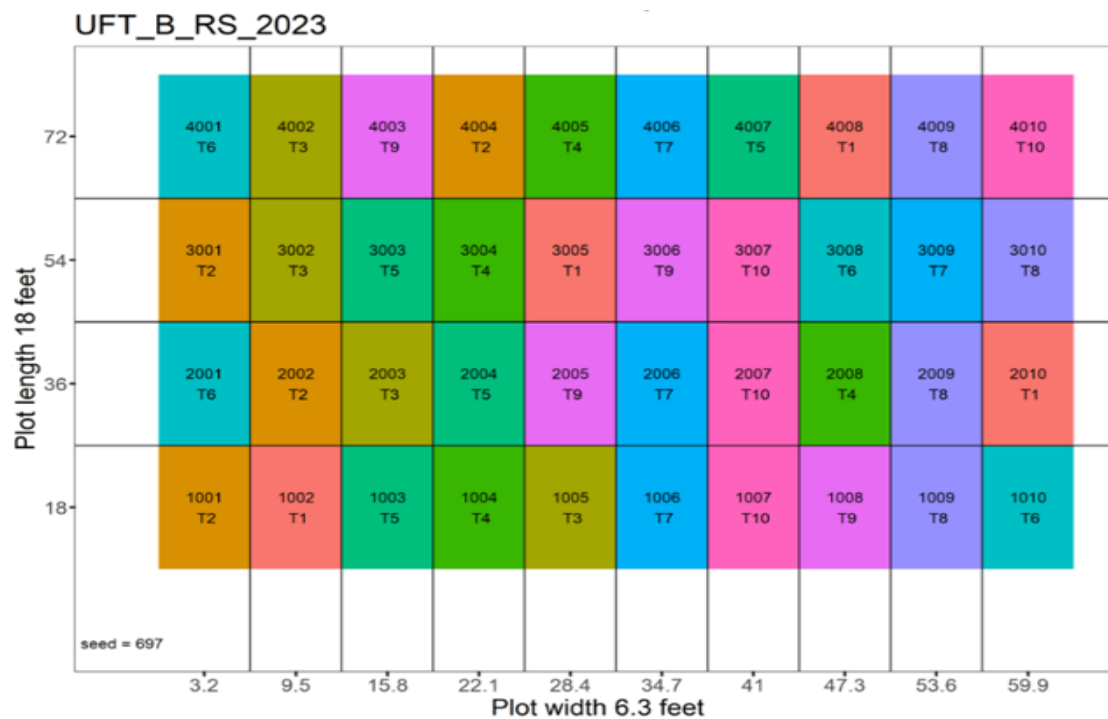


Integrated Management Trial- Barley
UFT_B_RS_2023



Year	2023
Location	Russel E. Larson Agricultural Research Center at Rock Springs
Field	10
GPS coordinates	40.714329, -77.938234
Soil type	Silt loam
Crop	barley
Previous crop	oats
Variety	Thoroughbred (MS)
Seeding rate	1.6 million
Row space (in)	7.5
Reps	4
Tillage/Residue	tilled
Trial type	RCBD
Plot dimensions	6.3'x14'
Herbicide	Harmony
Foliar insecticide	n
Foliar fungicide	n
Fertilizer	Split-applied
Irrigation	n
Planting date	10/11/22
Artificial inoculations (y/n)	y
Inoculum type/density	Spray, 1*10 ⁵ spores/mL
Inoculation date	5/16/23
Rating 1 date	6/5/23
Rating 2 date	N/A
Rating 3 date	N/A
Harvest date	7/11/23

Map:



Protocol:

