

**FEED INTO MILK
FEEDS DATABASE**

Feed name	Feed ID	Forage=1	FIP	TFA	DM	ME	CP	NDF	Sta	Sug	Oil	Ash	PAL
Carrot, fresh	1	1	0	0	130	12.8	98	105	0	600	6	89	1200
Clover, red, aerial part, fresh, vegetative	2	1	0	0	200	10.5	245	272	0	85	26	92	800
Cocksfoot, aerial part, fresh	3	1	0	0	206	10.0	173	538	0	75	20	75	880
Fescue, tall, aerial part, fresh	4	1	0	0	205	10.0	190	541	0	100	20	75	850
Grass hay average	5	1	0	0	850	8.6	114	678	0	100	16	69	793
Grass hay good	6	1	0	0	860	9.2	100	650	0	150	16	82	800
Grass hay poor	7	1	0	0	820	7.5	60	725	0	50	16	78	740
Grass silage average	8	1	95	90	235	10.8	211	461	0	30	44	114	950
Grass silage good high acid	9	1	90	150	236	11.2	140	450	0	60	48	84	1200
Grass silage good low acid	10	1	105	60	300	11.2	140	450	0	60	48	84	950
Grass silage poor	11	1	85	70	220	9.9	118	545	0	10	40	91	800
Grass silage, big bale	12	1	90	50	350	10.0	120	600	0	42	40	91	800
Grass, grazing	13	1	0	0	200	11.2	155	577	0	120	22	80	950
Grass, high temperature dried	14	1	0	0	900	10.7	190	540	0	150	48	108	969
Kale	15	1	0	0	140	12.0	160	250	0	250	18	120	1000
Lotus, aerial part, fresh	16	1	0	0	200	10.0	216	350	0	85	26	92	850
Lucerne dried	17	1	0	0	900	8.8	199	465	0	70	32	102	790
Lucerne hay, beginning of flowering	18	1	0	0	850	9.5	182	357	0	50	30	114	820
Lucerne hay, flowering	19	1	0	0	850	9.0	183	388	0	50	30	114	780
Lucerne hay, vegetative	20	1	0	0	850	9.6	263	250	0	50	30	122	730
Lucerne haylage	21	1	0	20	400	9.0	177	350	0	50	30	130	780
Lucerne silage	22	1	0	70	250	8.5	190	500	0	12	24	120	750
Lucerne, fresh	23	1	0	0	201	9.8	176	476	0	70	30	100	860
Lucerne, fresh, beginning of flowering	24	1	0	0	132	9.6	178	442	0	70	30	100	850
Lucerne, fresh, flowering	25	1	0	0	188	9.1	180	526	0	70	30	100	800
Lucerne, fresh, vegetative	26	1	0	0	188	9.7	269	310	0	70	30	100	750
Lucerne, high temperature dried	27	1	0	0	900	8.8	199	465	0	70	32	102	790
Maize silage	28	1	0	80	260	11.0	90	480	250	5	50	60	1000
Maize silage, dehydrated	29	1	0	8	910	11.0	103	434	250	5	50	74	950
Oats grass	30	1	0	0	200	11.0	150	550	0	150	30	80	980
Pea, garden, crop byproduct, fresh	31	1	0	0	200	9.0	145	412	50	100	19	113	850
Ryegrass, aerial part, fresh	32	1	0	0	176	11.5	180	455	0	150	25	90	980
Straw oats	33	1	0	0	850	7.2	35	817	0	19	14	65	660
Straw, barley	34	1	0	0	860	6.5	40	811	10	15	14	57	600
Straw, NaOH treated	35	1	0	0	800	9.0	45	676	10	15	12	115	854
Straw, wheat	36	1	0	0	860	6.0	36	810	0	12	12	69	820
Wheat silage, dehydrated	37	1	0	5	962	10.2	100	513	240	35	30	74	950
Whole crop wheat, fermented	38	1	0	70	400	10.5	95	467	200	40	30	67	854
Apple pomace, dehydrated	39	2	0	0	900	9.1	55	434	30	160	29	23	980

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Feed name	Feed ID	Forage=1	FIP	TFA	DM	ME	CP	NDF	Sta	Sug	Oil	Ash	PAL
Barley, ground/rolled	40	2	0	0	860	13.2	141	154	567	35	28	21	1100
Barley rootlets, dehydrated	41	2	0	0	900	11.2	297	443	63	100	26	67	850
Barley, 2-row	42	2	0	0	860	13.2	143	155	567	35	29	28	1100
Barley, heated	43	2	0	0	943	13.2	115	155	567	35	18	24	1150
Bean faba	44	2	0	0	881	13.3	292	188	390	50	20	46	1020
Bean faba, extruded	45	2	0	0	915	13.3	299	227	400	55	17	49	1020
Beans	46	2	0	0	850	13.3	300	167	365	50	17	36	800
Biscuit blend	47	2	0	0	900	12.3	130	180	130	80	145	200	800
Biscuit meal	48	2	0	0	900	12.3	130	180	130	80	145	200	800
Brewers' grains, barley dehydrated	49	2	0	5	938	11.5	261	640	40	13	83	41	850
Brewers grains, fresh	50	2	0	50	280	11.5	245	618	40	13	77	38	900
Cassava root, dehydrated	51	2	0	0	900	12.6	39	114	650	47	6	50	1250
Citrus pulp dried	52	2	0	0	882	12.6	72	228	0	250	18	65	1033
Cocoa hulls	53	2	0	0	900	7.0	160	534	0	50	100	85	600
Copra meal, expeller extraction	54	2	0	0	933	12.9	219	583	2	114	128	74	850
Copra meal, solvent extraction	55	2	0	0	910	12.3	232	579	3	140	54	86	925
Cottonseed meal	56	2	0	0	924	11.3	361	347	17	70	44	75	820
Cottonseed meal, decorticated, expeller extraction, CF<160	57	2	0	0	959	11.4	439	222	50	60	98	68	820
Cottonseed meal, decorticated, expeller extraction, CF>220	58	2	0	0	943	11.3	300	350	50	60	67	54	820
Cottonseed meal, decorticated, solvent extraction, CF<160	59	2	0	0	913	11.0	478	254	50	60	35	75	820
Cottonseed meal, partially decorticated, expeller extraction	60	2	0	0	864	11.3	377	380	50	60	68	63	820
Cottonseed meal, partially decorticated, solvent extraction	61	2	0	0	920	11.2	433	409	50	60	39	70	820
Dairy 1 compound feed	62	2	0	0	870	13.5	230	200	350	0	80	92	940
Dairy 2 high NDF compound feed	63	2	0	0	870	11.8	184	300	180	80	69	126	860
Crambe hulls	64	2	0	0	892	*	82	565	*	*	29	88	*
Crambe oil meal, expeller extraction	65	2	0	0	930	*	292	261	*	*	169	73	*
Crambe oil meal, solvent extraction	66	2	0	0	968	*	494	107	*	*	18	104	*
Distillers' dark grains, maize	67	2	0	0	890	14.0	317	343	25	50	108	46	970
Distillers' dark grains, malt	68	2	0	0	890	12.2	265	420	30	39	85	39	900
Distillers' dark grains, wheat	69	2	0	0	900	13.5	340	335	44	86	70	52	1050
Distillers' grains, maize, dehydrated	70	2	0	0	958	14.0	306	340	25	50	108	46	970
Distillers' grains, wheat, dehydrated	71	2	0	0	900	13.5	354	346	44	86	70	52	950
Feather meal	72	2	0	0	951	8.0	900	0	0	0	65	25	250
Fish meal, white	73	2	0	0	910	14.2	693	1	0	0	91	213	375
Fish oil	74	2	0	0	950	34.0	0	0	0	0	0	0	400
Fodder beet	75	2	0	0	180	12.0	60	136	0	660	4	81	1030
Groundnut meal	76	2	0	0	900	13.2	530	160	60	80	70	70	760

