



GRAZING SEASON RATION WORKBOOK



Instructions

Before you begin, save a copy of this file. Complete the spreadsheet following the instructions below. When complete, return to your Livestock Organic System Plan to the question related to the completion of this form, and click on "Upload a file" which will provide instructions on how to upload this file to your account.

Use this worksheet to document Dry Matter Intake (DMI) from pasture for specific groups of ruminants during the grazing season. Use a separate set of worksheets for each specific type of ruminant livestock. Complete a new worksheet (Ration 1, Ration 2, Ration 3, etc.) each time the supplemented feed ration changes significantly for each group.

For Manual Calculation: Enter results from all rations (Ration 1, Ration 2, Ration 3, etc.) into the Grazing Season Summary. Follow directions on the Summary to calculate a weighted average % DMI from pasture during the grazing season.

For Electronic Calculation: After the % DMI from pasture is calculated for each ration, it is automatically entered into the Grazing Season Summary. On this tab, the Weighted Average % DMI from Pasture is calculated.



REFERENCE CHARTS



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

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#

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%

*If you test feed and have % DM from testing, use your own numbers in the calculations.

SILO CAPACITY: TONS OF CORN OR GRASS SILAGE (68% MOISTURE) IN SETTLED UNOPENED SILOS

Depth of silage (in feet)	Inside diameter of silo in feet								
	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	383	365	444	639	750	999	
60	---	---	319	415	500	720	845	1125	
70	---	---	---	---	574	827	970	1290	
80	---	---	---	---	650	1100	1330	1880	
90	---	---	---	---	---	---	---	2470	

Standard Weights of Farm Products per Bushel (estimated at 89% DM)	
Barley -	48 lbs.
Rye -	56 lbs.
Corn (shelled) -	56 lbs.
Corn (ear) -	70 lbs.
Oats -	32 lbs.
Soybeans -	60 lbs.
Wheat -	60 lbs.

*These figures are general estimates. If you have acquired values through weighing or testing, then use your own more specific figures.

Capacities of silage bags at 13 pounds dry matter per cubic foot density (65% moisture):

Bag Diameter								
8 feet			9 feet		10 feet		12 feet	
Bag	Silage	Capacity-	Silage	Capacity-	Silage	Capacity-	Silage	Capacity-
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



GRAZING SEASON RATION WORKBOOK

Ration 1



Operation Name:		Type of Ruminant Livestock:	
Date Ration Began:		Dairy Cows	Beef Slaughter
Date Ration Ended:		Dairy Heifers	Goats
# of Grazing Days:		Dry Cows	Sheep
* Dry Matter Demand (DMD) in Lbs:		Beef Cows	Other:

* When calculating Dry Matter Demand (DMD) for this type of organic ruminant livestock, please refer either to the attached Reference Charts or use your own DMD estimate.

Feed Type (do not list pasture)	Avg. # fed/hd/day	** Dry Matter %	# DM fed
<i>Example: Dry Hay</i>	<i>Example: 25</i>	<i>Example: 85 %</i>	<i>= 21.25</i>
		X	= 0
		X	= 0
		X	= 0
		X	= 0
		X	= 0
		X	= 0
		X	= 0
		X	= 0
		Total DM fed (non-pasture):	0

$$\begin{array}{ccccccc}
 \boxed{0} & - & \boxed{0} & = & \boxed{0} & \div & \boxed{0} & = & \boxed{} & \times & 100 \\
 \text{DMD} & & \text{Total DM Fed (non-pasture)} & & \text{DMI from Pasture} & & \text{DMD} & & \text{DMI from Pasture} & & \\
 & & & & & & & & & & \\
 & & & & & & & & & & \\
 & & & & = & & \boxed{} & \% & & & \\
 & & & & & & \text{TOTAL \% DMI FROM PASTURE (for this period)} & & & &
 \end{array}$$

** When estimating Dry Matter % of supplemented feed types, please refer to the attached Reference Charts or your own feed test results.



GRAZING SEASON RATION WORKBOOK



Ration 2

Operation Name:		Type of Ruminant Livestock:	
Date Ration Began:		Dairy Cows	Beef Slaughter
Date Ration Ended:		Dairy Heifers	Goats
# of Grazing Days:		Dry Cows	Sheep
* Dry Matter Demand (DMD) in Lbs:		Beef Cows	Other:

* When calculating Dry Matter Demand (DMD) for this type of organic ruminant livestock, please refer either to the attached Reference Charts or use your own DMD estimate.

Feed Type (do not list pasture)	Avg. # fed/hd/day	X	** Dry Matter %	# DM Fed
<i>Example: Dry Hay</i>	<i>Example: 25</i>	X	<i>Example: 85 %</i>	<i>= 21.25</i>
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
Total DMI fed from non-pasture:				0

0	-	0	=	0	÷	0	=	0	X 100
DMD		Total Dry Matter Fed		DMI from Pasture		DMD		DMI from Pasture	
				=		%			
TOTAL % DMI FROM PASTURE (for this period)									

** When estimating Dry Matter % of supplemented feed types, please refer to the attached Reference Charts or your own feed test results.



