

Byproducts and Unusual Feeds-Feedstuffs 1995 Reference Issue

Link for Composition and Feeding of Byproducts - Using Byproduct Feeds in Supplementation Programs

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	As Fed (% DM)	TDN (%)	NE (l) ---	NE (m) (Mcal/lb.)	NE (g) ----	CP (%)	ADF (%)	Ash (%)	P (%)
Acorns	70.0	47.0	0.47	0.43	0.10	4.8	17.0	1.7	-----
Acorns, white oak	50.0	46.8	0.47	0.43	0.09	3.7	3.0	1.9	-----
Alder leaves, sun-cured	85.0	47.8	0.48	0.49	0.11	22.0	21.0	5.9	-----
Alfalfa seed screenings	90.0	86.0	0.90	0.94	0.63	34.4	15.0	5.6	-----
Alfileria	20.0	55.4	0.56	0.54	0.22	14.2	30.0	8.6	1.76
Almond hulls, 13% CF	90.0	55.0	0.56	0.53	0.24	2.1	28.0	6.6	0.23
Almond hulls, 15% CF	90.0	52.0	0.52	0.49	0.19	2.0	32.0	6.6	0.23
Almond hulls & shells, 20% CF	90.0	45.0	0.44	0.40	0.08	1.7	41.0	9.9	0.22
Apple pomace, dried	89.0	69.0	0.71	0.73	0.45	4.9	26.0	2.2	0.13
Apple pulp silage	21.4	74.0	0.77	0.78	0.47	7.8	26.0	4.9	0.10
Apples	17.0	70.0	0.72	0.72	0.44	2.8	9.0	2.2	0.06
Apricots, dried	90.0	77.1	0.80	0.83	0.51	-----	0.0	-----	-----
Artichoke silage	30.0	48.0	0.48	0.43	0.11	7.2	34.0	18.5	-----
Artichoke tubers	20.0	77.0	0.80	0.81	0.51	9.8	5.0	4.9	0.29
Artichoke, aerial part	27.0	60.0	0.61	0.59	0.28	5.1	23.0	7.7	0.11
Asparagus butts, dried	91.0	49.0	0.49	0.45	0.13	15.6	40.0	7.7	-----
Aspen leaves, sun-cured	85.0	48.9	0.49	0.46	0.12	17.2	31.0	9.1	-----
Avocado oil meal	91.0	50.0	0.50	0.46	0.13	20.3	24.0	12.4	-----
Avocado seeds	41.0	90.0	0.95	0.99	0.68	4.9	7.0	-----	1.26
Avocado skins	24.0	90.0	0.95	1.00	0.69	6.9	31.0	-----	1.82
Babassu meal, mech-extd	91.0	75.7	0.79	0.81	0.49	21.8	20.0	5.1	1.00
Babassu meal, solv-extd	92.7	66.4	0.68	0.68	0.37	21.3	24.0	6.8	0.71
Bahiagrass hay, mature, sun-cured	90.8	55.9	0.57	0.55	0.22	4.7	42.0	5.9	0.19
Bakery waste, dried	92.0	89.0	0.94	1.00	0.69	10.7	13.0	4.4	0.26
Banana skins, dried, ground	88.0	59.3	0.60	0.59	0.27	7.7	11.0	10.5	-----
Bananas	24.3	84.1	0.88	0.92	0.61	4.5	3.0	3.3	0.11
Bananas, dried	86.0	74.0	0.77	0.77	0.49	4.1	2.0	3.0	0.11
Barley bran	91.0	59.0	0.60	0.57	0.29	12.5	27.0	1.0	-----
Barley distillers dried grains	92.0	69.0	0.71	0.70	0.43	30.1	14.0	2.0	-----
Barley meat sprouts	94.0	71.0	0.74	0.76	0.48	28.0	18.0	7.0	0.75
Barley middlings	89.0	68.0	0.70	0.69	0.42	16.3	13.0	4.8	-----
Barley mill run	90.0	70.0	0.72	0.71	0.44	11.7	20.0	4.6	-----
Barley screenings	89.0	66.0	0.68	0.67	0.39	11.6	11.0	3.5	0.32
Barley straw	91.0	49.0	0.49	0.42	0.24	4.3	59.0	7.1	0.07
Barley, pearl, byproduct	89.6	75.5	0.78	0.80	0.49	14.7	15.0	5.7	0.46
Barley, sprouted 5 days	13.2	70.0	0.72	0.73	0.42	18.1	25.0	4.1	-----
Bean hulls, velvet	86.8	58.3	0.59	0.58	0.26	13.4	35.0	7.0	-----
Bean pods w/ seeds, carob	87.7	79.0	0.82	0.85	0.54	6.3	12.0	2.8	-----
Bean pods w/ seeds, mesquite, dried	91.5	63.1	0.65	0.64	0.32	11.5	25.0	4.8	-----
