

Comparative fungicide efficacy: Management of white mold in soybeans

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Miravis Neo: pydiflumetofen (FRAC 7), azoxystrobin (FRAC 11), propiconazole (FRAC 3) **Headline:** pyraclostrobin (FRAC 11) **Endura:** boscalid (FRAC 7)

Delaro Complete: fluopyram (FRAC 7), trifloxystrobin (FRAC 11), prothioconazole (FRAC 3) **Revytek:** mefentrifluconazole (FRAC 3)

year	2021	2022	2024	COMBINED ANALYSIS 3 studies Miravis Neo 13.7 fl oz vs. other products Two sequential applications of the same fungicide
location	Carrington	Carrington	Carrington	
funding	Gowan	BASF	Corteva	
variety	DSR-0807	AG09Xf0	P08A44E	
brand, maturity	Dairyland, 0.8	Asgrow, 0.9	Pioneer, 0.8	
row spacing	21 inches	14 inches	15 inches	
seeding rate	165,000 pls/ac	165,000 pls/ac	140,000 pls/ac	
previous crop	spring wheat	dry bean	sunflowers	
planting date	May 12	May 27	May 16	
disease assessment date	Oct. 4	Oct. 19	Oct. 9	
rows assessed for disease	1	1	2	
harvest date	Oct. 7	Oct. 21	Oct. 14	
dates, applications 1 and 2	July 26, Aug. 6	July 23, Aug. 1	July 24, July 31	
interval between applications	11 days	9 days	7 days	
growth stage, 1st applic.	R3	100% R2	100% R2	
canopy closure, 1st applic	100%	99-100%	75-90%	
nozzles, pressure, 1st applic.	AIXR110015, 50 psi	AIXR110015, 50 psi	AIXR110015, 60 psi	
droplet size, 1st applic.	medium-coarse	medium-coarse	medium	
canopy closure, 2nd applic.	100%	100%	90-98%	
nozzles, pressure, 2nd applic.	AIXR110015, 50 psi	AIXR110015, 50 psi	AIXR110015, 40 psi	
droplet size, 2nd applic.	medium-coarse	medium-coarse	coarse	
adjuvant	Induce 0.25%, some tre:	Masterlock, 6.4 fl oz/ac	Induce, 0.25% v/v	
fungicide spray volume	15 gal/ac	15 gal/ac	15 gal/ac	
application method	hand-held boom	hand-held boom	hand-held boom	
White mold incidence (% of plants)				White mold (% plants)
Non-treated control	35 a	82 c	46 b	54 c
Revytek 8 fl oz/ac	33 a	67 b	51 b	50 bc
Miravis Neo 13.7 fl oz/ac	23 a	68 bc	50 b	47 abc
Endura 6 oz/ac	20 a	53 ab	16 a	30 ab
Delaro Complete 8 fl oz/ac	20 a	41 a	24 ab	28 a
CV:	20.3	14.4	14.9	19
White mold severity index (% of canopy)				White mold (% canopy)
Non-treated control	23 a	70 c	20 b	38 b
Revytek 8 fl oz/ac	21 a	51 b	26 b	33 ab
Miravis Neo 13.7 fl oz/ac	14 a	56 bc	20 b	30 ab
Endura 6 oz/ac	12 a	40 ab	5 a	19 a
Delaro Complete 8 fl oz/ac	12 a	31 a	8 ab	17 a
CV:	26.9	17.5	22.6	23.9
Soybean yield (bu/ac; 13% moisture)				Yield (bu/ac)
Non-treated control	56 a	25 c	53 a	45 b
Revytek 8 fl oz/ac	57 a	33 c	55 a	48 ab
Miravis Neo 13.7 fl oz/ac	64 a	34 bc	55 a	51 ab
Endura 6 oz/ac	62 a	42 ab	58 a	54 ab
Delaro Complete 8 fl oz/ac	61 a	47 a	61 a	56 a
CV:	9	10.7	7.9	6.6

