

Table S1 Irrigation Technology and Genetics Significant Interactions on Corn Quality

Corn quality values are shown by site-year that were significantly affected by the interaction of irrigation technology and crop genetics. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

ADF						TDN				
	Factor 1	Factor 2	Estimate	Standard Error	Mean Sep.	Factor 1	Factor 2	Estimate	Standard Error	Mean Sep.
Logan 2019	MESA	DT	21.197	0.88	A					
	MESA	Non-DT	17.792	0.841	BC					
	LESA	DT	19.152	0.841	ABC					
	LESA	Non-DT	17.398	0.841	C					
	MDI	DT	18.036	0.841	BC					
	MDI	Non-DT	18.947	0.841	ABC					
	LEPA	DT	20.455	0.841	A					
	LEPA	Non-DT	20.419	0.841	A					
	LENA	DT	17.148	0.665	C					
Logan 2020	LENA	Non-DT	19.847	0.796	AB					
						MESA	DT	24.055	1.111	CD
						MESA	Non-DT	23.553	1.111	CD
						LESA	DT	23.728	1.111	CD
						LESA	Non-DT	28.325	1.111	AB
						MDI	DT	24.546	1.111	CD
						MDI	Non-DT	25.515	1.111	BC
						LEPA	DT	24.403	1.111	CD
						LEPA	Non-DT	29.35	1.111	A
Vernal 2020						LENA	DT	22.1	0.853	D
						LENA	Non-DT	23.634	0.853	CD
	MESA	DT	24.88	1.04	A					
	MESA	Non-DT	22.247	1.091	B					
	LESA	DT	25.076	1.054	AB					
	LESA	Non-DT	25.934	1.054	A					
	MDI	DT	15.758	1.054	C					
	MDI	Non-DT	17.27	1.054	C					
	LEPA	DT	25.95	1.054	A					
	LEPA	Non-DT	24.675	1.054	AB					

Table S2 Irrigation Rate and Genetics Significant Interactions on Corn Quality – P1

Corn quality values are shown by site-year that were significantly affected by an interaction of irrigation rate and crop genetics. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

	Crude Protein					ADF				
	Factor 1	Factor 2	Estimate	Standard Error	Mean Sep.	Factor 1	Factor 2	Estimate	Standard Error	Mean Sep.
Logan 2020						100	DT	31.836	0.896	A
						100	Non-DT	29.023	0.896	BCD
						75	DT	29.405	0.896	ABC
						75	Non-DT	29.743	0.896	AB
						50	DT	26.91	0.896	CDE
						50	Non-DT	26.738	0.896	DE
						50T	DT	26.475	0.896	E
						50T	Non-DT	27.775	0.893	BCDE
Vernal 2020	100	DT	22.68	0.478	ABC	100	DT	26.096	1.054	A
	100	Non-DT	23.128	0.478	AB	100	Non-DT	27.357	1.054	A
	75	DT	23.355	0.478	A	75	DT	24.511	1.054	A
	75	Non-DT	22.079	0.478	BCD	75	Non-DT	25.689	1.054	A
	50	DT	21.703	0.467	CD	50	DT	20.825	1.04	BC
	50	Non-DT	21.536	0.5	CD	50	Non-DT	19.159	1.091	BC
	50T	DT	23.913	0.478	A	50T	DT	20.232	1.054	B
	50T	Non-DT	21.33	0.478	D	50T	Non-DT	17.92	1.054	C

Table S3 Irrigation Technology and Genetics Significant Interactions on Corn Quality – P2

Corn quality values are shown by site-year that were significantly affected by an interaction of irrigation rate and crop genetics. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

