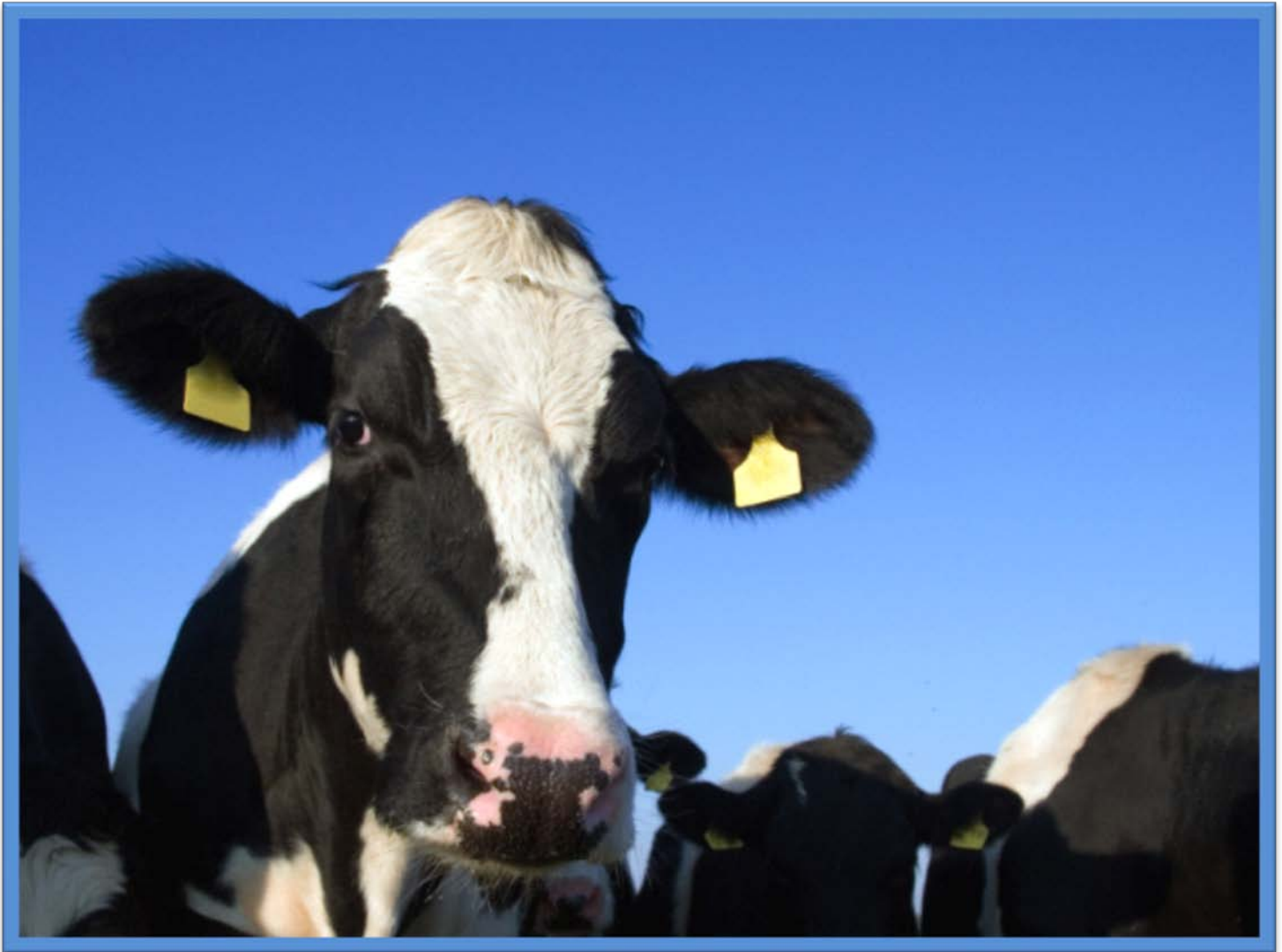




# NATIONAL ORGANIC PROGRAM

## Dry Matter Demand Tables For Classes of Dairy Cattle



Adapted from: "Nutrient Requirement Tables," from Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