Bean pods w/ seeds, velvet	88.7	59.1	0.60	0.59	0.27	19.4	18.0	5.3	0.42
Bean pods, broad, dried, ground	92.5	63.4	0.65	0.65	0.33	16.6	22.0	7.3	-----
Bean pods, broad, sun-cured	91.8	52.0	0.52	0.50	0.17	7.7	47.0	4.2	0.11
Bean pods, carob	83.9	73.6	0.76	0.78	0.47	5.7	12.0	4.2	-----
Bean pods, lima	28.2	55.7	0.56	0.54	0.22	7.2	48.0	-----	-----
Bean pods, velvet	88.6	60.4	0.62	0.61	0.29	5.2	40.0	7.9	-----
Bean straw	90.0	51.0	0.51	0.49	0.12	6.8	56.0	8.2	0.14

	As Fed (% DM)	TDN (%)	NE (l) ---	NE (m) (Mcal/lb.)	NE (g) ----	CP (%)	ADF (%)	Ash (%)	P (%)
Bean straw meal	92.1	44.1	0.44	0.39	0.05	7.7	50.0	11.8	-----
Bean straw meal, lima	88.8	51.3	0.52	0.49	0.16	11.3	39.0	9.3	-----
Bean straw, broad	89.1	48.7	0.49	0.45	0.12	6.8	56.0	8.3	0.15
Bean straw, green	89.0	51.0	0.51	0.47	0.15	20.5	30.0	14.5	0.27
Bean straw, kidney	86.0	55.0	0.56	0.53	0.22	9.9	43.0	10.4	-----
Bean straw, lima	90.0	58.0	0.59	0.57	0.25	7.6	39.0	8.2	0.41
Beans, algaroba	85.4	62.4	0.64	0.63	0.31	10.8	28.0	4.1	-----
Beans, blackeye	91.5	74.0	0.77	0.78	0.47	23.4	4.0	5.2	-----
Beans, broad or horse	86.0	84.1	0.88	0.92	0.61	29.2	10.0	2.4	-----
Beans, butter	85.8	73.2	0.76	0.77	0.46	21.1	7.0	4.6	-----
Beans, cannery residue	9.4	72.5	0.75	0.76	0.45	23.5	17.0	-----	-----
Beans, carob	81.2	79.0	0.82	0.85	0.54	6.2	9.0	2.5	-----
Beans, carob, ground	87.5	77.5	0.81	0.83	0.52	13.0	12.0	3.3	0.09
Beans, common, cracked	89.0	68.6	0.71	0.71	0.40	27.6	4.0	9.0	-----
Beans, field or navy	90.0	87.0	0.91	0.97	0.64	25.4	6.0	4.6	0.63
Beans, green	89.0	63.0	0.65	0.63	0.35	16.9	32.0	9.0	-----
Beans, horse	87.3	78.8	0.82	0.85	0.54	29.2	11.0	4.0	0.62
Beans, horse, ground	88.4	73.4	0.76	0.78	0.46	29.2	6.0	4.0	-----
Beans, horse, hulled	88.3	77.0	0.80	0.82	0.51	33.1	1.0	3.0	-----
Beans, kidney	89.0	83.0	0.87	0.90	0.60	24.7	6.0	4.2	0.45
Beans, lima	90.0	83.0	0.87	0.90	0.60	23.1	6.0	-----	0.42
Beans, locust	90.8	73.6	0.76	0.78	0.47	7.3	12.0	3.1	-----
Beans, mung	90.0	84.0	0.88	0.91	0.61	26.6	5.0	4.2	0.38
Beans, navy	89.0	84.0	0.88	0.94	0.64	25.3	6.0	5.2	0.59
Beans, pinto	90.0	83.0	0.87	0.90	0.60	25.2	6.0	4.8	0.39
Beans, tepary	90.5	74.4	0.77	0.79	0.48	24.5	5.0	4.6	-----
Beans, velvet	89.3	87.1	0.91	0.96	0.64	23.8	14.0	3.7	0.36
Beef scrap, dried	87.8	73.6	0.76	0.78	0.47	68.3	2.0	12.7	0.76
Beet crowns with tops, sugar, silage	22.0	51.0	0.51	0.46	0.21	13.4	16.0	32.5	0.20
Beet crowns, sugar	18.0	58.3	0.59	0.58	0.26	16.8	22.0	19.9	-----
Beet pulp, dried	91.0	78.0	0.81	0.86	0.57	9.7	33.0	4.4	0.10
Beet pulp, molasses dried	92.0	78.0	0.81	0.86	0.57	10.1	25.0	6.1	0.10
Beet pulp, silage	11.1	75.0	0.78	0.80	0.52	13.5	40.0	4.0	-----
Beet tailings silage, sugar	18.9	50.4	0.51	0.47	0.15	9.5	30.0	16.4	-----
Beet tops, mangels	12.6	60.7	0.62	0.61	0.29	17.0	14.0	19.2	-----
Beet tops, red	9.0	53.0	0.53	0.50	0.19	24.2	18.0	-----	0.44
Beet tops, sugar	17.0	58.0	0.59	0.56	0.27	15.1	14.0	22.9	0.22
