**Feeding and management in sheep**

 **Nutrition**

The cost of feeding represents about 70% of the total cost of any animal production project. Hence, we find that a reduction in feeding costs is positively reflected on the increase in the profitability of the project. The diets provided to sheep must be balanced in quantity and quality and contain all the main components that fill the sheep’s need of energy, proteins, carbohydrates, fats and minerals, and have a high digestive nutritional value and at the lowest costs during the different production stages, as nutrition is the backbone of the sheep flock. Animals that are well fed are It is of good health, has high production, reproduces regularly and has a high ability to resist diseases.

**Sheep's nutritional needs**

Nutrition needs under the intensive production system are divided into two types:-

**1- Preservative nutritional requirements: -**

They are the necessary needs in production, which include both the needs for the purpose of maintenance and growth, as well as the needs for the stage of pregnancy (the last trimester of the stage of pregnancy)

**2- Productive food needs: -**

It represents the necessary needs for production, such as the production of meat, milk, the production of wool, etc.

**1- Carbohydrates**

Which includes simple sugars and other soluble carbohydrates found in grasses, green fodder, roots of some plants, starch found in grains such as wheat, barley and corn, as well as cellulose found in most foods.

The rumen has the ability to digest these substances and convert them into volatile fatty acids and are represented by the rumen to provide the body with the shot needed by the animal.

**2- Protein**

* The main source of protein is legumes, such as algae and alfalfa, as well as cake, such as cotton and flax seeds, which can be mixed with grains and given in the form of cubes.
* protten is digested by the food provided to the sheep inside the rumen by the rumen microbes, where the protein is converted into ammonia and fatty acids as well as into amino acids.
* Ammonia and amino acids are used by rumen bacteria to build the protein for the bodies of those microbes, which are then digested by the animal’s stomach, the fourth stomach and the small intestine, in addition to some of the food protein that is digested and converted into amino acids

**3- Vitamins**

Water-soluble vitamins, such as vitamin C and B, can be made in the body of sheep and the rest of the ruminants, so there is no need to add it to the diet. As for vitamin B12, sheep need cobalt to supply the part of that vitamin..

As for the rest of the fat-soluble vitamins, vitamin A is prepared with green fodder and vitamin K. Vitamin K is made inside the body to be prepared from sunlight. If the breed is closed, it must be added to the diet, especially lambs and pregnant women.

**4- salts**

The needs of sheep must be taken care of with salts such as calcium, phosphorous, magnesium, potassium, sodium, etc.

**Type of feed in pregnancy and parturition**

There is not always accurate and specific data on the requirements of pregnant ewes for various nutrients despite the numerous studies conducted to date, there is evidence that the proper growth and formation of the fetus necessarily requires the consumption and disposal of additional food from sheep, pregnant sheep are able to supply the additional body With the elements necessary for its growth and development in addition to what the sheep themselves need at least as a minimum to live. Life

**Thus, pregnant ewes need feeding as follows:**

 **Proteins necessary for feeding pregnant sheep**

 Of the proteins 1.5 - 2.3 kg, at least 1 kg goes to the fetus, and 80% is faitecoursla moitiéla second pregnancy. To ensure that this amount is stored, a pregnant sheep needs a daily intake of at least 30 to 40 g of additional digested protein feeding non-pregnant ewes.

**Vitamins and minerals necessary for feeding pregnant sheep**

As for minerals and vitamins, they are very necessary and their deficiency leads to complications of severe miscarriage or bad childbirth that are not characterized by vitality, and if they survive, their productivity in the future will be low in milk and meat,

**the symptoms of deficiency of minerals and vitamins are:**

* Lack of appetite.
* The rumination stops.
* Visual impairment.
* Inability to stand.

**Therefore, it is very necessary to ensure a good source of food for these elements and the best of these sources:**

* Good hay made from vetch.
* Barley, alfalfa and all green fodder.
* The tubers are like fodder, regular carrots, and fodder beets.

