ACCESS TO PASTURE FOR ORGANIC RUMINANTS

Guidance

The grazing season must consist of at least 120 days, but may be greater depending on regional weather conditions. Organic ruminant animals must obtain a minimum of 30% dry matter intake from pasture, averaged over the entire grazing season for each type and class of animal. Temporary confinement of livestock is allowed only for specific management and healthcare reasons. Lactation is specifically not a reason for confinement. Ruminant animals must have year-round access to the outdoors. Roughages used as bedding must be organic. Operators must keep records of rations fed to each type and class of animal, and a Pasture Management Plan that ensures adequate feed is available from pasture over the grazing season.

NOP REGULATIONS AND PCO

§ 205.237 LIVESTOCK FEED

Operators must describe the grazing season, including dates and total number of days. The grazing season is defined as the period of time when pasture is available for grazing, and may or may not be continuous, but must be at least 120 days. Operators must provide a description of the total feed ration for each type and class of ruminant livestock. The description must include feed from pasture, feed produced on-farm, and feed purchased from off-farm sources. Operators must show that ruminant livestock acquire an average of at least 30% of their dry matter intake from pasture throughout the grazing season. Calculations of dry matter intake must be demonstrated through recordkeeping and will be verified at inspection time. Operators may use the Feed Ration Record/DMI Calculation Worksheet to document these calculations. If other calculation methods or published reference material will be used, an explanation or source must be provided.

§ 205.237(d) Ruminant livestock producers shall:
(1) Describe total feed ration for each type and class of animal. The description must include:
(i) All feed produced on-farm;
(ii) All feed purchased from off-farm sources;
(iii) The percentage of each feed type, including pasture, in the total ration, and
(iv) A list of all feed supplements and additives.
(2) Document the amount of each type of feed actually fed to each type and class of animal.
(3) Document changes that are made to all rations throughout the year in response to seasonal grazing changes.
(4) Provide the method for calculating dry matter demand and dry matter intake.

include dry matter grazed from residual forage or vegetation rooted in pasture). This shall be calculated as an average over the entire grazing season for each type and class of animal. Ruminant animals must be grazed throughout the entire grazing sea son for the geographical region, which shall be not less than 120 days per calendar year. Due to weather, season, and/or climate, the grazing season may or may not be continuous.
(2) Provide pasture of a sufficient quality and quantity to graze throughout the grazing season and to provide all ruminants under the organic system plan with an average of not less than 30 percent of their dry matter intake from grazing throughout the grazing season.
(i) Ruminant animals denied pasture in accordance with § 205.239(b)(1) through (8), and § 205.239(c)(1) through (3), shall be provided with an average of not less than 30 percent of their dry matter intake from grazing throughout the periods that they are on pasture during the grazing season;
(ii) Breeding bulls shall be exempt from the 30 percent dry matter intake from grazing requirement of this section and management on pasture requirement of § 205.239(c)(2); Provided, That, any animal maintained under this exemption shall not be sold, labeled, used, or represented as organic slaughter stock.

§ 205.239 LIVESTOCK LIVING CONDITIONS

Operators must describe how clean water is provided to all livestock. If an exercise yard or feeding pad is used for outdoor access during the non-grazing season, operators must provide a description of the use and size of the area. Operators must describe each type of bedding material, and the inspector will verify that roughages are certified organic.

§ 205.239(a) The producer of an organic livestock operation must establish and maintain year-round living conditions which accommodate the health and natural behavior of animals, including:
(1) Year-round access for all animals to the outdoors, shade, shelter, exercise areas, fresh air, clean water for drinking, and direct sunlight, suitable to the species, its stage of life, the climate, and the environment: Except, That, animals may be temporarily denied access to the outdoors in accordance with §§ 205.239(b) and (c). Yards, feeding pads, and feedlots may be used to provide ruminants with access to the outdoors during the non-grazing season and supplemental feeding during the grazing season. Yards, feeding pads, and feedlots shall be large enough to allow all ruminant livestock occupying the yard, feeding pad, or feedlot to feed simultaneously without crowding and without competition for food. Continuous total confinement of any animal indoors is prohibited. Continuous total confinement of ruminants in yards, feeding pads, and feedlots is prohibited.
(2) For all ruminants, management on pasture and daily grazing throughout the grazing season(s) to meet the requirements of § 205.237, except as provided for in paragraphs (b), (c), and (d) of this section.
(3) Appropriate clean, dry bedding. When roughages are used as bedding, they shall have been organically produced in accordance with this part by an operation certified under this part, except as provided in § 205.236(a)(2)(i), and, if applicable, organically handled by operations certified to the NOP.