Treatment	Product	Rate (oz/a)	Application timing	Spray date 1	Spray date2
1	UTC			...	
2	Untreated uninoculated				
3	Prosaro	6.5	Feekes 10.5 (heading)	5/15/2023	
4	Caramba	13.5	Feekes 10.5 (heading)	5/15/2023	
5	Miravis Ace	13.7	Feekes 10.5 (heading)	5/15/2023	
6	Prosaro Pro	10.3	Feekes 10.5 (heading)	5/15/2023	
7	Sphaerex	7.3	4-6 days after heading	5/19/2023	
8	Miravis Ace fb Prosaro Pro	13.7 fb 10.3	Heading/4-6 days after	5/15/2023	5/19/2023
9	Miravis Ace fb Sphaerex	13.7 fb 7.3	Heading/4-6 days after	5/15/2023	5/19/2023
10	Miravis Ace fb Tebuconazole	13.7 fb 4	Heading/4-6 days after	5/15/2023	5/19/2023

Data by plot:

Treat	Rep	FHB			DON ppm	FDK %	Yield Bu/Ac	Test wt Lb/Bu	100 Kernel wt (g)	total foliar disease (%)
		Incidence	Severity	Index						
1	1	0	0	0	0	4	103.275427	49.6	3.816666667	70
	2	0	0	0	0	5.6666667	99.6789062	48.7	3.75	92.5
	3	2	14	0.28	0	4.3333333	92.3079125	49.5	3.533333333	92.5
	4	8	7	0.56	0	5.3333333	108.284282	49.1	3.566666667	87.5
2	1	2	49	0.98	0	5.3333333	107.396706	48.8	3.683333333	67.5
	2	2	7	0.14	0	5.3333333	86.538668	49	3.466666667	70
	3	0	0	0	0	6.6666667	100.024984	49.4	3.9	72.5
	4	0	0	0	0	5	98.3730157	48.7	3.416666667	58.75
3	1	0	0	0	0	5	103.974134	49.1	3.516666667	42.5
	2	0	0	0	0	3.6666667	93.9673414	50	3.866666667	33.75
	3	6	7	0.42	0	5	91.6033831	50	3.8	30
	4	0	0	0	0	5.3333333	105.917412	49.4	3.85	30
4	1	2	21	0.42	0	4.3333333	105.951984	49.7	3.983333333	48.75
	2	0	0	0	0	5.6666667	92.0120538	49.1	3.45	57.5
	3	6	11.6666667	0.7	0	4.3333333	94.6747821	49.4	3.65	65
	4	2	14	0.28	0	4.3333333	103.826023	49.2	3.433333333	71.25
5	1	2	7	0.14	0	3.6666667	107.575204	50.9	3.766666667	37.5
	2	0	0	0	0	7	102.071249	49.6	3.833333333	12.5
	3	8	10.5	0.84	0	4	94.1467489	50.1	3.683333333	28.75
	4	2	7	0.14	0	4.6666667	114.504229	50.4	3.65	31.25
6	1	4	7	0.28	0	3.6666667	119.823135	50	3.65	20
	2	0	0	0	0	6.6666667	101.672586	50.3	3.883333333	21.25
	3	4	7	0.28	0	4.6666667	101.672586	50.1	3.683333333	35
	4	0	0	0	0	6	108.269362	49.4	3.683333333	23
7	1	0	0	0	0	4.3333333	105.804418	50.6	3.633333333	37.5
	2	0	0	0	0	6.6666667	95.0874558	48.7	3.383333333	23.75
	3	4	7	0.28	0	3.6666667	100.468227	50.4	3.816666667	40
	4	2	7	0.14	0	5.3333333	113.469997	49.8	3.6	36.25
8	1	0	0	0	0	4.3333333	113.026755	50.4	3.816666667	22.5
	2	6	7	0.42	0	3.6666667	104.900648	50.1	3.966666667	33.75
	3	0	0	0	0	5.3333333	109.788685	50.5	3.983333333	15
	4	12	8.16666667	0.98	0	4.6666667	108.580141	49.5	3.583333333	33.75
9	1	0	0	0	0	4.3333333	115.101041	50.7	3.933333333	12.5
	2	2	7	0.14	0	4	99.6066701	50.4	3.516666667	20
	3	4	7	0.28	0	5.3333333	96.9222892	50.4	3.633333333	23.75
	4	0	0	0	0	4.3333333	115.686208	50	4.016666667	14.25
10	1	4	10.5	0.42	0	4.3333333	107.870335	50.3	3.666666667	23.75
	2	2	7	0.14	0	4	97.2456231	50.3	3.65	28.75
	3	10	8.4	0.84	0	5	101.059216	50.1	3.766666667	42.5
	4	6	9.33333333	0.56	0	5.6666667	125.880778	50.1	3.45	26.25