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**Table 1 - 1: Daily Dry Matter Demand Requirements  
in Kilograms and Pounds**

**Early Lactation \*Small Breed Dairy Cows**

**15 - 30 Kilograms or 33 - 67 Pounds Daily Milk Production**

**78% Total Digestible Nutrients Diet**

Daily Milk Production (kg)	Milk Fat (%)	DMD (kg)	Daily Milk Production (lb)	Milk Fat (%)	DMD (lb)
15	4.0	9.4	33.07	4.0	20.72
15	4.5	9.7	33.07	4.5	21.38
15	5.0	9.9	33.07	5.0	21.83
30	4.0	12.9	66.14	4.0	28.44
30	4.5	13.5	66.14	4.5	29.76
30	5.0	14	66.14	5.0	30.86
Abbreviations used in table: DMD = Dry Matter Demand, kg = Kilogram, lb = Pound			*Small Breed Live Weight = 454 Kilograms or 1,001 Pounds		

Adapted from: "Table 14-1," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 2: Daily Dry Matter Demand Requirements  
in Kilograms and Pounds**

**Mid Lactation \*Small Breed Dairy Cows**

**20 - 40 Kilograms or 44 - 88 Pounds Daily Milk Production**

**78% Total Digestible Nutrients Diet**

Daily Milk Production (kg)	Milk Fat (%)	DMD (kg)	Daily Milk Production (lb)	Milk Fat (%)	DMD (lb)
20	3.0	16	44.09	3.0	35.27
20	3.5	16.5	44.09	3.5	36.38
20	4.0	17	44.09	4.0	37.48
30	3.0	19.5	66.14	3.0	42.99
30	3.5	20.3	66.14	3.5	44.75
30	4.0	21.1	66.14	4.0	46.52
40	3.0	23.1	88.18	3.0	50.93
40	3.5	24.2	88.18	3.5	53.35
40	4.0	25.2	88.18	4.0	55.56
Abbreviations used in table: DMD = Dry Matter Demand, kg = Kilogram, lb = Pound			*Small Breed Live Weight = 454 Kilograms or 1,001 Pounds		

Adapted from: "Table 14-2," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

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Mid Lactation \*Small Breed Dairy Cows  
10 - 30 Kilograms or 22 - 66 Pounds Daily Milk Production  
68% Total Digestible Nutrients Diet**

Daily Milk Production (kg)	Milk Fat (%)	DMD (kg)	Daily Milk Production (lb)	Milk Fat (%)	DMD (lb)
10	4.0	12.4	22.05	4.0	27.34
10	4.5	12.7	22.05	4.5	28.00
10	5.0	12.9	22.05	5.0	28.44
20	4.0	16	44.09	4.0	35.27
20	4.5	16.5	44.09	4.5	36.38
20	5.0	17	44.09	5.0	37.48
30	4.0	19.5	66.14	4.0	42.99
30	4.5	20.3	66.14	4.5	44.75
30	5.0	21.1	66.14	5.0	46.52
Abbreviations used in table: DMD = Dry Matter Demand, kg = Kilogram, lb = Pound			*Small Breed Live Weight = 454 Kilograms or 1,001 Pounds		

Adapted from: "Table 14-3," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 4: Daily Dry Matter Demand Requirements  
in Kilograms and Pounds**