NDF						Starch				
	Factor 1	Factor 2	Estimate	Standard Error	Mean Sep.	Factor 1	Factor 2	Estimate	Standard Error	Mean Sep.
Logan 2020	100	DT	7.95	0.131	C	100	DT	34.699	1.815	AB
	100		8.484	0.131	B	100	Non-DT	37.954	1.815	A
		Non-DT								
	75	DT	8.386	0.131	B	75	DT	32.153	1.815	B
	75		8.373	0.131	B	75	Non-DT	38.217	1.815	A
		Non-DT								
	50	DT	8.594	0.131	B	50	DT	36.912	1.815	AB
	50		9.031	0.131	A	50	Non-DT	34.713	1.815	AB
		Non-DT								
	50T	DT	8.582	0.131	B	50T	DT	35.25	1.815	AB
Vernal 2020	50T		8.571	0.131	B	50T	Non-DT	35.656	1.815	AB
		Non-DT								
	100	DT	8.797	0.398	BCD	100	DT	43.728	0.919	BC
	100		8.453	0.398	CD	100	Non-DT	43.695	0.919	BC
		Non-DT								
	75	DT	8.275	0.398	D	75	DT	44.7733	0.919	AB
	75		8.971	0.398	ABCD	75	Non-DT	41.567	0.919	C
		Non-DT								
	50	DT	9.542	0.392	ABC	50	DT	44.316	0.897	AB
	50		9.954	0.414	A	50	Non-DT	43.818	0.962	BC
		Non-DT								
	50T	DT	7.909	0.398	D	50T	DT	46.783	0.919	A
	50T		9.704	0.398	AB	50T	Non-DT	42.598	0.919	BC
		Non-DT								

Table S4 Irrigation Technology Significance on Corn Quality – P1

Corn quality values are shown by site-year that were significantly affected the tested factor of irrigation technology. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

Crude Protein					ADF				NDF			
Factor	Estimate	Standard Error	Mean Sep.		Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.
Logan 2019									MESA	8.388	0.134	B
									LESA	8.289	0.134	B
									MDI	8.131	0.134	B
									LEPA	8.764	0.134	A
									LENA	8.074	0.106	B
Logan 2020					MESA	30.121	0.89	A	MESA	8.559	0.121	ABC
					LESA	30.238	0.89	A	LESA	8.243	0.121	C
					MDI	25.504	0.89	C	MDI	8.726	0.121	A
					LEPA	28.915	0.89	AB	LEPA	8.328	0.121	BC
					LENA	27.663	0.806	BC	LENA	8.628	0.1	AB
Vernal 2020									MESA	8.049	0.333	C
									LESA	9.3792	0.332	AB
									MDI	9.7292	0.332	A
									LEPA	8.6454	0.332	BC
Vernal 2021					MESA	14	1.091	A	MESA	9.79	0.417	B
					LESA	14.445	1.091	A	LESA	10.891	0.417	B
					MDI	6.267	1.091	C	MDI	12.256	0.427	A
					LEPA	10.136	1.091	B	LEPA	10.052	0.417	B
Cedar City 2021	MESA	23.198	0.51	A	MESA	11.7382	1.292	B				
	LESA	20.22	0.51	B	LESA	17.4955	1.292	A				
	LEPA	19.983	0.51	B	LEPA	20.0661	1.292	A				
	LENA	20.565	0.51	B	LENA	18.5319	1.292	A				

Table S5 Irrigation Technology Significance on Corn Quality – P2

Corn quality values are shown by site-year that were significantly affected the tested factor of irrigation technology. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

Starch					TDN				NDFD48			
Factor	Estimate	Standard Error	Mean Sep.		Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.
Logan 2019					MESA	25.787	0.763	A				
					LESA	23.619	0.763	BC				
					MDI	24.426	0.763	AB				
					LEPA	21.772	0.763	C				
					LENA	24.552	0.684	AB				
Logan 2020									MESA	53.606	3.576	B
									LESA	67.021	3.576	A
									MDI	59.477	3.576	AB
									LEPA	63.506	3.576	AB
									LENA	54.369	3.103	B
Vernal 2020					MESA	25.28	0.773	A				
					LESA	25.643	0.771	A				
					MDI	21.548	0.771	B				
					LEPA	25.208	0.771	A				
Vernal 2021	MESA	48.357	0.79	B	MESA	17.169	0.92	A				
	LESA	48.905	0.79	B	LESA	15.372	0.92	A				
	MDI	51.587	0.802	A	MDI	9.793	0.935	B				
	LEPA	48.413	0.79	B	LEPA	15.233	0.92	A				
Cedar City 2021	MESA	44.416	0.885	A	MESA	25.931	1.119	B	MESA	71.56	0.336	B
	LESA	39.084	0.885	B	LESA	32.286	1.119	A	LESA	73.523	0.336	A
	LEPA	38.209	0.885	B	LEPA	33.066	1.119	A	LEPA	73.679	0.336	A
	LENA	38.98	0.885	B	LENA	32.16	1.119	A	LENA	73.296	0.336	A

