

Average Composition, Digestibility, and Money Value of Feeding Stuffs, as given by Dr. Wolf, for Germany, for 1878, except a few made at the Connecticut experimental station.

	Water.	Ash.	Albuminoids.	Crude Fibre.	Carbo-hydrates.	Fat.	Digestible Matters.			Nutritive Ratio	Money Value.		
							Albuminoids.	Carbo-hydrates	Fat.		Dollars per 100 lbs.	Compran. with Meadow Hay::1	
Meadow hay, inferior.....	14.3	5.0	7.5	33.5	38.2	1.5	3.4	34.9	0.5	10.6	0.48	0.74	
" " better.....	14.3	5.4	9.2	29.2	39.7	2.0	4.6	36.4	0.6	8.3	0.55	0.6	
" " average.....	14.3	6.2	9.7	26.3	41.4	2.5	5.4	41.0	1.0	8.0	0.61	1.00	
" " very good.....	15.0	7.0	11.7	21.9	41.6	2.8	7.4	41.7	1.3	6.1	0.74	1.17	
" " extra.....	16.0	7.7	13.5	19.3	40.4	3.0	9.2	42.8	1.5	5.1	0.84	1.32	
Clover hay, average.....	16.0	5.3	12.3	26.0	38.2	2.2	7.0	38.1	1.2	5.9	0.69	1.08	
" " best.....	16.5	7.0	15.3	22.2	35.8	3.2	10.7	37.6	2.1	4.0	0.88	1.39	
Timothy hay.....	14.1	4.5	9.7	22.7	45.8	3.0	5.8	43.4	1.4	8.1	0.69	1.09	
Hungarian hay.....	13.4	5.7	10.8	29.4	38.5	2.2	6.1	41.0	0.9	7.1	0.66	1.04	
Rye straw.....	14.3	4.1	3.0	41.0	3.3	1.3	0.8	36.5	0.4	46.9	0.35	0.55	
Oat straw.....	14.3	4.0	4.0	39.5	36.2	2.0	1.4	40.1	0.7	29.9	0.44	0.69	
Rich pasture grass.....	78.2	2.2	4.5	4.0	10.1	1.0	3.1	10.9	0.6	3.6	0.27	0.42	
Average meadow grass, fresh.....	70.0	2.1	3.4	10.1	13.1	1.0	1.9	14.2	0.5	8.1	0.23	0.36	
Green maize, German.....	85.0	1.0	1.2	4.7	7.6	0.5	0.7	7.4	0.2	11.3	0.10	0.16	
" " Prof. Johnson.....	86.0	0.8	0.8	4.8	7.3	0.3	0.6	8.3	0.2	14.4	0.11	0.17	
Cured maize fodder (Prof. S. W. Johnson).....	27.3	4.2	4.4	25.0	37.9	1.3	3.2	43.4	1.0	14.4	0.57	0.91	
Potatoes.....	75.0	0.9	2.1	1.1	20.7	0.2	2.1	21.8	0.2	10.6	0.29	0.46	
Mangolds.....	88.0	0.8	1.1	0.9	9.1	0.1	1.1	10.0	0.1	9.3	0.14	0.22	
Ruta bagas.....	87.0	1.0	1.3	1.1	9.5	0.1	1.3	10.6	0.1	8.3	0.15	0.24	
Sugar beet.....	81.5	0.7	1.0	1.3	15.4	0.1	1.0	16.7	0.1	17.0	0.19	0.30	
Maize, German.....	14.4	1.5	10.0	5.5	62.1	6.5	8.4	60.6	4.8	8.6	1.10	1.73	
Maize meal, American (by Prof. G. W. Johnson).....	12.9	1.2	8.7	1.8	71.9	3.5	7.3	68.3	2.6	10.2	1.04	1.69	
Oats.....	14.3	2.7	12.0	9.3	55.7	6.0	9.0	13.3	4.7	6.1	0.97	1.53	
Malt sprouts.....	10.1	7.2	24.3	14.3	42.1	2.1	19.4	45.0	1.7	2.5	1.31	2.06	
Wheat bran, coarse.....	12.9	6.6	15.0	10.1	52.2	3.2	12.6	42.6	2.6	3.9	1.01	1.63	
" " fine.....	13.1	5.4	14.0	8.7	55.0	3.8	11.8	44.3	3.0	4.4	1.03	1.62	
Middlings.....	11.5	3.0	13.9	4.8	63.5	3.3	10.8	54.0	2.9	5.7	1.07	1.68	
Cotton seed cake, decorticated.....	11.2	7.6	38.8	9.2	19.5	13.7	31.0	18.3	12.3	1.6	2.05	3.22	
Fish scrap, by Goodale's process (Prof. Johnson).....	11.5		61.0			4.6	57.6		4.1	0.2	2.67	4.17	
Do. dry ground (Prof. Johnson).....	11.7		51.5			8.1	46.4		6.2	0.3	2.28	3.56	

The following analyses are also by Wolf and Knap, as printed in "How Crops Grow," to which we have added the "digestible matters," "nutritive ratio," etc.

