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**Feeding cows**

 **The importance of feeding cows**

1- Preserving its life (preservative blackberry)

 2- Continuity of increasing production (the productive supply)

3- The speed and increase of growth.

4- Maintaining good health and being resistant to diseases.

5- Show good genetic characteristics.

6- Feeding the fetus during pregnancy.

7- Compensation for damaged body tissues.

**The most important nutrients that must be available in beef food:**

1- Water.

2- Energy (derived from carbohydrates and fats).

3- Protein.

4- Mineral salts.

5- Vitamins.

**The amount of feed the animal needs:**

 **The animal uses its food for two basic purposes:**

* **Preserving its life**: This is called the **preservative feed,** and it is the amount of feed that is needed to preserve the animal’s life without increasing or decreasing its weight..
* **Production**: This is called the **production feed**, and it is the amount of fodder that is required for the production of various forms of milk production or meat production. The quantity is calculated according to the amount produced by the animal from the aforementioned types of production.

 From this it becomes clear that the basis for calculating the amount of feed needed to feed the animal is

A- The live weight of the animal.

B- The amount of production, and in the case of milk production, the percentage of fat in the milk is taken into account.

**Fodder materials provided to cows:**

* Concentrated feed materials: 1- vegetable source 2- animal source
* Filling material: 1- Dry 2- Green

**First: Concentrated feed materials:**

These contain a large percentage of easily digestible food forage materials and a small percentage of fiber, which is therefore

It is divided into two parts :

**A- Vegetable source**: These are like grains such as barley, corn, beans ... etc, or the remnants of presses such as bean cake and cottonseed cake ... etc,

**B- Animal source**: They are slaughterhouse waste (bone meal - blood - rumen contents) and fish factory waste (fish meal). These wastes are very rich in protein and mineral salts. Concentrated feed materials (vegetable source) such as barley grains - corn - beans - ... etc.

**Second: Fillers:**

These are feed materials that contain a high percentage of fiber and a smaller percentage of easily digestible foodstuffs, and these are divided into two parts:

**A- Dry feed materials**: These are like hay (dry alfaalfa), dry rhodes grass, and cheese (hay - wheat - barley - lentils ... etc).

**B- Green fodder materials**: These are like alfalfa (alfalfa), Sudan grass, sorghum and lavender, green barley, green elephant fodder, etc.

* Concentrated feed is of prime importance because it provides the animal’s need of energy, protein and minerals and has a higher digestibility than filler feed.

**In many countries of the world, we find that the main dependence on feeding cows depends on filler fodder, at a rate of up to 75%, due to the presence of natural pastures.**

 **Methods for feeding cows**

 **First - dairy cows:**

The income that a breeder earns from dairy cattle depends on the genetic characteristics of the animals and the extent of care and accuracy that is exerted in feeding them.

* Cattle with high-production genetic traits such as (Holstein Friesian) if they take care of their food and include all the necessary nutritional components that show production efficiency through The daily production of a large amount of milk,
* unlike livestock with low productivity, no matter what food is given with high nutritional content, only a small amount of milk is produced, and the food tends to fatten this animal.

**Method of feeding cows on concentrated feed on the farm:**

Under our environmental conditions, we find that one animal needs 4-5 kg ​​/ day of concentrated feed (18% protein) and this is **called preservative diet**, in addition to every 2.5 liters of milk produced by the cow corresponding to 1 kg of concentrated feed / day, and this is **called the productive feed**.

• **Example** :

If we assume that a cow produces 20 liters of milk per day, the amount of concentrated feed provided to it is as follows: -

4 kg of concentrated feed (as a preservative).

8 kg concentrated feed (as production feed)

The total is 12 kilos of feed center / day.

With a maximum limit of 15 kg, concentrated feed per cow per day, excluding fill materials (dry and green).

and it was found that many cattle farms in make the following division:

1. High-yielding cows (more than 25 liters / day).

2. Medium production cows (producing 15-25 liters / day).

3. Low-yielding cows (producing 10-15 liters / day).

**Feeding cows with fillers**

* The need for filler feed is very necessary for cows because they work to fill the rumen to feel full.
* In addition, cows help in the process of regurgitation and activating the cells of the digestive system
* in addition to the balance of fatty acid formation ratios by microorganisms in the rumen, and thus the filler feed contributes significantly to the formation of fat in the milk resulting
* from taking into account the ratio between concentrated and filling feeds (concentrated not more than 60% of The blackberries and the filler are 40% of the diet) in order to maintain the normal activity of the rumen, as well as the percentage of natural fat in the milk.
* Milk cow from the filler material depends on its production and size, but it can be said that the filler material provides an average of 4-5 kg ​​/ day dry feed, and for dry cows an average of 5 kg / day / dry feed is provided.
* **Feed the cows on the filler**
* **Feeding cows on green fodder**

**Green fodder** it is very important for the animal produced, especially the pregnant animal, because it contains vitamins and mineral salts, as green fodder is rich in vitamin (A) which is important for cows and due to the lack of available quantities of green fodder and its high price than concentrated feed, the quantity is estimated Provision for dairy cows with about 10-12 kilos of green feed / day and dry pregnant cows about 15 kilos of green fodder / day due to its importance for the fetus, especially the last 30 days of pregnancy.