Beets, common	13.0	80.3	0.84	0.87	0.56	12.3	9.0	11.5	0.31
Beets, mangels	13.8	79.2	0.83	0.85	0.54	11.3	9.0	9.7	0.22
Beets, red	12.7	76.8	0.80	0.82	0.51	12.6	8.0	8.7	0.26
Bread, dried	92.0	89.0	0.94	0.99	0.65	13.3	1.0	2.0	0.16
Brewers dried grains, Calif.	92.0	60.0	0.61	0.58	0.32	22.2	29.0	4.1	0.54
Brewers dried grains, 25% protein	92.0	66.0	0.68	0.69	0.41	25.4	24.0	4.8	0.55
Brewers grains, wet	21.0	66.0	0.68	0.69	0.41	25.4	23.0	4.8	0.55
Broccoli	11.0	70.0	0.72	0.73	0.41	33.0	17.0	10.1	0.73
Brussels sprouts	15.0	73.0	0.76	0.77	0.46	33.1	14.0	8.1	0.54
Buckwheat	86.6	70.7	0.73	0.74	0.53	12.5	17.0	2.3	-----
Buckwheat middlings	88.7	83.7	0.88	0.91	0.60	33.5	10.0	5.5	1.15
Cabbage	9.5	85.3	0.89	0.93	0.63	25.3	20.0	14.7	0.35
Cabbage leaves	14.8	66.7	0.69	0.69	0.37	14.4	18.0	15.6	0.21
Cabbage powder, dried	88.3	67.8	0.70	0.70	0.39	16.9	12.0	7.9	-----
Cactus, prickly pear	20.6	58.8	0.60	0.59	0.26	4.8	17.0	18.9	0.12
Cactus, spineless	5.3	49.2	0.49	0.46	0.13	13.5	14.0	23.0	-----
Cantaloupe	10.0	66.0	0.68	0.68	0.37	20.4	26.0	-----	-----
Caproco	88.2	60.7	0.62	0.61	0.29	13.5	52.0	2.7	-----
Caraway seeds, unspec-extn, ground	86.2	89.5	0.94	0.99	0.83	24.9	20.0	7.8	-----
Carrot pulp	14.0	62.8	0.64	0.64	0.32	6.40	23.00	8.6	-----
Carrot tops	16.0	74.0	0.77	0.77	0.49	13.1	23.00	15.0	0.19
Carrots	12.0	84.0	0.88	0.94	0.64	9.9	11.00	8.2	0.35
Cassava roots, unspec-extn, ground	90.9	79.4	0.83	0.86	0.54	2.9	6.00	2.3	0.03

	As Fed (% DM)	TDN (%)	NE (l) ---	NE (m) (Mcal/lb.)	NE (g) ----	CP (%)	ADF (%)	Ash (%)	P (%)
Cauliflower	9.0	70.0	0.72	0.73	0.42	30.0	14.00	-----	0.67
Celery	6.0	62.0	0.63	0.61	0.33	15.3	13.00	16.9	0.47
Celery powder, dried	91.9	51.9	0.52	0.50	0.17	23.1	13.00	25.7	-----
Cheese, cottage	21.0	81.2	0.85	0.88	0.57	81.0	0.00	4.8	0.86
Cherry leaves, black, sun-cured	76.1	59.9	0.61	0.60	0.28	15.5	28.00	4.1	-----
Chestnut meals	47.5	87.5	0.92	0.96	0.65	6.1	3.00	2.1	0.19
Chickpeas (garbanzo beans), dried	89.0	89.0	0.93	0.99	0.65	21.9	10.00	3.3	0.37
Citrus pulp	18.0	78.0	0.81	0.86	0.57	7.3	20.00	7.7	-----
Citrus pulp, dried	91.0	77.0	0.80	0.85	0.55	6.7	22.00	6.6	0.12
Citrus pulp, silage	21.0	78.0	0.81	0.86	0.57	7.3	25.00	5.5	0.15
Clover seed screenings	88.1	68.8	0.71	0.72	0.40	33.1	16.00	13.0	-----
Clover seed, bur	93.4	57.8	0.59	0.57	0.25	23.0	34.00	9.5	-----
Clover seed, sweet	92.0	67.0	0.69	0.68	0.40	40.6	15.00	3.8	-----
Coconut meal, mech-extd	92.0	82.0	0.86	0.91	0.61	22.4	19.00	7.3	0.66
Coconut meal, solv-extd	91.0	75.0	0.78	0.81	0.53	23.4	24.00	7.4	0.66
Coconut meats, dried	96.0	109.0	1.16	1.32	0.75	7.5	5.00	-----	0.20
Coffee hulls (coffee chaff)	90.0	51.1	0.51	0.48	0.16	17.3	45.00	5.4	-----
Comfrey, prickly	13.2	58.3	0.59	0.58	0.26	19.7	17.00	18.2	0.55
Corn cobs, ground	90.0	50.0	0.50	0.44	0.19	3.2	35	1.7	0.04
Corn distillers dried fermentation solubles	93.0	88.0	0.93	0.99	0.68	29.7	7	7.8	1.47