Operators must describe the reason and the duration of all occurrences of temporary confinement or denial of pasture or outdoor access of ruminant animals during the grazing season. Temporary confinement is when animals are restricted from the outdoors for a limited period of time. Denial of pasture is when animals are restricted from actively grazing but still may have access to the outdoors. Operators must describe the finishing period of slaughter stock, including the feed ration, duration of finishing period, and age at slaughter. Operators must also explain how manure is managed in a manner that optimizes nutrient recycling and does not contribute to environmental contamination.

§ 205.239(b) The producer of an organic livestock operation may provide temporary confinement or shelter for an animal because of:
(2) The animal's stage of life: Except, That lactation is not a stage of life that would exempt ruminants from any of the mandates set forth in this regulation;
(3) Conditions under which the health, safety, or wellbeing of the animal could be jeopardized; (4) Risk to soil or water quality;
(4) Risk to soil or water quality;
(5) Preventive healthcare procedures or for the treatment of illness or injury (neither the various life stages nor lactation is an illness or injury);
(6) Sorting or shipping animals and livestock sales: Provided, That, the animals shall be maintained under continuous organic management, including organic feed, throughout the extent of their allowed confinement;

(7) Breeding: Except, That, bred animals shall not be denied access to the outdoors and, once bred, ruminants shall not be denied access to pasture during the grazing season; or
(8) 4-H, Future Farmers of America and other youth projects, for no more than one week prior to a fair or other demonstration, through the event and up to 24 hours after the animals have arrived home at the conclusion of the event. These animals must have been maintained under continuous organic management, including organic feed, during the extent of their allowed confinement for the event.

(c) The producer of an organic livestock operation may, in addition to the times permitted under § 205.239(b), temporarily deny a ruminant animal pasture or outdoor access under the following conditions:
(1) One week at the end of a lactation for dry off (for denial of access to pasture only), three weeks prior to parturition (birthing), parturition, and up to one week after parturition;
(2) In the case of newborn dairy cattle for up to six months, after which they must be on pasture during the grazing season and may no longer be individually housed: Provided, That, an animal shall not be confined or tethered in a way that prevents the animal from lying down, standing up, fully extending its limbs, and moving about freely;
(3) In the case of fiber bearing animals, for short periods for shearing; and
(4) In the case of dairy animals, for short periods daily for milking. Milking must be scheduled in a manner to ensure sufficient grazing time to provide each animal with an average of at least 30 percent DMI from grazing throughout the grazing season. Milking frequencies or duration practices cannot be used to deny dairy animals pasture.

(d) Ruminant slaughter stock, typically grain finished, shall be maintained on pasture for each day that the finishing period corresponds with the grazing season for the geographical location: Except, That, yards, feeding pads, or feedlots may be used to provide finish feeding rations. During the finishing period, ruminant slaughter stock shall be exempt from the minimum 30 percent DMI requirement from grazing. Yards, feeding pads, or feedlots used to provide finish feeding rations shall be large enough to allow all ruminant slaughter stock occupying the yard, feeding pad, or feed lot to feed simultaneously without crowding and without competition for food. The finishing period shall not exceed one fifth (1/5) of the animal's total life or 120 days, whichever is shorter.

(e) The producer of an organic livestock operation must manage manure in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, heavy metals, or pathogenic organisms and optimizes recycling of nutrients and must manage pastures and other outdoor access areas in a manner that does not put soil or water quality at risk.

§ 205.240 PASTURE PRACTICE STANDARD

Operators must have a pasture management plan that describes the type of grazing methods and other management practices that ensure sufficient quality and quantity of pasture is available for all ruminants to graze throughout the grazing season including soil fertility, seeding systems, and erosion control of pasture, types of pasture, and a map identifying pastures, the location and types of fences, and sources of shade and water. Existing pasture management plans may satisfy this requirement.

§ 205.240 The producer of an organic livestock operation must, for all ruminant livestock on the operation, demonstrate through auditable records in the organic system plan, a functioning management plan for pasture.

(a) Pasture must be managed as a crop in full compliance with §§ 205.202, 205.203(d) and (e), 205.204, and 205.206(b) through (f). Land used for the production of annual crops for ruminant grazing must be managed in full compliance with §§ 205.202 through 205.206. Irrigation shall be used, as needed, to promote pasture growth when the operation has irrigation available for use on pasture.