**Early Lactation \*Large Breed Dairy Cows**

**20 - 40 Kilograms or 44 - 89 Pounds Daily Milk Production**

**78% Total Digestible Nutrients Diet**

Daily Milk Production (kg)	Milk Fat (%)	DMD (kg)	Daily Milk Production (lb)	Milk Fat (%)	DMD (lb)
20	3.0	12	44.09	3.0	26.46
20	3.5	12.4	44.09	3.5	27.34
20	4.0	12.7	44.09	4.0	28.00
30	3.0	14	66.14	3.0	30.86
30	3.5	14.5	66.14	3.5	31.97
30	4.0	15.1	66.14	4.0	33.29
40	3.0	16	88.18	3.0	35.27
40	3.5	16.7	88.18	3.5	36.82
40	4.0	17.4	88.18	4.0	38.36

Abbreviations used in table:  
DMD = Dry Matter Demand, kg = Kilogram, lb = Pound

\*Large Breed Live Weight = 680 Kilograms or 1,499 Pounds

Adapted from: "Table 14-4," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 5: Daily Dry Matter Demand Requirements  
in Kilograms and Pounds**

**Mid Lactation \*Large Breed Dairy Cows**

**35 - 55 Kilograms or 77 - 121 Pounds Daily Milk Production**

**78% Total Digestible Nutrients Diet**

Daily Milk Production (kg)	Milk Fat (%)	DMD (kg)	Daily Milk Production (lb)	Milk Fat (%)	DMD (lb)
35	3.0	22.7	77.16	3.0	50.04
35	3.5	23.6	77.16	3.5	52.03
35	4.0	24.5	77.16	4.0	54.01
45	3.0	25.7	99.21	3.0	56.66
45	3.5	26.9	99.21	3.5	59.30
45	4.0	28.1	99.21	4.0	61.95
55	3.0	28.7	121.25	3.0	63.27
55	3.5	30.2	121.25	3.5	66.58
55	4.0	31.7	121.25	4.0	69.89

Abbreviations used in table:  
DMD = Dry Matter Demand, kg = Kilogram, lb = Pound

\*Large Breed Live Weight = 680 Kilograms or 1,499 Pounds

Adapted from: "Table 14-5," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 6: Daily Dry Matter Demand Requirements  
in Kilograms and Pounds**

**Mid Lactation \*Large Breed Dairy Cows**

**25 - 45 Kilograms or 55 - 99 Pounds Daily Milk Production**

**68% Total Digestible Nutrients Diet**

Daily Milk Production (kg)	Milk Fat (%)	DMD (kg)	Daily Milk Production (lb)	Milk Fat (%)	DMD (lb)
25	3.0	19.6	55.12	3.0	43.21
25	3.5	20.3	55.12	3.5	44.75
25	4.0	21	55.12	4.0	46.30
35	3.0	22.7	77.16	3.0	50.04
35	3.5	23.6	77.16	3.5	52.03
35	4.0	24.5	77.16	4.0	54.01
45	3.0	25.7	99.21	3.0	56.66
45	3.5	26.9	99.21	3.5	59.30
45	4.0	28.1	99.21	4.0	61.95
Abbreviations used in table: DMD = Dry Matter Demand, kg = Kilogram, lb = Pound			*Large Breed Live Weight = 680 Kilograms or 1,499 Pounds		

Adapted from: "Table 14-6," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 7: Daily Dry Matter Demand Requirements in Kilograms and Pounds**

**\*Large Breed Dry Cows, 240 - 279 Days Pregnant**

**Calf Weight 45 Kilograms or 99 Pounds**

**Average Daily Gain, .67 Kilogram or 1.48 Pounds**

Current Dry Cow Body Weight with Conceptus (kg)	Days Pregnant	DMD (kg/day)	Current Dry Cow Body Weight with Conceptus (lb)	Days Pregnant	DMD (lb/day)
730	240	14.4	1609.4	240	31.7
751	270	13.7	1655.7	270	30.2
757	279	10.1	1668.9	279	22.3

Abbreviations used in table:  
DMD = Dry Matter Demand, kg = Kilogram, lb = Pound

\*Large Breed Mature Weight = 680 Kilograms or 1,499 Pounds without Conceptus

Adapted from: "Table 14-9," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 8: Daily Dry Matter Demand Requirements in Kilograms and Pounds**

