 8.0 fl oz (R3)	13.8 bc	0.1 cd	3.5 c-e	57.2	281.1
Delaro Complete 3.83SC 8.0 fl oz (R1)	13.8 bc	0.6 b	3.5 de	57.6	278.3
Delaro Complete 3.83SC 12.0 fl oz (R1)	13.8 bc	0.2 cd	5.2 a-e	57.0	281.7
Delaro Complete 3.83SC 8.0 fl oz (R1) Delaro 325SC 8.0 fl oz (R3)	21.3 ab	0.1 cd	4.2 b-e	51.6	290.5
Miravis Neo 2.5SE 13.7 fl oz (R1)[v]	18.8 ab	0.3 b-d	9.2 a	50.2	281.9
Trivapro 2.21EC 13.7 fl oz (R1)[v]	25.0 bc	0.1 d	6.4 a-d	57.2	289.8
Experimental 1 13.7 fl oz (R1)[v]	17.5 bc	0.2 cd	9.2 a	57.7	285.8
Miravis Neo 2.5SE 13.7 fl oz (R1)[v] Miravis Neo 2.5SE 13.7 fl oz (R3)[v]	25.0 bc	0.1 d	6.3 a-d	54.7	289.2
Experimental 2 13.7 fl oz (R1)	20.0 ab	0.2 b-d	8.1 ab	57.5	282.9
Experimental 3 8.0 fl oz (R1)	21.3 ab	0.2 cd	7.1 ab	57.2	290.0
P-value	<0.05	<0.0001	<0.01	ns[u]	ns

[z]Canopy greening effect determined by rating the percentage green foliage still present in each plot at black layer.
[y]Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05).
[x]Southern rust severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.
[w]Tar spot severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.
[v]Induce 90% SL (Non-ionic surfactant) at 0.25% v/v was added to fungicide treatments.
[u]ns= not significant (α=0.05).

Trial 2: Evaluation of foliar fungicides on conventional and short stature dent corn for control of tar spot in Arlington, Wisconsin, 2025 - Experiment #2

DENT CORN (*Zea mays* 'C206-50STXRIB,'PR108-20RIB')
Southern rust; *Puccinia polysora*
Tar spot; *Phyllachora maydis*

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The corn hybrids 'C206-50STXRIB' (conventional) and 'PR108-20RIB' (short stature) were planted (30 April) for this trial in a field consisting of a Plano silt loam soil (2 to 6% slopes). The experimental design was a 2 x 5 factorial arranged in a randomized complete block with 4 replicates. Plots consisted of four 30-in spaced rows, 20 ft long and 10 ft wide with 5-ft alleys. Standard corn production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of one non-treated check and four fungicide treatments for each hybrid. Foliar fungicides were applied using a CO_2-pressurized backpack sprayer equipped with TeeJet XR 8002-VS flat fan nozzles on a 10-ft boom calibrated to deliver 20 GPA at 40 psi. R1 and R3 were mixed with the non-ionic surfactant, Induce 90SL, 0.25% v/v. Treatments were applied at growth stages V14 on 14 Jul, R1 on 21 Jul, and R1 followed by R3 on 7 Aug. The trial was planted in a field with moderate tar spot pressure. Southern rust was visually assessed by estimating average severity (% ear leaf with symptoms) on five leaves per plot with the aid of standardized area diagrams on 25 Aug. Tar spot severity was rated at R5.5 on 11 Sep and R6 on 24 Sep. Tar spot was visually assessed by estimating average severity (% stroma on ear leaf) per plot with the aid of standardized area diagrams. Disease ratings were used to calculate area under disease progress curve (AUDPC). Yield (corrected to 15.5% moisture) was determined by harvesting the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Temperatures during the trial were generally above average for the growing region with adequate precipitation throughout the growing season. Southerly winds with warm humid temperatures led to southern rust pressure in this trial. Moderate levels of tar spot on the ear leaves were observed. There was a significant hybrid by treatment interaction for canopy greening, Southern rust severity, and tar spot AUDPC. For hybrid PR108-20RIB (short stature), all treatments had significantly higher canopy greening and reduced southern rust severity and tar spot AUDPC compared to the non-treated check (Table 2). For hybrid C206-50STXRIB (conventional), Miravis Neo at V14 and Miravis Neo applied at R1 + R3 resulted in significantly higher canopy greening. Southern rust had no differences to not treating. Miravis Neo applied at R1 + R3 significantly reduced tar spot AUDPC compared to the non-treated check. Regardless of cultivar, Miravis Neo applied at R1 + R3 resulted in significantly higher yield than all other treatments. Phytotoxicity was not observed for any treatment.

Table 2. Canopy greening, southern rust severity, and tar spot intensity for dent corn treated with fungicide or not treated with fungicide in Wisconsin in 2025.

Hybrid	Treatment and rate/A (growth stage at application)	Canopy Greening (%)[z,y]	Southern Rust Severity (%)[x,y]	Tar Spot AUDPC[w,y]
PR108-20RIB (Short Stature)	Non-treated control	45.0 c	1.9 a	85.4 a
	Miravis Neo 2.5SE 13.7 fl oz (R1)[v]	70.0 ab	0.3 b	31.3 b
	Miravis Neo 2.5SE 13.7 fl oz (R1+R3)[v]	77.5 ab	0.1 bc	18.0 c
	Trivapro 2.21EC 13.7 fl oz (R1)v	67.5 b	0.2 bc	25.7 bc
	Miravis Neo 2.5SE 13.7 fl oz (V14)	80.0 a	0.1 c	20.2 bc
C206-50STXRIB (Conventional)	Non-treated control	55.0 ab	0.2 a	57.5 a
	Miravis Neo 2.5SE 13.7 fl oz (R1)[v]	47.5 b	0.2 a	60.4 a
	Miravis Neo 2.5SE 13.7 fl oz (R1+R3)[v]	62.5 a	0.1 a	29.5 b
	Trivapro 2.21EC 13.7 fl oz (R1)[v]	47.5 b	0.2 a	61.2 a
	Miravis Neo 2.5SE 13.7 fl oz (V14)	60.0 a	0.1 a	38.2 ab
P-value		<0.05	<0.05	<0.05

[z]Canopy greening effect determined by rating the percentage of green foliage still present in each plot at black layer.
[y]Means followed by the same letter within each hybrid, are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05).
[x]Southern rust severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.
[w]Tar spot severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis. Disease ratings were used to calculate area under disease progress curve (AUDPC).
[v]Induce 90% SL (Non-ionic surfactant) at 0.25% v/v was added to fungicide treatments.

