

Dry Matter Intake (DMI) Calculation Worksheet

Utilizing National Research Council (NRC) Referenced Values for Dry Matter Demand (DMD)

[Note: Use a separate worksheet for each livestock class and type (stage of production)]



Class/Stage of Production: Dairy Cow, Lactating [EXAMPLE]

Date	1-May-09	10-Aug-09	1-Oct-09
# of Animals	125	125	125
Average Weight	1300	1300	1300
DMD Source: NRC/NOP Table Value or Other _____	31.97	52.03	52.03

Other Feed Sources:			
a	_____ lb, as fed x % DM of Feed Source = DMI, lb	corn 12 89 10.68	corn 25 89 16.02
b	_____ lb, as fed x % DM of Feed Source = DMI, lb	silage 12 30 3.6	hay 5 90 4.5
c	_____ lb, as fed x % DM of Feed Source = DMI, lb	hay 5 90 4.5	
d	_____ lb, as fed x % DM of Feed Source = DMI, lb		
B	Total DMI from feed sources, lb = a+b+c+d	10.68	30.35
	% DMI from feed sources = (B/A)*100	33.41	58.33

C	Pasture DMI, lb = A - B	21.29	21.68
	% DMI from pastures = (C/A)*100	66.59	41.67

Typical dry matter (DM) Content of Feed Sources:

- Grain = 89% dry matter
- Dry hay = 90% dry matter
- Grain Silage = 25-35% dry matter
- Haylage/Baleage = 35-60% dry matter

**Ave. % DMI from Pasture
Over the Grazing Season**
Meet Requirements?

56.27

YES

**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.