



**DEPARTMENT OF ANIMAL NUTRITION**



**TOPIC - TRACE MINERALS IN POULTRY**





- What are trace minerals?

Trace mineral refers to the nutritional elements added to production and companion animal diets in micro quantities.

## Need Of Trace Minerals?

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- Better growth rate
  - Egg production
  - Feed efficiency



# Deficiency

- 1. Deficiency disease**
- 2. Metabolic disorder**
- 3. Poor growth rate**
- 4. Low egg production**
- 5. Low Hatchability**
- 6. Low feed efficiency**

# Zinc

## Role

Essential component of 200 Enzyme systems.

Major role in Immune system and certain reproductive hormones.

## Deficiency Symptoms

Poor semen quality.

Retardation in growth



# Manganese

## Role

Activator of enzyme system in the metabolism of carbohydrates, fats, proteins and nucleic acid.

## Deficiency Symptoms

Retarded growth





# Cobalt

## Role

Required for Vitamin B12 Synthesis.

Activation of enzymes.

Erythropoiesis.

Synthesis of pyrimidine.

## Deficiency Symptoms

Loss of appetite.


High embryo mortality.

Low hatchability.



# Iron

## Role



Constituent of haemoglobin and myoglobin for oxygen transport and cellular use.

Component of many enzymes containing protein such as cytochrome C, peroxidase, catalase etc.

## Deficiency Symptoms

Depigmentation of feathers.  
Stunted growth.

Heart hypertrophy.



# Magnesium

## Role

Essential constituent of bones.

Activator of various enzyme systems those concerned with the transfer of phosphate from ATP to ADP and metal enzyme complexes.

## Deficiency Symptoms

Rapid decrease in egg production.

Reduced mobilization of magnesium from skeletal systems.

# Molybdenum

## Role

Constituent of enzyme  
Xanthine  
oxidase involved in the  
metabolism of purines.

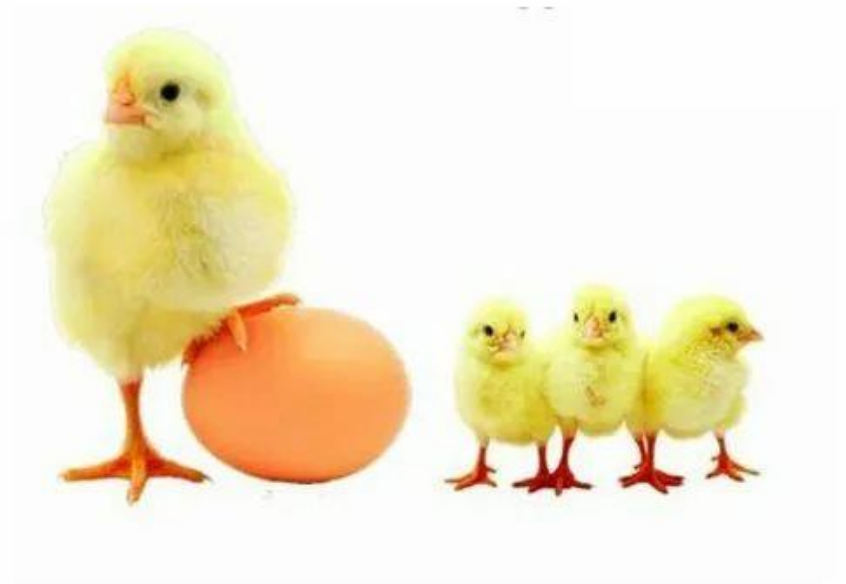
## Deficiency Symptoms

Retarded growth.  
Copper Poisoning.



## Source Of Trace Minerals?

The requirements for trace minerals are often fulfilled by concentrations present in conventional feed ingredients.






## Source of trace minerals

Soils vary in their content of trace minerals, and plants vary in their uptake of minerals.

Consequently, feedstuffs grown in certain geographic areas may be marginal or deficient in specific elements. Thus, poultry diets may require supplementation to ensure adequate intake of trace minerals.



## Reference:-

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***Thank you***