Trial 3: Evaluation of foliar fungicides for control of tar spot of dent corn in Arlington, Wisconsin, 2025 Experiment #3

DENT CORN (*Zea mays* 'CP3899VT2P/RIB')
Southern rust; *Puccinia polysora*
Tar spot; *Phyllachora maydis*

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The corn hybrid 'CP3899VT2P/RIB' was planted 30 Apr in a field consisting of a Plano silt loam soil (2 to 6% slopes). The trial was arranged in a randomized complete block design with four replications. Plots consisted of four 30-in spaced rows, 20 ft long and 10 ft wide with 5-ft alleys. Standard corn production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and 5 fungicide treatments. Foliar fungicides were applied using a CO_2-pressurized backpack sprayer equipped with TeeJet XR 8002-VS flat fan nozzles on a 10-ft boom calibrated to deliver 20 GPA at 40 psi. Treatments were applied at R1 on 18 Jul. The trial was planted in a field with moderate tar spot pressure. Southern rust was visually assessed by estimating average severity (% ear leaf with symptoms) on five leaves per plot with the aid of standardized area diagrams on 25 Aug. Tar spot severity was rated at R6 on 24 Sep. Tar spot was visually assessed by estimating average severity (% stroma on ear leaf) per plot with the aid of standardized area diagrams. Yield (corrected to 15.5% moisture) was determined by harvesting the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Temperatures during the trial were above average for the growing region with adequate precipitation and high humidity throughout the growing season. Southerly winds with warm humid temperatures led to southern rust pressure in this trial. Moderate levels of tar spot on the ear leaves were observed. All treatments had significantly higher canopy greening compared to the non-treated check (Table 3). There were no significant differences in southern rust severity, tar spot severity, and yield among all treatments. Phytotoxicity was not observed for any treatment.

Table 3. Canopy greening, southern rust severity, tar spot severity, and yield for dent corn treated with fungicide or not treated with fungicide in Wisconsin in 2025.

Treatment and rate/A (growth stage at application)	Canopy Greening (%)[z,y]	Southern rust severity (%)[y]	Tar Spot Severity (%)[w]	Yield (bu/A)
Non-treated control	13.8 b	0.7	7.3	275.5
Headline AMP 1.68SC 14.4 fl oz (R1) + Proline 5.7 fl oz (R1)	35 a	0.3	5.1	290.6
Headline AMP 1.68SC 14.4 fl oz (R1)	37.5 a	0.1	4.6	288.9
Proline 5.7 fl oz (R1)	28.8 a	0.6	6.9	282.3
Delaro Complete 3.83SC 8.0 fl oz (R1)	32.5 a	0.5	7.0	282.1
Miravis Neo 2.5SE 13.7 fl oz (R1)	31.3 a	0.4	8.1	285.8
P-value	<0.05	ns[v]	ns	ns

[z] Canopy greening effect determined by rating the percentage green foliage still present in each plot at black layer.
[y] Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05).
[x] Southern rust severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.
[w] Tar spot severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.
[v] ns= not significant (α=0.05).

Trial 4: Evaluation of foliar fungicides for control of tar spot of dent corn in Arlington, Wisconsin, 2025 -Experiment #4

DENT CORN (*Zea mays* 'CP3899VT2P/RIB')
Southern rust; *Puccinia polysora*
Tar spot; *Phyllachora maydis*

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The corn hybrid 'CP3899VT2P/RIB' was planted 30 Apr in a field consisting of a Plano silt loam soil (2 to 6% slopes). The trial was arranged in a randomized complete block design with four replications. Plots consisted of four 30-in spaced rows, 20 ft long and 10 ft wide with 5-ft alleys. Standard corn production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and seven fungicide treatments. Foliar fungicides were applied using a CO_2-pressurized backpack sprayer equipped with TeeJet XR 8002-VS flat fan nozzles on a 10-ft boom calibrated to deliver 20 GPA at 40 psi. Treatments were applied at V6 on 6 Jun and R1 on 18 Jul. The trial was planted in a field with moderate tar spot pressure. Southern rust was visually assessed by estimating average severity (% ear leaf with symptoms) on five leaves per plot with the aid of standardized area diagrams on 25 Aug. Tar spot was visually assessed by estimating average severity (% stroma on ear leaf) on five leaves per plot with the aid of standardized area diagrams at R6 on 24 Sep. Yield (corrected to 15.5% moisture) was determined by harvesting the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Temperatures during the trial were generally above average for the growing region with adequate precipitation throughout the growing season. Southerly winds with warm humid temperatures led to southern rust pressure in this trial. Moderate levels of tar spot on the ear leaves were also observed. Impact Six chitosan + Aquilla XL applied at R1, Monty's Liquid Carbon + Aquila XL, and Aquila XL significantly reduced southern rust severity and had higher canopy greening compared to the non-treated check (Table 4). There were no significant differences in treatments for tar spot severity and yield. Phytotoxicity was not observed for any treatment.

