MJF COLLEGE OF VETERINARY & ANIMAL SCIENCES, CHOMU, JAIPUR (RAJ.)

DEPARTMENT OF ANIMAL NUTRITION

IMPORTANCE OF TRACE MINERAL
DATE- 21/12/23 - 23/11/23

Delivered by-
Dr. Vijay Prakash Saini
Dr. Abhishek Mehta

- Micro minerals are often referred to as trace minerals, meaning they are present at low levels in the body or required in smaller amounts in the animals diet. Micro minerals include chromium, cobalt, copper, fluorine, iodine, iron, manganese, molybdenum, selenium, and zinc.

- Iron: Necessary for blood and some enzyme formation. The precise minimum requirements have not been determined for various classes of livestock, but 80mg of iron per kg of diet is more than adequate for most animals. Deficiencies are most often found in young pigs (other animals much less sensitive): Laboured breathing, flappy wrinkled skin, oedema of head and shoulders, pale eyelids, ears and nose.

- Iodine: Needed for the production of Thyroxin in the thyroid gland.
- Deficiency symptoms: Goiter at birth or soon after, Hairlessness at birth, infected navels, dead or weak at birth. Prevention: mix normal iodized salt (table salt) into the salt licks of the livestock.
- Manganese: influences oestrus, ovulation, foetal development, udder development, milk production, growth and skeletal.
- Deficiency symptoms noted from areas deficient in soil manganese include: delayed oestrus, reduced ovulation, abortions.

- Cobalt: Needed in vitamin synthesis of B12 for cattle and sheep.
- Deficiency symptoms are simply those of malnutrition: poor appetite, unthriftiness, weakness, anaemia, decreased fertility, slow growth and decreased milk and wool production. There are number of disorders due to cobalt deficiency characterized by emaciation (wasting disease).
- Fluorine: necessary for healthy teeth, but excess may weaken and stain the teeth.
- Molybdenum: Important in poultry as it stimulates uric acid formation, and in ruminants stimulates action of rumen organisms.

- Manganese: influences oestrus, ovulation, foetal development, udder development, milk production, growth and skeletal.
- Zinc: promotes growth and thriftiness. Promotes wound healing, related to hair and hoofs/claws and wool growth. Deficiencies mostly found in pigs fed on concrete floors. Deficiency symptoms include: general unthriftiness, poor growth, unhealthy looking hair, skin and wool, slow wound healing.
- Selenium: works in vitamin E absorption and utilization.
- Deficiency symptoms include: Nutritional muscular dystrophy in lambs and calves, retained placenta in cows, heart failure, paralysis, poor growth, low fertility, liver necrosis, pancreatic fibrosis in chicks.

Thank you sir.

THANK YOU ….