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Linseed meal, expeller	77	2	0	0	900	13.2	391	180	52	40	96	51	860
Linseed meal, extracted	78	2	0	0	900	11.9	404	200	55	45	36	73	800
Linseeds (crushed)	79	2	0	0	900	19.0	260	100	220	30	313	50	600
Lupin, blue, seed	80	2	0	0	942	14.2	343	200	15	55	72	30	960
Lupin, seed	81	2	0	0	900	14.2	342	206	15	55	88	37	925
Lupin, white determinate, UK grown	82	2	0	0	870	14.5	350	210	15	55	110	40	900
Lupin, white, seed	83	2	0	0	844	14.2	392	240	15	55	88	46	860
Lupin, white, seed, extruded	84	2	0	0	956	14.2	383	204	15	55	79	46	890
Maize, ground	85	2	0	0	860	13.8	103	100	743	18	42	15	1170
Maize germ meal, ext.	86	2	0	0	880	14.0	250	370	240	60	45	30	1180
Maize gluten feed CP 200 g/kg	87	2	0	0	880	12.9	220	386	200	25	52	72	1080
Maize gluten meal CP 600 g/kg	88	2	0	0	900	17.5	669	55	155	5	69	11	840
Maize starch byproduct, dehydrated, Corex M 100	89	2	0	0	900	13.4	99	672	181	0	31	22	1250
Maize starch byproduct, fresh, perlite added	90	2	0	0	900	12.9	243	538	80	0	65	100	1200
Maize, flaked	91	2	0	0	880	13.8	95	101	740	18	35	14	1290
Maize, toasted	92	2	0	0	938	13.8	93	101	740	18	35	14	1290
Malt culms	93	2	0	0	900	11.2	283	463	63	100	26	65	827
Megalac™	94	2	0	0	950	29.0	0	0	0	0	850	10	400
Minerals	95	2	0	0	990	0	0	0	0	0	995	0	-600
Molasses, cane	96	2	0	0	750	12.7	40	0	0	660	0	100	1030
Oatfeed	97	2	0	0	860	5.6	51	700	100	0	25	60	760
Oats	98	2	0	0	918	12.0	92	290	500	10	34	32	1150
Oats, flaked	99	2	0	0	880	12.0	123	290	500	10	39	26	1130
Oats, toasted	100	2	0	0	957	12.0	108	290	500	10	39	26	1140
Palm kernel meal, expeller extraction	101	2	0	0	920	11.5	154	714	10	0	109	44	900
Palm kernel meal, solvent extraction	102	2	0	0	907	11.4	205	786	12	0	12	45	1020
Palm kernel meal	103	2	0	0	900	11.5	163	656	4	40	76	44	960
Pea, extruded	104	2	0	0	896	13.5	260	160	480	57	8	34	1120
Peas	105	2	0	0	875	13.5	257	159	440	75	24	31	1090
Pot ale syrup	106	2	0	0	450	14.2	374	2	13	23	2	95	850
Potato feed liquid, fresh	107	2	0	0	115	11.5	181	175	348	50	13	108	990
Potato tuber, whole, fresh	108	2	0	0	207	13.3	93	76	570	75	2	49	1200
Rapeseed hulls	109	2	0	0	880	10.5	178	500	0	0	208	42	625
Rapeseed meal	110	2	0	0	900	12.0	400	248	40	105	53	76	867
Rapeseed meal, (before 1991)	111	2	0	0	900	12.0	382	296	40	105	53	76	880
Rapeseed meal, 00	112	2	0	0	880	12.0	383	246	40	105	53	76	880
Rapeseed, canola, meal	113	2	0	0	937	12.0	412	250	40	105	53	76	850
Rapeseeds (crushed)	114	2	0	0	990	23.1	215	396	4	35	485	50	600
Rice bran	115	2	0	0	900	8.6	180	350	250	24	20	130	750
Rye	116	2	0	0	919	13.2	106	132	550	10	29	18	1200

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Smartamine™ M	117	2	0	0	1000	13.6	776	0	0	0	0	222	400
Smartamine™ ML	118	2	0	0	1000	9.8	558	0	0	0	0	442	200
Sorghum	119	2	0	0	900	13.3	113	107	730	15	30	17	1200
Soyabean flour, not defatted	120	2	0	0	955	*	418	*	*	*	139	57	1100
Soyabean hulls	121	2	0	0	932	14.2	179	483	8	47	70	50	1100
Soyabean meal	122	2	0	0	896	13.4	503	127	19	99	17	83	860
Soyabean meal, Brazilian, (Soya 48)	123	2	0	0	900	13.4	530	110	34	105	31	70	815
Soyabean meal, formaldehyde treated	124	2	0	0	880	13.2	520	110	34	100	31	70	815
Soyabean meal, Hipro	125	2	0	0	886	13.8	568	64	7	100	27	68	814
Soyabean meal, tanned	126	2	0	0	900	13.4	503	127	19	99	17	83	860
Soyabean seed	127	2	0	0	900	14.5	400	122	15	76	228	55	680
Soyabean seed, extruded	128	2	0	0	900	14.0	413	170	22	80	177	56	730
Soyabean seed, toasted	129	2	0	0	890	14.1	390	150	20	75	193	64	730
Sugar beet pulp, dehydrated	130	2	0	0	920	12.5	99	512	20	79	5	68	1150
Sugar beet pulp, dehydrated, molassed	131	2	0	0	898	12.5	103	333	50	280	5	60	1150
Sugarbeet pulp, molassed	132	2	0	0	890	11.9	115	297	4	280	4	85	990
Sunflower ext. Arg 350 g/kg protein	133	2	0	0	900	10	389	260	0	70	25	77	840
Sunflower ext. EC 290 g/kg protein	134	2	0	0	900	9.6	322	362	0	36	17	67	910
Sunflower hulls	135	2	0	0	900	5.0	47	821	0	20	20	35	920
Sunflower meal	136	2	0	0	904	9.6	362	379	0	35	18	76	850
Sunflower meal, decorticated	137	2	0	0	900	10.0	427	260	0	70	25	73	800
Sunflower seed meal	138	2	0	0	900	9.6	336	473	5	66	27	71	871
Sunflower, ext. Arg 350 g/kg protein	139	2	0	0	900	10.0	389	260	0	70	25	77	840
Supergrains	140	2	0	50	260	13.0	320	560	20	2	106	16	900
Urea 2000	141	2	0	0	950	0	2300	0	0	0	0	0	-600
Wheat, ground/rolled	142	2	0	0	860	13.6	101	92	748	27	23	18	1250
Wheat bran, fine	143	2	0	0	880	10.8	173	418	196	63	39	68	940
Wheat middlings	144	2	0	0	934	11.9	195	399	280	85	51	47	990
Wheat shorts	145	2	0	0	880	11.9	206	390	270	85	51	47	975
Wheat, sodium hydroxide treated	146	2	0	0	760	13.1	97	88	718	26	22	57	600
Wheat, soft	147	2	0	0	882	13.7	138	124	675	27	16	23	1250
Wheat, toasted	148	2	0	0	953	13.8	134	124	680	27	18	17	1260
Wheatfeed	149	2	0	0	880	11.3	191	341	244	85	51	51	990