(b) Producers must provide pasture in compliance with § 205.239(a)(2) and manage pasture to comply with the requirements of: § 205.237(c)(2), to annually provide a minimum of 30 percent of a ruminant's dry matter intake (DMI), on average, over the course of the grazing season(s); § 205.238(a)(3), to minimize the occurrence and spread of diseases and parasites; and § 205.239(e) to refrain from putting soil or water quality at risk.

c) A pasture plan must be included in the producer's organic system plan, and be updated annually in accordance with § 205.406(a). The producer may resubmit the previous year's pasture plan when no change has occurred in the plan. The pasture plan may consist of a pasture/rangeland plan developed in cooperation with a Federal, State, or local conservation office: Provided, That, the submitted plan addresses all of the requirements of § 205.240(c)(1) through (8). When a change to an approved pasture plan is contemplated, which may affect the operation's compliance with the Act or the regulations in this part, the producer shall seek the certifying agent's agreement on the change prior to implementation. The pasture plan shall include a description of the:
(1) Types of pasture provided to ensure that the feed requirements of § 205.237 are being met.
(2) Cultural and management practices to be used to ensure pasture of a sufficient quality and quantity is available to graze throughout the grazing season and to provide all ruminants under the organic system plan, except exempted classes identified in § 205.239(c)(1) through (3), with an average of not less than 30 percent of their dry matter intake from grazing throughout the grazing season.
(3) Grazing season for the livestock operation's regional location.
(4) Location and size of pastures, including maps giving each pasture its own identification.
(5) The types of grazing methods to be used in the pasture system.
(6) Location and types of fences, except for temporary fences, and the location and source of shade and the location and source of water.
(7) Soil fertility and seeding systems.
(8) Erosion control and protection of natural wetlands and riparian areas practices.

ADDITIONAL INFORMATION

RECORDKEEPING

Recordkeeping is one of the more significant requirements of the Access to Pasture Rule. Worksheets and other recordkeeping forms are available in hard copy from the PCO office or in an electronic version via the PCO website. Examples of how to complete the forms are shown throughout this section. Operators may use other forms or worksheets as long as sufficient information is provided to verify compliance.

ACCESS TO PASTURE

Operators must record the duration and location of pastures that each type (ex. cow, goat) and class (ex. heifer, lactating) of ruminant animal has access to throughout the grazing season. The grazing season is the period of time when pasture is available for grazing, and may or may not be continuous, but must be at least 120 days. The grazing season may be divided into individual ration periods that summarize a common feeding or grazing routine during that period of time. Operators may use PCO's Pasture Access Record for documenting access to pasture throughout the grazing season. The figure below is extracted from the Pasture Access Record, and is an example of how to complete the form with appropriate information.

Ration Name/Type/ID:	Spring Transition	**Dates:**	Apr 15-30	**# of Days:**	15
Time(s) of Day(s)			**Pasture Source(s) Name/Type/ID**		
daytime			Paddocks K2, L3, P1, P2, P3, P4, P5, P6		

FEED RECORDS AND CALCULATING DRY MATTER INTAKE

Ruminant animals must obtain an average of at least 30% of their Dry Matter Intake (DMI) from pasture throughout the entire grazing season. DMI is the total pounds of feed, devoid of all moisture, consumed by

ruminant livestock. Documentation of these calculations will be verified at inspection. Dry Matter Calculation reference tables are provided at the end of this document to help in calculating DMI.

Step 1. Determine the Dry Matter Demand (DMD) for each type/class of animal.

Dry Matter Demand (DMD) is the expected dry matter intake that a type/class of animal may consume in a period of time. The Dry Matter Demand value will be used to determine the Dry Matter Intake percentages within a ration period. DMD values are based on factors including the type and class of animal, weight range, weight at maturity, average daily weight gain, milk fat, and average daily milk production. There are two ways to calculate DMD.

- Option 1: Use the DMD value listed in nutrient requirement reference tables or other published data sources.
- Option 2: Determine the DMD value by using a % Body Weight Value, which is based on the percent of an animal's body weight that the animal will consume in dry matter. The % Body Weight Value can be found on the reference tables at the end of this guidance document or other published data. Multiply the average body weight of a type/class of animal by the % Body Weight Value to calculate the DMD.

(See Step 2b for where the Dry Matter Demand value is entered into the Feed Ration Record/DMI Calculation Worksheet.)

Step 2. Calculate Dry Matter Intake of pasture and non-pasture feed sources for each type/class of animal for each ration period throughout the grazing season.

Three variables that can instigate changes in feed ration are the quality or quantity of feed availability, environmental conditions, and changes in the animal's body condition or life stage. Operators must document the amount and type of feed that is fed to each type/class of animal during the grazing season. Operators may use PCO's Feed Ration Record/DMI Calculation Worksheet to record the feed ration and DMI calculations during any given ration period.

a) Determine DMI from Non-Pasture Sources: List the sources and amounts of feed that are fed during the ration period. Use reference tables, published data or on- farm testing results to determine accurate percent dry matter content values for each feed source. The following figures are extracted from the Feed Ration Record/DMI Calculation Worksheet, and are examples of how to complete the form with appropriate information for a single ration period. A separate worksheet should be used for each ration period.

