

Ration Guidelines for Milking and Dry Cows

All values on a 100% dry matter basis	Milking Cows		Dry Cows	
	High Production	Med Production	Early	Close-up (1)
Crude Protein (CP), % of diet	17-19	15-17	12-13	14-15
Soluble Protein, % of CP	30-35	30-40	30-40	28-33
Undegraded CP (bypass), % of CP	34-40	34-38	30-35	33-38
DIP(Degraded Intake Protein), % of diet	10-12	9-11	8-9	9-10
ADF, minimum % of diet (2)	17-19	19	30-35	21
NDF, minimum % of diet (2)	27-32	27-35	35-40	31-38
Forage NDF, minimum % of diet	18-20	20-25	-	-
NEI (Net energy), Mcal/ kg of diet DM	1.65-1.76	1.55-1.65	1.20-1.40	1.5-1.60
NFC(non-fibre carbohydrate), % of diet	35-40	30-35	30-35	34-38
Ratio of DIP to NFC	3.0 to 3.5:1	3.0 to 3.5:1	3.0 to 3.5:1	3.0 to 3.5:1
Forage, % of diet	40-50	50-60	70-90	60-70
Fat feeding guidelines (3)				
Total added unprotected fat, max. % of diet	3	3	Not required	3
Roasted soybeans (fat source), max. kg/cow/day	3	3	"	1
Minerals				
Calcium, % of diet	0.8-1.1	0.70-0.80	0.50-0.70	0.60-0.75
Phosphorus, % of diet	0.40-0.44	0.35-0.40	0.24-0.28	0.28-0.32
Magnesium, % of diet	0.28-0.32	0.25-0.30	0.20-0.28	0.35-0.40
Potassium, % of diet (4)	1.1-1.50 min.	1.1-1.50 min.	< 1.50	< 1.30
Sodium, % of diet	0.20-0.25	0.20-0.25	0.10-0.15	0.10-0.15
Salt, % of diet	0.50-0.63	0.50-0.63	0.25-0.40	0.25-0.40
Sulphur, % of diet	0.25	0.23	0.16-0.20	0.20-0.25
Iron, mg/ kg of diet	100	100	100	100
Zinc, mg/ kg of diet	75	75	75	75
Copper, mg/ kg of diet	15	15	15	15
Manganese, mg/ kg of diet	70	70	70	70
Cobalt, mg/ kg of diet	0.20-0.40	0.20-0.40	0.20-0.40	0.20-0.40
Iodine, mg/ kg of diet	0.60-0.80	0.60-0.80	0.50	0.50
Selenium, mg/ kg of diet	0.30	0.30	0.50	0.50
Selenium, mg/ cow/ day	6	6	6	6
Vitamin A, IU/ cow/ day	175,000	125,000	100,000	150,000
Vitamin D, IU/ cow/ day	55,000	40,000	30,000	40,000
Vitamin E, IU/ cow/ day	600-800	400-600	1000	1000
Feed Additives (these additives are useful in some situations, but are not considered required nutrients)				
Sodium bicarb, grams/cow/day	150	100-150	-----not recommended-----	
Niacin, grams/cow/day	6	6	6	6
Biotin, milligrams/cow/day	20	20	20	20
Monensin (Rumensin), milligrams/ kg of diet DM	22	22	22	22
Zinpro, grams/cow/day	4	4	4	4

(1) Close-up dry cow ration specifications are for a standard dry cow program, not an anionic diet. For anionic diets increase magnesium and sulphur to 0.40-0.45 % and dietary chloride to 0.85 %.

(2) Diet ADF and NDF minimums should be increased if forage particle length is very short and/or the concentrate contains a high fibre level.

(3) Added fat maximums are difficult to specify because of differences in diets and fat sources. Consult your feed rep or nutritionist before feeding fat levels near or above these suggested maximums.

(4) Exceeding potassium minimums for milking cows does not present a problem.

Note: Suggested dietary levels may need adjustment depending on dry matter intake, production or specific herd problems.

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