Table 4. Canopy greening, southern rust severity, tar spot severity, and yield for dent corn treated with fungicide or not treated with fungicide in Wisconsin in 2025.

Treatment and rate/A (growth stage at application)	Canopy Greening (%)^{z,y}	Southern rust Severity (%)^{x,y}	Tar Spot Severity (%)^{w}	Yield (bu/A)
Non-treated control	17.5 b	1.8 a	8.4	268.9
Impact Six chitosan 1.0 pt (V5)	17.5 b	1.2 a	12.7	272.9
Impact Six chitosan 1.0 pt (R1)	15.0 b	1.0 a	10.5	266.4
Impact Six chitosan 1.0 pt (R1) + Aquila XL 2.2SC 10.5 fl oz (R1)	38.8 a	0.3 b	7.2	277.9
Monty's Liquid Carbon 1.0 qt (V5)	16.3 b	1.1 a	9.8	265.3
Monty's Liquid Carbon 1.0 qt (R1)	17.5 b	2.0 a	8.1	264.6
Monty's Liquid Carbon 1.0 qt (R1) + Aquila XL 2.2SC 10.5 fl oz (R1)	30.0 a	0.2 b	7.7	279.4
Aquila XL 2.2SC 10.5 fl oz (R1)	37.5 a	0.3 b	7.4	280.4
P-value	<0.05	<0.05	ns^{v}	ns

^{z} Canopy greening effect is determined by rating the percentage of green foliage still present in each plot at black layer.
^{y}Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05).
^{x}Southern rust severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.
^{w}Tar spot severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.
^{v}ns= not significant (α=0.05).

Trial 5: Evaluation of in-furrow and foliar fungicides for control of tar spot and ear rot on silage corn in Arlington, Wisconsin, 2025.

SILAGE CORN (*Zea mays* 'C206-50STXRIB')
Ear rot; *Gibberella zeae*
Southern rust; *Puccinia polysora*
Tar spot; *Phyllachora maydis*

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The corn hybrid 'C206-50STXRIB' was chosen for this trial. Winter wheat proceeded this crop. Corn was planted on 30 Apr in a field consisting of a Joy silt loam soil (0 to 4% slopes). The experimental design was a randomized complete block with four replicates. Plots consisted of four 30-in spaced rows, 20 ft long and 10 ft wide with 5-ft alleys between plots. Standard corn production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated check and 13 fungicide treatments. Fungicides were applied using a CO_2-pressurized backpack sprayer equipped TeeJet XR 8002-VS flat fan nozzles on a 10-ft boom calibrated to deliver 20 GPA at 40 psi. At-plant application equipment was calibrated to deliver 5 GPA at 14 psi. Treatments were applied at plant on 30 Apr, V14 on 14 Jul, R1 on 21 Jul, and R3 on 7 Aug. Plots were infested at a rate of 25 lbs/A of *Fusarium graminearum*-colonized corn grain at VT. Southern rust was visually assessed by estimating average severity (% ear leaf with symptoms) on five leaves per plot with the aid of standardized area diagrams on 23 Aug. Ear rot, stalk rot, northern corn leaf blight, and tar spot were rated at the R5.5 growth stage. Northern corn leaf blight (NCLB) and tar spot were visually assessed by estimating average severity (% ear leaf with symptoms) on five leaves per plot with the aid of standardized area diagrams. Ear rot severity was assessed by visually rating five ears per plot in the center two rows with the aid of a standardized area diagram. Stalk rot severity was rated by the stalk push test on 10 plants per plot and converted to a percentage of snapped stalks. Yield was determined by harvesting the center two rows of each plot using a small plot silage chopper with an onboard platform weigh system. Chopped sub-samples were collected from each plot and will be analyzed for quality total-tract neutral detergent fiber digestibility (TTNDFD), deoxynivalenol (DON) content and Fumonisin B1. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Temperatures during the trial were generally above average for the growing region with adequate precipitation throughout the growing season. Southerly winds with warm humid temperatures led to southern rust pressure in this trial. Miravis Neo applied at V14, Miravis Neo at R1, Experimental 1 and 2, Prosaro Pro at R1, Delaro Complete + Proline at R1, and Proline at R1 significantly reduced tar spot severity compared to the non-treated check (Table 5). Miravis Neo applied at R3 resulted in a significant reduction in NCLB severity. There were no significant treatment differences for stalk and ear rot severity, canopy greening, southern rust severity, and yield. Phytotoxicity was not observed for any treatment.

Table 5. Yield, southern rust severity, tar spot severity, NCLB severity, canopy greening, ear rot severity, and stalk rot severity for silage corn treated with fungicide or not treated with fungicide in Wisconsin, 2025.

