



LIVESTOCK WINTER & SUMMER RATIONS

Producers of organic ruminant livestock (cattle, sheep, goats, buffalo) are required to provide a full description of feed rations and calculations of how much of the ration is provided by pasture during the grazing season. According to NOS §205.340(b) a producer of ruminant livestock must provide a minimum of 30% dry matter (DM) from pasture on average over the course of the grazing season. If you test feed and have % of DM, you may use those numbers in the calculations. Have testing documentation available at your inspection if you have feed tests.

Directions:

Below are reference tables for 1) dry matter content of common feeds, 2) dry matter demand of lactating cows based on size and milk production, and 3) dry matter demand for other ruminant groups as percentages of average body weight. Using information from the reference tables, complete the ration charts for winter rations, grazing season rations and the dry matter from pasture calculations from the grazing season rations. Complete a separate ration chart for each group (milking, dry, brood animals, etc.) of ruminants on your farm that is fed a separate ration. We provide you with 5 ration charts to fill out for the different feeding groups on your farm. Make copies of the charts if you have more than 5 separate groups. The Silo Capacity, Silage Bag Capacity, and Standard Weights tables on the back of this page may be helpful to reference when estimating feed intake. Any changes to your ration must be recorded throughout the year. We also provide the Grazing Season Ration Record Spreadsheet for calculating ration changes for one group of animals over the entire grazing season. This form is available on our website.

1. PERCENTAGE DRY MATTER (%DM) OF COMMON FEEDS
Hay (dry, both legume and grass) = 85% DM
Haylage (any chopped forage except corn) = 35% DM
Green chop (any green chopped forage) = 20% DM
Baleage (any baled and wrapped forage) = 60% DM
Corn silage = 40% DM
High moisture corn = 76% DM
Grain (dry corn, beans, small grains) = 89% DM
Sprouted barley = 10-20% DM (dependent on the age of the sprout)

2. DAIRY COWS DRY MATTER DEMAND (DMD)		
AVERAGE MILK PER DAY	SMALL BREED <900-1200#+ DMD	LARGE BREED 1200-1400#+ DMD
10#	21#	27#
15#	23#	28#
20#	24#	30#
25#	26#	31#
30#	28#	33#
35#	30#	34#
40#	31#	36#
45#	33#	37#
50#	35#	39#
55#	36#	40#
60#	38#	42#
65#	40#	43#
70#	42#	45#
75#	43#	46#
80#	45#	48#

3. RUMINANT GROUPS: DRY MATTER DEMAND AS A PERCENTAGE OF BODY WEIGHT	
Dry dairy cows	1.8%
Bred dairy heifers (14-24 months of age)	2.5%
Unbred dairy heifers (6-14 months of age)	2.5%
Beef cattle (more than 1 year of age)	2.25%
Beef cattle (weaned, less than 1 year of age)	2.75%
Sheep (brood or milking animals)	3.65%
Goats (brood or milking animals)	4%
Sheep (weaned, slaughter or replacement stock)	3.3%
Goats (weaned, slaughter or replacement stock)	2.25%

SILO CAPACITY: TONS OF CORN OR GRASS SILAGE (65% MOISTURE) IN SETTLED SILOS								
DEPTH OF SILAGE IN FT	INSIDE DIAMETER OF SILO IN FT							
	12'	14'	16'	18'	20'	24'	26'	30'
8	11	15	20	25	31	45	52	70
12	19	25	33	42	52	75	88	117
16	28	38	49	62	77	111	130	173
20	38	51	67	85	105	151	177	236
24	49	66	87	110	135	194	228	304
28	61	83	108	137	169	243	286	380
32	74	100	131	166	205	295	346	461
36	87	118	155	196	242	348	409	545
40	101	138	180	229	280	403	473	630
44	117	159	207	261	320	461	541	720
50	137	186	248	310	389	560	673	875
55	-	212	319	365	444	639	750	999
60	-	-	383	415	500	720	845	1125
70	-	-	-	-	574	827	970	1290
80	-	-	-	-	650	1100	1330	1880
90	-	-	-	-	-	-	-	2470

CAPACITIES OF SILAGE BAGS AT 13 LBS DM PER CUBIC FT DENSITY (65% MOISTURE)								
BAG DEPTH IN FT	8 FEET		9 FEET		10 FEET		12 FEET	
	Silage Length	Capacity wet tons	Silage Length	Capacity wet tons	Silage Length	Capacity wet tons	Silage Length	Capacity wet tons
100	84	80	82	100	80	115	76	160
150	134	125	132	150	130	190	126	265
200	184	170	182	215	180	260	176	370
250	234	220	232	270	230	335	226	475
300	284	265	282	330	280	405	276	580

STANDARD WEIGHTS OF FARM PRODUCTS PER BUSHEL (estimated at 89% DM)	
Barley -	48 Lb.
Rye -	56 Lb.
Corn (shelled) -	56 Lb.
Corn (ear) -	70 Lb.
Oats -	32 Lb.
Soybeans -	60 Lb.
Wheat -	60 Lb.

