



**PRODUCT INFO
& DATASHEET**

INTRODUCTION :

ROLE OF VITAMINS IN ANIMAL NUTRITION

1. VITAMIN A

Vitamin A plays a very important role in animal nutrition. It helps the body to resist infections and is essential for the proper functioning of eye, skin and nervous system. Deficiency of this vitamin makes the animal vulnerable to various infections viz-respiratory tract, urinogenital tract, general intestine tract etc. Vitamin A is highly essential for all round growth, deficiency leads to stunted growth and often causes deformation of bones and teeth.

Requirement of Vitamin A is very high for pregnant and milking animals. Demand of Vitamin A during pregnancy and lactation rises 10 to 20 times more than that of the normal requirement. Deficiency of Vitamin A during pregnancy often leads to abortion, retained placenta, deformed calves and still birth. Deficiency during the lactation period causes severe drop in milk production and low fat content of milk. In tropical countries animals usually suffer from "Avitaminosis A" because of the insufficient availability of green fodders and poor carotin content of pasture. Mostly due to this reason, famous institutions like National Research Council (N.R.C.) of U.S.A. and Indian Standard Institute (I.S.I.) recommend that livestock and poultry should always be supplemented with synthetic commercial vitamins.

2. VITAMIN B

B Vitamins are always considered together as a B Vitamin Complex, because the deficiency occurs mostly for more than one B Vitamin at a time. B Vitamins are dietary essential in poultry and livestock. B Vitamins cannot be stored in the body, therefore they should be supplemented daily through food or drinking water.

Regular Supplementation of B Vitamins results in:

- Proper digestion and metabolism.
- Effective food utilisation.
- Increased production of egg, meat and milk.
- Stimulated growth.

The common deficiency symptoms of B Vitamins are given below:

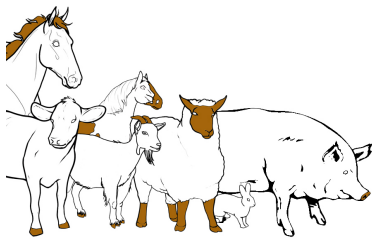
- In poultry: Curled-toe paralysis. Polyneuritis. Loss of feathers. Ulceration around the beaks. Stunted growth and poor hatchability
- In other animals: Paraplegia. Sore of the gum and lips. Intermittent diarrhoea. Rough body coat. Reproductive disorders etc.

3. VITAMIN C

Vitamin C plays an important role for the conversion of folic acid to folinic acid which is highly essential for blood cell formation. It acts as a co-enzyme in certain oxidative processes. Vitamin C also helps in the proper functioning of the adrenal gland. Due to this effect, it plays an important role in withstanding stress and shock. Maybe due to this effect it is commonly used during common infections and febrile conditions. It also stimulates the body's natural defence mechanism and provides high resistance power against common infections and toxins.

4. VITAMIN D

Vitamin D is essential for proper assimilation of calcium and phosphorus in the body. Calcium and phosphorus are the two important minerals which help in the development of bones and teeth. The need of calcium rises during gestation, lactation and in growing animals and birds. Deficiency of vitamin D often causes rickets, skeletal deformities in young animals, drop in milk-yield, muscular weakness, milk-fever, osteomalacia and abnormal oestrus in adult animals. In poultry vitamin D deficiency causes thin-shelled eggs, decreased egg production and low hatchability.



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5. VITAMIN E

The main function of vitamin E depends upon its ability to control the rate of tissue oxidation.

The role of vitamin E as an antisterility factor is though controversial but practical experiences often encourage the use of vitamin E in reproductive disorders in animals.

It is always advisable to combine vitamin A and E together because of its anti-oxidative properties, which potentiate the action of vitamin A.

Deficiency of vitamin E causes muscular dystrophy in young animals; deficiency is likely to occur when animals are housed for long periods and feed on poor quality hay, straw and roots.

Stiff limb diseases in sheep normally occur due to deficiency of this vitamin.

Subacute deficiency causes muscular dystrophy and in acute condition it causes falling diseases (death due to Cardiac failure).

In poultry, deficiency of this vitamin causes Encephalomalacia, which is normally known as Crazy Chick Disease.

Sap International Corporation offers a wide range of:

- Vitamin premixes and vitamin mineral premixes (0.1% or 0.25% or 0.5% or 1% or 3% use)
- Water soluble vitamin mixes (powders)
- Vitamin oral solutions
- Injectable vitamins