Treatment and rate/A (growth stage at application)	Yield (tons dry matter/A)	Southern rust severity[z]	Tar spot severity (%)[y,x]	NCLB severity (%)[w,x]	Canopy Greening (%)[v]	Ear rot severity (%)[u]	Stalk rot severity (%)[t]
Non-treated control	13.1	0.11	3.8 a	3.2 ab	61.3	1.5	0.47
Xyway LFR 15.2 fl oz (Furrow jet at plant)	13.7	0.10	3.5 ab	3.0 ab	62.5	1.5	0.50
Adastrio 4.0SC 8.0 fl oz (R1)	13.0	0.10	2.3 a-d	3.0 ab	68.8	2.3	0.16
Lucento 4.17SC 5.0 fl oz (R1)[v]	12.7	0.12	3.1 a-c	3.0 ab	65.0	2.8	0.16
Topguard EQ 4.29SC 7.0 fl oz (R1)[v]	13.1	0.16	3.1 a-c	3.6 ab	65.0	1.8	0.50
Miravis Neo 2.5SE 13.7 fl oz (V14)	13.6	0.10	1.6 de	2.1 b	61.3	1.9	1.58
Miravis Neo 2.5SE 13.7 fl oz (R1)[s]	13.3	0.10	2.5 a-d	3.8 ab	65.0	2.2	0.16
Experimental 1 13.7 fl oz (R1)[s]	13.6	0.10	2.2 b-d	3.1 ab	71.3	1.7	5.95
Miravis Neo 2.5SE 13.7 fl oz (R3)[s]	13.6	0.10	1.1 e	1.1 c	76.3	1.1	0.16
Experimental 2 13.7 fl oz (R1)[s]	13.5	0.10	1.1 e	3.5 ab	70.0	1.7	0.16
Delaro Complete 3.83SC 8.0 fl oz (R1)	13.8	0.10	2.3 a-d	2.6 b	62.5	1.4	0.50
Prosaro Pro 400SC 10.3 fl oz (R1)	13.8	0.10	1.6 de	3.6 ab	71.3	1.9	0.16
Delaro Complete 3.83SC 12.0 fl oz (R1) + Proline 5.7 fl oz (R1)	13.2	0.10	1.0 e	5.2 a	76.3	2.6	1.58
Proline 5.7 fl oz (R1)	13.4	0.10	1.7 c-e	3.5 ab	67.5	1.7	0.50
P-value	ns[r]	ns	<0.0001	<0.05	ns	ns	ns

[z]Southern rust severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis

[y]Tar spot severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.

[x]Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05).

[w]NCLB severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.

[v]Canopy greening effect is determined by rating the percentage of green foliage still present in each plot at black layer.

[u]Ear rot severity was assessed by visually rating five ears per plot in the center two rows with the aid of a standardized area diagram.

[t]Stalk rot severity was rated by the stalk push test on 10 plants per plot and converted to a percentage of snapped stalks.

[s]Induce 90% SL (Non-ionic surfactant) at 0.25% v/v was added to fungicide treatments.

[r]ns = not significant (α=0.05)

Trial 6: Evaluation of foliar fungicides for control of diseases of sweet corn in Arlington, Wisconsin, 2025.

SWEET CORN (*Zea mays* 'Quick Trip')
Northern corn leaf blight; *Setosphaeria turcica*

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The sweet corn hybrid 'Quick Trip' was planted 13 Jun, behind winter wheat, no-till, in a field consisting of a Joy silt loam soil (0 to 4% slopes). The experimental design arranged in a randomized complete block with 4 replicates. Plots consisted of four 30-in spaced rows, 20 ft long and 10 ft wide with 5-ft alleys. Standard corn production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of one non-treated check and seven fungicide treatments. Foliar fungicides were applied using a CO_2-pressurized backpack sprayer equipped with TeeJet XR 8002-VS flat fan nozzles on a 10 -t boom calibrated to deliver 20 GPA at 40 psi. Treatments were applied at growth stages V6 on 10 Jul followed by R1 on 29 Jul. Natural sources of pathogen inoculum were relied upon for disease. Northern corn leaf blight (NCLB) was visually assessed by estimating average severity (% ear leaf with symptoms) on five leaves per plot with the aid of standardized area diagrams on 27 Aug. Marketable ears were harvested by hand from one center row (17.5 ft) of each plot on 29 Aug. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Temperatures during the trial were above average for the growing region with adequate precipitation throughout the growing season, however there was a cooler stretch mid to late summer that favored northern corn leaf blight development. Moderate levels of disease were observed in this trial. All fungicide treatments significantly reduced NCLB compared to not treating (Table 6). There were no significant differences in yield among all treatments. Phytotoxicity was not observed for any treatment.

Table 6. Northern corn leaf blight severity and yield for sweet corn treated with fungicide or not treated with fungicide in Wisconsin in 2025.

Treatment and rate/A (growth stage at application)	Northern Corn Leaf Blight Severity (NCLB) (%)[z,y]	Yield (tons/A)
Non-treated control	8.7 a	7.0
Bravo Weather Stik 6.0SC 1 pt (V6 + VT)	1.8 bc	6.9
Tilt 4.0, 3.6EC fl oz (V6 + VT)	2.9 bc	6.3
Folicur 3.6F 6.0 fl oz (V6 + VT)	4.2 b	7.3
Proline 5.7 fl oz (V6 + VT)	2.5 bc	7.3
Quadris 2.08F 6.0 fl oz (V6 + VT)	1.4 c	6.5
Headline 2.08SC 6.0 fl oz (V6 + VT)	1.7 bc	7.7
Miravis 200SC 5.3 fl oz (V6 + VT)	1.4 c	7.2
P-value	<0.0001	ns[x]

[z]NCLB severity was visually assessed as the average % ear leaf symptomatic per plot with the aid of a standard area diagram; means for each plot were used in the analysis.
[y]Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05).
[x]ns= not significant (α=0.05).

Trial 7: Evaluation of fungicides for control of Sclerotinia stem rot of soybean in Hancock, Wisconsin, 2025-Experiment #1

SOYBEAN (*Glycine max* 'P21Z71E')
Sclerotinia stem rot; *Sclerotinia sclerotiorum*