Corn distillers dried grains	94.0	86.0	0.90	0.96	0.66	23.0	17	2.4	0.43
Corn ears, ground	87.0	83.0	0.87	0.92	0.62	9.0	11	1.9	0.27
Corn gluten feed	90.0	83.0	0.87	0.92	0.62	25.6	12	7.5	0.82
Corn gluten meal, 60% protein	90.0	89.0	0.94	1.00	0.69	67.2	5	1.8	0.54
Corn stover	85.0	50.0	0.50	0.44	0.19	5.9	39	7.2	0.10
Corn, broom	88.0	77.3	0.80	0.83	0.52	10.6	7	4.1	-----
Corn, cannery waste	23.0	70.0	0.72	0.73	0.42	8.8	29	5.9	0.63
Corn, cannery waste, silage	29.0	72.0	0.75	0.76	0.44	8.8	34	5.9	0.63
Corn, Egyptian	85.7	82.6	0.86	0.90	0.59	11.7	3	2.4	-----
Corn, Egyptian brown	89.0	82.6	0.86	0.90	0.59	12.6	3	2.0	-----
Corn, kafir	90.7	90.9	0.96	1.01	0.69	10.9	2	1.6	0.34
Cotton gin trash	90.0	44.0	0.43	0.39	0.03	7.4	46	5.9	0.12
Cottonseed hulls	91.0	45.0	0.45	0.35	0.11	4.1	73	2.8	0.09
Cottonseed meal, 41% protein, mech-extd	93.0	78.0	0.81	0.85	0.56	44.3	20	6.6	1.16
Cottonseed meal, 41% protein, solv-extd	91.0	76.0	0.79	0.83	0.55	45.6	19	7.0	1.21
Cottonseed meal, 50% protein, solv-extd	93.0	75.0	0.78	0.81	0.53	54.0	12	7.1	1.24
Cottonseed, whole	92.0	96.0	1.01	1.10	0.77	23.0	34	4.8	0.64
Cottonseed whole, without lint	90.0	96.0	1.01	1.10	0.77	25.0	26	4.5	0.54
Cowpea hay, sun-cured	90.0	59.0	0.60	0.58	0.32	19.4	34	11.3	0.35
Date seeds, ground	90.0	75.0	0.81	0.83	0.54	6.6	20	-----	-----
Durra, brown	88.7	96.0	0.95	1.00	0.68	12.1	2	2.1	-----
Durra, white	89.0	96.0	0.95	1.00	0.68	11.9	2	2.4	-----
Dyna-ferm	75.0	59.0	0.48	0.48	0.28	29.3	1	2.7	-----
Eggs w/out shells, dried	96.0	130.0	1.39	1.74	0.60	49.0	0	3.8	0.83
Fat	99.0	177.0	1.92	2.16	1.60	-----	-----	-----	-----
Feather meal	90.0	63.0	0.65	0.63	0.35	87.4	1	3.8	0.75
Fenugreek seed	90.7	71.7	0.74	0.75	0.44	29.2	13	4.0	-----
Feterita	88.6	84.8	0.89	0.93	0.61	10.7	2	1.7	-----
Figs, dried	76.0	76.2	0.79	0.81	0.50	-----	0	-----	-----
Filaree, mature, dried	89.0	48.1	0.48	0.45	0.11	3.9	44	9.6	-----
Fish meal	92.0	73.0	0.76	0.79	0.50	66.7	1	20.8	3.16

	As Fed (% DM)	TDN (%)	NE (l) ---	NE (m) (Mcal/lb.)	NE (g) ----	CP (%)	ADF (%)	Ash (%)	P (%)
Fish solubles, dried	93.7	78.6	0.82	0.84	0.53	66.9	1	15.8	1.80
Flax hulls	91.0	38.0	0.37	0.31	0.00	8.5	39	10.4	-----
Flax seed screenings	91.0	64.0	0.66	0.65	0.39	18.2	18	6.8	0.47
Flax seeds	94.0	115.0	1.22	1.43	0.74	25.6	8	5.2	0.55
Grape meal, dried	90.0	30.2	0.28	0.21	0.00	-----	0	-----	-----
Grape pomace, dried	91.0	33.0	0.31	0.15	0.00	13.0	54	10.3	0.06
Grape pomace, w/out stems, dried	90.6	61.5	0.63	0.62	0.30	14.0	42	6.0	-----
Grape seeds	85.0	52.9	0.53	0.51	0.18	11.5	59	3.2	-----
Grape/pear/apple pomace, dried	92.2	40.1	0.39	0.34	0.00	7.3	32	3.5	0.20
Grapefruit	14.0	85.0	0.89	0.93	0.62	8.1	13	3.7	0.15
Grapefruit pulp, dried	91.0	80.0	0.83	0.85	0.57	6.7	17	6.0	0.18
Guayule thinnings	92.4	49.8	0.50	0.47	0.14	10.7	34	15.4	-----
Hegari fodder	90.0	61.0	0.62	0.53	0.23	6.8	25	8.5	0.18