**Feed cows on green filler**

 An example of how to distribute concentrated and filler feeds:

 Assuming that a cow produces 25 liters of milk per day, the quantity provided to it is as follows:

4 to 5 kg of concentrated feed / day (preservative diet)

10 kg concentrated feed / day (productive diets)

3 to 4 kg / dry feed (hay) / day

12 kg / green filled feed / day

• Note

1. Production feed at 1 kg of concentrated feed / day in exchange for 2.5 liters of milk produced per day.

2. Also, noting the decrease in this quantity during the summer due to the high temperature, which leads to the inability of the animal to eat all these quantities unless external cooling is available in the barns, as is the case in some farms.

**Vitamins**

These percentages of materials can be increased or decreased, provided that the protein content of the milk cows mixture is not less than 18%.

***• Notes***

Immediately after birth, the jam sometimes introduces boiled barley to the cow to help the placenta go down, and the cow must be prevented from eating the remnants of birth, and it is necessary to take care of the cows after birth in terms of giving easy digestible foods such as green fodder and good hay.

It is known that among the causes of placental retention is a disease of malnutrition of cows during pregnancy, lack of exercise and retention of the placenta, which poses a severe threat to the health of the cow, its reproductive system and its fertility later.

**Second: Dry Cows:**

 It refers to dry pregnant cows that are dried at the age of seven months, where the cows are required, meaning that the cows are milked for a meal in the morning and not milked in the evening for a period of 3 to 5 days. For the following reasons:

1**. The process of producing milk consumes** a large amount of calcium present in the cow’s body, and upon drying, the calcium in the food tends to form the bones of the fetus and strengthen it.

2**. At the end of pregnancy**, the fetus needs food with its various elements to nourish it, in addition to feeding the mother and preparing her for the production season. We find that the needs of dry pregnant cows of food during the last two months of pregnancy are very important, especially the other 30 days where the weight of the fetus increases while it is in its mother’s womb during the month The latter is approximately 40% of its normal weight (the average normal weight is 35 kg), which is approximately 400 grams per day.

**Feed additives:**

The diet consisting of concentrated and filling nutrients, which generates thermal energy and the formation of various body tissues and is used for various production purposes, such as proteins, fats and carbohydrates are incomplete, and therefore certain amounts of mineral salts and vitamins must be added to them that have a significant impact on the continuation of the animal’s life and the organization of most vital processes in His body, directly or indirectly, if the raw materials that make up the animal's diet do not contain a sufficient percentage of mineral salts and vitamins, then it is necessary to add them to the diet so that the animals do not suffer from any deficiency in these important vital materials.

**Feed additives are:**

**1. Mineral salts 2. Vitamins**

**• Mineral salts :**

 Mineral salts are very necessary and of great importance for the life of the animal, its production and its resistance to diseases, as they are important for building bones, in the composition of tissues (muscles) and in the composition of fluids that are formed in + the animal's body such as blood, milk and digestive juices, which are necessary to compensate for what the body loses in terms of salts during the various secretions.

Mineral salts are divided into two parts as follows:

1- Main Metal Elements:

Such as sodium, potassium, iron, phosphorous, chlorine ... etc.

2- Rare metal elements:

Such as manganese, cobalt, copper ... etc.

* Vitamins

 Vitamins are chemical and organic substances, which are very necessary for animal life, as it needs minimal effects from them in all stages of its life, especially periods of growth, pregnancy and lactation, and vitamins act as a catalyst in the vital processes of the body, which affects the growth and the infection of the animal with various diseases.

**Vitamins are divided into two parts according to their solubility:**

1- Fat-soluble vitamins: - They are A, D, E, and K.

2- Vitamins that dissolve in water: - They are B complex and C.

**Ration spesification**

1- It is palatable and appetizing to the animal.

2- It has a good physiological and health effect on the animal.

3- It should be low in cost and cheap.

4- That it consists of several foodstuffs of the nature of the fillet, i.e., that fills a vacuum in the stomach so that its size is proportional to the size of the cows' rumen.

5- Ease of obtaining its components.