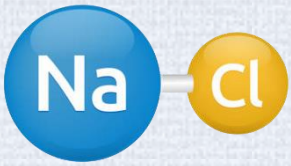
Mineral Nutrition

Minerals are critical for the health and well-being of sheep and goats. There are many minerals that are required in their diets. Macro minerals are required in larger amounts, and the requirements are expressed as a percentage of the diet or as grams per head per day. Micro (or trace) minerals are required in very small quantities, and the requirements are expressed as milligrams per head per day or in parts per million (ppm).

Macro	**Micro**
Calcium	**Cobalt**
Chloride	**Copper**
Magnesium	**Fluoride**
Phosphorus	**Iodine**
Potassium	**Iron**
Sodium	**Manganese**
Sulfur	**Molybdenum**
	Selenium
	Zinc



Sheep and goats crave salt (NaCl: sodium + chloride), and it is crucial for many bodily functions. According to the NRC, the requirement for salt is 0.6 to 0.8 percent of the total diet for most livestock.

Sheep and goat nutrition requires a balanced intake of calcium (Ca) and phosphorus (P). An imbalance can lead to urinary calculi or other health problems. The ideal ratio of Ca:P is at least 2:1. High grain diets can be deficient in calcium and lead to imbalances in the calcium to phosphorus ratio.

Pasture and hay provide essential minerals for sheep and goats, but their mineral content can vary based on soil composition and fertilization practices. Forages typically provide a broader range of minerals than cereal grains, which are usually low in calcium, usually necessitating supplementation.

Soils are often deficient in selenium (Se), making forage grown on those soils also, deficient. Consequently, it is strongly recommended to feed mineral mixes with added selenium to all classes of sheep and goats.

Unless a mineral premix has been incorporated into the concentrate diet or TMR, **loose** minerals should be offered free choice to all classes of sheep and goats, but especially ewes/does during late gestation and lactation. You can feed complete mineral mixes (most expensive) or trace mineral salt that only contains the minerals you need to supplement (based on your farm and/or local conditions).

Sheep and goats should not be fed the same mineral mixes or feeds. Sheep are at greater risk for copper toxicity while goats require more copper in their diets. Copper (Cu) metabolism is complicated.

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