year	2019	2021	2022	2024	COMBINED ANALYSIS 4 studies Miravis Neo 13.7 fl oz vs. non-treated Two sequential applications of the same fungicide
location	Carrington	Carrington	Carrington	Carrington	
funding	Syngenta	Gowan	BASF	Corteva	
variety	17X04N	DSR-0807	AG09Xf0	P08A44E	
brand, maturity	Peterson Farms, 0.7	Dairyland, 0.8	Asgrow, 0.9	Pioneer, 0.8	
row spacing	21 inches	21 inches	14 inches	15 inches	
seeding rate	165,000 pls/ac	165,000 pls/ac	165,000 pls/ac	140,000 pls/ac	
previous crop	lentils	spring wheat	dry bean	sunflowers	
planting date	May 9	May 12	May 27	May 16	
disease assessment date	Oct. 30	Oct. 4	Oct. 19	Oct. 9	
rows assessed for disease	1	1	1	2	
harvest date	Oct. 31, Nov. 2	Oct. 7	Oct. 21	Oct. 14	
dates, applications 1 and 2	July 28, Aug. 8	July 26, Aug. 6	July 23, Aug. 1	July 24, July 31	
interval between applications	11 days	11 days	9 days	7 days	
growth stage, 1st applic.	100% R3	R3	100% R2	100% R2	
canopy closure, 1st applic	90-100% (ave. 97%)	100%	99-100%	75-90%	
nozzles, pressure, 1st applic.	AIXR110015, 50 psi	AIXR110015, 50 psi	AIXR110015, 50 psi	AIXR110015, 60 psi	
droplet size, 1st applic.	medium-coarse	medium-coarse	medium-coarse	medium	
canopy closure, 2nd applic.	100%	100%	100%	90-98%	
nozzles, pressure, 2nd applic.	AIXR110015, 50 psi	AIXR110015, 50 psi	AIXR110015, 50 psi	AIXR110015, 40 psi	
droplet size, 2nd applic.	medium-coarse	medium-coarse	medium-coarse	coarse	
adjuvant	none	Induce 0.25%, some trees	Masterlock, 6.4 fl oz/ac	Induce, 0.25% v/v	
fungicide spray volume	15 gal/ac	15 gal/ac	15 gal/ac	15 gal/ac	
application method	hand-held boom	hand-held boom	hand-held boom	hand-held boom	

White mold incidence (% of plants)					White mold (% plants)
Non-treated control	78 b	35 a	82 a	46 a	60 a
Miravis Neo 13.7 fl oz/ac	63 a	23 a	68 a	50 a	51 a
CV:	10.9	20.3	14.4	14.9	11.2
White mold severity index (% of canopy)					White mold (% canopy)
Non-treated control	58 b	23 a	70 a	20 a	43 a
Miravis Neo 13.7 fl oz/ac	43 a	14 a	56 a	20 a	33 a
CV:	16.1	26.9	17.5	22.6	14.1
Soybean yield (bu/ac; 13% moisture)					Yield (bu/ac)
Non-treated control	25 a	56 a	25 b	53 a	40 b
Miravis Neo 13.7 fl oz/ac	35 a	64 a	34 a	55 a	47 a
CV:	19.4	9	10.7	7.9	5.6