As for natural hay from weeds only and large quantities of hay, it causes a shortage of lime and phosphorous, and in the case of severe symptoms, mineral salts containing mineral elements must be presented and made available in the market, especially calcium, phosphate in the form of plaques or powder.

As for the symptoms of vitamin A deficiency, they can be treated if you start with **good hay**, green fodder, or using fish oil, .

**Feeding method for pregnant sheep**

The best feed for pregnant ewes is finely chopped hay, especially legumes. Ewes weighing 50-60 kg per day need 2-2.5 kg, and in the absence of good hay (cotton), 150-200 grams of bran and 200-300 grams are barley. From barley, and this is in the first half of pregnancy.

In the second half of pregnancy, the best available hay, rich in proteins, vitamins and minerals, should be fed concentrates, because, as before, the growth of the fetus is rapid and extensive during this period, and the fate of the newborn and the quality of production depends on the extent of adequate care and nutrition during this period. Period.

In addition to good hay, the amount of concentrated feed of barley, bran should be increased to 250-400 grams per day.

**Pregnant sheep feeding plan**

**Feeding pregnant sheep in the first half of pregnancy sheep**

* If the pastures are good and harvest is guaranteed, then there is no need for additional feeding, but rather it remains in the desert and pastures.
* But if it is weak, then a simple additional serving of 1 kg of cottony hay with 200 grams of concentrated barley is needed.

**Feeding pregnant sheep in the second half of pregnancy**

A full meal should be provided regardless of the health status of the sheep:

* If good pasture is available: 1.5 kg of good quality hay, 200 g of bran, minerals + vitamins.
* If medium pastures are available: 2-2.5 kg of fine hay, 200 grams of bran, 200 grams of barley, mineral salts + vitamins.
* Poor pastures: 2.5 - kg of fine hay, 300 grams of barley, 200 grams of bran, 100 grams of cake, mineral salts + vitamins.

What must be known well is that preparing for the birth season in terms of nutrition must start before birth, as appropriate feeding must start before the birth season of sheep and goats about a month and a half by adding appropriate feeds to generate milk after birth.

During the last period of pregnancy, the abdomen of the female is swollen due to the size of the fetus, which leads to pressure and reduces the stomach area, so it is better to use very nutritious feeds during this period to cover the needs, and the composition must consist of at least 30% of protein feeds such as beans or Soybean or alfalfa ... (legumes) and 69% of the energy fodder such as barley and corn ... (grains).

**. Postpartum nutrition**

After giving birth, the female will have lost a large part of the calcium and protein, which are a large part of the first milk or the colostrum, so appropriate nutrition must be provided to meet these needs, and here we must increase the proportion of protein feed to at least 35% of the mixture to generate milk and always better in In this case the use of two types of protein sources such as beans and alfalfa.

* Some nutritional supplements should be added to the mixture during this period, whether in the form of a powder or a stone for sensation, so that all kinds of mineral salts and vitamins are available in these supplements to avoid the lack of feed used in the mixture from these materials, especially calcium, which is depleted during childbirth to a large extent from the body of sheep Goats and even cows.
* Water must be provided permanently to the herd in general at all times, and among the rumors that must be mentioned in this context.
* After lamb birth, we must increase the amount of feed provided according to the volume of milk production.
* For example, if we give 1 kg of feed during pregnancy, we can increase the quantity to 1.5 kg after. lamb birth

**Feeding Lambs**

From ~2 weeks of age, lambs should have free access to creep feed. Where pasture is limited, they should be creep-fed for 1–2 months until adequate forages are available. If pasture will not be available until the lambs are 3–4 months old, they can be finished in a dry lot. The grain used should be ground coarse or rolled, but as the feeding period progresses, whole grains may be used. Small amounts of fresh, clean grain should be slowly introduced to the lambs’ diet. The amount of grain is increased gradually until the lambs are on full feed.

Feeding lambs from birth to market in a dry lot, together with early weaning at 2–3 months of age, . A complete diet of hay, grain, and vitamin-mineral supplement is ground, mixed, and either fed as is or pressed into pellets 3/16- or 3/8-in. (5–10 mm) long. Such lambs usually reach market weight in 3.5–4 months.