Summary by treatment:

trt	100 seedwt_avg (g)	fdk_(%)	severity	incidence	fhb_index	foliar_avg	yield_bu_a	Tw (lb/bu)	Don (ppm)
1	3.67	4.83	5.25	2.50	0.21	85.63	100.89	49.23	0
2	3.62	5.58	14.00	1.00	0.28	67.19	98.08	48.98	0
3	3.76	4.75	1.75	1.50	0.11	34.06	98.87	49.63	0
4	3.63	4.67	11.67	2.50	0.35	60.63	99.12	49.35	0
5	3.73	4.83	6.13	3.00	0.28	27.50	104.57	50.25	0
6	3.72	5.25	3.50	2.00	0.14	24.81	107.86	49.95	0
7	3.61	5.00	3.50	1.50	0.11	34.38	103.71	49.88	0
8	3.84	4.50	3.79	4.50	0.35	26.25	109.07	50.13	0
9	3.78	4.50	3.50	1.50	0.11	17.63	106.83	50.38	0
10	3.63	4.75	8.81	5.50	0.49	30.31	108.01	50.20	0

Discussion/Results:

This trial had very dry conditions in May but ended up with some good yields. Due to the drought, there were very low levels of FHB and no DON detected in samples. Because of the low disease pressure, there were no significant differences. Foliar disease severity was significantly different, with Miravis Ace

followed by Sphaerex reducing the yield the most out of all treatments.