The trial was established at the Hancock Agricultural Research Station located in Hancock, WI. The soybean cultivar 'P21Z71E' was chosen for this study. Soybeans were planted on 15 May in a field with a Plainfield sand (0 to 2% slopes). The trial was planted in a field with history of severe Sclerotinia stem rot. The field was overhead irrigated as needed to prevent drought stress. The experimental design was a randomized complete block with four replicates. Plots consisted of four 30-in. spaced rows, 20 ft long and 10 ft wide with 5-ft alleys between plots. Standard soybean production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and 15 fungicide treatments. Pesticides were applied using a CO_2-pressurized backpack sprayer equipped with TeeJet XR 8002-VS flat fan nozzles calibrated to deliver 20 GPA at 30 psi. Pesticides were applied at V5 on 7 Jul, R1 on 11 Jul, R2 on 17 Jul, R3 on 25 Jul, R1 followed by R3. One treatment was applied at R3 based on guidance from the Crop Protection Network Disease Forecasting System. Sclerotinia stem rot incidence and severity were rated at R6 (22 Sep). Sclerotinia stem rot severity index (DSI) was determined by rating 30 arbitrarily selected plants in each plot and scoring plants on a 0 to 3 scale: 0 = no infection; 1 = infection on branches; 2 = infection on main stem with little effect on pod fill; 3 = infection on main stem resulting in death or poor pod fill. The scores of the 30 plants were multiplied by their scale values, totaled, and divided by 0.9. Disease incidence (DI) was scored as percentage of symptomatic plants relative to the total stand. The DI and DSI were then combined to calculate the disease index (DIX) where DIX=DI*(Average DSI/3). Yield (corrected to 13% moisture), oil, and protein were determined by harvesting (9 Oct) the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge with built in near infrared (NIR) collection system. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Overhead irrigation throughout the season and a history of severe Sclerotinia stem rot had favorable conditions for disease development, however, canopy closure never occurred and very low levels of disease were observed. No significant differences were observed for Sclerotinia stem rot incidence, DSI, DIX, protein or oil, and yield among all treatments (Table 7). Phytotoxicity was observed in plots where Cobra 2EC was applied and lasted approximately two weeks after application. Phytotoxicity was not observed in any other treatments.

Table 7. Sclerotinia stem rot disease incidence, Sclerotinia stem rot disease severity index (DSI), DIX, protein, oil, and yield for soybean treated with fungicide or not treated with fungicide in Wisconsin, 2025.

Treatment and rate/A (crop stage at application)	Disease Incidence (%)[z]	Sclerotinia Stem Rot DSI (0-100)[y]	DIX[x]	Protein (%)	Oil (%)	Yield (bu/A)
Non-Treated Check	0.21	0.46	0.20	35.3	19.2	51.49
Endura 70WDG 8.0 oz (R1) Endura 70WDG 8.0 oz (R3)	0.11	0.13	0.11	34.8	19.4	48.75
Cobra 2.0EC 8.0 fl oz (V5)	0.16	0.82	0.16	34.4	19.7	42.93
Endura 70WDG 8.0 oz (R1)	0.11	0.13	0.11	35.5	19.2	52.20
Endura 70WDG 8.0 oz (R3)	0.20	0.42	0.20	34.9	19.5	42.00
Endura 70WDG 8.0 oz (R5)	0.19	0.38	0.19	35.1	19.5	45.93
Endura 70WDG 8.0 oz (Model)[w]	0.11	0.13	0.11	35.2	19.3	58.23
Endura 70WDG 6.0 oz (R1) Miravis Neo 2.5SE 13.7 fl oz (R3)	0.11	0.13	0.11	35.8	19.3	48.78
Experimental 1 13.7 (R3)	0.19	0.38	0.19	35.0	19.3	47.70
Experimental 2 8.0 (R3)	0.11	0.13	0.11	35.2	19.4	50.78
Viatude 2.09SC 12.0 fl oz (R3)	0.30	0.77	0.24	35.4	19.2	64.30
Omega 500F 16.0 fl oz (R3)	0.11	0.13	0.11	35.4	19.3	54.60
Delaro Complete 3.83SC 8.0 fl oz (R3)	0.16	0.32	0.16	35.3	19.4	45.55
Topsin-M 4.5F 40.0 fl oz (R3)	0.11	0.13	0.11	35.5	19.2	46.25
Propulse 3.34SC 8.0 fl oz (R3)	0.11	0.13	0.11	35.3	19.3	61.03
P-value	ns[v]	ns	ns	ns	ns	ns

[z]Percentage of symptomatic plants relative to the total stand.

[y]Sclerotinia stem rot DSI was generated by rating 30 arbitrarily selected plants in each plot and scoring plants with on a 0 to 3 scale: 0 = no infection; 1 = infection on branches; 2 = infection on main stem with little effect on pod fill; 3 = infection on main stem resulting in death or poor pod fill. The scores of the 30 plants were totaled for each class and divided by 0.9.

[x]DIX=DI*(Average DSI/3)

[w]Model application sprays at R3 were determined using the Crop Protection Network Disease Forecasting System.

[v]ns= not significant (α=0.05).

Trial 8: Evaluation of foliar fungicide treatments for control of Sclerotinia stem rot of soybean in Hancock, Wisconsin, 2025- Experiment #2

SOYBEAN (*Glycine max* 'P21Z71E')
Sclerotinia stem rot; *Sclerotinia sclerotiorum*

The trial was established at the Hancock Agricultural Research Station located in Hancock, WI. The soybean cultivar 'P21Z71E' was chosen for this study. Soybeans were planted on 15 May in a field with a Sparta loamy sand (0 to 2% slopes). The trial was planted in a field with history of severe Sclerotinia stem rot. The field was overhead irrigated as needed to prevent drought stress. The experimental design was a randomized complete block with four replicates. Plots consisted of four 30-in. spaced rows, 20 ft long and 10 ft wide with 5-ft alleys between plots. Standard soybean production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and five fungicide treatments. Pesticides were applied using a CO_2-pressurized backpack sprayer equipped with TeeJet XR 8002-VS flat fan nozzles calibrated to deliver 20 GPA at 30 psi. Pesticides were applied at growth stages R1 (11 Jul) followed by R3 on 25 Jul or R2 on 17 Jul. Sclerotinia stem rot incidence and severity were rated at R6 on 22 Sep. Sclerotinia stem rot severity index (DSI) was determined by rating 30 arbitrarily selected plants in each plot and scoring plants on a 0-3 scale: 0 = no infection; 1 = infection on branches; 2 = infection on main stem with little effect on pod fill; 3 = infection on main stem resulting in death or poor pod fill. The scores of the 30 plants were multiplied by their scale values, totaled, and divided by 0.9. Disease incidence was scored as percentage of symptomatic plants relative to the total stand. The DI and DSI were then combined to calculate the disease index (DIX) where DIX=DI*(Average DSI/3). Yield (corrected to 13% moisture), oil, and protein were determined by harvesting (9 Oct) the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge with built in near infrared (NIR) collection system. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Overhead irrigation throughout the season and a history of severe Sclerotinia stem rot had favorable conditions for disease development, however, canopy closure never occurred and very low levels of disease were observed. No significant differences were observed for protein, oil, and yield among all treatments (Table 8). Phytotoxicity was not observed for any treatment.