**Rearing Lambs on Milk Replacer**

* Orphaned lambs, extras, triplets, or those from poor-milking ewes can be raised on milk replacers to improve productivity.
* Such lambs should receive 10%–20% of their body weight in colostrum divided into multiple feedings within 18–24 hours of birth
* . If ewe colostrum is unavailable, a frozen, pooled supply from several cows can be used. Milk replacers designed specifically for lambs are available and contain ~30% fat, 25% protein, and a high level of antibiotic.
* Under certain conditions, it may be advisable to inject orphaned lambs with vitamins A, D, and E and selenium.
* In hand rearing systems, ewe milk replacers are preferable; however, good quality replacers designed for calves may be fed to lambs.
* Milk replacers should be fed at 10%–20% of the lamb’s body weight, divided into 4–6 feedings/day during the first week of life.
* The number of feedings can be reduced over time to twice a day by 3–4 weeks of age.

**Fattening of lambs**

**First: Fattening of suckling lambs or intensive fattening of lambs:**

Blackberries and their composition:

• The mix of blackberries presented in intensive fattening:

• 83% yellow corn + 15% soybean meal + 1.4% mineral salts + 0.1% vitamins.

• It is usual that most of the fattening is done on dry diets based on grains or their offal, cakes and fillers.

**Conditions to consider:**

1- Lambs are completely weaned at the age of 60 days and weighing 14-16 kg.

2- At the age of 40 days from birth, he starts offering a crushed mixture of the bush, next to the breast milk feeding.

3-At the age of 3 months and weighing 20-22 kg, the whole grains are offered without crushing.

4- Fattening continues until the lamb reaches 40 kg, where it is marketed.

**Second: Fattening lambs that are 6 months old to a year old .:**

Blackberries and their composition:

**In winter: 5 kg of alfalfa + 0.25 kg of hay + 0.50 kg of fattening feed (manufactured fodder).**

Summer: 0.75 kg of crushed corn or barley + 0.25 kg of hay + 0.5 kg of fattening feed.

**Conditions to consider:**

• In addition to the ration, in addition to the previous daily ration, an amount of half a kg of alfalfa per day is added to the head per month, with gradually increasing the amount of hay until it reaches half a kg today until the end of the year, with the stability and quantity of concentrated fodder.

• Added to the previous diets the amount of one kilogram of fattening feed for every 12 heads per day, and that is whenever the sheep advance to the age of one month for a period of 6 months until they become a full year old.

• The daily increase should not be less than 150 g.

**Third: Fattening old and excluded sheep (feeding annual sheep)** - 20% of ewes are excluded annually due to old age and poor production - these individuals undergo a process of processing (fattening) and are sold for slaughter.:

Blackberries and their composition:

**Winte**r: 8 kg alfalfa + 1/2 kg straw + 1/2 kg concentrated feed.

In summer: 3/4 kg hay + 1/4 kg of straw + 1 kg of fodder.

**Conditions to be observed:**

To the previous diets, an amount of 1 kg of fattening fodder is added for every 8 heads per day, for every increase in head weight of 4 kg.

**Fourth: The program for fattening lambs and goats on concentrated rations:**

This program is being implemented, but with conditions:

1- It is preferable to fatten the lambs produced on the farm.

2- Lambs are included during breastfeeding on the proposed diets, provided that the grains are coarsely crushed, and this can be started from the age of approximately 40 days.

3- About the age of 60 days can be weaned, so that the weight is not less than 13-14 kg.

4- When the age of the age group reaches 3 months or weighs 20 kg, he is given whole grains without crushing, but in the case of the goats, love begins without crushing at a weight of 12-15 kg.

5- When the yearling reaches a weight of 37-42 kg with an average weight of 40 kg, it must be sold to the cyclist as the rate of food conversion decreases, and the edible amount of food and its price are not suitable for the value of the weight gain.

6- When buying animals from the market, they should not exceed 18 kg.

7- A specially designed nutritional device for this purpose.