

Table 1. Some common sources of the major minerals.

Supplement	Ca	Phos	K	Mg	S	Na
	%					
Calcium carbonate	38.0	--	--	--	--	--
Limestone, ground	33.0	--	--	--	--	--
Oyster shell flour	33.0	--	--	--	--	--
Tricalcium phosphate	38.0	18.0	--	--	--	--
Monocalcium phosphate	20.0	21.0	--	--	--	--
Deflourinated phosphate	32.0	18.0	--	--	--	--
Dicalcium phosphate	26.0	18.0	--	--	--	--
Disodium phosphate	--	21.6	--	--	--	--
Salt (NaCl)	--	--	--	--	--	39.3
Steamed bone meal	28.0	14.0	--	--	--	--
Sodium bicarbonate (NaHCO ₃)	--	--	--	--	--	27.4
Diammonium phosphate ¹	--	20.0	--	--	--	--
Monoammonium phosphate ²	--	24.0	--	--	--	--
Monosodium phosphate	--	25.0	--	--	--	--
Sodium ₃ Tripoly phosphate	--	25.6	--	--	--	--
Biofos	18.0	21.0	--	--	--	--
Dyna-K	--	--	50.5	--	--	--
Dynafos ³	22.0	18.5	--	--	--	--
Dynamate	--	--	18.5	11.6	22.3	--
Dufos ^{1,3} (Diammonium phosphate)	--	20.0	--	--	--	--
Dikal 21 ³	19.0	21.0	--	--	--	--
Magnesium oxide	--	--	--	60.0	--	--
Potassium chloride	--	--	52.4	--	--	--

¹Compound contains 18.0% nitrogen or 112.5 protein equivalent.

²Monoammonium phosphate (monofos) contains 68.75% protein equivalent (11% nitrogen).

³Trade names of products available in abundance in Florida.

magnesium content of the ration be increased from 0.25% to about 0.35% of the ration dry matter during summer.

Potassium

The third most abundant mineral element in the cow's body is potassium. Potassium plays many important roles in the body. It is involved in several enzyme systems, influences muscle activity (notably cardiac muscle), and within the cells it functions (like sodium in the extracellular fluid) by influencing acid

base balance and osmotic pressure, including water retention. Potassium is a major mineral component of milk, and is also excreted in sweat, which makes it an important consideration in hot climates such as Florida.

The 1989 NRC standards suggest that the total ration dry matter for high producing cows should contain a minimum of 1.0% potassium. Under heat stress management conditions, work at Florida shows a greater need for potassium than suggested in the 1989 NRC Update on Nutrient Requirements of