Table 8. Oil, protein, and yield for soybean treated with fungicide or not treated with fungicide in Wisconsin, 2025.

Treatment and rate/A (crop stage at application)	Oil (%)[z]	Protein (%)	Yield (bu/A)
Non-treated check	19.4	34.6	51.6
Affiance 1.5SC 10.0 fl oz (R2)	19.2	34.7	61.0
Affiance 1.5SC 10.0 fl oz (R1) Affiance 1.5SC 10.0 fl oz (R3)	19.6	34.4	55.4
Domark 230ME 5.0 fl oz (R2)	19.4	34.2	59.0
Domark 230ME 5.0 fl oz (R2) + Topsin-M 4.5F 20.0 fl oz (R2)	19.8	33.9	58.2
Viatude 2.09SC 14.0 fl oz (R3)	19.8	33.9	58.0
P-value	ns[z]	ns	ns

[z]ns = not significant according to Fisher's least significant difference (α=0.05).

Trial 9: Evaluation of biological seed treatments for control of Pythium of soybean in Arlington, Wisconsin, 2025

SOYBEAN (*Glycine max* 'P25A16E')

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The soybean cultivar 'P25A16E' was chosen for this study. Soybeans were planted on 30 Apr in a field with a Plano silt loam soil (0 to 2% slopes) and Joy silt loam soil (0 to 4% slopes). Trial was inoculated in-furrow with *Pythium ultimum* and *Pythium sylvaticum* grown on millet, applied at a rate of two grams per row foot. The experimental design was a randomized complete block with four replicates. Plots consisted of four 30-in spaced rows, 20 ft long and 10 ft wide with 5-ft alleys between plots. Standard soybean production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and five fungicide or biological seed treatments. Pythium root rot was assessed by collecting stand counts at growth stages V2 and V3 from the center two rows of each plot. The trial was planted at a seeding rate of 140,000 seeds per acre. Yield (corrected to 13% moisture) was determined by harvesting (7 Oct) the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Soil conditions were dry during planting with lower levels of precipitation in the month of May, leading to unfavorable Pythium root rot. No significant differences were observed for stand counts or yield among all treatments (Table 9). Phytotoxicity was not observed for any treatment.

Table 9. Yield and stand counts for soybean seed treated with fungicide, biological or not treated with fungicide in Wisconsin, 2025.

Treatment and rate/140,000 seeds (crop stage at application)[z]	Yield (bu/A)	Stand Count-V2 (plants per acre)	Stand Count-V3 (plants per acre)
Non-treated check	88.7	91,149	93,436
CruiserMaxx 1.38 fl oz/140,000 seeds	88.2	92,238	95,505
CruiserMaxx 1.38 fl oz/140,000 seeds + BioWake 0.5oz/140,000 seeds	88.0	86,140	87,447
CruiserMaxx 1.38 fl oz/140,000 seeds + Trianum-P 0.5 oz/140,000 seeds	88.8	89,842	93,218
BioWake 0.5 oz/140,000 seeds	88.5	87,011	87,882
Trianum-P 0.5 oz/140,000 seeds	85.8	81,131	84,071
P-value	ns[y]	ns	ns

[z]Trial was inoculated in-furrow with *Pythium ultimum* and *Pythium sylvaticum* at plant at a rate of two grams per row foot
[y]ns = not significant (α=0.05).

Trial 10: Evaluation of foliar fungicide treatments for control of diseases of soybean in Arlington, Wisconsin, 2025

SOYBEAN (*Glycine max* 'XO 2441E')

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The soybean cultivar 'XO 2441E' was chosen for this study. Soybeans were planted on 30 Apr in a field with a Plano silt loam soil (0 to 2% slopes) and Joy silt loam soil (0 to 4% slopes). The experimental design was a randomized complete block with four replicates. Plots consisted of four 30-in spaced rows, 20 ft long and 10 ft wide with 5-ft alleys between plots. Standard soybean production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and 10 fungicide treatments. Pesticides were applied using a CO_2-pressurized backpack sprayer equipped with 8002XR TurboJet flat fan nozzles calibrated to deliver 20 GPA at 30 psi. Treatments were mixed with the non-ionic surfactant, Induce 90SL, 0.25% v/v. Pesticides were applied at the growth stage R3 (18 Jul), R5 (12 Aug), or both R3 and R5. Yield (corrected to 13% moisture), oil, and protein were determined by harvesting (7 Oct) the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge with built in near infrared (NIR) collection system. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Temperatures during the trial were above average for the growing region with adequate precipitation throughout the growing season, however, no foliar disease were observed. No significant differences were observed for oil, protein, or yield among all treatments (Table 10). Phytotoxicity was not observed for any treatment.

Table 10. Yield for soybean treated with fungicide or not treated with fungicide in Wisconsin, 2025.