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Feed name	[sat]	[mono]	[poly]	[lpoly]	sDM	aDM	bDM	cDM	sN	aN	bN	cN	ADIN
Carrot, fresh	0.30	0.10	0.60	0.000	0.70	0.73	0.27	0.12	0.80	0.87	0.13	0.12	0.30
Clover, red, aerial part, fresh, vegetative	0.10	0.11	0.79	0.000	0.35	0.40	0.44	0.17	0.30	0.39	0.53	0.24	0.80
Cocksfoot, aerial part, fresh	0.25	0.06	0.70	0.006	0.30	0.34	0.52	0.09	0.35	0.44	0.49	0.14	0.60
Fescue, tall, aerial part, fresh	0.25	0.06	0.70	0.006	0.30	0.41	0.51	0.07	0.40	0.56	0.39	0.13	0.60
Grass hay average	0.25	0.06	0.70	0.006	0.10	0.16	0.54	0.05	0.10	0.12	0.72	0.09	1.20
Grass hay good	0.25	0.06	0.70	0.006	0.20	0.25	0.60	0.06	0.18	0.22	0.60	0.08	1.20
Grass hay poor	0.25	0.06	0.70	0.006	0.16	0.20	0.40	0.02	0.18	0.22	0.60	0.08	1.20
Grass silage average	0.25	0.06	0.70	0.006	0.29	0.35	0.49	0.06	0.50	0.62	0.27	0.13	0.50
Grass silage good high acid	0.25	0.06	0.70	0.006	0.36	0.45	0.50	0.10	0.50	0.63	0.26	0.14	0.50
Grass silage good low acid	0.25	0.06	0.70	0.006	0.32	0.40	0.50	0.09	0.50	0.63	0.26	0.14	0.50
Grass silage poor	0.25	0.06	0.70	0.006	0.24	0.30	0.40	0.03	0.36	0.45	0.53	0.10	0.50
Grass silage, big bale	0.25	0.06	0.70	0.006	0.24	0.32	0.50	0.04	0.36	0.58	0.28	0.09	0.50
Grass, grazing	0.15	0.04	0.83	0.006	0.18	0.25	0.61	0.08	0.20	0.21	0.71	0.13	1.00
Grass, high temperature dried	0.25	0.06	0.70	0.006	0.20	0.30	0.55	0.08	0.22	0.37	0.63	0.04	2.30
Kale	0.16	0.01	0.84	0.000	0.25	0.25	0.65	0.15	0.25	0.25	0.65	0.27	0.40
Lotus, aerial part, fresh	0.10	0.11	0.79	0.000	0.30	0.37	0.36	0.17	0.30	0.38	0.50	0.25	0.70
Lucerne dried	0.32	0.05	0.63	0.000	0.20	0.35	0.40	0.02	0.34	0.56	0.38	0.04	2.00
Lucerne hay, beginning of flowering	0.32	0.05	0.63	0.000	0.20	0.35	0.40	0.03	0.30	0.38	0.49	0.09	0.60
Lucerne hay, flowering	0.32	0.05	0.63	0.000	0.20	0.35	0.40	0.03	0.40	0.44	0.40	0.12	0.60
Lucerne hay, vegetative	0.32	0.05	0.63	0.000	0.20	0.35	0.40	0.03	0.35	0.43	0.54	0.07	0.80
Lucerne haylage	0.32	0.05	0.63	0.000	0.20	0.36	0.49	0.03	0.40	0.64	0.32	0.02	0.90
Lucerne silage	0.32	0.05	0.63	0.000	0.20	0.40	0.34	0.13	0.40	0.66	0.25	0.17	1.80
Lucerne, fresh	0.32	0.05	0.63	0.000	0.20	0.37	0.37	0.17	0.40	0.51	0.41	0.27	0.60
Lucerne, fresh, beginning of flowering	0.32	0.05	0.63	0.000	0.20	0.33	0.37	0.16	0.40	0.54	0.38	0.17	0.60
Lucerne, fresh, flowering	0.32	0.05	0.63	0.000	0.20	0.33	0.33	0.13	0.40	0.50	0.37	0.16	0.60
Lucerne, fresh, vegetative	0.32	0.05	0.63	0.000	0.30	0.47	0.37	0.15	0.45	0.63	0.29	0.18	0.80
Lucerne, high temperature dried	0.32	0.05	0.63	0.000	0.14	0.35	0.40	0.02	0.34	0.56	0.38	0.04	2.00
Maize silage	0.13	0.26	0.61	0.000	0.31	0.39	0.42	0.10	0.53	0.66	0.19	0.06	1.00
Maize silage, dehydrated	0.13	0.26	0.61	0.000	0.10	0.20	0.41	0.13	0.30	0.51	0.30	0.06	1.00
Oats grass	0.15	0.04	0.83	0.006	0.20	0.30	0.52	0.07	0.20	0.30	0.60	0.05	1.00
Pea, garden, crop byproduct, fresh	0.25	0.17	0.58	0.000	0.20	0.30	0.65	0.05	0.30	0.40	0.47	0.16	0.50
Ryegrass, aerial part, fresh	0.25	0.06	0.70	0.006	0.30	0.43	0.48	0.09	0.35	0.55	0.39	0.16	0.60
Straw oats	0.22	0.16	0.62	0.000	0.01	0.01	0.49	0.05	0.04	0.04	0.40	0.03	0.10
Straw, barley	0.22	0.16	0.62	0.000	0.08	0.05	0.57	0.04	0.24	0.30	0.50	0.12	1.00
Straw, NaOH treated	0.22	0.16	0.62	0.000	0.24	0.30	0.55	0.06	0.40	0.50	0.35	0.20	1.50
Straw, wheat	0.22	0.16	0.62	0.000	0.05	0.09	0.54	0.04	0.04	0.04	0.40	0.03	0.30
Wheat silage, dehydrated	0.20	0.18	0.62	0.000	0.15	0.22	0.33	0.24	0.40	0.50	0.80	0.05	0.35
Whole crop wheat, fermented	0.20	0.18	0.62	0.000	0.20	0.25	0.50	0.05	0.48	0.60	0.30	0.08	1.00
Apple pomace, dehydrated	0.20	0.10	0.70	0.000	0.15	0.20	0.60	0.06	0.06	0.06	0.77	0.06	0.50

FEED INTO MILK FEEDS DATABASE

Feed name	[sat]	[mono]	[poly]	[lpoly]	sDM	aDM	bDM	cDM	sN	aN	bN	cN	ADIN
Barley, ground/rolled	0.22	0.13	0.65	0.000	0.05	0.52	0.36	0.13	0.08	0.24	0.71	0.20	0.40
Barley rootlets, dehydrated	0.22	0.13	0.65	0.000	0.30	0.41	0.44	0.06	0.30	0.47	0.44	0.12	2.80
Barley, 2-row	0.22	0.13	0.65	0.000	0.10	0.14	0.78	0.11	0.08	0.08	0.85	0.12	0.50
Barley, heated	0.22	0.13	0.65	0.000	0.10	0.42	0.51	0.12	0.20	0.25	0.74	0.05	1.00
Bean faba	0.17	0.27	0.56	0.000	0.20	0.37	0.59	0.07	0.30	0.53	0.46	0.15	1.50
Bean faba, extruded	0.17	0.27	0.56	0.000	0.30	0.53	0.44	0.06	0.20	0.37	0.61	0.06	1.50
Beans	0.20	0.20	0.60	0.000	0.06	0.16	0.86	0.05	0.14	0.24	0.83	0.06	0.50
Biscuit blend	0.50	0.40	0.10	0.000	0.08	0.25	0.50	0.10	0.05	0.10	0.65	0.07	8.00
Biscuit meal	0.50	0.40	0.10	0.000	0.08	0.25	0.50	0.10	0.05	0.10	0.65	0.07	8.00
Brewers' grains, barley dehydrated	0.20	0.13	0.67	0.000	0.10	0.11	0.54	0.05	0.10	0.13	0.57	0.07	2.00
Brewers grains, fresh	0.20	0.13	0.67	0.000	0.12	0.29	0.62	0.05	0.19	0.32	0.62	0.03	1.00
Cassava root, dehydrated	0.15	0.24	0.61	0.000	0.10	0.30	0.85	0.20	0.30	0.58	0.10	0.10	0.12
Citrus pulp dried	0.30	0.28	0.42	0.000	0.10	0.24	0.75	0.08	0.31	0.51	0.49	0.07	1.40
Cocoa hulls	0.55	0.35	0.10	0.000	0.01	0.03	0.57	0.11	0.10	0.15	0.60	0.04	2.30
Copra meal, expeller extraction	0.78	0.22	0.00	0.000	0.10	0.20	0.75	0.06	0.10	0.20	0.63	0.06	1.80
Copra meal, solvent extraction	0.91	0.07	0.02	0.000	0.20	0.35	0.61	0.06	0.15	0.30	0.70	0.07	1.90
Cottonseed meal	0.27	0.22	0.51	0.000	0.10	0.29	0.53	0.05	0.20	0.33	0.60	0.06	3.20
Cottonseed meal, decorticated, expeller extraction, CF<160	0.27	0.22	0.51	0.000	0.15	0.30	0.55	0.05	0.40	0.62	0.37	0.06	3.20
Cottonseed meal, decorticated, expeller extraction, CF>220	0.27	0.22	0.51	0.000	0.15	0.30	0.55	0.05	0.20	0.32	0.56	0.09	2.80
Cottonseed meal, decorticated, solvent extraction, CF<160	0.27	0.22	0.51	0.000	0.20	0.36	0.61	0.05	0.15	0.32	0.68	0.07	2.50
Cottonseed meal, partially decorticated, expeller extraction	0.27	0.22	0.51	0.000	0.20	0.30	0.49	0.06	0.25	0.44	0.55	0.04	2.50
Cottonseed meal, partially decorticated, solvent extraction	0.27	0.22	0.51	0.000	0.20	0.30	0.49	0.06	0.10	0.28	0.48	0.04	2.50
Dairy 1 compound feed	0.30	0.28	0.42	0.000	0.14	0.35	0.62	0.12	0.20	0.33	0.56	0.12	0.90
Dairy 2 high NDF compound feed	0.30	0.28	0.42	0.000	0.12	0.30	0.67	0.11	0.18	0.30	0.55	0.07	1.00
Crambe hulls	*	*	*	*	0.10	0.17	0.26	0.13	0.10	0.29	0.37	0.14	0.30
Crambe oil meal, expeller extraction	*	*	*	*	0.30	0.52	0.21	0.09	0.40	0.78	0.13	0.11	1.30
Crambe oil meal, solvent extraction	*	*	*	*	0.30	0.57	0.39	0.13	0.30	0.56	0.42	0.13	1.30
Distillers' dark grains, maize	0.13	0.26	0.61	0.000	0.30	0.63	0.32	0.05	0.19	0.32	0.46	0.05	10.0
Distillers' dark grains, malt	0.22	0.13	0.65	0.000	0.25	0.44	0.43	0.06	0.10	0.32	0.46	0.06	3.00
Distillers' dark grains, wheat	0.19	0.19	0.62	0.000	0.27	0.70	0.21	0.11	0.40	0.74	0.18	0.17	7.00
Distillers' grains, maize, dehydrated	0.13	0.26	0.61	0.000	0.09	0.42	0.49	0.06	0.23	0.38	0.46	0.08	10.0
Distillers' grains, wheat, dehydrated	0.19	0.19	0.62	0.000	0.20	0.70	0.21	0.11	0.02	0.02	0.92	0.33	7.00
Feather meal	0.50	0.46	0.03	0.000	0.05	0.15	0.17	0.26	0.05	0.16	0.14	0.23	7.00
Fish meal, white	0.28	0.28	0.22	0.220	0.30	0.46	0.54	0.02	0.18	0.30	0.63	0.02	0.00
Fish oil	0.28	0.28	0.22	0.220	0.00	0.00	0.00	1.00	0.60	1.00	0.00	0.90	0.00
Fodder beet	0.25	0.06	0.70	0.006	0.20	0.50	0.40	0.25	0.15	0.25	0.65	0.44	0.20
Groundnut meal	0.20	0.51	0.30	0.000	0.22	0.55	0.33	0.01	0.27	0.45	0.54	0.16	4.00