**Transitioning, Second or Greater Lactation \*Large Breed Cows, 270 Days Pregnant**

**Average Daily Gain, .3 Kilogram or .7 Pound**

**Conceptus Average Daily Gain, .66 Kilogram or 1.45 Pounds**

Current Body Weight with Conceptus (kg)	Days Pregnant	DMD (kg/day)	Current Body Weight with Conceptus (lb)	Days Pregnant	DMD (lb/day)
751	270	13.7	1,655.7	270	30.2

Abbreviations used in table:  
DMD = Dry Matter Demand, kg = Kilogram, lb = Pound

\*Large Breed Mature Weight = 680 Kilograms or 1,499 Pounds

Adapted from: "Table 14-11," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 9: Daily Dry Matter Demand Ranges in Kilograms and Pounds**

**\*Small and \*Large Breed Non-Bred Heifers**

Small Breed Current Body Weight (kg)	Daily DMD Range (kg) w/ .3-.8 kg Daily Gain		DMD Daily Average (kg)	Small Breed Current Body Weight (lb)	Daily DMD Range (lb) w/ .7-1.8 lb Daily Gain		DMD Daily Average (lb)
	DMD Minimum	DMD Maximum			DMD Minimum	DMD Maximum	
100	3.0	3.1	3.1	220.5	6.6	6.8	6.7
150	4.0	4.2	4.1	330.7	8.8	9.3	9.1
200	5.0	5.2	5.1	440.9	11.0	11.5	11.3
250	5.9	6.2	6.1	551.2	13.0	13.7	13.4
300	6.2	7.1	6.7	661.4	13.7	15.7	14.7

Large Breed Current Body Weight (kg)	Daily DMD Range (kg) w/ .5-1.1 kg Daily Gain		DMD Daily Average (kg)	Large Breed Current Body Weight (lb)	Daily DMD Range (lb) w/ 1.1-2.4 lb Daily Gain		DMD Daily Average (lb)
	DMD Minimum	DMD Maximum			DMD Minimum	DMD Maximum	
150	4.1	4.2	4.2	330.7	9.0	9.3	9.2
200	5.1	5.2	5.2	440.9	11.2	11.5	11.4
250	6.0	6.2	6.1	551.2	13.2	13.7	13.5
300	6.9	7.1	7.0	661.4	15.2	15.7	15.5
350	7.7	8.0	7.9	771.6	17.0	17.6	17.3
400	8.5	8.8	8.7	881.7	18.7	19.4	19.1

Abbreviations used in table:  
DMD = Dry Matter Demand, kg = Kilogram, lb = Pound, w = with

\*Small Breed Mature Weight = 450 Kilograms or 992 Pounds  
\*Large Breed Mature Weight = 650 Kilograms or 1,433 Pounds

Adapted from: "Tables 14-12 and 14-13," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 10: Daily Dry Matter Demand Ranges in Kilograms and Pounds**

**\*Small and \*Large Breed Bred Heifers**

Small Breed Current Body Weight (kg)	Daily DMD Range (kg) w/ .3 -.9 kg Daily Gain		DMD Daily Average (kg)	Small Breed Current Body Weight (lb)	Daily DMD Range (lb) w/ .7 - 2.0 lb Daily Gain		DMD Daily Average (lb)
	DMD Minimum	DMD Maximum			DMD Minimum	DMD Maximum	
300	7.6	7.7	7.7	661.4	16.8	17.0	16.9
350	8.5	8.7	8.6	771.6	18.7	19.2	19.1
400	9.4	9.6	9.5	881.8	20.7	21.2	21.0
450	10.3	10.5	10.4	992.1	22.7	23.1	23.0