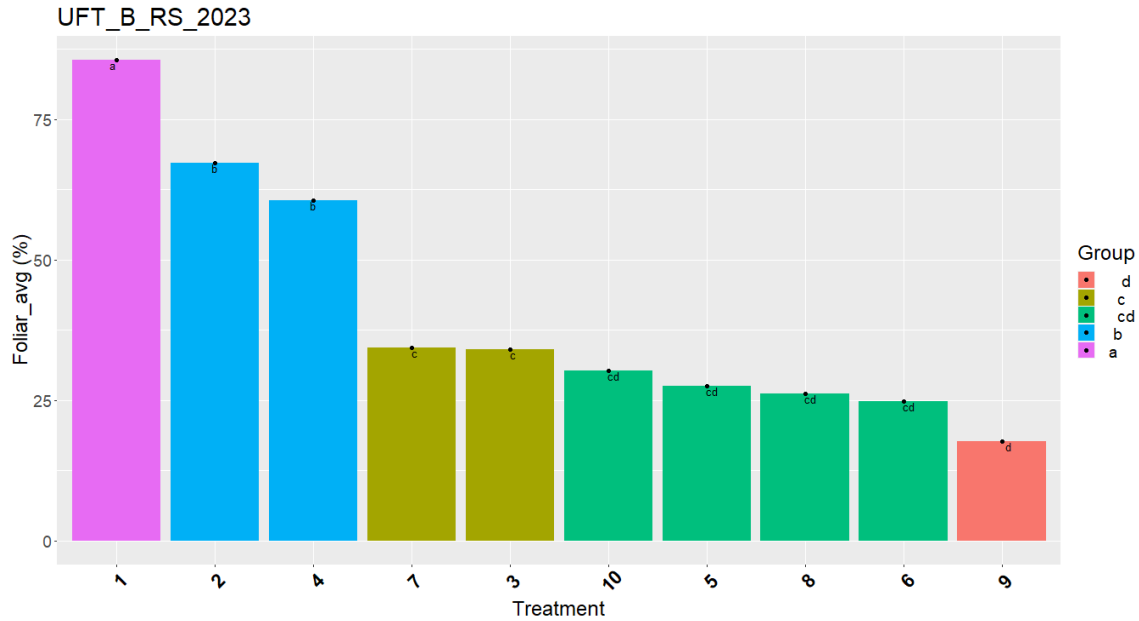


Figure 1. Graph showing mean foliar disease (percent of upper leaves infected) by treatment. The untreated check had the highest foliar disease severity and the most dry down at the time of rating. All treatments significantly reduced foliar disease severity, with Miravis Ace fb Sphaerex having the greatest effect ($\alpha=0.05$)

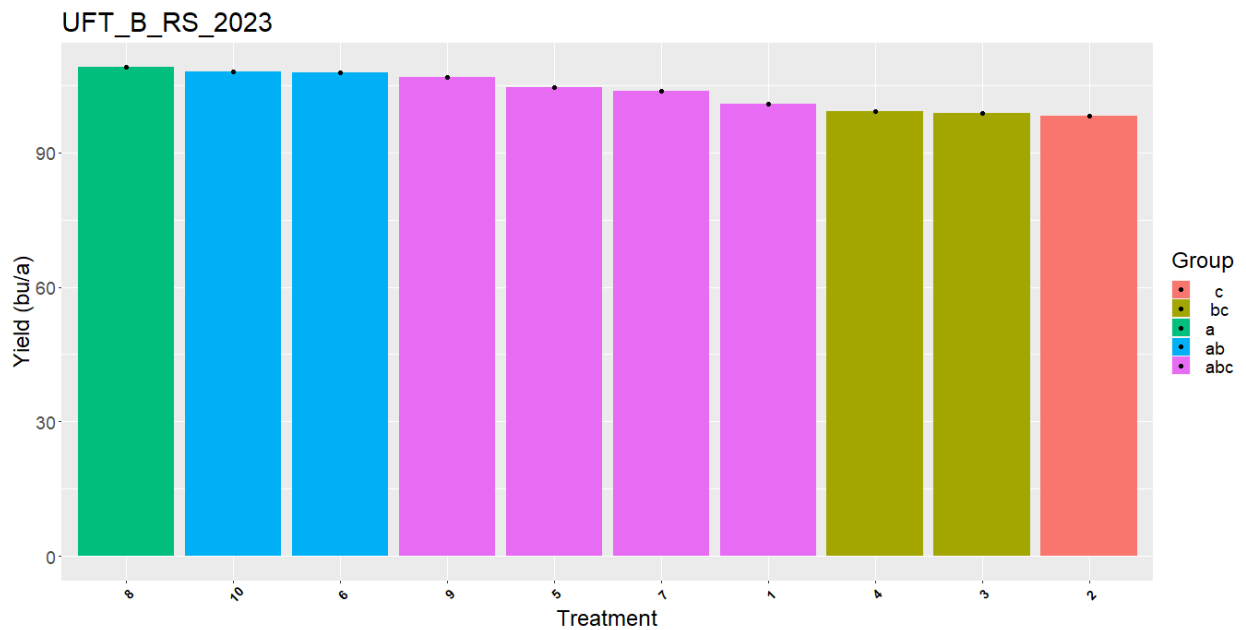


Figure 2. Miravis Ace fb Prosaro Pro (treatment 8), Miravis Ace fb Sphaerex (treatment 10), and Prosaro Pro (treatment 6) showed significant yield increases compared to the untreated check. ($\alpha=0.05$)

Acknowledgements:

All products used in this trial were provided by BASF, Bayer- Crop Science, FMC Agricultural Solutions, and Syngenta.