

Table S4. NIRS prediction for NDF, ADF and ADL of the mutant lines

Line	NDF (%)			ADF (%)			ADL (%)		
	Ismean	Lower	Upper	Ismean	Lower	Upper	Ismean	Lower	Upper
BTx623 ^T	60.86	58.85	62.86	34.23	33.50	34.97	5.18	4.98	5.39
BTx623 ^N	61.48	59.48	63.49	34.52	33.76	35.28	5.34	5.13	5.54
RTx430	64.41	62.40	66.42	36.41	35.69	37.13	5.11	4.92	5.31
BWheatland	64.03	62.02	66.03	36.04	35.32	36.76	5.13	4.93	5.33
BTx623 <i>bmr6</i>	60.76	58.75	62.76	33.76	32.97	34.54	4.28	4.07	4.49
BTx623 <i>bmr12</i>	62.68	60.68	64.69	34.60	33.81	35.39	4.09	3.88	4.31
OK11 <i>bmr2</i>	64.79	62.78	66.79	35.53	34.79	36.27	4.05	3.85	4.25
<i>bmr2-2</i>	58.84	56.84	60.84	31.96	31.22	32.70	3.67	3.47	3.88
<i>bmr6-23</i>	60.84	58.83	62.85	32.82	32.13	33.51	4.59	4.40	4.77
<i>bmr6-31</i>	59.10	57.09	61.11	31.19	30.49	31.89	3.77	3.58	3.97
<i>bmr6-32</i>	61.02	59.02	63.02	33.05	32.31	33.78	3.82	3.62	4.02
<i>bmr6-45</i>	54.98	52.98	56.99	29.30	28.60	30.00	3.72	3.53	3.91
<i>bmr6-307</i>	58.15	56.14	60.15	29.13	28.35	29.91	4.30	4.09	4.51
<i>bmr6-741</i>	59.88	57.87	61.88	32.49	31.77	33.20	3.92	3.73	4.12
<i>bmr6-971</i>	60.14	58.14	62.15	32.59	31.84	33.35	3.97	3.77	4.18
<i>bmr6-1103</i>	59.44	57.43	61.44	32.30	31.54	33.06	3.74	3.54	3.95
<i>bmr6-1277</i>	68.66	66.66	70.67	38.56	37.87	39.26	5.08	4.89	5.27
<i>bmr12-30</i>	61.02	59.02	63.03	32.40	31.64	33.16	3.85	3.64	4.05
<i>bmr12-34</i>	61.52	59.52	63.53	33.25	32.47	34.03	3.75	3.53	3.96
<i>bmr12-35</i>	61.80	59.79	63.80	33.86	33.11	34.62	4.61	4.41	4.82
<i>bmr12-820</i>	58.46	56.44	60.49	31.12	30.25	31.98	3.37	3.13	3.60
<i>bmr29</i>	64.41	62.41	66.42	37.32	36.58	38.06	4.65	4.45	4.85
<i>bmr30</i>	61.29	59.28	63.30	32.31	31.51	33.12	4.50	4.28	4.72
<i>bmr31</i>	60.07	58.06	62.08	31.48	30.67	32.29	4.80	4.58	5.02
<i>bmr32-1</i>	62.34	60.33	64.34	33.52	32.78	34.26	4.02	3.82	4.22
<i>bmr32-2</i>	63.47	61.47	65.47	35.15	34.41	35.89	4.34	4.14	4.54
<i>bmr32-3</i>	59.89	57.89	61.90	31.37	30.63	32.10	4.53	4.33	4.74
4	64.05	62.05	66.06	35.76	35.01	36.52	5.51	5.30	5.71
25	56.90	54.90	58.91	30.60	29.79	31.41	3.64	3.42	3.86
39	61.21	59.20	63.22	32.82	32.01	33.62	4.99	4.77	5.21
40	62.45	60.44	64.45	34.33	33.57	35.09	5.47	5.26	5.68
41	60.85	58.84	62.85	33.14	32.38	33.90	5.09	4.89	5.30
163	62.53	60.53	64.54	34.63	33.87	35.38	4.77	4.56	4.98
247	61.51	59.50	63.53	32.73	31.90	33.57	5.20	4.97	5.43
371	64.94	62.93	66.94	36.61	35.86	37.37	5.41	5.21	5.62
372	60.40	58.39	62.40	32.72	31.96	33.48	5.00	4.79	5.20
485	59.26	57.26	61.27	32.88	32.15	33.62	4.47	4.27	4.68
492	58.94	56.93	60.95	31.68	30.87	32.48	4.29	4.07	4.51
557	59.61	57.61	61.62	31.87	31.11	32.63	4.78	4.57	4.98
666	65.34	63.33	67.34	36.09	35.37	36.81	4.10	3.90	4.30

706	59.88	57.87	61.88	30.63	29.89	31.37	5.58	5.38	5.78
924	66.00	64.00	68.01	37.53	36.79	38.27	5.84	5.64	6.04
934	62.82	60.81	64.82	33.45	32.73	34.16	5.07	4.87	5.26
1057	61.66	59.66	63.67	33.60	32.86	34.33	4.71	4.51	4.91
1074	59.80	57.80	61.81	32.92	32.16	33.68	4.75	4.54	4.96
1402	57.51	55.51	59.52	30.97	30.21	31.73	4.23	4.02	4.44
1492	60.98	58.97	62.99	32.48	31.67	33.28	4.93	4.71	5.16
1593	55.73	53.72	57.74	29.59	28.91	30.27	4.14	3.95	4.32
1605	57.65	55.64	59.66	32.27	31.59	32.95	5.02	4.84	5.21
1614	62.41	60.41	64.41	34.75	34.00	35.51	5.72	5.51	5.92
1634	57.59	55.59	59.59	28.78	28.03	29.54	4.80	4.59	5.01
1668	59.55	57.55	61.56	31.57	30.79	32.35	4.70	4.49	4.91
1827	56.55	54.55	58.55	30.66	29.92	31.39	4.05	3.85	4.25

Values for neutral detergent fiber (NDF), acid detergent fiber (ADF), and acid detergent lignin (ADL) concentration were determined by NIRS prediction based on the calibration equation (Table S1). Additional details are found in the Materials and Methods Section. Least Squares Means (lsmean) for mutant and check lines were generated, and means of all variables were ranked from highest (Upper) to lowest (Lower). **Bold text** indicates values that were statistically significantly different ($P \leq 0.20$) from the values of BTx623^T, the line used for mutagenesis. Additional details of the statistical analysis are described in the Materials and Methods section. BTx623^N is the line maintained by ARS in Lincoln, NE, which was included for comparison.