1. RATIONS AND PASTURE CALCULATION FOR LACTATING DAIRY COWS											
A. DRY MATTER DEMAND (DMD)											
NUMBER OF COWS IN THIS GROUP		AVERAGE WEIGHT PER COW		AVERAGE MILK PER DAY PER COW IN LBS				DRY MATTER DEMAND FROM DAIRY COWS DRY MATTER DEMAND CHART ABOVE			
B. WINTER (NON-GRAZING) RATION						C. SUMMER (GRAZING) RATION (Do not list pasture)					
% DM X AVERAGE LBS FED = DRY MATTER FED						% DM X AVERAGE LBS FED = DRY MATTER FED					
LIST ALL FEED TYPES	% DM OF FEED	AVERAGE LBS FED PER COW		DM FED		LIST ALL FEED TYPES	% DM OF FEED	AVERAGE LBS FED PER COW		DM FED	
Example: Grain, corn	89% (.89)	x	10#	=	8.9#	Example: Grain, corn	89% (.89)	x	10#	=	8.9#
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
			Total DM Fed						Total DM Fed		
D. PASTURE CALCULATION											
$\frac{\text{DMD (from A)}}{\text{DMD (from A)}} \text{ minus } \frac{\text{Total DM Fed (from C)}}{\text{Total DM Fed (from C)}} = \frac{\text{Pasture DM Fed}}{\text{Pasture DM Fed}} \text{ divided by } \frac{\text{DMD (from A)}}{\text{DMD (from A)}} = \text{X 100} = \frac{\text{DM percent from pasture}}{\text{DM percent from pasture}} \%$											

2. RATIONS AND PASTURE CALCULATION

Which Group? _____ Number of animals in this group: _____

A. DRY MATTER DEMAND (DMD) Find the DMD as a percentage of average body weight. Average weight x % (move the decimal to the left two digits) = Dry Matter Demand

AVERAGE WEIGHT PER ANIMAL		DMD AS % OF BODY WEIGHT FROM RUMINANT GROUPS CHART ABOVE		DRY MATTER DEMAND
	x		=	

B. WINTER (NON-GRAZING) RATION					C. SUMMER (GRAZING) RATION (Do not list pasture)						
% DM X AVERAGE LBS FED = DRY MATTER FED					% DM X AVERAGE LBS FED = DRY MATTER FED						
LIST ALL FEED TYPES	% DM OF FEED	x	AVERAGE LBS FED PER HD	=	DM FED	LIST ALL FEED TYPES	% DM OF FEED	x	AVERAGE LBS FED PER HD	=	DM FED
<i>Example: Grain, corn</i>	89% (.89)	x	10#	=	8.9#	<i>Example: Grain, corn</i>	89% (.89)	x	10#	=	8.9#
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
Total DM Fed						Total DM Fed					

D. PASTURE CALCULATION

$$\frac{\text{DMD (from A)}}{\text{Total DM Fed (from C)}} \text{ minus } \frac{\text{DMD (from A)}}{\text{Total DM Fed (from C)}} = \frac{\text{Pasture DM Fed}}{\text{Total DM Fed (from C)}} \text{ divided by } \frac{\text{DMD (from A)}}{\text{Total DM Fed (from C)}} = \text{ } \times 100 = \text{ } \% \text{ DM percent from pasture}$$

3. RATIONS AND PASTURE CALCULATION

Which group? _____ Number of animals in this group: _____

A. DRY MATTER DEMAND (DMD) Find the DMD as a percentage of average body weight. Average weight x % (move the decimal to the left two digits) = Dry Matter Demand