GRAZING SEASON RATION WORKBOOK

Ration 3



Operation Name:		Type of Ruminant Livestock:	
Date Ration Began:		Dairy Cows	Beef Slaughter
Date Ration Ended:		Dairy Heifers	Goats
# of Grazing Days:		Dry Cows	Sheep
* Dry Matter Demand (DMD) in Lbs:		Beef Cows	Other:

* When calculating Dry Matter Demand (DMD) for this type of organic ruminant livestock, please refer either to the attached Reference Charts or use your own DMD estimate.

Feed Type (do not list pasture)	Avg. # fed/hd/day	X	** Dry Matter %	# DM Fed
<i>Example: Dry Hay</i>	<i>Example: 25</i>	X	<i>Example: 85 %</i>	<i>= 21.25</i>
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
Total DMI fed from non-pasture:				0

0	-	0	=	0	÷	0	=	0	X 100
DMD		Total Dry Matter Fed		DMI from Pasture		DMD		DMI from Pasture	
= %									
TOTAL % DMI FROM PASTURE (for this period)									

** When estimating Dry Matter % of supplemented feed types, please refer to the attached Reference Charts or your own feed test results.



GRAZING SEASON RATION WORKBOOK

Ration 4



Operation Name:		Type of Ruminant Livestock:	
Date Ration Began:		Dairy Cows	Beef Slaughter
Date Ration Ended:		Dairy Heifers	Goats
# of Grazing Days:		Dry Cows	Sheep
* Dry Matter Demand (DMD) in Lbs:		Beef Cows	Other:

* When calculating Dry Matter Demand (DMD) for this type of organic ruminant livestock, please refer either to the attached Reference Charts or use your own DMD estimate.

Feed Type (do not list pasture)	Avg. # fed/hd/day	** Dry Matter %	# DM Fed
<i>Example: Dry Hay</i>	<i>Example: 25</i> X	<i>Example: 85 %</i>	= <i>21.25</i>
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
Total DMI fed from non-pasture:			0

$$\begin{array}{c}
 \frac{0}{\text{DMD}} - \frac{0}{\text{Total Dry Matter Fed}} = \frac{0}{\text{DMI from Pasture}} \div \frac{0}{\text{DMD}} = \frac{\quad}{\text{DMI from Pasture}} \times 100 \\
 = \frac{\quad}{\quad} \% \\
 \text{TOTAL \% DMI FROM PASTURE (for this period)}
 \end{array}$$

** When estimating Dry Matter % of supplemented feed types, please refer to the attached Reference Charts or your own feed test results.



GRAZING SEASON RATION WORKBOOK

Ration 5



Operation Name:		Type of Ruminant Livestock:	
Date Ration Began:		Dairy Cows	Beef Slaughter
Date Ration Ended:		Dairy Heifers	Goats
# of Grazing Days:		Dry Cows	Sheep
* Dry Matter Demand (DMD) in Lbs:		Beef Cows	Other:

* When calculating Dry Matter Demand (DMD) for this type of organic ruminant livestock, please refer either to the attached Reference Charts or use your own DMD estimate.

Feed Type (do not list pasture)	Avg. # fed/hd/day	X	** Dry Matter %	=	# DM Fed
<i>Example: Dry Hay</i>	<i>Example: 25</i>	X	<i>Example: 85 %</i>	=	<i>21.25</i>
		X	%	=	0
		X	%	=	0
		X	%	=	0
		X	%	=	0
		X	%	=	0
		X	%	=	0
		X	%	=	0
		X	%	=	0
		X	%	=	0
		X	%	=	0
Total DMI fed from non-pasture:				0	

0	-	0	=	0	÷	0	=	0	X	100
DMD		Total Dry Matter Fed		DMI from Pasture		DMD		DMI from Pasture		
= 0 %										
TOTAL % DMI FROM PASTURE (for this period)										

** When estimating Dry Matter % of supplemented feed types, please refer to the attached Reference Charts or your own feed test results.



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Ration 6



Operation Name:		Type of Ruminant Livestock:	
Date Ration Began:		Dairy Cows	Beef Slaughter
Date Ration Ended:		Dairy Heifers	Goats
# of Grazing Days:		Dry Cows	Sheep
* Dry Matter Demand (DMD) in Lbs:		Beef Cows	Other:

* When calculating Dry Matter Demand (DMD) for this type of organic ruminant livestock, please refer either to the attached Reference Charts or use your own DMD estimate.

