

Mineral Requirements - Lactation

The high levels of Calcium and Phosphorus in milk dictate requirements for these minerals which vary with output. Lower milk concentrations of Magnesium and Potassium suggest increased requirements only at high levels of production. Requirements for other minerals are considered to be independent of milk yield:

COW WEIGHT kg	MILK FAT %	WEIGHT GAIN kg/day	MILK YIELD kg/day				
			7	13	20	26	33
400	5.0	0.220	7	13	20	26	33
500	4.5	0.275	8	17	25	33	41
600	4.0	0.330	10	20	30	40	50
700	3.5	0.385	12	24	36	48	60
800	3.5	0.440	13	27	40	53	67

		REQUIREMENTS % of dietary dry matter				
MACROMINERALS		0.43	0.51	0.58	0.68	0.66
Calcium	Ca	0.43	0.51	0.58	0.68	0.66
Phosphorus	P	0.28	0.33	0.37	0.41	0.41
Magnesium	Mg	0.20	0.20	0.20	0.25	0.25
Potassium	K	0.90	0.90	0.90	1.00	1.00
Sodium	Na	0.18	0.18	0.18	0.18	0.18
Chlorine	Cl	0.25	0.25	0.25	0.25	0.25
Sulphur	S	0.20	0.20	0.20	0.20	0.20
TRACE MINERALS		mg/kg or parts per million (ppm)				
Iron	Fe	50	50	50	50	50
Cobalt	Co	0.10	0.10	0.10	0.10	0.10
Copper	Cu	10	10	10	10	10
Manganese	Mn	40	40	40	40	40
Zinc	Zn	40	40	40	40	40
Iodine	I	0.60	0.60	0.60	0.60	0.60
Selenium	Se	0.30	0.30	0.30	0.30	0.30

for more information:

Nutrient Requirements of Dairy Cattle, NRC 1989