Hegari stover	90.0	48.0	0.48	0.45	0.11	6.2	39	11.0	0.09
Hempseed	91.1	90.1	0.95	1.00	0.68	20.0	21	4.6	-----
Hempseed meal	92.8	47.0	0.47	0.43	0.10	33.8	31	9.4	-----
Hominy feed, 5% fat	90.0	87.0	0.91	0.98	0.67	11.5	13	3.1	0.57
Hops, spent, dried	93.0	32.0	0.30	0.24	0.00	24.8	30	6.0	-----
Kale, aerial part	11.6	65.9	0.68	0.68	0.36	20.8	17	15.8	0.51
Kale, thousand-headed	14.8	72.5	0.75	0.76	0.45	17.7	12	11.8	-----
Kelp, dried	91.0	32.0	0.30	0.23	0.00	7.1	10	38.6	0.31
Koliang, brown	89.8	90.9	0.96	1.01	0.69	11.4	2	2.4	-----
Koliang, white	89.2	90.9	0.96	1.01	0.69	13.1	3	2.9	-----
Lemon pulp, dried	93.0	77.0	0.80	0.81	0.53	6.9	20	15.9	-----
Lentil seeds	88.5	75.2	0.78	0.80	0.49	28.0	5	2.9	0.42
Lettuce	5.0	51.0	0.51	0.47	0.15	22.0	14	15.9	0.46
Lettuce powder, dried	90.0	57.8	0.59	0.57	0.25	22.9	16	16.0	-----
Lime pulp, dried	85.0	70.0	0.72	0.72	0.44	9.1	22	-----	-----
Linseed meal, 36 % protein, solv-extd	90.0	78.0	0.81	0.85	0.56	38.3	19	6.5	0.89
Linseed meal, 37% protein, mech-extd	91.0	82.0	0.86	0.91	0.61	37.9	17	6.3	0.96
Locust blossoms, black	10.0	61.9	0.63	0.63	0.31	239.2	25	9.0	-----
Locust leaves, black	21.0	68.3	0.70	0.71	0.40	30.5	12	7.0	-----
Lupine hay, composite sample	94.1	63.6	0.65	0.65	0.33	16.4	31	8.2	0.20
Malt sprouts, 24% protein	94.0	71.0	0.74	0.76	0.48	28.1	18	6.7	0.84
Malt, barley	91.0	88.0	0.92	0.97	0.64	15.8	3	2.5	0.52
Malt, barley, Northwest	91.0	77.0	0.80	0.82	0.51	32.2	24	4.0	0.57
Malva	20.5	58.7	0.60	0.58	0.26	31.5	18	16.3	-----
Manure, cage layer, dried	90.0	52.0	0.52	0.49	0.17	28.0	16	-----	-----
Manure, cattle, dried	93.0	45.0	0.45	0.40	0.05	12.7	47	-----	-----
Melon seeds, citron	91.5	64.5	0.66	0.66	0.34	9.1	57	2.4	-----
Melons	4.1	70.7	0.73	0.74	0.43	11.5	29	6.6	-----
Melons, pie	6.1	74.6	0.77	0.79	0.48	11.5	29	6.6	-----
Milk, buttermilk	9.7	86.0	0.90	0.94	0.60	41.2	0	7.2	0.95
Milk, buttermilk, dried, feed-grade	93.0	86.0	0.90	0.94	0.62	34.2	1	10.8	0.73
Milk, cattle, skim	10.0	92.0	0.97	1.05	0.73	31.2	0	6.9	1.04
Milk, cattle, skim, dried	94.0	85.0	0.89	0.95	0.65	35.8	0.2	8.4	1.09
Milk, cattle, whole	12.0	129.0	1.38	1.52	0.98	26.7	0	6.3	0.76
Milk, cattle, whole, dried	96.0	119.0	1.27	1.39	1.01	26.5	0.2	5.7	0.76
Milk, colostrum	24.8	130.0	1.39	1.64	0.91	45.9	0	4.5	-----
Millet hulls	88.4	13.6	0.10	0.00	0.00	4.4	6.5	10.8	-----
Millet seeds	89.9	66.8	0.69	0.69	0.38	13.5	9	3.3	0.31
Molassess, beet	78.0	75.0	0.78	0.81	0.53	8.5	0	11.3	0.03

	As Fed (% DM)	TDN (%)	NE (l) ---	NE (m) (Mcal/lb.)	NE (g) ----	CP (%)	ADF (%)	Ash (%)	P (%)
Molasses, cane	75.0	72.0	0.75	0.77	0.49	5.8	0	13.1	0.11
Molasses, cane, 3% H3PO4	75.0	70.0	0.72	0.70	0.44	4.2	0	12.2	0.95
Molasses, citrus	68.0	75.0	0.78	0.81	0.53	8.2	0	7.9	0.13
Molasses, wood (Masonex)	76.0	60.0	0.61	0.60	0.34	0.7	2	4.1	0.12
Oat hulls	92.0	35.0	0.34	0.19	0.00	3.9	42	6.6	0.15
Oat middlings	91.0	95.0	1.00	1.09	0.76	16.4	6	2.5	0.49
