

Theoretical lectures /second stage in college of vet. medicine.

Animal nutrition Lecture (1) Dr. Mohammed Karim (2021- 2022)

Nutrition science : It is the science that deal with food through composition ,structure ,properties ,amount of required and its effects on the body .

Nutrients : are chemical composition of food which can be digested and absorbed by the body for requirement (production and maintenance) and include **carbohydrate ,proteins , lipids , vitamins and minerals** .can be divided into two type according to requirements :

1-Macronutrients: It is nutrient required in large amount like **carbohydrates, proteins and lipids** (measure by grams)

2-Micronutrients : It is nutrient required in small amount like **vitamins and minerals** (measure by micrograms).

Organic nutrients : are those compound that contain carbon atom in structure and include proteins ,lipids ,carbohydrate and vitamins .

Inorganic nutrients : are those compound which lack carbon atom in structure example **iron and calcium** .

Metabolism :It is set of chemical reactions which occur in the body (living organism) some of metabolism processes use energy like growth this is called **anabolism** . while some metabolism processes produce energy like digestion this is called **catabolism** .

Enzymes : there are large biological molecule's responsible for metabolism processes or chemical reaction in the body .

Malnutrition : It is general term for dietary imbalance ,it may occur as result of little nutrient like anemia due to insufficient Iron .

Mon gastric :the Animals that having only one stomach ex: Horse and Dog .

Ruminants : the animals that have rumen or compound stomach ex: cow and sheep.

Diet : all the feeds which consumed by animal including water .

Ration :the specific feed which given to animal in 24 hour period .

Requirement of Maintenance :It is the requirement of animals for production and different body function.

Growth : It's the process of adding tissue lead to increased size of the body or organism

Dry matter : Its nutrients which free of water or nutrients after drying and can be divided into two types:-

1- organic matter ex: protein ,lipids and carbohydrate

2- in organic matter ex: minerals.

Notes : the main reason for the animal nutrition is convert the material not fit for human consumption and overabundant to beneficial production .

Factors which effect on animals production

1.) **Genetics** – Inherited potential performance that prospect animal has from parents at birth. Ex. Growth potential, frame size and muscle characteristics, maternal instincts, etc...

2.) **Management** – Providing feed, water, housing and general care to maximize the animals comfort(rest) and therefore maximize production potential.

3.) **Nutrition** – Maximizing an animals performance through a complete balanced feed program or regime .