year	2019	2020	2020	2021	2024	COMBINED ANALYSIS 5 studies Miravis Neo 20.8 fl oz vs. non-treated Two sequential applications of the same fungicide
location	Carrington	Carrington	Carrington	Carrington	Carrington	
funding	Syngenta	Syngenta	ADAMA	Syngenta	BASF	
variety	17X04N	DSR-0418	DSR-0418	DSR-0807	PFS 23XF09	
brand, maturity	Peterson Farms, 0.7	Dairyland, 0.4	Dairyland, 0.4	Dairyland, 0.8	Peterson Farms, 0.9	
row spacing	21 inches	21 inches	21 inches	21 inches	14 inches	
seeding rate	165,000 pls/ac	165,000 pls/ac	165,000 pls/ac	165,000 pls/ac	140,000 pls/ac	
previous crop	lentils	spring wheat	spring wheat	spring wheat	field peas	
planting date	May 9	May 18	May 18	May 12	May 11	
disease assessment date	Oct. 30	Oct. 16	Oct. 15	Oct. 4	Oct. 21	
rows assessed for disease	1	1	1	1	1	
harvest date	Oct. 31, Nov. 2	Oct. 19	Oct. 16	Oct. 6	Oct. 23	
dates, applications 1 and 2	July 28, Aug. 8	July 17, 28	July 14, 28	July 22, Aug. 2	July 24, Aug. 2	
interval between applications	11 days	11 days	14 days	11 days	9 days	
growth stage, 1st applic.	100% R3	100% R2	100% R2	100% R2	100% R2	
canopy closure, 1st applic	90-100% (ave. 97%)	75-90%	65-95%	95-100%	85-95%	
nozzles, pressure, 1st applic.	AIXR110015, 50 psi	AIXR110015, 60 psi	AIXR110015, 60 psi	XR11010, 30 psi	AIXR110015, 60 psi	
droplet size, 1st applic.	medium-coarse	medium	medium	coarse	medium	
canopy closure, 2nd applic.	100%	100%	100%	100%	99-100%	
nozzles, pressure, 2nd applic.	AIXR110015, 50 psi	AIXR110015, 40 psi	AIXR110015, 40 psi	XR11010, 30 psi	AIXR110015, 40 psi	
droplet size, 2nd applic.	medium-coarse	coarse	coarse	coarse	coarse	
adjuvant	none	Induce 0.25% v/v	none	Activator 90 NIS 0.25% v/v	none	
fungicide spray volume	15 gal/ac	15 gal/ac	15 gal/ac	15 gal/ac	15 gal/ac	
application method	hand-held boom	hand-held boom	hand-held boom	tractor, 6.5 mph	hand-held boom	

White mold incidence (% of plants)						White mold (% plants)
Non-treated control	78 a	48 a	34 a	24 a	20 a	41 b
Miravis Neo 20.8 fl oz/ac	69 a	38 a	30 a	22 a	8 a	33 a
CV:	10.9	26.3	30.3	30.5	44	8.6
White mold severity index (% of canopy)						White mold (% canopy)
Non-treated control	58 a	21 a	13 a	16 a	10 a	23 b
Miravis Neo 20.8 fl oz/ac	48 a	12 a	12 a	13 a	4 a	18 a
CV:	16.1	34.6	39.9	32.8	72	13.4
Soybean yield (bu/ac; 13% moisture)						Yield (bu/ac)
Non-treated control	25 a	33 a	42 a	55 b	64 a	44 a
Miravis Neo 20.8 fl oz/ac	30 a	34 a	39 a	60 a	67 a	46 a
CV:	19.4	7.2	11	4.2	7	5.5

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Revytek: mefentrifluconazole (FRAC 3), pyraclostrobin (FRAC 11), fluxapyroxad (FRAC 7)

Miravis Neo: pydiflumetofen (FRAC 7), azoxystrobin (FRAC 11), propiconazole (FRAC 3)

year	2020	2021	2024	COMBINED ANALYSIS 3 studies Revytek 8 fl oz/ac versus Miravis Neo 13.7 fl oz/ac Single fungicide application
location	Carrington	Carrington	Carrington	
funding	BASF	Gowan	BASF	
variety	DSR-0418	DSR-0807	P08A44E	
brand, maturity	Dairyland, 0.4	Dairyland, 0.8	Pioneer, 0.8	
row spacing	21 inches	21 inches	14 inches	
seeding rate	165,000 pls/ac	165,000 pls/ac	140,000 pls/ac	
previous crop	spring wheat	spring wheat	field peas	
planting date	May 18	May 12	May 9	
disease assessment date	Oct. 15	Oct. 4	Oct. 3	
rows assessed for disease	1	1	1	
harvest date	Oct. 16	Oct. 7	Oct. 3	
date fungicide was applied	July 14	July 26	July 30	
growth stage when fungicide applied	100% R2	R3	100% R3	
canopy closure when fungicide applied	65-95%	1	97-99%	
nozzles, application pressure	AIXR110015, 60 psi	AIXR110015, 50 psi	AIXR110015, 50 psi	Single fungicide application
spray droplet size	medium	medium-coarse	medium-coarse	
adjuvant	none	Induce 0.25%	Induce, 0.25% v/v	
fungicide spray volume	15 gal/ac	15 gal/ac	15 gal/ac	
application method	hand-held boom	hand-held boom	hand-held boom	