FEED INTO MILK FEEDS DATABASE

Feed name	[sat]	[mono]	[poly]	[lpoly]	sDM	aDM	bDM	cDM	sN	aN	bN	cN	ADIN
Linseed meal, expeller	0.07	0.60	0.33	0.000	0.12	0.30	0.55	0.08	0.23	0.38	0.60	0.10	1.90
Linseed meal, extracted	0.07	0.60	0.33	0.000	0.17	0.30	0.55	0.08	0.17	0.29	0.68	0.06	1.90
Linseeds (crushed)	0.07	0.60	0.33	0.000	0.04	0.10	0.60	0.04	0.06	0.10	0.70	0.06	1.80
Lupin, blue, seed	0.14	0.58	0.28	0.000	0.15	0.26	0.70	0.12	0.19	0.23	0.72	0.32	0.40
Lupin, seed	0.14	0.58	0.28	0.000	0.15	0.51	0.45	0.14	0.20	0.26	0.74	0.13	0.40
Lupin, white determinate, UK grown	0.14	0.58	0.28	0.000	0.15	0.15	0.85	0.06	0.17	0.19	0.80	0.06	0.40
Lupin, white, seed	0.14	0.58	0.28	0.000	0.15	0.35	0.62	0.11	0.40	0.61	0.38	0.15	0.40
Lupin, white, seed, extruded	0.14	0.58	0.28	0.000	0.15	0.40	0.57	0.08	0.20	0.37	0.61	0.10	0.40
Maize, ground	0.13	0.26	0.61	0.000	0.05	0.26	0.73	0.06	0.08	0.24	0.73	0.06	0.40
Maize germ meal, ext.	0.12	0.24	0.63	0.000	0.08	0.41	0.57	0.05	0.05	0.11	0.83	0.10	0.40
Maize gluten feed CP 200 g/kg	0.18	0.21	0.61	0.000	0.19	0.45	0.48	0.07	0.37	0.61	0.35	0.10	1.40
Maize gluten meal CP 600 g/kg	0.18	0.21	0.61	0.000	0.05	0.12	0.78	0.05	0.05	0.08	0.76	0.03	6.40
Maize starch byproduct, dehydrated, Corex M 100	0.13	0.26	0.61	0.000	0.05	0.40	0.60	0.05	0.05	0.30	0.69	0.04	0.40
Maize starch byproduct, fresh, perlite added	0.13	0.26	0.61	0.000	0.05	0.42	0.58	0.03	0.05	0.77	0.23	0.03	0.40
Maize, flaked	0.13	0.26	0.61	0.000	0.05	0.28	0.71	0.06	0.06	0.17	0.62	0.02	0.40
Maize, toasted	0.13	0.26	0.61	0.000	0.05	0.28	0.71	0.03	0.08	0.13	0.86	0.01	0.40
Malt culms	0.22	0.13	0.65	0.000	0.08	0.20	0.65	0.06	0.10	0.19	0.67	0.07	1.00
Megalac™	0.52	0.39	0.09	0.000	0.00	0.00	0.00	1.00	0.60	1.00	0.00	0.90	0.00
Minerals	0.30	0.28	0.42	0.000	0.00	0.00	0.00	1.00	0.60	1.00	0.00	0.90	0.00
Molasses, cane	0.25	0.06	0.70	0.006	0.40	1.00	0.00	0.90	0.60	1.00	0.00	0.90	0.10
Oatfeed	0.17	0.39	0.44	0.000	0.05	0.15	0.30	0.04	0.10	0.51	0.22	0.07	1.30
Oats	0.17	0.40	0.44	0.000	0.06	0.49	0.38	0.06	0.10	0.74	0.20	0.09	0.50
Oats, flaked	0.17	0.40	0.44	0.000	0.06	0.55	0.20	0.13	0.10	0.63	0.27	0.14	0.50
Oats, toasted	0.17	0.40	0.44	0.000	0.06	0.52	0.34	0.04	0.10	0.53	0.41	0.15	0.50
Palm kernel meal, expeller extraction	0.48	0.44	0.09	0.000	0.06	0.10	0.78	0.04	0.10	0.17	0.79	0.05	3.00
Palm kernel meal, solvent extraction	0.48	0.44	0.09	0.000	0.06	0.16	0.83	0.04	0.17	0.29	0.69	0.05	3.00
Palm kernel meal	0.48	0.44	0.09	0.000	0.06	0.15	0.77	0.04	0.11	0.18	0.82	0.03	3.00
Pea, extruded	0.14	0.25	0.61	0.000	0.20	0.48	0.46	0.18	0.07	0.15	0.74	0.16	0.50
Peas	0.14	0.25	0.61	0.000	0.10	0.28	0.71	0.13	0.20	0.54	0.47	0.13	0.50
Pot ale syrup	0.22	0.13	0.65	0.000	0.32	0.80	0.20	0.35	0.48	0.80	0.20	0.25	4.00
Potato feed liquid, fresh	0.25	0.06	0.70	0.006	0.20	0.40	0.50	0.20	0.08	0.14	0.78	0.16	0.50
Potato tuber, whole, fresh	0.25	0.06	0.70	0.006	0.30	0.62	0.39	0.06	0.20	0.83	0.17	0.12	0.20
Rapeseed hulls	0.06	0.68	0.26	0.000	0.10	0.20	0.40	0.05	0.10	0.21	0.43	0.05	2.00
Rapeseed meal	0.06	0.68	0.26	0.000	0.24	0.31	0.54	0.11	0.18	0.30	0.64	0.16	3.60
Rapeseed meal, (before 1991)	0.06	0.68	0.26	0.000	0.16	0.35	0.45	0.08	0.15	0.28	0.60	0.17	3.60
Rapeseed meal, 00	0.06	0.68	0.26	0.000	0.10	0.25	0.60	0.09	0.10	0.18	0.75	0.10	3.60
Rapeseed, canola, meal	0.06	0.68	0.26	0.000	0.10	0.26	0.61	0.13	0.08	0.15	0.81	0.16	3.60
Rapeseeds (crushed)	0.06	0.68	0.26	0.000	0.09	0.20	0.74	0.22	0.06	0.10	0.70	0.06	1.50
Rice bran	0.26	0.48	0.26	0.000	0.05	0.10	0.40	0.04	0.10	0.23	0.67	0.08	2.60
Rye	0.21	0.14	0.64	0.000	0.06	0.59	0.36	0.37	0.08	0.48	0.50	0.27	0.40

Long chain fatty acids
(as propn. Total fatty acids)

Solubility, a, b, c values

Source of data:

sat=saturates
mono=monounsaturates
poly=polyunsaturates
lpoly=long chain polyunsaturates

=estimated values
= ADAS NSRU in situ
= literature data mainly from French database
= discounted ADIN values