Treatment and rate/A (crop stage at application)[z]	Yield (bu/A)	Oil (%)	Protein (%)
Non-treated check	89.2	19.2	35.6
Delaro Complete 3.83SC 8.0 fl oz (R3)	93.0	19.1	35.9
Adastrio 4.0SC 8.0 fl oz (R3)	89.1	19.2	35.7
Badge 2.27SC 1.5 PT/A (R3)	94.5	19.0	36.1
Affiance 1.5SC 14.0 fl oz (R3)	93.6	19.1	35.4
Aquila XL 2.2SC 12.0 fl oz (R3)	90.6	19.2	35.6
Delaro Complete 3.83SC 8.0 fl oz (R5)	92.3	19.1	35.7
Delaro Complete 3.83SC 8.0 fl oz (R3) Delaro Complete 3.83SC 8.0 fl oz (R5)	90.1	19.1	35.9
Aquila XL 2.2SC 12.0 fl oz (R5)	90.4	19.1	35.8
Delaro 325SC 8.0 fl oz (R3)	89.5	19.2	35.7
Viatude 2.09SC 16.0 fl oz (R3)	93.3	19.1	35.8
P-value	ns[y]	ns	ns

[z]Induce 90% SL (Non-ionic surfactant) at 0.25% v/v was added to fungicide treatments
[y]ns = not significant (α=0.05).

Trial 11: Evaluation of foliar fungicides for control of Fusarium head blight of 'Kaskaskia' wheat in Wisconsin, 2025.

WHEAT, SOFT RED WINTER (*Triticum aestivum* 'Kaskaskia')
Fusarium Head Blight; *Fusarium graminearum*
Tan spot; *Pyrenophora tritici-repentis*
Foot rot; *Fusarium graminearum; Gaeumannomyces graminis var. tritici*

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The soft red winter wheat cultivar 'Kaskaskia' was chosen for this study. Wheat was planted on 27 Sep 2024 in a field with Plano silt loam (0-2% slopes) soil. The experimental design was a randomized complete block with four replicates. Plots were 20 ft long and 7.5 ft wide with 5-ft alleys between plots. Standard wheat production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and six fungicide treatments. Fungicide treatments were mixed with the non-ionic surfactant, Induce 90SL, at 0.125% v/v. Fungicides were applied using a CO_2 pressurized backpack sprayer equipped with TTJ60-11002 Turbo TwinJet flat fan nozzles calibrated to deliver 20 GPA at 28 psi. Fungicides were applied at anthesis (Feekes 10.5.1) on 5 Jun. Plots were infested with 25 lb/A of *F. graminearum*-colonized corn grain on 14 May and 2 Jun. Tan spot was evaluated by visually estimating average severity (% flag leaf with symptoms) per plot with the aid of standardized area diagrams. Foot rot was evaluated by visually estimating average incidence (% dead plants) per plot. Fusarium head blight (FHB) was evaluated by visually estimating average incidence (% plants with symptoms) and average severity (% area of heads with symptoms) per plot with the aid of standardized area diagrams, however no visible symptoms were seen. Concentration of deoxynivalenol (DON) was also evaluated in grain harvested from each treatment (~75 grams) at the University of Minnesota DON testing lab. Test weight, protein, and yield (corrected to 13.5% moisture) were determined by harvesting (15 Jul) the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge with built in near infrared (NIR) collection system. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Low levels of tan spot and no visible symptoms Fusarium head blight were observed in this trial due to cooler temperatures during the anthesis period. While no visible symptoms of FHB were observed, low levels of DON were detected in the grain. All treatments had significantly lower DON compared to the non-treated check except Miravis Ace applied at Feekes 10.5.1 (Table 11). Tan spot severity, foot rot, test weight, protein, and yield had no significant difference among all treatments. Phytotoxicity was not observed for any treatment.

Table 11. Tan spot severity, foot rot incidence, deoxynivalenol (DON), test weight, and yield for soft red winter wheat treated with fungicide or not treated with fungicide in Wisconsin, 2025.

Treatment, rate/A[z]	Growth stage at application (Feekes)	Tan Spot Severity (%)[y]	Foot Rot Incidence (%)[x]	DON (ppm)[w]	Test Weight (lb/A)	Protein (%)	Yield (bu/A)
Non-treated check	-	7.1	8.9	0.16 b	58.6	9.9	75.2
Prosaro Pro 400SC 10.3 fl oz	10.5.1	2.4	6.3	0.10 c	59.0	9.4	78.9
Prosaro Pro 400SC 13.6 fl oz	10.5.1	2.5	7.3	0.10 c	59.1	9.7	77.8
Miravis Ace 5.2SC 13.7 fl oz	10.5.1	1.1	6.3	0.25 a	59.4	9.4	80.8
Sphaerex 2.5SC 7.3 fl oz	10.5.1	2.1	22.3	0.10 c	58.5	9.7	74.1
Prosaro 421SC 6.5 fl oz	10.5.1	2.5	9.8	0.10 c	58.3	9.3	76.5
Prosaro 421SC 8.2 fl oz	10.5.1	3.0	7.2	0.10 c	59.0	9.4	74.5
P-value		ns[v]	ns	<0.05	ns	ns	ns

[z]Fungicide treatments applied at Feekes 10.5.1 were mixed with the non-ionic surfactant, Induce 90SL, at 0.125% v/v
[y]Tan spot severity was visually assessed as the average % flag leaf symptomatic per plot
[x]Foot rot incidence was visually assessed as the average % dead plants per plot. Both *Fusarium graminearum* and *Gaeumannomyces graminis var. tritici* (Take-All) were isolated from root tissue samples.
[w]Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05)
[v]ns = not significant (α=0.05).

Trial 12: Evaluation of foliar fungicides for control of Fusarium head blight of 'Kaskaskia' wheat in Wisconsin, 2025.