AVERAGE WEIGHT PER ANIMAL		DMD AS % OF BODY WEIGHT FROM CHART ABOVE		DRY MATTER DEMAND
	x		=	

B. WINTER (NON-GRAZING) RATION					C. SUMMER (GRAZING) RATION (Do not list pasture)						
% DM X AVERAGE LBS FED = DRY MATTER FED					% DM X AVERAGE LBS FED = DRY MATTER FED						
LIST ALL FEED TYPES	% DM OF FEED	x	AVERAGE LBS FED PER HD	=	DM FED	LIST ALL FEED TYPES	% DM OF FEED	x	AVERAGE LBS FED PER HD	=	DM FED
<i>Example: Grain, corn</i>	89% (.89)	x	10#	=	8.9#	<i>Example: Grain, corn</i>	89% (.89)	x	10#	=	8.9#
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
Total DM Fed						Total DM Fed					

D. PASTURE CALCULATION

$$\frac{\text{DMD (from A)}}{\text{Total DM Fed (from C)}} \text{ minus } \frac{\text{DMD (from A)}}{\text{Total DM Fed (from C)}} = \frac{\text{Pasture DM Fed}}{\text{Total DM Fed (from C)}} \text{ divided by } \frac{\text{DMD (from A)}}{\text{Total DM Fed (from C)}} = \text{ } \times 100 = \text{ } \% \text{ DM percent from pasture}$$

4. RATIONS AND PASTURE CALCULATION

Which group? _____ Number of animals in this group: _____

A. DRY MATTER DEMAND (DMD) Find the DMD as a percentage of average body weight. Average weight x % (move the decimal to the left two digits) = Dry Matter Demand

AVERAGE WEIGHT PER ANIMAL		DMD AS % OF BODY WEIGHT FROM CHART ABOVE		DRY MATTER DEMAND
	x		=	

B. WINTER (NON-GRAZING) RATION **C. SUMMER (GRAZING) RATION (Do not list pasture)**

% DM X AVERAGE LBS FED = DRY MATTER FED					% DM X AVERAGE LBS FED = DRY MATTER FED						
LIST ALL FEED TYPES	% DM OF FEED	AVERAGE LBS FED PER HD	DM FED		LIST ALL FEED TYPES	% DM OF FEED	AVERAGE LBS FED PER HD	DM FED			
<i>Example: Grain, corn</i>	89% (.89)	x	10#	=	8.9#	<i>Example: Grain, corn</i>	89% (.89)	x	10#	=	8.9#
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
Total DM Fed					Total DM Fed						

D. PASTURE CALCULATION

$$\frac{\text{DMD (from A)}}{\text{Total DM Fed (from C)}} \text{ minus } \frac{\text{Pasture DM Fed}}{\text{DMD (from A)}} = \text{ divided by } \frac{\text{DMD (from A)}}{\text{DMD (from A)}} = \text{ X 100= } \frac{\text{DM percent from pasture}}{\text{DM percent from pasture}} \%$$

5. RATIONS AND PASTURE CALCULATION

Which group? _____ Number of animals in this group: _____

A. DRY MATTER DEMAND (DMD) Find the DMD as a percentage of average body weight. Average weight x % (move the decimal to the left two digits) = Dry Matter Demand

AVERAGE WEIGHT PER ANIMAL		DMD AS % OF BODY WEIGHT FROM CHART ABOVE		DRY MATTER DEMAND
	x		=	

B. WINTER (NON-GRAZING) RATION **C. SUMMER (GRAZING) RATION (Do not list pasture)**

% DM X AVERAGE LBS FED = DRY MATTER FED					% DM X AVERAGE LBS FED = DRY MATTER FED						
LIST ALL FEED TYPES	% DM OF FEED	AVERAGE LBS FED PER HD	DM FED		LIST ALL FEED TYPES	% DM OF FEED	AVERAGE LBS FED PER HD	DM FED			
<i>Example: Grain, corn</i>	89% (.89)	x	10#	=	8.9#	<i>Example: Grain, corn</i>	89% (.89)	x	10#	=	8.9#
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
		x		=				x		=	
Total DM Fed					Total DM Fed						

D. PASTURE CALCULATION

$$\frac{\text{DMD (from A)}}{\text{Total DM Fed (from C)}} \text{ minus } \frac{\text{Pasture DM Fed}}{\text{DMD (from A)}} = \text{ divided by } \frac{\text{DMD (from A)}}{\text{DMD (from A)}} = \text{ X 100= } \frac{\text{DM percent from pasture}}{\text{DM percent from pasture}} \%$$