

Appendix 2a. Major mineral, crude protein/fiber (CP/NDF) and digestible energy (DE) analyses for selected hay samples from Harrison and adjacent counties in southern Indiana and Kentucky¹. Several specialty hays available from local farm stores are included for comparison.

	Ca (%)	P	Mg	K	Na	CP/NDF ²	DE (Mcal)
Alfalfa-H2	0.79	0.22	0.19	1.73	0.011	14.9/39	2.21
Alfalfa-S2	1.27	0.19	0.28	1.45	0.009	15.5/45	2.10
Orchard grass-H2	0.89	0.34	0.23	1.49	0.011	13.2/47	2.10
Orchard grass-S2 ³	0.82	0.30	0.24	1.69	0.014	13.6/52	2.00
Orchard grass-S1R	0.30	0.19	0.12	1.73	<0.001	8.1/64	1.85
Orchard grass-JA1	0.59	0.46	0.32	1.33	0.028	11.1/59	1.78
Orchard grass-DM1	0.59	0.23	0.22	1.30	0.024	9.1/59	1.96
Mixed grass-D1 ⁴	0.49	0.30	0.16	1.66	0.02	9.9/56	1.91
Mixed grass-G1R	0.46	0.16	0.19	1.46	0.013	9.1/61	1.85
Mixed grass-G2R	0.54	0.16	0.26	1.26	0.011	8.2/57	1.94
Mixed grass-JU1	0.46	0.16	0.16	1.69	0.007	11.2/51	2.02
Mixed grass-JU2	0.49	0.09	0.19	1.08	0.004	7.6/62	1.83
Mixed grass-JA1R	0.44	0.15	0.16	1.71	0.010	8.4/56	1.86
Mixed grass-B2	0.48	0.17	0.27	1.30	0.013	9.8/57	1.91
Mixed grass-M2	0.35	0.17	0.30	1.13	0.016	11.0/54	2.00
Mixed grass-L2	0.35	0.12	0.25	1.33	0.004	7.7/59	1.76
Mixed grass-C2	0.83	0.32	0.25	1.08	0.337	9.7/59	1.91
Timothy-N1	0.39	0.24	0.11	1.41	0.029	6.3/65	1.81
Gammagrass-G1R ⁵	0.38	0.24	0.19	1.26	0.014	8.2/61	1.71
Broomsedge-SS2 ⁵	0.45	0.23	0.32	0.82	0.030	7.8/58	1.88
Oat	0.43	0.22	0.15	1.51	0.040	7.8/64	1.77
Specialty hays⁶							
Purina hydration hay ⁷	0.48	0.22	0.13	1.45	0.054	9.7/57	2.01
Standlee timothy hay	0.52	0.25	0.17	1.96	0.24	9.9/58	1.91
Triple Crown timothy/orchard grass	0.81	0.20	0.18	1.42	0.248	9.8/40	2.05

¹Hay analyses are “as sampled”, or “as fed”. Chemical symbols and abbreviations: Ca (Calcium), P (Phosphorous), Mg (Magnesium), K (Potassium), Na (Sodium), Fe (Iron), Cu (Copper), Zn (Zinc), Mn

(Manganese), Mo (Molybdenum), Se (Selenium), Co (Cobalt), CP (Crude Protein), NDF (Neutral Detergent Fiber), DE (Digestible Energy) in Megacalorie/kg = 1 million calories/kg. Hay symbols expressed in terms of number of cut (1 or 2) and type of bale (R for round bale).

²Crude protein (CP) is calculated from total nitrogen content, which includes both protein and non-protein nitrogen sources in forage. Neutral Detergent Fiber (NDF) consists of structural parts of plants (e.g., cell walls) that are less digestible. As NDF increases forage is less readily consumed. Values below 40% are excellent whereas those above 65% are poor.

³Orchard grass-S2 contains about 20% alfalfa.

⁴Most abundant grass in mixed grass hay is usually fescue.

⁵Gammagrass and broomsedge are C4 native warm-season grasses.

⁶Analyses based on samples from one bag hay, or 1 package (12 hay blocks, Purina). Results may vary between batches.

⁷Contains no more than 40% alfalfa (Purina, pers. comm.).