WHEAT, SOFT RED WINTER (*Triticum aestivum* 'Kaskaskia')
Fusarium Head Blight; *Fusarium graminearum*
Tan spot; *Pyrenophora tritici-repentis*
Foot rot; *Fusarium graminearum; Gaeumannomyces graminis var. tritici*

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The soft red winter wheat cultivar 'Kaskaskia' was chosen for this study. Wheat was planted on 27 Sep 2024 in a field with Plano silt loam (0-2% slopes) soil. The experimental design was a randomized complete block with six replicates. Plots were 20 ft long and 7.5 ft wide with 5-ft alleys between plots. Standard wheat production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and 11 fungicide treatments. Fungicides were applied using a CO_2 pressurized backpack sprayer equipped with TTJ60-11002 Turbo TwinJet flat fan nozzles calibrated to deliver 20 GPA at 28 psi. Fungicides were applied at flag leaf (Feekes 8) on 14 May, when 75% of the head is visible (Feekes 10.3) on 29 May, anthesis (Feekes 10.5.1) on 5 Jun, using a two-spray program with the first spray occurring at Feekes 8 followed by Feekes 10.5.1, and five days after anthesis began (5 days post-Feekes 10.5.1) on 10 Jun. Plots were infested with 25 lb/A of *F. graminearum*-colonized corn grain on 14 May and 2 Jun. Tan spot was evaluated by visually estimating average severity (% flag leaf with symptoms) per plot with the aid of standardized area diagrams. Foot rot was evaluated by visually estimating average incidence (% dead plants) per plot. Fusarium head blight (FHB) was evaluated by visually estimating average incidence (% plants with symptoms) and average severity (% area of heads with symptoms) per plot with the aid of standardized area diagrams. Concentration of deoxynivalenol (DON) was also evaluated in grain harvested from each treatment (~75 grams) at the University of Minnesota DON testing lab. Test weight, protein, and yield (corrected to 13.5% moisture) were determined by harvesting (15 Jul) the center two rows of each plot using a Zurn 160 small-plot combine equipped with a HarvestMaster H3 grain gauge with built in near infrared (NIR) collection system. Data were analyzed using a mixed model analysis of variance and means were separated using Fisher's Least Significant Difference (LSD; α=0.05).

Low levels of tan spot and Fusarium head blight were observed in this trial due to cooler temperatures during the anthesis period. Miravis Ace applied at Feekes 10.3, 10.5.1, and 5 days post-10.5.1 significantly reduced tan spot severity compared to the non-treated check (Table 12). Folicur applied at Feekes 8 followed by Proline at Feekes 10.5.1 had a significantly higher FHB Index than the non-treated check. No significant differences were observed for foot rot incidence, DON, protein, test weight, and yield among all treatments. Phytotoxicity was not observed for any treatment.

Table 12. Tan spot severity, foot rot incidence, fusarium head blight (FHB) index, deoxynivalenol (DON), protein, test weight, and yield for soft red winter wheat treated with fungicide or not treated with fungicide in Wisconsin, 2025.

Treatment, rate/A	Growth stage at application (Feekes)[z]	Tan Spot Severity (%)[y,x]	Foot rot Incidence (%)[w]	FHB Disease Index (%)[v,x]	DON (ppm)	Protein (%)	Test Weight (lb/A)	Yield (bu/A)
Non-treated check	-	8.5 a	14.6	0.1 b	0.15	9.4	57.9	70.3
Folicur 3.6F 4.0 fl oz	8	6.8 a-c	10.9	0.1 b	0.17	9.9	58.1	73.7
Folicur 3.6F 4.0 fl oz Proline 480SC 5.7 fl oz	8 fb 10.5.1	7.7 ab	10.8	0.4 a	0.11	9.7	59.0	81.1
Miravis Ace 5.2SC 13.7 fl oz	10.3	0.2 e	16.7	0.1 b	0.14	9.5	58.7	74.1
Miravis Ace 5.2SC 13.7 fl oz	10.5.1	0.5 de	10.7	0.1 b	0.17	9.4	58.8	77.0
Proline 480SC 5.7 fl oz	10.5.1	7.5 a-c	14.7	0.1 b	0.10	9.3	59.0	74.5
Prosaro Pro 400SC 10.3 fl oz	10.5.1	4.9 a-d	15.8	0.1 b	0.13	9.6	58.6	75.4
Sphaerex 2.5SC 7.3 fl oz	10.5.1	4.1 a-e	17.7	0.1 b	0.11	9.7	57.9	75.9
Miravis Ace 5.2SC 13.7 fl oz	5 days post-10.5.1	1.2 de	13.0	0.1 b	0.10	9.3	58.9	76.5
Proline 480SC 5.7 fl oz	5 days post-10.5.1	3.7 b-e	18.4	0.1 b	0.11	9.4	59.0	80.3
Prosaro Pro 400SC 10.3 fl oz	5 days post-10.5.1	3.7 b-e	14.7	0.1 b	0.11	9.5	58.9	76.5
Sphaerex 2.5SC 7.3 fl oz	5 days post-10.5.1	3.0 c-e	19.5	0.1 b	0.13	9.2	58.4	72.1
P-value		<0.05	ns[u]	<0.01	ns	ns	ns	ns

[z]Fb = followed by.
[y]Tan spot severity was visually assessed as the average % flag leaf symptomatic per plot
[x]Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05)
[w]Foot rot incidence was visually assessed as the average % dead plants per plot. Both *Fusarium graminearum* and *Gaeumannomyces graminis var. tritici* (Take-All) were isolated from root tissue samples.
[v]FHB Index was calculated by multiplying % disease incidence (DI) by % disease severity (DS) divided by 100 (FHB Index=DI x DS/100).
[u]ns = not significant (α=0.05).