FEED INTO MILK FEEDS DATABASE

Feed name	[sat]	[mono]	[poly]	[lpoly]	sDM	aDM	bDM	cDM	sN	aN	bN	cN	ADIN
Smartamine™ M	0.00	0.00	0.00	0.000	0.00	0.00	0.25	0.04	0.00	0.00	0.25	0.04	0.00
Smartamine™ ML	0.00	0.00	0.00	0.000	0.00	0.00	0.25	0.04	0.00	0.00	0.25	0.04	0.00
Sorghum	0.32	0.05	0.63	0.000	0.05	0.30	0.50	0.10	0.08	0.20	0.41	0.09	0.50
Soyabean flour, not defatted	0.15	0.25	0.60	0.000	0.15	0.25	0.65	0.09	0.06	0.19	0.81	0.05	1.50
Soyabean hulls	0.15	0.25	0.60	0.000	0.10	0.07	0.97	0.05	0.06	0.17	0.71	0.08	1.80
Soyabean meal	0.15	0.25	0.60	0.000	0.31	0.31	0.68	0.06	0.20	0.22	0.77	0.05	2.20
Soyabean meal, Brazilian, (Soya 48)	0.15	0.25	0.60	0.000	0.31	0.31	0.68	0.06	0.20	0.22	0.77	0.05	2.20
Soyabean meal, formaldehyde treated	0.15	0.25	0.60	0.000	0.11	0.20	0.79	0.09	0.05	0.08	0.90	0.06	2.20
Soyabean meal, Hipro	0.15	0.25	0.60	0.000	0.31	0.31	0.68	0.06	0.20	0.22	0.77	0.05	2.20
Soyabean meal, tanned	0.15	0.25	0.60	0.000	0.08	0.20	0.70	0.08	0.05	0.13	0.65	0.02	2.50
Soyabean seed	0.14	0.22	0.65	0.000	0.30	0.36	0.64	0.08	0.10	0.33	0.67	0.11	1.50
Soyabean seed, extruded	0.14	0.22	0.65	0.000	0.30	0.40	0.60	0.08	0.01	0.05	0.95	0.03	2.50
Soyabean seed, toasted	0.14	0.22	0.65	0.000	0.30	0.40	0.60	0.08	0.03	0.13	0.87	0.07	2.20
Sugar beet pulp, dehydrated	0.23	0.11	0.66	0.000	0.10	0.20	0.70	0.10	0.05	0.09	0.84	0.08	1.00
Sugar beet pulp, dehydrated, molassed	0.23	0.11	0.66	0.000	0.20	0.50	0.40	0.11	0.05	0.09	0.91	0.04	1.00
Sugarbeet pulp, molassed	0.23	0.11	0.66	0.000	0.20	0.50	0.40	0.11	0.05	0.09	0.85	0.06	1.00
Sunflower ext. Arg 350 g/kg protein	0.12	0.21	0.67	0.000	0.10	0.25	0.48	0.10	0.19	0.31	0.64	0.16	2.00
Sunflower ext. EC 290 g/kg protein	0.12	0.21	0.67	0.000	0.11	0.25	0.48	0.10	0.19	0.31	0.64	0.16	2.00
Sunflower hulls	0.15	0.25	0.60	0.000	0.02	0.09	0.18	0.12	0.05	0.16	0.38	0.17	2.50
Sunflower meal	0.12	0.21	0.67	0.000	0.10	0.39	0.36	0.11	0.19	0.23	0.74	0.15	2.00
Sunflower meal, decorticated	0.12	0.21	0.67	0.000	0.10	0.25	0.48	0.10	0.06	0.12	0.85	0.16	2.00
Sunflower seed meal	0.13	0.21	0.66	0.000	0.17	0.25	0.48	0.10	0.19	0.31	0.64	0.16	2.00
Sunflower, ext. Arg 350 g/kg protein	0.12	0.21	0.67	0.000	0.17	0.25	0.48	0.10	0.19	0.31	0.64	0.16	2.00
Supergrains	0.19	0.19	0.62	0.000	0.16	0.40	0.65	0.06	0.21	0.35	0.64	0.05	2.00
Urea 2000	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Wheat, ground/rolled	0.19	0.19	0.62	0.000	0.06	0.52	0.41	0.20	0.08	0.17	0.82	0.13	0.50
Wheat bran, fine	0.20	0.16	0.63	0.000	0.15	0.34	0.43	0.09	0.18	0.46	0.47	0.16	0.40
Wheat middlings	0.20	0.16	0.63	0.000	0.05	0.49	0.33	0.12	0.00	0.41	0.54	0.17	0.40
Wheat shorts	0.20	0.16	0.63	0.000	0.05	0.53	0.33	0.15	0.12	0.39	0.55	0.19	0.40
Wheat, sodium hydroxide treated	0.19	0.19	0.62	0.000	0.06	0.08	0.90	0.08	0.06	0.10	0.88	0.07	0.48
Wheat, soft	0.19	0.19	0.62	0.000	0.05	0.42	0.55	0.13	0.08	0.22	0.71	0.18	0.50
Wheat, toasted	0.19	0.19	0.62	0.000	0.04	0.32	0.63	0.07	0.05	0.11	0.87	0.04	0.50
Wheatfeed	0.19	0.19	0.62	0.000	0.15	0.40	0.55	0.14	0.14	0.34	0.57	0.11	0.40

Long chain fatty acids
(as propn. Total fatty acids)

Solubility, a, b, c values

Source of data:

sat=saturates
mono=monounsaturates
poly=polyunsaturates
lpoly=long chain polyunsaturates

=estimated values
= ADAS NSRU in situ
= literature data mainly from French database
= discounted ADIN values

FEED INTO MILK FEEDS DATABASE

Amino acids (expressed as % total amino acids)

Source of amino acid data:

= AmiPig

= ADAS NSRU database

= Rhône-Poulenc Rhodimet (Feed guide 1993)