Ration Name/Type/ID	Spring - Summer			**Type of Animal (Species or Breed)**	Dairy Cows
Dates of Ration Period	May 1 – Sept. 25	**# of days**	145	**Class of Animal:**	Lactation Cows (Mid)

Feed Source (List all other than pasture)	**Lbs. Fed Per Animal**	**x**	**% Dry Matter Content of Feed Source** (express as a decimal)	**=**	**DMI Fed**
Grain and mineral mix	10	x	0.89	=	8.9
Dry Hay	6	x	0.85	=	5.1

b) Determine DMI from Pasture: Add all DMI fed values from each non-pasture feed source to determine the Total DMI from Non-pasture during the ration period. Subtract the Total DMI from Non-pasture from the Dry Matter Demand value.

Dry Matter Demand	**-**	**Total DMI from Non-pasture** (sum of DMI fed)	**=**	**TOTAL DMI from Pasture**
35	-	14	=	21

(See Step 1 for how to determine the Dry Matter Demand value.)

c) Determine the % DMI from Pasture: Divide the Total DMI from Pasture by the Dry Matter Demand value to determine the % DMI from Pasture.

Total DMI from Pasture	**÷**	**Dry Matter Demand**	**=**	**DMI from Pasture/DMD Ratio**	**x 100 =**	**% DMI from Pasture**
21	÷	35	=	0.6	x 100 =	60 %

Step 3. Calculate the Average % DMI from Pasture for each type/class of animal throughout the grazing season.

At the end of the grazing season, the total % DMI from Pasture must be calculated to determine the DMI from pasture fed during each ration period. Operators may use the data from the Feed Ration Record/DMI Calculation Worksheets that were completed throughout the grazing season. The average DMI value is weighted to reflect the number of days each ration type was fed. The final value must be at least 30%. Operators may use PCO's Average DMI Calculation for Grazing Season Worksheet for documentation. The following figures are extracted from the Average DMI Calculation for Grazing Season Worksheet, and are examples of how to complete the form with appropriate information.

a) Determine the DMI from Pasture fed during each ration period

Information from each ration period is needed to calculate the average DMI for the grazing season, including the name of the ration period, the dates of the ration period, the number of days in the ration period, and the % DMI from Pasture for the ration period. Multiply the number of days in the ration period by the % DMI from Pasture obtained during that ration period. This information may be documented on the Feed Ration Record/DMI Calculation Worksheet used throughout the grazing season. (Though the % DMI from Pasture for a single ration period may be below 30%, the average % DMI from Pasture at the end of the grazing season must not fall below 30%.)

Ration Name/Type/ID	**Ration Period** (Dates fed)	**# Days in Ration Period**	**x**	**% DMI from Pasture** (express as a decimal)	**=**	**Days x Pasture DMI During Ration Period**
Spring transition	Apr. 15 – 30	15	x	0.245	=	3.68
Spring – Summer	May 1 – Sept. 25	145	x	0.6	=	87
Late summer - Fall	Sept. 26 – Nov. 10	45	x	0.393	=	17.68

b) Determine the Average % DMI from Pasture fed throughout the grazing season

Add up the Days x Pasture DMI during Ration Period values, then divide by the total days in the grazing season. The final value must be 30% or greater to satisfy the dry matter intake requirement.

Total Days x Pasture DMI (sum all Days x Pasture DMI during Ration Period)	÷	**Total # Days in Grazing Season** (sum all # Days in Ration Period)	=	**Average DMI from Pasture**	**x 100 =**	**Average % DMI from Pasture**
108.37	÷	205	=	0.529	x 100 =	52.9%

It is recommended that operators track their DMI percentages throughout the grazing season to assess their ability to comply with the 30% requirement by the end of the grazing season. Use the same methodology as described above to determine current averages of % DMI from Pasture.

RESOURCES

REFERENCE MATERIALS FOR DRY MATTER CALCULATIONS

A variety of published data is available to use as reference material when calculating Dry Matter Demand and Dry Matter Intake. The data provided in this guidance document is a summary of data from the USDA Dry Matter Demand Tables and other reference sources. Operators may use the reference material of their choice that most appropriately assess the characteristics of each type and class of ruminant livestock, and calculate the DMI to the closest approximation. Justification for values that vary significantly from reference values will be required, however it understood that these calculations are meant to be approximations.

