

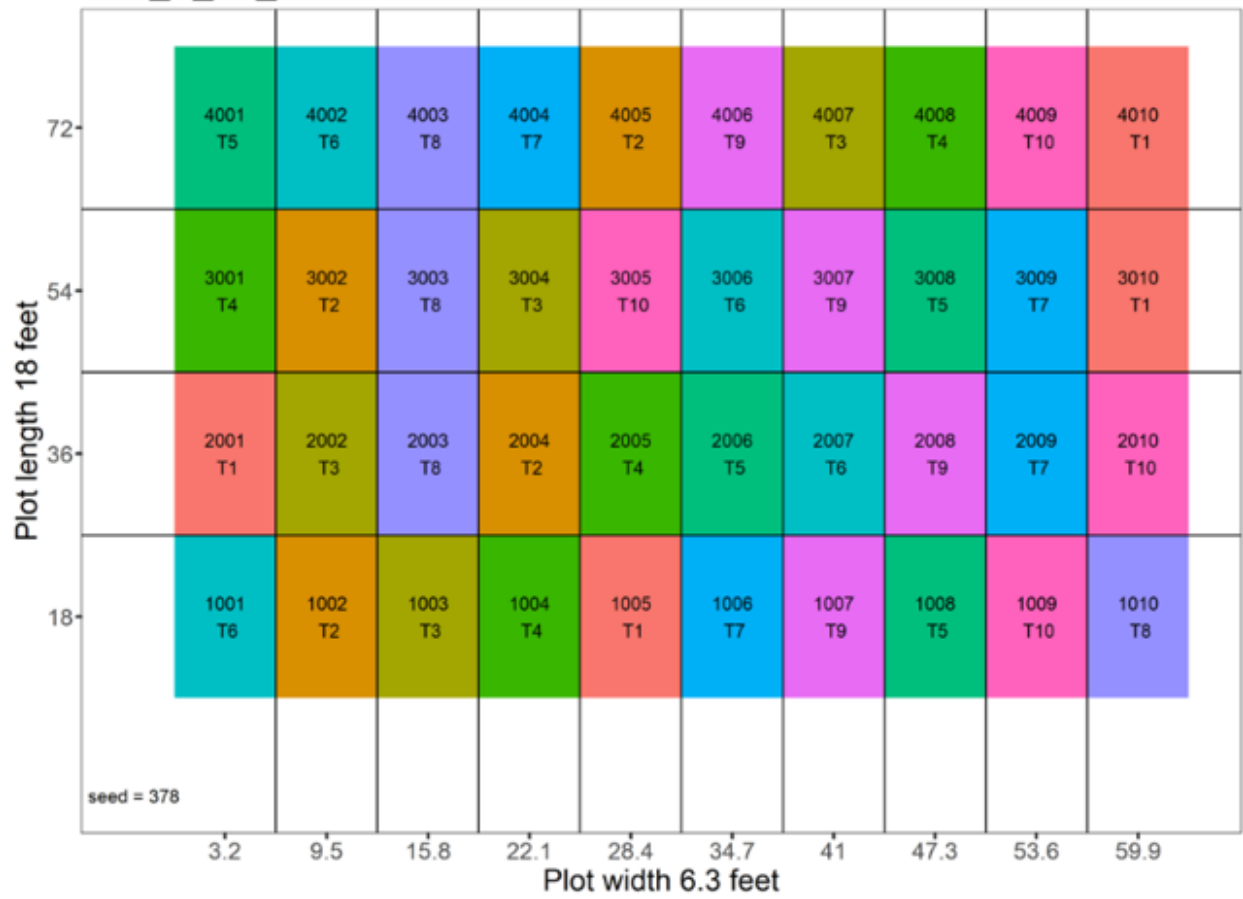
Integrated Management Trial- Barley
UFT_B_LV_2023