Feed Type (do not list pasture)	Avg. # fed/hd/day	X	** Dry Matter %	# DM Fed
<i>Example: Dry Hay</i>	<i>Example: 25</i>	X	<i>Example: 85 %</i>	<i>= 21.25</i>
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
		X	%	= 0
Total DMI fed from non-pasture:				0

0	-	0	=	0	÷	0	=	0	X 100
DMD		Total Dry Matter Fed		DMI from Pasture		DMD		DMI from Pasture	
= %									
TOTAL % DMI FROM PASTURE (for this period)									

** When estimating Dry Matter % of supplemented feed types, please refer to the attached Reference Charts or your own feed test results.



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Ration 7



Operation Name:		Type of Ruminant Livestock:	
Date Ration Began:		Dairy Cows	Beef Slaughter
Date Ration Ended:		Dairy Heifers	Goats
# of Grazing Days:		Dry Cows	Sheep
* Dry Matter Demand (DMD) in Lbs:		Beef Cows	Other:

* When calculating Dry Matter Demand (DMD) for this type of organic ruminant livestock, please refer either to the attached Reference Charts or use your own DMD estimate.

Feed Type (do not list pasture)	Avg. # fed/hd/day	** Dry Matter %	# DM Fed
<i>Example: Dry Hay</i>	<i>Example: 25</i> X	<i>Example: 85 %</i>	<i>= 21.25</i>
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
Total DMI fed from non-pasture:			0

$$\begin{array}{c}
 \text{0} - \text{0} = \text{0} \div \text{0} = \text{0} \times 100 \\
 \text{DMD} \quad \quad \quad \text{Total Dry Matter Fed} \quad \quad \quad \text{DMI from Pasture} \quad \quad \quad \text{DMD} \quad \quad \quad \text{DMI from Pasture} \\
 \\
 = \text{\%} \\
 \hline
 \text{TOTAL \% DMI FROM PASTURE (for this period)}
 \end{array}$$

** When estimating Dry Matter % of supplemented feed types, please refer to the attached Reference Charts or your own feed test results.



GRAZING SEASON RATION WORKBOOK

Ration 8



Operation Name:		Type of Ruminant Livestock:	
Date Ration Began:		Dairy Cows	Beef Slaughter
Date Ration Ended:		Dairy Heifers	Goats
# of Grazing Days:		Dry Cows	Sheep
* Dry Matter Demand (DMD) in Lbs:		Beef Cows	Other:

* When calculating Dry Matter Demand (DMD) for this type of organic ruminant livestock, please refer either to the attached Reference Charts or use your own DMD estimate.

Feed Type (do not list pasture)	Avg. # fed/hd/day	** Dry Matter %	# DM Fed
<i>Example: Dry Hay</i>	<i>Example: 25</i> X	<i>Example: 85 %</i>	= <i>21.25</i>
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
	X	%	= 0
Total DMI fed from non-pasture:			0

$$\begin{array}{ccccccccc}
 \boxed{0} & - & \boxed{0} & = & \boxed{0} & \div & \boxed{0} & = & \boxed{0} & \times 100 \\
 \text{DMD} & & \text{Total Dry} & & \text{DMI from} & & \text{DMD} & & \text{DMI from} & \\
 & & \text{Matter Fed} & & \text{Pasture} & & & & \text{Pasture} & \\
 & & & & & & & & & \\
 & & & & & & & & & \\
 & & & = & \boxed{} & \% & & & & \\
 & & & & \text{TOTAL \% DMI FROM PASTURE (for this period)} & & & & &
 \end{array}$$

** When estimating Dry Matter % of supplemented feed types, please refer to the attached Reference Charts or your own feed test results.



GRAZING SEASON SUMMARY



For Manual Calculation: Enter results from Ration Records into the table below. For each ration, multiply the number of grazing days by the % DMI from pasture (see example provided). To calculate the weighted average (season average) of pasture DMI, multiply the number of grazing days by the pasture DMI % from the ration record. Add the number of grazing days and the weighted % DMI from pasture. Divide the weighted % DMI from pasture by the total number of days grazing and multiply by 100.

For Electronic Calculation: The results from the Ration Records will be automatically entered into the table below.

Operation Name:		Type of Ruminant Livestock:			
Dry Matter Demand (DMD):		Dairy Cows	Beef Slaughter		
		Dairy Heifers	Goats		
		Dry Cows	Sheep		
		Beef Cows	Other:		
Rations	# of Grazing Days	Pasture DMI % from Ration record	Weighted % DMI from pasture		
<i>Example Ration</i>	66	X	50 %	=	33
Ration 1		X	%	=	0
Ration 2		X	%	=	0
Ration 3		X	%	=	0
Ration 4		X	%	=	0
Ration 5		X	%	=	0
Ration 6		X	%	=	0
Ration 7		X	%	=	0
Ration 8		X	%	=	0
Total # Days in Grazing Season		0	Total Weighted Pasture DMI		0

0	÷	0	X	100	=	
Total Weighted Pasture DMI		Total # Days in Grazing Season				Weighted Average % DMI from Pasture during the Grazing Season