White mold incidence (% of plants) White mold (% plants)

Non-treated control	26 a	35 a	13 a	24 b
Revytek 8 fl oz/ac	30 a	33 a	12 a	25 b
Miravis Neo 13.7 fl oz/ac	20 a	23 a	6 a	16 a
CV:	30.7	20.3	35.2	9.3

White mold severity index (% of canopy) White mold (% canopy)

Non-treated control	10 a	23 a	3 a	12 b
Revytek 8 fl oz/ac	13 a	21 a	4 a	13 b
Miravis Neo 13.7 fl oz/ac	8 a	14 a	2 a	8 a
CV:	39.5	26.9	59.2	4.9

Soybean yield (bu/ac; 13% moisture) Yield (bu/ac)

Non-treated control	45 a	56 a	60 a	54 b
Revytek 8 fl oz/ac	47 a	57 a	61 a	55 b
Miravis Neo 13.7 fl oz/ac	46 a	64 a	61 a	57 a
CV:	15.1	9	5.3	4.7

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Miravis Neo: pydiflumetofen (FRAC 7), azoxystrobin (FRAC 11), propiconazole (FRAC 3)

year	2019	2020	2021	2024	COMBINED ANALYSIS 4 studies Miravis Neo 13.7 fl oz/ac versus Non-treated Single fungicide application
location	Carrington	Carrington	Carrington	Carrington	
funding	Syngenta	BASF	Gowan	BASF	
variety	17X04N	DSR-0418	DSR-0807	P08A44E	
brand, maturity	Peterson Farms, 0.7	Dairyland, 0.4	Dairyland, 0.8	Pioneer, 0.8	
row spacing	21 inches	21 inches	21 inches	14 inches	
seeding rate	165,000 pls/ac	165,000 pls/ac	165,000 pls/ac	140,000 pls/ac	
previous crop	lentils	spring wheat	spring wheat	field peas	
planting date	May 9	May 18	May 12	May 9	
disease assessment date	Oct. 30	Oct. 15	Oct. 4	Oct. 3	
rows assessed for disease	1	1	1	1	
harvest date	Oct. 31, Nov. 2	Oct. 16	Oct. 7	Oct. 3	
date fungicide was applied	July 28	July 14	July 26	July 30	
growth stage when fungicide applied	100% R3	100% R2	R3	100% R3	
canopy closure when fungicide applied	90-100% (ave. 97%)	65-95%	1	97-99%	
nozzles, application pressure	AIXR110015, 50 psi	AIXR110015, 60 psi	AIXR110015, 50 psi	AIXR110015, 50 psi	
spray droplet size	medium-coarse	medium	medium-coarse	medium-coarse	
adjuvant	none	none	Induce 0.25%, some trees	Induce, 0.25% v/v	
fungicide spray volume	15 gal/ac	15 gal/ac	15 gal/ac	15 gal/ac	
application method	hand-held boom	hand-held boom	hand-held boom	hand-held boom	

White mold **incidence** (% of plants) White mold (% plants)

Non-treated control	78 a	26 a	35 a	13 a	38 b
Miravis Neo 13.7 fl oz/ac	72 a	20 a	23 a	6 a	30 a
CV:	10.9	30.7	20.3	35.2	5.9

White mold **severity index** (% of canopy) White mold (% canopy)

Non-treated control	58 a	10 a	23 a	3 a	24 a
Miravis Neo 13.7 fl oz/ac	52 a	8 a	14 a	2 a	19 a
CV:	16.1	39.5	26.9	59.2	13

Soybean **yield** (bu/ac; 13% moisture) Yield (bu/ac)

Non-treated control	25 a	45 a	56 a	60 a	47 a
Miravis Neo 13.7 fl oz/ac	31 a	46 a	64 a	61 a	51 a
CV:	19.4	15.1	9	5.3	5.5