= H. Rulquin, INRA

= Other

Feed name	LYS	THR	MET	CYS	TRP	HIS	ILE	VAL	LEU	PHE	TYR	ARG	ALA	ASP	GLU	GLY	SER	PRO
Carrot, fresh	5.77	5.48	1.01	1.15	*	2.50	*	*	*	*	*	*	*	*	*	*	*	*
Clover, red, aerial part, fresh, vegetative	5.89	5.10	1.53	1.02	*	2.61	*	*	*	*	*	*	*	*	*	*	*	*
Cocksfoot, aerial part, fresh	5.50	5.22	1.52	1.13	1.19	2.12	5.04	6.54	8.85	5.82	3.72	5.53	6.88	10.47	11.45	7.11	4.78	7.11
Fescue, tall, aerial part, fresh	5.50	5.22	1.52	1.13	1.19	2.12	5.04	6.54	8.85	5.82	3.72	5.53	6.88	10.47	11.45	7.11	4.78	7.11
Grass hay average	5.50	5.22	1.52	1.13	1.19	2.12	5.04	6.54	8.85	5.82	3.72	5.53	6.88	10.47	11.45	7.11	4.78	7.11
Grass hay good	5.50	5.22	1.52	1.13	1.19	2.12	5.04	6.54	8.85	5.82	3.72	5.53	6.88	10.47	11.45	7.11	4.78	7.11
Grass hay poor	5.50	5.22	1.52	1.13	1.19	2.12	5.04	6.54	8.85	5.82	3.72	5.53	6.88	10.47	11.45	7.11	4.78	7.11
Grass silage average	5.13	6.07	2.03	0.77	1.05	2.09	5.64	8.27	10.17	6.13	2.52	2.91	9.48	10.45	8.92	6.35	4.63	7.40
Grass silage good high acid	5.13	6.07	2.03	0.77	1.05	2.09	5.64	8.27	10.17	6.13	2.52	2.91	9.48	10.45	8.92	6.35	4.63	7.40
Grass silage good low acid	5.13	6.07	2.03	0.77	1.05	2.09	5.64	8.27	10.17	6.13	2.52	2.91	9.48	10.45	8.92	6.35	4.63	7.40
Grass silage poor	5.13	6.07	2.03	0.77	1.05	2.09	5.64	8.27	10.17	6.13	2.52	2.91	9.48	10.45	8.92	6.35	4.63	7.40
Grass silage, big bale	5.13	6.07	2.03	0.77	1.05	2.09	5.64	8.27	10.17	6.13	2.52	2.91	9.48	10.45	8.92	6.35	4.63	7.40
Grass, grazing	5.92	5.07	1.82	0.91	1.30	2.28	5.18	6.52	8.94	5.47	3.69	5.88	7.15	10.41	5.59	13.22	4.85	5.81
Grass, high temperature dried	5.92	5.07	1.82	0.91	1.30	2.28	5.18	6.52	8.94	5.47	3.69	5.88	7.15	10.41	5.59	13.22	4.85	5.81
Kale	5.82	4.35	0.95	1.28	*	2.50	*	*	*	*	*	*	*	*	*	*	*	*
Lotus, aerial part, fresh	5.89	5.10	1.53	1.02	*	2.61	*	*	*	*	*	*	*	*	*	*	*	*
Lucerne dried	5.46	4.72	1.64	1.34	1.39	2.44	4.98	6.34	8.29	5.32	3.59	5.16	5.98	15.39	11.54	5.53	5.21	5.66
Lucerne hay, beginning of flowering	5.89	5.10	1.53	1.02	1.06	2.61	4.91	6.06	8.49	5.54	3.59	5.19	6.25	15.16	11.13	5.35	5.38	5.75
Lucerne hay, flowering	5.89	5.10	1.53	1.02	1.06	2.61	4.91	6.06	8.49	5.54	3.59	5.19	6.25	15.16	11.13	5.35	5.38	5.75
Lucerne hay, vegetative	5.54	5.11	1.34	1.02	1.06	1.94	5.03	5.90	8.43	5.12	3.57	5.01	5.98	14.98	10.96	5.48	5.60	7.91
Lucerne haylage	5.89	5.10	1.53	1.02	1.06	2.61	4.91	6.06	8.49	5.54	3.59	5.19	6.25	15.16	11.13	5.35	5.38	5.75
Lucerne silage	4.36	3.57	3.03	0.78	0.92	1.86	7.14	10.52	12.00	6.84	2.35	1.77	15.72	7.35	6.04	6.55	3.52	5.68
Lucerne, fresh	5.89	5.10	1.53	1.02	1.06	2.61	4.91	6.06	8.49	5.54	3.59	5.19	6.25	15.16	11.13	5.35	5.38	5.75
Lucerne, fresh, beginning of flowering	5.89	5.10	1.53	1.02	1.06	2.61	4.91	6.06	8.49	5.54	3.59	5.19	6.25	15.16	11.13	5.35	5.38	5.75
Lucerne, fresh, flowering	5.89	5.10	1.53	1.02	1.06	2.61	4.91	6.06	8.49	5.54	3.59	5.19	6.25	15.16	11.13	5.35	5.38	5.75
Lucerne, fresh, vegetative	5.89	5.10	1.53	1.02	1.06	2.61	4.91	6.06	8.49	5.54	3.59	5.19	6.25	15.16	11.13	5.35	5.38	5.75
Lucerne, high temperature dried	5.46	4.72	1.64	1.34	1.39	2.44	4.98	6.34	8.29	5.32	3.59	5.16	5.98	15.39	11.54	5.53	5.21	5.66
Maize silage	3.59	4.40	1.84	1.32	0.43	2.79	4.23	5.90	11.58	4.82	3.05	3.05	9.38	8.46	17.28	4.72	4.95	8.22
Maize silage, dehydrated	3.59	4.40	1.84	1.32	0.43	2.79	4.23	5.90	11.58	4.82	3.05	3.05	9.38	8.46	17.28	4.72	4.95	8.22
Oats grass	3.98	4.61	2.09	0.83	1.59	2.17	6.15	4.61	7.43	5.25	3.35	2.44	7.99	12.16	13.30	8.26	5.55	8.26
Pea, garden, crop byproduct, fresh	7.52	3.96	1.24	2.97	*	2.62	*	*	*	*	*	*	*	*	*	*	*	*
Ryegrass, aerial part, fresh	4.97	4.91	2.02	1.14	1.21	3.31	4.97	6.75	9.00	5.88	4.06	6.13	7.58	8.83	13.47	5.90	4.83	5.03
Straw oats	3.98	4.61	2.09	0.83	1.59	2.17	6.15	4.61	7.43	5.25	3.35	2.44	7.99	12.16	13.30	8.26	5.55	8.26
Straw, barley	4.31	4.31	1.58	1.42	1.88	2.18	2.36	3.54	4.31	2.76	3.98	1.43	9.49	14.44	15.79	9.81	6.60	9.81
Straw, NaOH treated	4.31	4.31	1.58	1.42	1.88	2.18	2.36	3.54	4.31	2.76	3.98	1.43	9.49	14.44	15.79	9.81	6.60	9.81
Straw, wheat	4.31	4.31	1.58	1.42	1.88	2.18	2.36	3.54	4.31	2.76	3.98	1.43	9.49	14.44	15.79	9.81	6.60	9.81
Wheat silage, dehydrated	4.64	4.64	1.95	0.67	1.13	3.96	4.42	6.39	7.31	4.67	3.30	2.22	7.87	11.98	13.10	8.14	5.47	8.14
Whole crop wheat, fermented	4.64	4.64	1.95	0.67	1.13	3.96	4.42	6.39	7.31	4.67	3.30	2.22	7.87	11.98	13.10	8.14	5.47	8.14
Apple pomace, dehydrated	3.89	3.01	1.37	1.17	0.87	1.84	3.10	4.07	5.53	3.28	3.96	4.48	10.90	12.88	14.86	7.93	4.95	11.89

FEED INTO MILK FEEDS DATABASE

Amino acids (expressed as % total amino acids)

Source of amino acid data:

= AmiPig

= ADAS NSRU database

= Rhône-Poulenc Rhodimet (Feed guide 1993)

= H. Rulquin, INRA

= Other

Feed name	LYS	THR	MET	CYS	TRP	HIS	ILE	VAL	LEU	PHE	TYR	ARG	ALA	ASP	GLU	GLY	SER	PRO
Barley, ground/rolled	4.02	3.64	1.80	2.28	1.35	2.46	3.85	5.33	7.24	5.26	2.86	5.32	4.31	6.28	24.69	4.28	4.53	10.51
Barley rootlets, dehydrated	4.02	3.64	1.80	2.28	1.35	2.46	3.85	5.33	7.24	5.26	2.86	5.32	4.31	6.28	24.69	4.28	4.53	10.51
Barley, 2-row	4.02	3.64	1.80	2.28	1.35	2.46	3.85	5.33	7.24	5.26	2.86	5.32	4.31	6.28	24.69	4.28	4.53	10.51
Barley, heated	4.02	3.64	1.80	2.28	1.35	2.46	3.85	5.33	7.24	5.26	2.86	5.32	4.31	6.28	24.69	4.28	4.53	10.51
Bean faba	6.61	3.73	0.83	1.37	0.87	2.74	4.56	5.16	8.03	4.51	3.16	9.34	4.48	11.19	19.05	4.56	5.21	4.61
Bean faba, extruded	6.61	3.73	0.83	1.37	0.87	2.74	4.56	5.16	8.03	4.51	3.16	9.34	4.48	11.19	19.05	4.56	5.21	4.61
Beans	5.59	3.66	0.81	1.35	1.23	2.55	3.95	5.93	8.23	4.94	3.95	9.88	5.93	7.57	19.10	5.93	5.60	3.80
Biscuit blend	1.73	3.17	1.85	1.96	0.89	1.79	3.15	4.62	7.19	4.83	5.05	4.23	6.06	10.09	13.12	10.09	8.08	12.11
Biscuit meal	1.74	3.20	1.87	1.98	0.90	1.81	3.18	4.67	7.26	4.87	5.10	4.27	6.12	10.20	13.26	9.18	8.16	12.24
Brewers' grains, barley dehydrated	3.85	3.80	1.95	2.05	1.22	2.05	4.29	5.65	7.21	5.50	2.49	4.48	5.21	5.98	24.26	4.38	4.53	11.11
Brewers grains, fresh	3.85	3.80	1.95	2.05	1.22	2.05	4.29	5.65	7.21	5.50	2.49	4.48	5.21	5.98	24.26	4.38	4.53	11.11
Cassava root, dehydrated	3.19	3.19	1.60	1.20	0.80	1.20	3.19	3.99	5.19	3.19	17.17	4.79	2.99	3.99	7.98	3.59	26.75	5.99
Citrus pulp dried	3.44	4.55	1.38	1.79	0.41	2.48	3.44	5.10	6.89	3.99	3.03	7.30	5.92	13.50	12.67	6.06	6.34	11.71
Cocoa hulls	3.13	3.41	2.26	4.63	1.16	2.08	3.59	5.79	7.52	5.03	3.47	14.47	5.15	9.03	15.16	4.86	5.09	4.17
Copra meal, expeller extraction	3.13	3.41	2.26	4.63	1.16	2.08	3.59	5.79	7.52	5.03	3.47	14.47	5.15	9.03	15.16	4.86	5.09	4.17
Copra meal, solvent extraction	3.13	3.41	2.26	4.63	1.16	2.08	3.59	5.79	7.52	5.03	3.47	14.47	5.15	9.03	15.16	4.86	5.09	4.17
Cottonseed meal	4.38	3.33	1.49	1.60	1.37	3.13	3.59	4.99	6.42	5.63	3.27	11.65	4.26	10.53	21.50	4.64	4.72	3.49
Cottonseed meal, decorticated, expeller extraction, CF<160	4.25	3.57	1.67	1.80	1.36	3.01	3.78	5.24	6.36	5.36	3.01	11.50	4.35	10.04	21.54	4.46	4.68	4.02
Cottonseed meal, decorticated, expeller extraction, CF>220	4.25	3.57	1.67	1.80	1.36	3.01	3.78	5.24	6.36	5.36	3.01	11.50	4.35	10.04	21.54	4.46	4.68	4.02
Cottonseed meal, decorticated, solvent extraction, CF<160	4.24	3.57	1.67	1.79	1.37	3.01	3.79	5.24	6.36	5.36	3.01	11.49	4.35	10.04	21.53	4.46	4.69	4.02
Cottonseed meal, partially decorticated, expeller extraction	4.39	3.63	1.80	1.64	1.25	2.85	3.53	5.21	6.43	5.70	3.20	11.49	4.10	9.58	22.18	4.34	4.72	3.96
Cottonseed meal, partially decorticated, solvent extraction	4.39	3.63	1.80	1.64	1.25	2.85	3.53	5.21	6.43	5.70	3.20	11.49	4.10	9.58	22.18	4.34	4.72	3.96
Dairy 1 compound feed	4.27	3.52	1.64	1.75	*	1.37	*	*	*	*	*	*	*	*	*	*	*	*
Dairy 2 high NDF compound feed	4.30	3.59	1.72	1.73	*	1.32	*	*	*	*	*	*	*	*	*	*	*	*
Crambe hulls	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Crambe oil meal, expeller extraction	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Crambe oil meal, solvent extraction	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Distillers' dark grains, maize	3.40	4.45	1.80	2.38	0.50	2.57	4.55	5.98	11.56	5.13	4.10	4.71	8.24	7.82	20.23	5.16	5.22	2.21
Distillers' dark grains, malt	4.52	4.53	1.75	2.13	1.31	2.62	4.77	6.51	8.52	6.15	3.88	4.46	3.94	5.33	28.95	4.50	3.97	2.14
Distillers' dark grains, wheat	3.01	3.60	1.84	2.01	1.42	3.01	4.30	5.23	7.74	5.39	3.01	5.43	4.26	5.77	31.32	4.52	5.81	2.32
Distillers' grains, maize, dehydrated	3.40	4.45	1.80	2.38	0.50	2.57	4.55	5.98	11.56	5.13	4.10	4.71	8.24	7.82	20.23	5.16	5.22	2.21
Distillers' grains, wheat, dehydrated	3.01	3.60	1.84	2.01	1.42	3.01	4.30	5.23	7.74	5.39	3.01	5.43	4.26	5.77	31.32	4.52	5.81	2.32
Feather meal	2.19	4.59	0.59	4.69	0.66	0.76	4.83	7.65	8.48	4.96	2.85	6.65	4.68	6.74	10.92	7.76	11.17	9.82
Fish meal, white	8.17	4.60	2.96	0.95	1.17	3.29	4.77	5.58	8.00	4.28	3.46	6.37	6.58	9.64	14.23	6.99	4.33	4.63
Fish oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fodder beet	5.56	4.50	1.73	1.82	*	2.50	*	*	*	*	*	*	*	*	*	*	*	*
Groundnut meal	3.44	2.83	1.04	1.09	0.00	2.33	3.80	4.60	6.78	5.06	3.90	12.88	4.32	12.01	20.20	6.15	5.14	4.42