Oat mill byproduct	92.0	31.0	0.29	0.23	0.00	6.1	37	6.4	0.22
Oat mill feed	92.9	33.7	0.32	0.26	0.00	3.1	44	6.4	0.05
Oat shorts	91.0	60.0	0.61	0.59	0.30	14.1	19	5.3	-----
Oat straw	92.0	50.0	0.50	0.44	0.19	4.4	47	7.8	0.06
Oats, sprouted 5 days	13.2	70.0	0.72	0.73	0.42	18.1	25	4.1	-----
Olive pulp with pits, dried	92.0	40.0	0.39	0.34	0.00	6.4	50	2.7	-----
Olive pulp without pits, dried	95.0	78.0	0.81	0.83	0.54	14.7	25	3.6	-----
Olive pulp without pits, solv-extd	91.0	36.0	0.35	0.29	0.00	14.2	34	8.5	-----
Olive waste, dried	91.3	38.9	0.38	0.32	0.00	14.2	34	9.3	-----
Olives, cull	42.0	89.0	0.93	0.99	0.67	4.5	34	5.1	0.10
Onion waste, dried	89.4	61.2	0.63	0.62	0.30	9.7	28	6.4	-----
Onions, dried	91.4	57.6	0.59	0.57	0.25	12.6	28	8	0.21
Orange byproducts, dried	90.6	70.2	0.73	0.73	0.42	8.3	18	3.4	0.11
Orange pulp, ammoniated, dried	89.0	73.0	0.76	0.77	0.46	16.5	17	3.8	0.11
Orange pulp, dried	88.0	78.0	0.81	0.86	0.57	8.5	16	3.8	0.11
Orange pulp, silage	11.3	64.9	0.67	0.66	0.35	8.8	22	5.3	-----
Orange pulp, wet	25.0	77.0	0.8	0.83	0.51	8.9	16	3.8	0.28
Oranges	13.0	78.0	0.81	0.86	0.57	7.5	14	4.4	0.13
Palm nut meal	89.6	83.7	0.88	0.91	0.60	18.8	34	4.8	-----
Parsnips	13.7	89.2	0.94	0.98	0.67	11.7	9	5.1	-----
Pea hay	88.0	58.0	0.59	0.56	0.27	13.6	38	7.6	0.28
Pea meal, dried	90.0	84.0	0.88	0.91	0.61	19.7	33	3.4	-----
Pea pods, dried	88.0	67.0	0.69	0.68	0.40	10.8	45	5.3	0.23
Pea vine silage	25.0	57.0	0.58	0.55	0.29	13.1	49	9	0.24
Pine vine straw	85.0	56.0	0.57	0.54	0.24	8.9	49	6.8	0.11
Peaches	10.0	80.0	0.83	0.86	0.55	8.7	13	-----	-----
Peaches, dried	90.0	77.8	0.81	0.83	0.52	-----	0	-----	-----
Peanut hay, sun-cured	91.0	55.0	0.56	0.52	0.26	10.8	41	8.6	0.15
Peanut meal, mech-extd	93.0	83.0	0.87	0.92	0.62	52.0	10	5.5	0.61
Peanut meal, solv-extd	92.0	77.0	0.8	0.85	0.55	52.3	18	6.3	0.68
Peanut skins	94.0	65.0	0.67	0.65	0.37	17.4	16	3	0.20
Pear pulp, dried, ground	91.5	70.6	0.73	0.74	0.43	6.1	30	4	0.12
Pears	17.3	86.7	0.91	0.95	0.64	-----	0	-----	-----
Pears, cannery residue	15.2	69.3	0.72	0.72	0.41	3.9	21	2	-----
Pears, Canada, field	85.0	71.0	0.73	0.75	0.43	27.9	12	2.8	-----
Peas, cow	85.2	74.1	0.77	0.79	0.47	24.4	6	3.8	0.50
Peas, cull, dried	90.0	83.0	0.87	0.89	0.59	26.5	9	3.1	0.47
Peas, field	90.7	82.2	0.86	0.89	0.58	25.8	8	3.3	0.55
Pineapple bran (pulp)	87	68	0.7	0.71	0.44	4.6	37	3.5	0.13
Pineapple greenchop	18	56	0.57	0.55	0.24	7.6	35	6.4	0.08
Pineapple juice presscake	21	71	0.74	0.75	0.45	5.3	34	2.6	0.08
Pineapple stumpmeal	46	64	0.66	0.65	0.36	3	30	1.9	0.08
Pineapple tops	16	42.8	0.42	0.38	0.04	10	29	9.4	-----
Pineapples	14.7	80.1	0.84	0.86	0.55	2.7	3	2.7	0.07
Pomegranate pulp	26	68.4	0.71	0.71	0.40	8.4	21	4	-----
Potato meal, dried	89	90	0.95	1.02	0.70	8.4	9	3.4	0.25
Potatoes, fresh	23	81	0.85	0.90	0.60	9.5	3	4.8	0.24
Potatoes, dried	91	81	0.85	0.90	0.60	8.9	3	8.7	0.22
