**Importance of minerals in animal nutrition**

Minerals are essential elements in animal nutrition as they fulfill multiple functions in the physiology of all systems.

Importance of macrominerals

Calcium

Phosphorus

Potassium

Magnesium

Sulfur

Sodium/Chlorine

Microminerals in animal nutrition

Copper

Cobalt

Iodine

Iron

Selenium

Zinc

Manganese

Chromium

Importance of macrominerals

Macrominerals are the group of mineral elements most needed by animals in their diet.

1. **Calcium**

It is the most abundant macromineral in the body of animals since it constitutes the essential material to form structures such as bones and teeth.

1. **Phosphorus**

Phosphorus is a macromineral commonly associated with calcium since they are found together in bone structures.

Phosphorus deficiency is associated with bone problems, decreased growth and appetite, and reduced productive performance.

1. **Potassium**

Potassium is the third most important macromineral in animals and is the most abundant cation (positively charged ion) at the intracellular level. It has important functions at the cellular level related to energy generation.

1. **Magnesium**

Magnesium is a macromineral closely related to calcium and phosphorus. For this reason, about 70% of magnesium is in bone structures and the rest in soft tissues.

1. **Sulfur**

Sulfur is a macromineral whose importance lies on the formation of amino acids and some vitamins

1. **Sodium/Chlorine**

Sodium/chlorine (NaCl) can be found in common or cooking salt. These minerals regulate the amount of water at the cellular.

**Microminerals in animal nutrition**

Microminerals are elements that are found in smaller quantities compared to macrominerals. However, they also fulfill many functions in the physiology of animals.

1. **Copper**

Copper is a micromineral that makes up several enzymes involved in oxidation-reduction processes.

1. **Cobalt**

Cobalt is a component of vitamin B12 (cyanocobalamin), which is involved in the formation of red blood cells and nerve cell functions.

1. **Iodine**

Iodine is the micromineral that makes up the thyroid hormones thyroxine (T4) and triiodothyronine (T3). These hormones play an essential role in the development and metabolism of animals

1. **Iron**

Iron has functions related to respiration as it constitutes blood molecules that transport respiratory gases

1. **Selenium**

addition, selenium is an important micromineral in vitamin E absorption and function.

1. **Zinc**

Zinc is a micromineral that makes up many enzymes as a cofactor.

1. **Manganese**

formation of bone and blood cells, carbohydrate metabolism.

1. **Chromium**

Chromium is a cofactor of the hormone insulin.