

2013 NIRS Consortium Level 2 Equation Release Statistics

Mixed Hay: 12MH50-2.eqa

Constituent	N	Mean	SD	SEC	1-VR	SECV	1-VR
DM	106	93.87	1.50	0.24	0.98	0.31	0.96
PROTEIN	1154	17.72	5.49	0.79	0.98	0.85	0.98
ADF	1067	34.27	6.69	1.84	0.92	1.91	0.92
P	749	0.26	0.08	0.04	0.70	0.04	0.70
CA	759	1.06	0.53	0.16	0.90	0.17	0.90
K	673	2.25	0.77	0.28	0.85	0.31	0.85
MG	679	0.26	0.09	0.04	0.76	0.05	0.76
aNDF	1344	46.91	12.44	2.16	0.97	2.26	0.97
IVTDM48H	411	76.42	7.27	2.57	0.84	2.88	0.84
dNDF48	403	23.09	7.39	2.25	0.88	2.58	0.88
ASH	681	8.61	3.06	0.92	0.89	1.02	0.89
FAT	188	1.99	0.76	0.19	0.92	0.22	0.92
Lignin	129	7.00	2.26	1.31	0.60	1.42	0.60
RUP	102	25.37	6.78	1.40	0.96	2.35	0.88

Table 1: 2013 added too few samples to the calibration set to justify updating the predictive equation.

Unfermented Corn Silage: 13UCS50.eqa

Constituent	N	Mean	SD	SEC	RSQ	SECV	1-VR
DM	235	93.0433	0.8297	0.7054	0.2773	0.7608	0.2147
CP	212	7.5827	1.7133	0.6552	0.8538	0.7962	0.7856
ADF	214	27.9361	5.3613	1.1143	0.9568	1.3033	0.9430
aNDF	238	47.9305	8.5872	1.5525	0.9673	1.7194	0.9612
dNDF24	91	18.4113	5.6672	3.5288	0.6123	4.1413	0.4644
IVDMD24	93	69.7611	7.4371	3.4990	0.7786	3.8690	0.7285
NDFD24	91	37.9325	9.7870	5.6949	0.6614	7.6468	0.4015
dNDF30	57	21.6740	5.0638	2.6982	0.7161	3.3567	0.5746
IVDMD30	62	77.5597	5.8423	3.1492	0.7094	3.3290	0.6849
NDFD30	62	49.3811	7.6949	6.9056	0.1946	7.8532	-0.0182
dNDF48	218	29.3383	5.6034	2.0999	0.8596	2.4550	0.8069
IVDMD48	225	80.9682	4.9143	2.0789	0.8211	2.3775	0.7746
NDFD48	220	60.9828	6.7104	3.9051	0.6613	4.6508	0.5216
Starch	208	22.6942	10.5540	1.5569	0.9782	1.9097	0.9691

Table 2: Five samples were analyzed for digestibility and added to the calibration set.

Corn Silage: 13CS50-2.eqa

Constituent	N	Mean	SD	SEC	RSQ	SECV	1-VR
CP	754	9.1288	1.8055	0.6439	0.8728	0.7165	0.8467
ADF	714	27.1659	4.8023	1.3870	0.9166	1.5639	0.8969
aNDF	1193	45.6496	7.7268	1.9742	0.9347	2.0673	0.9287
Ca	388	0.2712	0.0963	0.0678	0.5045	0.0996	0.2802
P	387	0.2262	0.0397	0.0349	0.2248	0.0379	0.2008
K	351	1.1926	0.4288	0.2313	0.7089	0.2792	0.6008
Mg	341	0.2159	0.0727	0.0490	0.5444	0.0533	0.4722
DM	509	95.3643	3.2987	1.3514	0.8322	1.4854	0.8032
dNDF30	128	19.7815	4.7061	2.0991	0.8011	2.8708	0.6506
IVTDMD30	137	78.1847	8.6252	2.4507	0.9193	2.7836	0.8944
NDFD30	137	49.6507	11.2636	5.2091	0.7861	6.1774	0.6975
dNDF48	622	27.6224	5.0915	1.7790	0.8779	1.9648	0.8517
IVTDMD48	629	81.9075	3.5674	1.5202	0.8184	1.6679	0.7900
NDFD48	630	60.1718	4.8241	3.2788	0.5380	3.6385	0.4550
Ash	482	4.7536	1.3795	0.7189	0.7284	0.8885	0.7141
Fat	222	2.4298	0.4252	0.1682	0.8434	0.2144	0.7832
Lignin	319	3.5048	1.0831	0.6569	0.6321	0.7251	0.5681
Starch	320	21.7241	10.1388	1.7795	0.9692	2.0185	0.9620

Table 3: The database has been updated with 33 new samples.