Year	2023
Location	Southeast Agricultural Research and Extension Center
Field	D
GPS coordinates	40.120513, -76.426850
Soil type	Silt loam
Crop	barley
Previous crop	hemp
Variety	Violetta (S)
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	11/4/22
Artificial inoculations (y/n)	y
Inoculum type/density	Spray, 1*10 ⁵ spores/mL
Inoculation date	5/16/23
Rating 1 date	6/7/23
Rating 2 date	N/A
Rating 3 date	N/A
Harvest date	7/6/23

Map:

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Protocol:

Treat ment	Product, rate, application date/timing			Spray Date1	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	5/22/2023	
8	Miravis Ace fb Prosaro Pro	13.7 fb 10.3	Heading/4-6 days after heading	5/15/2023	5/22/2023
9	Miravis Ace fb Sphaerex	13.7 fb 7.3	Heading/4-6 days after heading	5/15/2023	5/22/2023
10	Miravis Ace fb Tebuconazole	13.7 fb 4	Heading/4-6 days after heading	5/15/2023	5/22/2023

Data by plot:

Treat	Rep	FHB			DON ppm	FDK %	Yield Bu/Ac	Test wt Lb/Bu	100 Kernel wt (g)	Foliar Disease		
		Incidence	Severity	Index						total foliar disease (%)	Stag/Sept/Tan	Mildew
1	1	6	7	0.42	0	4.3333333	74.4277488	43	5.066666667			85
	2	10	8.4	0.84	0	5.6666667	54.3501155	40	5.133333333			35
	3	2	7	0.14	0	5.3333333	87.8700321	49	5.166666667			41.25
	4	4	10.5	0.42	0	7.6666667	87.0257613	45	5.233333333			38.75
2	1	8	10.5	0.84	0	5	65.3192676	43	4.6			63.75
	2	12	8.16666667	0.98	0	6.6666667	42.8481993	42	4.733333333			72.5
	3	2	21	0.42	0	5.3333333	52.5864265	42	4.866666667			25
	4	6	7	0.42	0	8.3333333	78.9820803	46	5.166666667			47.5
3	1	2	7	0.14	0	6.3333333	64.272299	44	5.1			25.5
	2	2	21	0.42	0	5.6666667	62.1150415	43	5.5			55
	3	2	14	0.28	0	4.3333333	70.1938398	46	5.233333333			75
	4	0	0	0	0	6	72.2251845	47	5.533333333			36.25
4	1	4	7	0.28	0	5.3333333	61.7200174	44	4.7			45
	2	6	11.6666667	0.7	0	9.3333333	53.1483032	41	4.9			60
	3	4	7	0.28	0	6.3333333	61.5735437	45	5.066666667			29.5
	4	14	10	1.4	0	7	73.4411892	45	4.866666667			33.75
5	1	10	11.2	1.12	0	8	59.6393629	41	4.933333333			45.25
	2	2	14	0.28	0	5.6666667	58.819830	43	5.3			31.25
	3	4	7	0.28	0	7	55.0431817	45	5			42.5
	4	16	9.625	1.54	0	6.3333333	46.0675277	46	5.033333333			43.75
6	1	6	14	0.84	0	3.6666667	58.6589898	45	4.733333333			35.75
	2	4	10.5	0.42	0	9.6666667	66.7192287	44	5.1			41.25
	3	6	7	0.42	0	6	60.3093209	46	5.9			50
	4	2	7	0.14	0	5.3333333	77.2671552	45	4.933333333			40
7	1	6	18.6666667	1.12	0	6	55.4926104	45	4.733333333			77.5
	2	8	8.75	0.7	0	6.3333333	72.7932477	46	5.166666667			26.75
	3	10	9.8	0.98	0	6.6666667	75.7363685	43	4.9			32.5
	4	6	9.33333333	0.56	0	7	67.9190394	46	5			15
8	1	8	7	0.56	0	7	70.9187482	45	5.266666667			52.5
	2	0	0	0	0	6	39.4840349	43	4.866666667			65
	3	4	7	0.28	0	4.6666667	63.9284042	45	5.2			60
	4	6	18.6666667	1.12	0	11	70.0253496	46	4.533333333			55
9	1	4	10.5	0.42	0	7	67.8324289	47	5			50
	2	2	7	0.14	0	6.6666667	73.9370163	45	5.566666667			31.25
	3	2	14	0.28	0	6.3333333	79.7804985	47	4.866666667			60
	4	2	7	0.14	0	7.6666667	56.8616392	44	4.8			40
10	1	6	7	0.42	0	7	60.8893932	43	4.966666667			63.75
	2	4	10.5	0.42	0	6.6666667	78.7173359	44	4.7			52.5
	3	4	24.5	0.98	0	5.6666667	57.6824378	44	4.9			45
	4	10	12.6	1.26	0	7	68.4627207	44	4.9			35