DMD for Dairy Cattle

- "NOP Dry Matter Demand Tables for Classes of Dairy Cattle" by the USDA (www.ams.usda/nop, 202-720-3252)
- "Nutrient Requirement Tables" from Nutrient Requirements for Dairy Cattle: Seventh Edition, by the National Research Council, 2001 (http://books.nap.edu/openbook.php?record_id=9825&page=258)

DMD for Beef Cattle

- "NOP Dry Matter Demand Tables for Classes of Beef Cattle" by the USDA (www.ams.usda/nop, 202-720-3252)
- "Nutrient Requirement Tables" from Nutrient Requirements for Beef Cattle: Seventh Edition, by the National Research Council, 2001 (http://books.nap.edu/openbook.php?record_id=9791&page=102)

DMD for Other Small Ruminants

- "Nutrient Requirement Tables" from Nutrient Requirements for Small Ruminants: Seventh Edition, by the National Research, 2001 (http://books.nap.edu/html/ruminants/errata.pdf)

Dry Matter content

- "Feed Composition Tables" from Beef Magazine, March 2009 (http://beefmagazine.com/images/2009%20feed%20table.pdf)

Dry Matter Content Values of Common Feed Sources	
Due to high variability in moisture content, especially for fresh and ensiled feeds, it is important to use the actual dry matter content values for your operation. It testing is performed on your feed, please use the values show by testing. Nutritionists or feed and mineral salespersons may also be able to provide accurate dry matter content values for the products.	
Feed Source	% DM
Hay (dry, both legume and grass)	85
Haylage (any chopped forage except corn)	35
Green chop (any green chopped forage)	20
Baleage (any baled and wrapped forage)	60
Corn silage	40
High moisture corn	76
Grain (dry corn, beans, small grains)	89

% Body Weight Value of Other Ruminant Groups	
Dry Dairy Cow	
Bred Dairy Heifer (14-24 moths of age)	
Unbred Dairy Heifers (6-14 months of age)	
Beef Cattle (weaned, less than 1 year of age)	
Beef Cattle (more than 1 year of age)	
Sheed (weaned, slaughter or replacement stock)	
Sheep (brood or milking animals)	
Goats (weaner, slaughter or replacement stock)	
Goats (brood or milking animals)	

Dry Matter Demand and % Body Weight Value for Dairy and Beef Cattle

DAIRY CATTLE Small Breeds = 1000 lbs.

Early Lactation		
Milk Production (lb/day)	% Milk Fat	DMD
33	4.0	21
33	4.5	21
33	5.0	22
66	4.0	28
66	4.5	30
66	5.0	31

Mid Lactation		
Milk Production (lb/day)	% Milk Fat	DMD
44	3.0	35
44	3.5	36
44	4.0	37
66	3.0	43
66	3.5	45
66	4.0	47
88	3.0	51
88	3.5	53
88	4.0	56

Heifer	
Body Weight	DMD
661	17
772	19
882	21
992	23

DAIRY CATTLE Large Breeds = 1500 lbs.

Early Lactation		
Milk Production (lb/day)	% Milk Fat	DMD
44	3.0	26
44	3.5	27
44	4.0	29
66	3.0	31
66	3.5	32
66	4.0	33
88	3.0	35
88	3.5	37
88	4.0	38

Mid Lactation		
Milk Production (lb/day)	% Milk Fat	DMD
77	3.0	50
77	3.5	52
77	4.0	54
99	3.0	57
99	3.5	59
99	4.0	62
121	3.0	63
121	3.5	67
121	4.0	70

Heifer	
Body Weight	DMD
992	23
1102	25
1222	27
1333	29

1433	30

Dry Cow		
Body Weight	Days Pregnant	DMD
1609	240	32
1656	270	31
1669	279	22

BEEF CATTLE

Beef Cow			
Mature Weight	Milk Production (lb/day)	Avg. DMD	Avg. % Body Weight
1000	10	23	2
1000	20	23	2
1000	30	24	2
1200	10	25	2
1200	20	26	2
1200	30	27	2
1400	10	28	2
1400	20	29	2
1400	30	30	2

Pregnant Replacement Heifers		
Mature Weight	Avg. DMD	Avg. % Body Weight
1000	19	2
1100	20	2
1200	22	2
1300	23	2
1400	24	2

Slaughter Stock		
Body Weight	DMD	% Body Weight
300	10	3
350	11	3
400	13	3
450	14	3
500	15	3
550	16	3
600	17	3
650	18	3
700	18	3
750	19	3
800	20	3
850	21	2
900	22	2
950	23	2
1050	25	2
1150	26	2