

Average normalized response of common hard spring wheat varieties to terminal drought and nitrogen (N) stress in trials conducted in Yolo and Fresno Counties of California during the 2016-2017 and 2017-2018 seasons. Terminal drought and N stress responses are based on averages of 3 and 4 site-years of data, respectively. The normalized stress response is calculated as:  $(A_i / \text{mean } A) + [(B_i - \text{mean } B) / (\text{mean } B)]$ , where A is a fully watered/fertilized control, B is a managed stress trial grown at the same location, and i is an individual variety. Stress trials are managed identically except for the exclusion of irrigation after the vegetative growth period (terminal drought) or the exclusion of N fertilizer additions throughout the season (N stress).

Variety Name	Terminal Drought Stress Response									Nitrogen Stress Response										
	Yield				Protein Yield			Protein			Yield				Protein Yield			Protein		
	Rank	Response (%)	SE Response	p-value	Response (%)	SE Response	p-value	Response (%)	SE Response	p-value	Rank	Response (%)	SE Response	p-value	Response (%)	SE Response	p-value	Response (%)	SE Response	p-value
LCS 12SB0197	7	8.9	6.8	0.199	0.8	7.3	0.914	-7.5	4.0	0.065	4	15	4.9	0.003	-5.3	6.4	0.405	-18.8	3.1	0.000
LCS 12SB0224	9	8.7	6.8	0.210	-7.5	7.3	0.313	-12.2	4.0	0.003	6	9.6	4.9	0.055	-1.7	6.4	0.796	-8.2	3.1	0.010
LCS ATOMO	5	13.4	6.8	0.056	3.4	7.3	0.646	-10.1	4.0	0.014	3	16.7	4.9	0.001	6.8	6.4	0.290	-11.3	3.1	0.001
LCS STAR	22	-14.8	6.8	0.035	-12.5	7.3	0.096	1.7	4.0	0.666	10	5.4	4.9	0.274	0.1	6.4	0.983	-4.8	3.1	0.124
SY BLANCA GRANDE 515	17	-3.9	6.8	0.573	11.9	7.3	0.112	3.9	4.0	0.332	23	-11.8	4.9	0.019	2.1	6.4	0.738	12.4	3.1	0.000
SY BLANCA ROYALE	12	1.8	6.8	0.792	4.5	7.3	0.539	1.7	4.0	0.668	14	0.6	4.9	0.910	1.2	6.4	0.857	2.6	3.1	0.398
SY CAL ROJO	11	1.9	6.8	0.781	-8	7.3	0.283	-7.3	4.0	0.072	13	0.7	4.9	0.880	-4.7	6.4	0.461	-5.1	3.1	0.103
SY REDWING	8	8.9	6.8	0.199	11.2	7.3	0.133	2.7	4.0	0.503	5	13.7	4.9	0.007	8.8	6.4	0.172	-8	3.1	0.012
SY SIENNA	10	6.8	6.8	0.325	13.4	7.3	0.075	3.6	4.0	0.362	16	-3.7	4.9	0.454	1.9	6.4	0.763	2.8	3.1	0.375
SY SUMMIT 515	15	-2.5	6.8	0.714	-2.3	7.3	0.752	2.1	4.0	0.599	18	-5.1	4.9	0.302	-5.9	6.4	0.357	-0.6	3.1	0.854
UC 15010 27	2	16.7	6.8	0.018	13.6	7.3	0.069	-6	4.0	0.133	2	16.8	4.9	0.001	12.4	6.4	0.055	-4.8	3.1	0.125
UC CENTRAL RED	13	1.7	6.8	0.809	4.7	7.3	0.522	4.2	4.0	0.295	20	-7.4	4.9	0.137	-0.4	6.4	0.951	5.8	3.1	0.066
UC LASSIK	14	0.8	6.8	0.902	-9	7.3	0.225	-4.8	4.0	0.230	8	5.8	4.9	0.237	1.8	6.4	0.781	-3.5	3.1	0.269
UC PATWIN 515	3	15.9	6.8	0.024	18	7.3	0.018	-1.7	4.0	0.676	11	5	4.9	0.307	4	6.4	0.534	-3.3	3.1	0.293
UC PATWIN 515HP	18	-5.5	6.8	0.426	13.9	7.3	0.065	21.6	4.0	0.000	19	-5.7	4.9	0.246	9.9	6.4	0.125	16	3.1	0.000
UC YUROK	16	-2.7	6.8	0.698	-4.1	7.3	0.578	-0.9	4.0	0.821	15	-0.2	4.9	0.962	3.8	6.4	0.549	3.8	3.1	0.220
WB 7566	6	10.4	6.8	0.135	4.5	7.3	0.541	-7.8	4.0	0.055	12	1.3	4.9	0.786	-8.3	6.4	0.199	-12.9	3.1	0.000
WB 9112	20	-12.1	6.8	0.082	-8	7.3	0.283	6.9	4.0	0.086	22	-11	4.9	0.028	-2.6	6.4	0.682	8.7	3.1	0.007
WB 9229	23	-14.9	6.8	0.034	-2.2	7.3	0.770	7.7	4.0	0.058	21	-9.8	4.9	0.049	8.1	6.4	0.208	17.3	3.1	0.000
WB 9350	4	14	6.8	0.045	3.3	7.3	0.652	-8	4.0	0.049	7	8.5	4.9	0.087	-2.4	6.4	0.703	-12.4	3.1	0.000
WB 9433	1	19.6	6.8	0.006	16.9	7.3	0.026	-7.7	4.0	0.057	1	22.1	4.9	0.000	12.2	6.4	0.059	-9.4	3.1	0.003
WB 9904	19	-10.3	6.8	0.139	-17.8	7.3	0.019	-4.7	4.0	0.243	9	5.7	4.9	0.251	-0.8	6.4	0.895	-6.5	3.1	0.039
WB JOAQUIN ORO	25	-31.4	6.8	0.000	-17.9	7.3	0.018	18.2	4.0	0.000	25	-42.5	4.9	0.000	-21.6	6.4	0.001	30.3	3.1	0.000
WB PATRON	21	-13.7	6.8	0.051	-15.5	7.3	0.040	-2	4.0	0.623	17	-4.8	4.9	0.332	-3.3	6.4	0.603	-0.1	3.1	0.972
YECORA ROJO	24	-17.6	6.8	0.013	-15.4	7.3	0.041	6.4	4.0	0.114	24	-24.8	4.9	0.000	-16.1	6.4	0.014	10.1	3.1	0.002