Alfalfa Hay: 13AH50-2.eqa

Constituent	N	Mean	SD	SEC	RSQ	SECV	1-VR
DM	106	93.8671	1.5030	0.2378	0.9750	0.3111	0.9569
CP	719	20.4673	3.2016	0.7256	0.9486	0.8431	0.9310
ADF	822	32.4882	5.8483	1.6977	0.9157	1.8082	0.9056
aNDF	1116	41.9519	8.7087	2.3896	0.9247	2.5109	0.9171
dNDF30	109	19.7159	6.8623	3.2951	0.7694	3.6711	0.7143
IVTDMD30	113	67.8200	9.7676	3.7485	0.8527	4.3226	0.8048
NDFD30	112	37.5966	10.0794	5.8916	0.6583	7.2661	0.5222
dNDF48	388	21.4632	6.6493	2.2182	0.8887	2.5054	0.8574
IVTDMD48	389	76.5304	6.9199	2.5194	0.8674	2.7043	0.8499
NDFD48	339	48.5791	8.5661	4.2668	0.7519	4.9056	0.6933
Ca	499	1.3902	0.3796	0.1933	0.7408	0.2061	0.7057
P	486	0.2641	0.0614	0.0375	0.6269	0.0411	0.5725
K	450	2.4232	0.6120	0.3247	0.7185	0.3588	0.6589
Mg	402	0.3137	0.0916	0.0520	0.6781	0.0588	0.5899
Ash	191	11.1832	2.9630	1.0716	0.8692	1.4582	0.7815
Lignin	101	7.4972	1.9682	0.7518	0.8541	1.0272	0.7251
Fat	188	1.9928	0.7559	0.1902	0.9367	0.2162	0.9179
RUP	102	25.3707	6.7781	1.4002	0.9573	2.3514	0.8804

Table 4: Nine non-redundant samples were selected, analyzed, and added to the calibration.

Grass Hay: 13GH50-2.eqa

Constituent	N	Mean	SD	SEC	RSQ	SECV	1-VR
DM	106	93.8671	1.5030	0.2378	0.9750	0.3111	0.9569
CP	1100	13.1143	6.5020	0.9769	0.9774	1.0438	0.9741
ADF	738	38.5426	7.5063	1.7692	0.9444	1.9204	0.9346
aNDF	957	58.3078	12.0859	2.1341	0.9688	2.3003	0.9638
Ca	736	0.4927	0.2092	0.1076	0.7353	0.1200	0.6926
P	750	0.2042	0.0808	0.0410	0.7421	0.0434	0.7186
K	645	1.6945	0.7551	0.3241	0.8157	0.3611	0.7820
Mg	645	0.2620	0.1427	0.0631	0.8043	0.0685	0.7843
dNDF30	121	24.0092	7.5963	3.8691	0.7406	4.8307	0.6079
IVTDMD30	121	62.2834	12.1574	4.6998	0.8506	5.4871	0.7979
NDFD30	129	39.9765	13.6845	6.7244	0.7585	8.2558	0.6391
dNDF48	660	30.8209	9.0198	4.1893	0.7843	4.4789	0.7542
IVTDMD48	584	75.0214	10.6713	3.9517	0.8629	4.2168	0.8434
NDFD48	591	55.5858	14.0298	6.0536	0.8138	6.4771	0.7859
Ash	315	9.3965	3.7179	1.0805	0.9155	1.2452	0.8890
Fat	104	2.1893	0.5476	0.2850	0.7291	0.3925	0.4906
Lignin	234	3.5251	1.9201	0.7723	0.8382	0.9219	0.7678
Sugars	64	4.8430	2.1676	0.4844	0.9501	0.5959	0.9259
Fructan	65	1.3591	0.7033	0.3744	0.7165	0.4606	0.6666
WSC	66	6.5406	2.9663	0.5798	0.9618	0.6972	0.9441

Table 5: The grass hay database has been expanded with 28 new samples.

Mixed Haylage: 13HG50-2.eqa

Constituent	N	Mean	SD	SEC	RSQ	SECV	1-VR
DM	793	94.7023	2.3423	0.6482	0.9234	0.6937	0.9124
CP	542	17.5484	4.6979	1.0517	0.9499	1.1849	0.9379
ADF	564	37.7116	6.4625	2.0711	0.8973	2.2530	0.8806
aNDF	970	47.2369	10.7705	2.2137	0.9578	2.3895	0.9518
Ca	532	1.1013	0.4662	0.1743	0.8603	0.1943	0.8300
P	542	0.3119	0.0762	0.0500	0.5697	0.0535	0.5121
K	527	2.4897	0.8215	0.3973	0.7661	0.4266	0.7295
Mg	523	0.2939	0.1035	0.0638	0.6209	0.0667	0.5895
dNDF30	95	17.5577	4.9433	2.8517	0.6672	3.3868	0.5603
IVDMD30	87	69.2089	10.7769	3.5937	0.8888	3.9618	0.8651
NDFD30	101	38.1734	10.8931	6.1179	0.6846	7.3498	0.5499
dNDF48	506	21.3426	5.6192	2.2622	0.8379	2.4531	0.8098
IVTDMD48	491	78.5757	5.2865	2.1330	0.8372	2.4670	0.8112
NDFD48	516	49.8246	8.4203	4.7322	0.6842	5.0823	0.6417
Ash	565	9.9684	3.4138	1.0529	0.9049	1.1983	0.8840
Fat	156	2.6193	0.7627	0.3979	0.7278	0.4431	0.6779
Lignin	168	7.6330	2.7598	1.2057	0.8091	1.3636	0.7679
RUP	111	21.4994	2.8601	1.1808	0.8296	1.3943	0.7836

Table 6: The haylage database has been updated with 12 new samples.