Summary by treatment:

trt	seedwt_avg	fdk_percent	severity	incidence	fhb_index	foliar_avg	yield_bu_a	tw	don
1	5.15	5.75	8.23	5.50	0.46	50.00	75.92	44.25	0
2	4.84	6.33	11.67	7.00	0.67	52.19	59.93	43.25	0
3	5.34	5.58	10.50	1.50	0.21	47.94	67.20	45	0
4	4.88	7.00	8.92	7.00	0.67	42.06	62.47	43.75	0
5	5.07	6.75	10.46	8.00	0.81	40.69	54.89	43.75	0
6	5.17	6.17	9.63	4.50	0.46	41.75	65.74	45	0
7	4.95	6.50	11.64	7.50	0.84	37.94	67.99	45	0
8	4.97	7.17	8.17	4.50	0.49	58.13	61.09	44.75	0
9	5.06	6.92	9.63	2.50	0.25	45.31	69.60	45.75	0
10	4.87	6.58	13.65	6.00	0.77	49.06	66.44	43.75	0

Discussion/Results:

This trial had a record dry May. Due to the drought, there were low levels of FHB and no DON detected in samples. Because of the low disease pressure, there were no significant differences in Fusarium head blight severity, incidence, or FHB index. No significant differences were observed between treatments for FHB index, foliar disease severity, or yield.

There was an issue with the Violetta variety planted in this trial. This may have been due to a mistake in using an old seed lot or winterkill damage. Yields for Violetta were reduced plant populations and lower yields.