Potato silage	25	82	0.86	0.91	0.61	7.6	5	5.5	0.23
Prune mix	81.8	54.7	0.55	0.53	0.21	6.3	25	6.2	-----
Prunes, dried	90	77.8	0.81	0.83	0.52	-----	0	-----	-----

	As Fed (% DM)	TDN (%)	NE (l) ---	NE (m) (Mcal/lb.)	NE (g) ----	CP (%)	ADF (%)	Ash (%)	P (%)
Prunes, w/pits	82	81	0.85	0.88	0.56	5.3	16	-----	0.11
Prunes, w/o pits	80	93	0.98	1.04	0.72	4.1	3	-----	0.12
Pumpkins	9	85	0.89	0.93	0.62	16.2	18	8.9	0.43
Raisin pulp, dried	89	53	0.53	0.50	0.19	10.7	23	6	-----
Raisins, cull	85	48	0.48	0.44	0.10	4	7	3.5	-----
Rapeseed oilmeal, Canadian, mech-extd (Canola meal)	94	74	0.77	0.80	0.51	37.4	18	7.2	1.15
Rapeseed oilmeal, Canadian, solv-extd (Canola meal)	92	75	0.78	0.81	0.53	44	18	7.8	1.13
Rice bran, solv-extd	90	62	0.64	0.63	0.34	15.9	17	15.1	1.62
Rice bran, 13% fat	91	70	0.73	0.74	0.47	14.1	18	12.8	1.70
Rice byproduct (bran and hulls)	91	33	0.31	0.25	0.00	6.7	53	19.1	0.59
Rice hulls	92	12	0.08	0.00	0.00	3.3	72	20.6	0.08
Rice middlings	88.1	66.9	0.69	0.69	0.38	15.6	12	9.6	-----
Rice polishings	90	91	0.96	0.99	0.65	14.2	4	9.9	1.31
Rice straw	91	41	0.4	0.35	0.02	4.5	44	16.6	0.08
Rutabaga tops	10.9	68.4	0.71	0.71	0.40	18.6	18	19.9	-----
Rutabaga tops, dried	87.3	55.1	0.56	0.54	0.21	11.2	12	39.4	-----
Rutabagas	11.4	85.6	0.9	0.94	0.62	10.5	14	10.5	0.29
Rye bran	91	61	0.62	0.60	0.32	17.5	10	5.2	-----
Rye distillers dried grains	92	61	0.63	0.61	0.35	23.5	18	2.5	0.52
Rye distillers dried grains with solubles	90.5	62.1	0.64	0.63	0.31	30.1	11	7.1	-----
Rye distillers dried solubles	94.4	69.6	0.72	0.73	0.41	37.2	5	7.6	1.26
Rye middlings	90	80	0.83	0.85	0.57	18.4	7	4	0.7
Rye mill run	90	75	0.78	0.79	0.51	18.5	6	4.2	0.71
Safflower hulls	91.3	13.3	0.09	0.00	0.00	3.6	73	1.8	-----
Safflower meal, 20% protein, mech-extd	91	60	0.61	0.60	0.34	22.1	41	4.1	0.78
Safflower meal, 20% protein, solv-extd	92	57	0.58	0.55	0.29	25.4	41	5.9	0.81
Safflower meal, 42% protein, solv-extd	92	73	0.76	0.79	0.50	46.9	21	8.2	1.4
Safflower seeds	94	89	0.94	1.00	0.69	17.4	40	3.1	0.67
Sagebrush browse	50.5	49.9	0.5	0.47	0.14	12.9	31	9.7	0.25
Saltgrass hay, sun-cured	89.2	53.5	0.54	0.52	0.19	8.9	40	12.7	0.1
Screenings, grain, good grade	90	70	0.72	0.70	0.44	14.2	16	9.8	0.43
Screenings, refuse	90	56	0.57	0.55	0.29	11.5	40	10.6	0.32
Sesame meal, mech-extd	93	77	0.8	0.85	0.55	49.1	17	12	1.46
Sesame oil cake	94.7	88.8	0.93	0.98	0.67	38	5	7.8	-----
Sesame seeds	92	104	1.1	1.23	0.74	24.2	14	6.1	0.76
Sloughgrass, American hay, mature, sun-cured	94.6	53.2	0.54	0.51	0.19	5	47	11.6	0.14
Sorghum distillers dried grains with solubles	95	84	0.88	0.91	0.61	34.9	13	4.4	0.97
Sorghum distillers dried grains	94	83	0.87	0.92	0.62	34.4	16	3.8	0.74
Sorghum distillers dried solubles	93	83	0.87	0.90	0.60	28.5	5	9.1	0.66
Sorghum gluten feed, dried	91	76	0.79	0.80	0.52	28.6	10	9.4	0.66
Sorghum silage, 30% DM	30	60	0.61	0.60	0.34	7.5	38	8.7	0.21