FEED INTO MILK FEEDS DATABASE

Amino acids (expressed as % total amino acids)

Source of amino acid data:

- = AmiPig
- = ADAS NSRU database
- = Rhône-Poulenc Rhodimet (Feed guide 1993)
- = H. Rulquin, INRA
- = Other

Feed name	LYS	THR	MET	CYS	TRP	HIS	ILE	VAL	LEU	PHE	TYR	ARG	ALA	ASP	GLU	GLY	SER	PRO
Linseed meal, expeller	3.90	4.01	2.11	2.00	1.90	2.22	4.54	5.49	6.33	4.85	2.85	9.60	4.54	9.60	20.46	6.12	5.59	3.90
Linseed meal, extracted	3.90	4.01	2.11	2.00	1.90	2.22	4.54	5.49	6.33	4.85	2.85	9.60	4.54	9.60	20.46	6.12	5.59	3.90
Linseeds (crushed)	3.90	4.00	2.11	2.00	1.90	2.21	4.53	5.48	6.32	4.85	2.85	9.59	4.53	9.59	20.44	6.11	5.69	3.90
Lupin, blue, seed	5.02	3.63	0.75	1.60	0.85	2.88	4.48	4.38	7.47	3.95	3.52	11.53	3.52	9.93	22.41	4.27	5.66	4.16
Lupin, seed	4.86	3.48	0.66	1.54	0.75	2.70	4.71	4.30	7.43	4.03	3.72	10.68	3.51	10.28	23.92	4.23	5.21	3.98
Lupin, white determinate, UK grown	5.03	3.94	0.59	1.76	0.59	2.43	4.52	4.27	7.54	4.10	4.86	10.89	3.43	10.89	21.19	4.10	5.70	4.19
Lupin, white, seed	5.02	3.63	0.75	1.60	0.85	2.88	4.48	4.38	7.47	3.95	3.52	11.53	3.52	9.93	22.41	4.27	5.66	4.16
Lupin, white, seed, extruded	5.02	3.63	0.75	1.60	0.85	2.88	4.48	4.38	7.47	3.95	3.52	11.53	3.52	9.93	22.41	4.27	5.66	4.16
Maize, ground	3.08	3.71	2.17	2.14	0.76	2.80	3.72	5.06	12.41	5.03	3.41	4.54	7.73	6.61	19.32	3.74	4.96	8.81
Maize germ meal, ext.	5.06	4.30	2.30	1.76	1.13	3.89	3.93	6.23	8.19	4.77	2.96	7.94	6.56	7.65	14.42	5.89	5.31	7.71
Maize gluten feed CP 200 g/kg	3.70	4.06	1.97	2.23	0.78	3.61	3.71	5.49	9.79	4.21	3.06	5.49	7.72	6.78	17.44	5.04	4.90	10.02
Maize gluten meal CP 600 g/kg	1.64	3.24	2.19	1.61	0.47	2.05	3.98	4.31	15.71	5.84	4.88	2.87	8.36	5.59	20.80	2.33	5.01	9.12
Maize starch byproduct, dehydrated, Corex M 100	3.08	3.71	2.17	2.14	0.76	2.80	3.72	5.06	12.41	5.03	3.41	4.54	7.73	6.61	19.32	3.74	4.96	8.81
Maize starch byproduct, fresh, perlite added	3.08	3.71	2.17	2.14	0.76	2.80	3.72	5.06	12.41	5.03	3.41	4.54	7.73	6.61	19.32	3.74	4.96	8.81
Maize, flaked	3.08	3.71	2.17	2.14	0.76	2.80	3.72	5.06	12.41	5.03	3.41	4.54	7.73	6.61	19.32	3.74	4.96	8.81
Maize, toasted	3.08	3.71	2.17	2.14	0.76	2.80	3.72	5.06	12.41	5.03	3.41	4.54	7.73	6.61	19.32	3.74	4.96	8.81
Malt culms	6.02	4.29	1.81	1.78	1.09	2.57	4.17	5.83	6.90	4.01	2.83	5.29	6.04	13.74	12.62	4.86	4.06	12.09
Megalac™	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Molasses, cane	0.90	2.47	0.90	1.87	1.01	0.45	2.25	4.95	2.70	1.35	1.35	0.45	7.42	39.12	25.18	3.37	3.37	0.90
Oatfeed	3.92	3.70	1.63	2.72	1.42	2.29	4.25	5.88	7.63	5.23	3.92	7.08	5.01	7.95	20.92	5.12	5.56	5.77
Oats	4.46	3.57	1.86	2.96	1.33	2.46	3.89	5.31	7.67	5.11	2.94	6.77	5.07	8.27	21.48	5.12	5.02	6.71
Oats, flaked	4.46	3.57	1.86	2.96	1.33	2.46	3.89	5.31	7.67	5.11	2.94	6.77	5.07	8.27	21.48	5.12	5.02	6.71
Oats, toasted	4.46	3.57	1.86	2.96	1.33	2.46	3.89	5.31	7.67	5.11	2.94	6.77	5.07	8.27	21.48	5.12	5.02	6.71
Palm kernel meal, expeller extraction	2.89	3.58	1.90	1.29	0.82	2.04	4.25	6.18	7.23	4.60	2.65	12.59	4.76	9.34	22.11	5.15	5.17	3.46
Palm kernel meal, solvent extraction	2.89	3.58	1.90	1.29	0.82	2.04	4.25	6.18	7.23	4.60	2.65	12.59	4.76	9.34	22.11	5.15	5.17	3.46
Palm kernel meal	2.89	3.58	1.90	1.29	0.82	2.04	4.25	6.18	7.23	4.60	2.65	12.59	4.76	9.34	22.11	5.15	5.17	3.46
Pea, extruded	7.35	3.89	1.02	1.51	0.91	2.81	4.25	4.85	7.30	4.76	3.24	9.34	4.65	11.94	17.65	4.92	5.01	4.61
Peas	7.63	3.92	0.99	1.38	0.97	2.64	4.45	4.88	7.41	4.96	3.01	9.08	4.61	12.12	18.12	4.52	5.05	4.28
Pot ale syrup	6.47	5.61	1.06	2.11	0.41	3.23	4.03	4.08	6.34	3.17	2.64	3.30	8.98	10.30	15.71	5.61	5.54	11.42
Potato feed liquid, fresh	7.94	4.99	1.66	2.30	1.83	2.69	5.12	7.68	7.81	4.74	4.86	5.38	4.10	12.29	11.14	4.74	5.63	5.12
Potato tuber, whole, fresh	7.94	4.99	1.66	2.30	1.83	2.69	5.12	7.68	7.81	4.74	4.86	5.38	4.10	12.29	11.14	4.74	5.63	5.12
Rapeseed hulls	5.77	4.80	2.33	2.71	1.39	2.86	4.56	5.78	7.48	4.33	3.00	6.55	4.78	7.82	18.75	5.45	4.83	6.82
Rapeseed meal	5.77	4.80	2.33	2.71	1.39	2.86	4.56	5.78	7.48	4.33	3.00	6.55	4.78	7.82	18.75	5.45	4.83	6.82
Rapeseed meal, (before 1991)	5.77	4.80	2.33	2.71	1.39	2.86	4.56	5.78	7.48	4.33	3.00	6.55	4.78	7.82	18.75	5.45	4.83	6.82
Rapeseed meal, 00	5.77	4.80	2.33	2.71	1.39	2.86	4.56	5.78	7.48	4.33	3.00	6.55	4.78	7.82	18.75	5.45	4.83	6.82
Rapeseed, canola, meal	5.77	4.80	2.33	2.71	1.39	2.86	4.56	5.78	7.48	4.33	3.00	6.55	4.78	7.82	18.75	5.45	4.83	6.82
Rapeseeds (crushed)	6.47	4.63	2.31	2.44	1.52	3.07	4.40	5.60	7.13	4.34	3.19	6.62	4.63	8.05	18.70	5.29	4.60	6.99
Rice bran	5.28	4.24	2.39	2.31	1.24	3.06	3.87	5.96	7.58	4.74	3.60	9.33	6.13	9.85	14.86	6.04	5.01	4.53
Rye	4.22	3.55	1.77	2.41	1.18	2.44	3.58	4.93	6.45	4.62	2.28	5.97	4.85	8.06	24.96	4.72	4.61	9.42