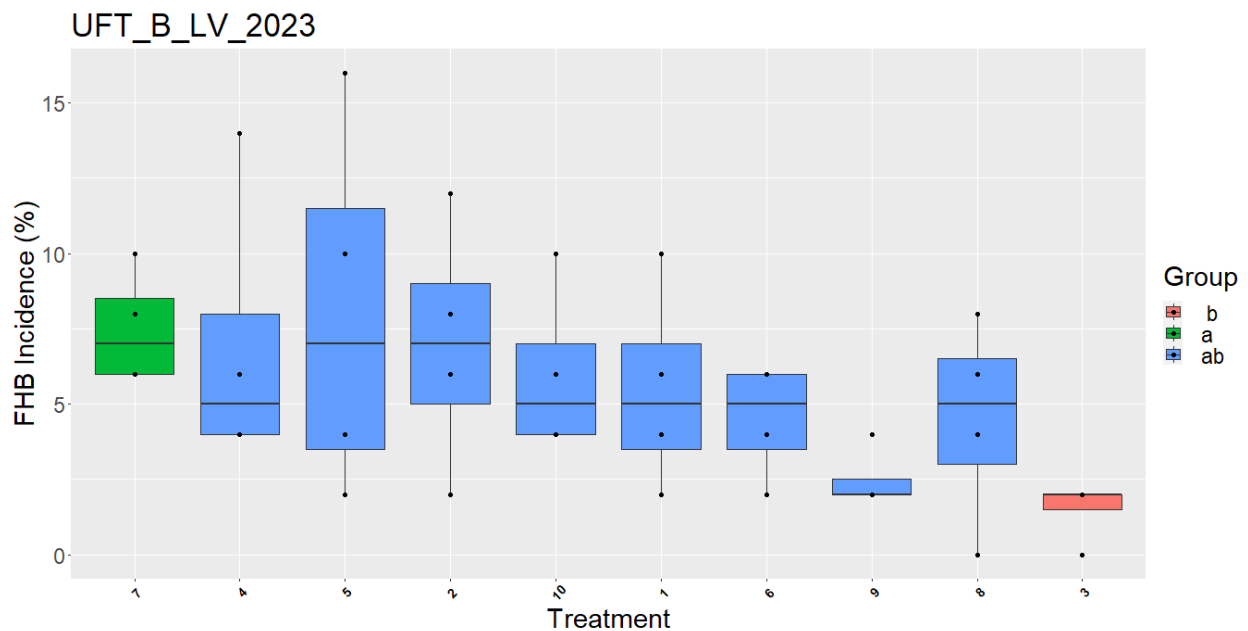


Figure 1. Boxplot showing mean FHB incidence (percent heads infected by FHB) by treatment. Prosaro had the lowest FHB incidence of all treatments (group “b”). However, there were no significant differences in FHB index between treatments. (FHB index considers the severity of the infection as well as the incidence.) ($\alpha=0.05$)

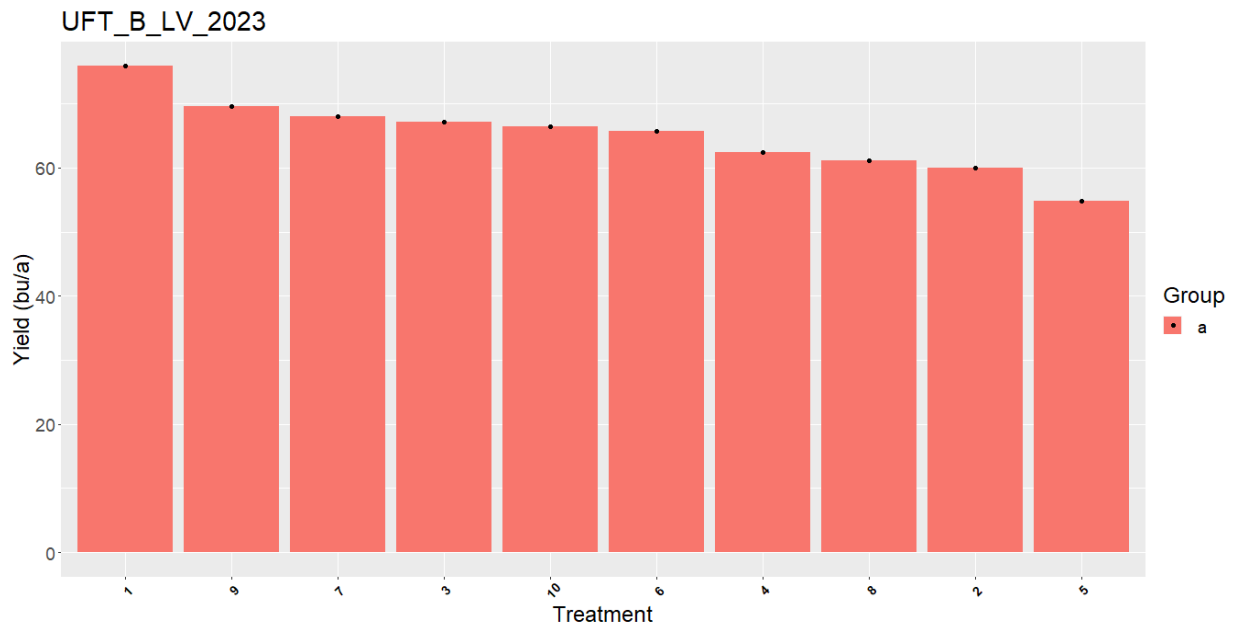


Figure 2. No significant differences were found between treatment in yield. ($\alpha=0.05$)

Acknowledgements:

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