Large Breed Current Body Weight (kg)	Daily DMD Range (kg) w/ .5 - 1.1 kg Daily Gain		DMD Daily Average (kg)	Large Breed Current Body Weight (lb)	Daily DMD Range (lb) w/ 1.1 - 2.4 lb Daily Gain		DMD Daily Average (lb)
	DMD Minimum	DMD Maximum			DMD Minimum	DMD Maximum	
450	10.3	10.5	10.4	992.1	22.7	23.1	23.0
500	11.1	11.4	11.3	1102.3	24.5	25.1	24.9
550	12.0	12.2	12.1	1212.5	26.5	26.9	26.8
600	12.8	13.0	13.0	1322.8	28.2	28.7	28.6
650	13.6	13.8	13.8	1433	30.0	30.4	30.3

Abbreviations used in table:  
DMD = Dry Matter Demand, kg = Kilogram, lb = Pound, w = with

\*Small Breed Mature Weight = 450 Kilograms or 992 Pounds  
\*Large Breed Mature Weight = 650 Kilograms or 1,433 Pounds

Adapted from: "Tables 14-14 and 14-15," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 11: Daily Dry Matter Demand Requirements in Kilograms and Pounds  
 Transitioning, Close-Up, First Lactation \*Large Breed Heifers, 270 Days Pregnant  
 Average Daily Gain, .3 Kilogram or .7 Pound  
 Conceptus Average Daily Gain, .66 Kilogram or 1.45 Pounds**

Current Body Weight with Conceptus (kg)	Days Pregnant	DMD (kg/day)	Current Body Weight with Conceptus (lb)	Days Pregnant	DMD (lb/day)
625	270	10.6	1377.9	270	23.4
Abbreviations used in table: DMD = Dry Matter Demand, kg = Kilogram, lb = Pound			*Large Breed Mature Weight = 680 Kilograms or 1,499 Pounds		

Adapted from: "Table 14-10," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.

**Table 1 - 12: Daily Dry Matter Demand Requirements  
in Kilograms or Grams and Pounds  
Weaned Calves**

Current Body Weight (kg)	Average Daily Gain (g)	DMD (kg/day)	Current Body Weight (lb)	Average Daily Gain (lb)	DMD (lb/day)
50	0	0.70	110.2	0.0	1.5
50	400	1.13	110.2	0.9	2.5
50	500	1.27	110.2	1.1	2.8
50	600	1.86	110.2	1.3	4.1
60	0	0.80	132.3	0.0	1.8
60	400	1.26	132.3	0.9	2.8
60	500	1.41	132.3	1.1	3.1
60	600	1.56	132.3	1.3	3.4
60	700	1.71	132.3	1.5	3.8
60	800	1.87	132.3	1.8	4.1
70	0	0.90	154.3	0.0	2.0
70	400	1.39	154.3	0.9	3.1
70	500	1.54	154.3	1.1	3.4
70	600	1.70	154.3	1.3	3.7
70	700	1.86	154.3	1.5	4.1
70	800	2.03	154.3	1.8	4.5
80	0	0.99	176.4	0.0	2.2
80	400	1.51	176.4	0.9	3.3
80	500	1.66	176.4	1.1	3.7
80	600	1.83	176.4	1.3	4.0
80	700	2.00	176.4	1.5	4.4
80	800	2.18	176.4	1.8	4.8
90	0	1.16	198.4	0.0	2.6
90	600	2.09	198.4	1.3	4.6
90	700	2.28	198.4	1.5	5.0
90	800	2.48	198.4	1.8	5.5
90	900	2.68	198.4	2.0	5.9
100	0	1.25	220.5	0.0	2.8
100	600	2.22	220.5	1.3	4.9
100	700	2.42	220.5	1.5	5.3
100	800	2.63	220.5	1.8	5.8
100	900	2.84	220.5	2.0	6.3

Abbreviations used in table:

DMD = Dry Matter Demand, kg = Kilogram, lb = Pound

Adapted from: "Table 10-4," from *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, by Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, 2001, Washington, D.C.: National Academies Press. Copyright 2001 by National Academy of Sciences.