Table S6 Irrigation Rate Significance on Corn Quality – P1

Corn quality values are shown by site-year that were significantly affected by irrigation rate. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

	Crude Protein				ADF				NDF			
	Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.
Logan 2019	100	25.632	0.478	A	100	20.636	0.582	A	100	8.017	0.111	B
	75	24.775	0.478	AB	75	19.876	0.574	AB	75	8.258	0.111	B
	50	23.84	0.501	B	50	18.829	0.61	B	50	8.816	0.125	A
	75T	24.067	0.478	B	75T	16.815	0.574	C	75T	8.226	0.111	B
Vernal 2021	100	23.879	0.436	B	100	14.627	1.091	A	100	9.764	0.417	B
	75	25.119	0.436	A	75	13.855	1.091	A	75	10.568	0.417	AB
	50	22.762	0.446	B	50	7.069	1.091	B	50	11.773	0.427	A
	81T	23.931	0.436	AB	87T	9.298	1.091	B	87T	10.884	0.417	AB
Cedar City 2021	100	20.638	0.51	BC	100	20.677	1.292	A				
	75	22.394	0.51	A	75	16.952	1.292	B				
	50	21.21	0.51	AB	50	14.4	1.292	B				
	61T	19.724	0.51	C	61T	15.802	1.292	B				

Table S7 Irrigation Rate Significance on Corn Quality – P2

Corn quality values are shown by site-year that were significantly affected by irrigation rate. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

	Starch				TDN				NDFD48			
	Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.
Logan 2019									100	69.829	0.316	B
									75	70.525	0.316	AB
									50	71.129	0.332	A
									75T	70.985	0.316	A
Vernal 2021	100	47.273	0.79	B	100	18.112	0.92	A	100	71.114	0.287	A
	75	50.702	0.79	A	75	13.788	0.92	B	75	70.297	0.287	B
	50	49.775	0.802	A	50	12.191	0.935	B	50	71.849	0.294	A
	87T	49.511	0.79	AB	87T	13.476	0.92	B	87T	71.078	0.287	AB
Cedar City 2021	100	38.745	0.885	B					100	73.246	0.336	AB
	75	42.039	0.885	A					75	72.091	0.336	C
	50	41.401	0.885	A					50	72.872	0.336	BC
	61T	38.504	0.885	B					61T	73.849	0.336	A

Table S8 Crop Genetics Significance on Corn Quality – P1

Corn quality values are shown by site-year that were significantly affected by corn genetics. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

Crude Protein					NDF				Starch			
	Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.
Logan 2020	DT	21.877	0.214	A								
	Non-DT	21.312	0.214	B								
Vernal 2020												
Vernal 2021	DT	24.954	0.312	A	DT	10.229	0.288	B	DT	49.91	0.484	A
	Non-DT	22.892	0.308	B	Non-DT	11.265	0.284	A	Non-DT	48.721	0.479	B
Cedar City 2021					DT	8.488	0.113	B				
					Non-DT	9.025	0.113	A				

Table S9 Crop Genetics Significance on Corn Quality – P2

Corn quality values are shown by site-year that were significantly affected by corn genetics.. Parameters and site years without significance (F test greater than 0.05) were omitted from the table. Mean separations are shown by letters.

TDN					NDFD48			
	Factor	Estimate	Standard Error	Mean Sep.	Factor	Estimate	Standard Error	Mean Sep.
Vernal 2020	DT	23.087	0.476	B				
	Non-DT	25.753	0.484	A				
Vernal 2021	DT	12.896	0.565	B	DT	70.406	0.205	B
	Non-DT	15.887	0.559	A	Non-DT	71.764	0.203	A