Sorghum stover, dried	88	54	0.55	0.50	0.25	5.2	41	11	0.13
Sorrel seeds	86.8	67.7	0.7	0.70	0.39	9.1	24	2.4	-----
Soybean hay, sun-cured	94	53	0.54	0.49	0.24	17.8	40	7.7	0.27
Soybean hulls	91	77	0.8	0.85	0.55	12.1	50	5.1	0.21
Soybean meal, 44% protein, solv-extd	89	84	0.88	0.94	0.64	49.9	10	7.3	0.68

	As Fed (% DM)	TDN (%)	NE (l) ---	NE (m) (Mcal/lb.)	NE (g) ----	CP (%)	ADF (%)	Ash (%)	P (%)
Soybean meal, 48% protein, solv-extd	90	87	0.91	0.98	0.67	55.1	6	6.5	0.7
Soybean mill feed, ground	89.4	48.4	0.48	0.45	0.12	14.9	46	5	0.21
Soybean mill run	88	44	0.43	0.39	0.03	13.6	51	5.1	0.21
Soybean silage	27	55	0.56	0.52	0.26	17.3	40	9.7	0.47
Soybean straw	88	44	0.44	0.44	0.00	5.2	55	5.8	0.06
Soybeans, whole	92	91	0.96	1.03	0.71	42.8	10	5.5	0.65
Sugarcane bagasse	91	44	0.44	0.34	0.10	1.5	61	5.5	0.29
Sugarcane strippings	45	44	0.44	0.39	0.03	3.6	56	10.3	0.27
Sunflower meal, mech-extd	93	74	0.77	0.80	0.51	44.6	17	7.1	1.14
Sunflower meal, solv-extd	93	65	0.67	0.67	0.40	49.8	16	8.1	0.98
Sunflower seeds	94	83	0.87	0.90	0.60	17.9	39	3.3	0.56
Sunflower seeds without hulls	95	121	1.29	1.55	0.71	27.1	7	4	0.94
Sweet potato meal	90	80	0.83	0.85	0.57	5.4	5	4.5	0.16
Sweet potato tops	20	49.4	0.5	0.46	0.13	19.5	18	22	-----
Sweet potato tops, dried	91	57	0.58	0.55	0.25	13.9	26	11.3	-----
Sweet potatoes	31	80	0.83	0.85	0.57	5	8	3.6	0.13
Tangerine pulp, dried	87	80	0.83	0.87	0.55	8.1	14	5	0.14
Tapioca meal (cassava, starch byproduct)	86.8	81.1	0.85	0.88	0.57	1	7	2.1	0.03
Tomato leaves with stems	14	46.7	0.47	0.43	0.09	26.4	19	26.6	-----
Tomato pomace, dried	92	58	0.59	0.57	0.31	23.5	50	7.5	0.6
Tomato pomace, silage	29.5	63.9	0.66	0.65	0.34	19.2	56	4.5	0.47
Tomato skins with juice, dried	89.6	63	0.65	0.64	0.32	20.7	24	9.8	0.46
Turnips tops	13	67	0.69	0.68	0.40	21.8	13	16.8	0.51
Turnips, fresh	9	85	0.89	0.95	0.65	11.8	34	8.9	0.26
Vetch seeds	90.7	68.1	0.7	0.71	0.39	32.6	8	3.4	-----
Walnut meal, black	93	70.8	0.73	0.74	0.43	31.7	23	5.7	-----
Walnut meal, English	93.3	66.7	0.69	0.69	0.37	17.1	34	4.9	-----
Walnut meats, ground	91	94	0.99	1.06	0.69	45.8	5	5.8	-----
Watergrass seed	90	69.1	0.71	0.72	0.41	7.3	18	5	-----
Wheat bran	89	70	0.73	0.74	0.47	17.1	15	6.9	1.38
Wheat chaff, sun-cured	92.6	39.8	0.39	0.34	0.00	5.5	40	18	0.15
Wheat germ meal	90	95	1	1.11	0.70	28.1	5	5.8	1.16
Wheat middlings	89	69	0.71	0.73	0.45	18.4	10	5.2	0.99
Wheat mill run	90	79	0.83	0.87	0.58	17.2	11	5.9	1.13
Wheat shorts, 7% CF	88	73	0.76	0.79	0.50	18.6	10	4.9	0.91
Wheat straw	89	44	0.44	0.34	0.10	3.6	54	7.8	0.05
Whey product, dried	93	79	0.83	0.87	0.58	17.9	0	16.5	1.12
Whey dried	93	81	0.85	0.90	0.60	14.2	0	9.8	0.82
Whey, condensed, 42% solids	42	78	0.81	0.81	0.54	14	0	10.1	0.81
Whey, liquid	7	81	0.85	0.90	0.60	14.2	0	9.8	0.65
Yeast, brewers, dried	93	79	0.83	0.87	0.58	46.9	4	7.1	1.49
Yeast, torula, dried	93	78	0.81	0.85	0.56	52.7	4	8.3	1.71