FEED INTO MILK FEEDS DATABASE

Amino acids (expressed as % total amino acids)

Source of amino acid data:

= AmiPig

= ADAS NSRU database

= Rhône-Poulenc Rhodimet (Feed guide 1993)

= H. Rulquin, INRA

= Other

Feed name	LYS	THR	MET	CYS	TRP	HIS	ILE	VAL	LEU	PHE	TYR	ARG	ALA	ASP	GLU	GLY	SER	PRO
Smartamine™ M	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Smartamine™ ML	72.72	0.00	27.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sorghum	2.30	3.40	1.70	1.80	1.10	2.10	4.20	5.30	13.20	4.90	4.20	4.10	8.80	6.90	19.10	3.30	5.00	8.60
Soyabean flour, not defatted	6.44	4.05	1.33	1.17	1.55	2.55	4.50	4.47	7.55	4.88	3.58	7.30	4.54	11.92	19.46	3.94	5.52	5.25
Soyabean hulls	6.60	4.21	1.65	1.74	1.38	2.75	4.49	5.22	7.51	4.40	3.29	5.96	5.12	10.35	14.93	7.69	6.41	6.30
Soyabean meal	6.33	3.98	1.38	1.47	1.36	2.69	4.99	5.17	7.77	5.17	3.74	7.55	4.29	11.27	18.39	4.23	5.25	4.97
Soyabean meal, Brazilian, (Soya 48)	6.19	3.96	1.37	1.42	1.37	2.74	4.86	4.97	7.65	5.22	3.82	7.62	4.34	11.40	18.60	4.26	5.20	5.02
Soyabean meal, formaldehyde treated	6.24	3.90	1.41	1.48	1.27	2.72	4.94	4.95	7.64	4.88	3.38	7.80	4.51	11.52	18.56	4.27	5.48	5.04
Soyabean meal, Hipro	6.33	3.96	1.43	1.51	1.29	2.80	4.83	4.88	7.69	5.04	3.62	7.75	4.26	11.39	18.86	4.11	5.19	5.07
Soyabean meal, tanned	6.33	3.98	1.38	1.47	1.36	2.69	4.99	5.17	7.77	5.17	3.74	7.55	4.29	11.27	18.39	4.23	5.25	4.97
Soyabean seed	6.44	4.05	1.33	1.17	1.55	2.55	4.50	4.47	7.55	4.88	3.58	7.30	4.54	11.92	19.46	3.94	5.52	5.25
Soyabean seed, extruded	6.44	4.05	1.33	1.17	1.55	2.55	4.50	4.47	7.55	4.88	3.58	7.30	4.54	11.92	19.46	3.94	5.52	5.25
Soyabean seed, toasted	6.44	4.05	1.33	1.17	1.55	2.55	4.50	4.47	7.55	4.88	3.58	7.30	4.54	11.92	19.46	3.94	5.52	5.25
Sugar beet pulp, dehydrated	6.53	6.06	1.86	1.63	1.17	3.73	4.66	7.34	7.23	4.55	5.94	5.36	5.59	10.37	11.19	5.01	6.41	5.36
Sugar beet pulp, dehydrated, molassed	5.31	4.55	1.26	1.52	1.39	3.92	4.30	5.69	6.45	3.67	4.68	3.54	4.30	8.47	24.79	4.68	5.06	6.42
Sugarbeet pulp, molassed	4.58	4.19	1.78	1.15	1.15	2.93	4.45	5.72	5.97	3.44	4.07	3.30	4.83	8.52	27.21	4.83	4.96	6.94
Sunflower ext. Arg 350 g/kg protein	3.97	3.96	2.60	1.76	1.39	2.81	4.63	5.34	6.68	4.87	2.52	9.29	4.55	9.21	20.83	6.04	4.68	4.88
Sunflower ext. EC 290 g/kg protein	4.04	4.15	2.74	1.69	1.32	2.62	4.73	5.28	6.80	4.87	2.03	8.51	4.65	9.75	20.53	6.29	4.88	5.12
Sunflower hulls	4.04	4.15	2.74	1.69	1.32	2.62	4.73	5.28	6.80	4.87	2.03	8.51	4.65	9.75	20.53	6.29	4.88	5.12
Sunflower meal	4.04	4.15	2.74	1.69	1.32	2.62	4.73	5.28	6.80	4.87	2.03	8.51	4.65	9.75	20.53	6.29	4.88	5.12
Sunflower meal, decorticated	3.97	3.96	2.60	1.76	1.39	2.81	4.63	5.34	6.68	4.87	2.52	9.29	4.55	9.21	20.83	6.04	4.68	4.88
Sunflower seed meal	4.04	4.15	2.74	1.69	1.32	2.62	4.73	5.28	6.80	4.87	2.03	8.51	4.65	9.75	20.53	6.29	4.88	5.12
Sunflower, ext. Arg 350 g/kg protein	3.97	3.96	2.60	1.76	1.39	2.81	4.63	5.34	6.68	4.87	2.52	9.29	4.55	9.21	20.83	6.04	4.68	4.88
Supergrains	3.01	3.60	1.84	2.01	*	3.01	*	*	*	*	*	*	*	*	*	*	*	*
Urea 2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wheat, ground/rolled	3.04	3.06	1.70	2.22	1.25	2.52	3.80	4.45	6.87	4.84	2.62	5.13	3.68	5.38	29.84	4.06	4.84	10.71
Wheat bran, fine	4.61	3.69	1.79	2.15	1.56	3.16	3.54	5.10	7.01	4.43	2.93	8.01	5.20	7.90	21.64	5.69	4.80	6.82
Wheat middlings	4.56	3.68	1.91	2.21	1.35	2.75	3.51	5.13	6.94	4.41	2.89	7.48	4.94	7.30	23.19	5.36	4.83	7.56
Wheat shorts	4.38	3.30	1.59	2.03	1.33	2.60	3.43	5.01	6.22	3.81	2.86	6.98	3.47	5.08	28.15	5.08	4.57	10.11
Wheat, sodium hydroxide treated	3.04	3.06	1.70	2.22	1.25	2.52	3.80	4.45	6.87	4.84	2.62	5.13	3.68	5.38	29.84	4.06	4.84	10.71
Wheat, soft	3.04	3.06	1.70	2.22	1.25	2.52	3.80	4.45	6.87	4.84	2.62	5.13	3.68	5.38	29.84	4.06	4.84	10.71
Wheat, toasted	3.04	3.06	1.70	2.22	1.25	2.52	3.80	4.45	6.87	4.84	2.62	5.13	3.68	5.38	29.84	4.06	4.84	10.71
Wheatfeed	3.82	3.95	1.94	2.43	1.43	2.86	3.76	5.55	7.09	4.43	2.19	6.48	5.54	8.00	22.67	5.68	5.28	6.91