Swedish, or Alsike clover hay.....	16.7	8.3	15.3	30.5	29.2	3.3	10.7	33.7	2.3	3.7	0.80	1.25	
" Clover, ripe.....	16.7	5.0	10.2	45.0	23.1	2.2	6.2	30.4	1.6	5.6	0.60	0.93	
Lucerne hay, young.....	16.7	8.7	19.7	22.0	32.9	3.3	13.7	36.6	2.3	3.1	0.97	1.51	
" " in blossom.....	16.7	6.4	14.4	40.0	22.5	2.5	8.7	28.0	1.7	3.7	0.70	1.09	
Vetches, dried in blossom.....	16.7	8.3	14.2	25.5	35.3	2.5	8.6	34.5	1.7	4.5	0.76	1.18	
Peas.....	16.7	7.0	14.3	25.2	36.8	2.6	8.7	35.6	1.8	4.6	0.77	1.20	
Italian rye grass.....	14.3	7.8	8.7	16.9	51.4	2.8	5.8	40.8	2.0	7.6	0.70	1.09	
Early meadow grass (<i>Poa annua</i>) in blossom.....	14.3	2.4	10.1	25.9	47.2	2.9	6.0	42.5	2.1	7.9	0.74	1.16	
Orchard grass, in blossom.....	14.3	4.6	11.6	28.9	40.7	2.7	6.9	40.3	1.9	6.5	0.74	1.16	
Sweet-scented Vernal grass, in blossom.....	14.3	5.4	8.9	31.2	40.2	2.9	5.9	40.1	2.1	7.6	0.70	1.09	
Blue grass, or June grass (<i>Poa pratensis</i>) in blossom.....	14.3	5.1	8.9	32.6	39.1	2.3	5.9	40.0	1.6	7.5	0.68	1.06	
Linsed oil cake.....	11.5	7.9	28.3	10.0	32.3	10.0	23.7	35.15	9.0	2.4	1.73	2.70	

The same able writer further adds that, "Every element of the animal body must be contained in the food given," and he values the food from the proportion of the three classes of digestible matters it contains, that is the albuminoids, carbohydrates, and fat. He furnishes the following table of comparisons between the most common kinds of food for cattle, with regard to the chemical composition, digestibility, and money value, according to the German standard, for 2,000 lbs. or an American ton of clover hay, meadow hay, corn-fodder, oat-straw, oil-cake, wheat bran, corn-meal, and oats.

	In 100 lbs.	Digestible.	In 2,000 lbs.	Money value
Clover hay.				
Albuminoids.....	15.3	10.7	214 lbs.	\$ 9.24
Carbo-hydrates.....	35.8	37.6	752 "	6.76
Crude fibre.....	22.2			
Fat.....	3.2	2.1	42 "	1.82
			1003 lbs.	\$17.82

Average meadow hay.				
Albuminoids.....	9.7	5.4	108 lbs.	\$ 4.68
Carbo-hydrates.....	41.6			
Crude fibre.....	21.9	41.0	820 "	2.38
Fat.....	2.5	1.0	20 "	.87
			918 lbs.	\$12.93
Corn fodder.				
Albuminoids.....	11	3.2	66 "	\$ 2.86
Carbo-hydrates.....	37.9			
Crude fibre.....	25.0	43.4	868 "	7.81
Fat.....	1.3	1.0	20 "	.87
			954 lbs.	\$11.54
Oat straw.				
Albuminoids.....	4.0	1.1	28 "	\$ 1.21
Carbo-hydrates.....	36.2			
Crude fibre.....	39.5	40.1	802 "	7.21
Fat.....	2.0	0.7	14 "	.61
			814 lbs.	\$ 9.03
Oil cake.				
Albuminoids.....	28.3	23.77	475 "	\$19.00
Carbo-hydrates.....	32.3			
Crude fibre.....	10.0	35.15	703 "	6.32
Fat.....	10.0	9.0	180 "	7.80
			1358 lbs.	\$33.12