



Tikrit University
College of Veterinary Medicine

Lec no. 5.

Cattle management.

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Animal management.

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Cattle management:

Cattle belong to the class Mammalia and the order ungulate, under which the bovid family and the genus Bos. This genus includes all types of livestock, including three types:

The first (Bos Taurus), from which European cattle descend.

The second (Bos Indicus), from which Indian and Asian cattle descend.

The third (Bos Africans), from which African cattle descend.

females have a four-part udder, each quarter of which has a teat. It is found around the scrotum in males with four non-functioning vestigial nipples. The female usually gives birth to one and may give birth to twins. The fetus is connected to the mother's uterus by the cotyledonous placenta. They are ruminants with fixed, unbranched, hollow horns that follow the herd system of living in the wild.

DAIRY HERD MANAGEMENT:

The dairy animal can be viewed as a productive economic unit whose nutrition depends on foodstuffs, most of which are not suitable for direct human consumption. It produces foods necessary for human consumption that have nutritional and economic value, such as meat and milk.

Due to the recurrence of oestral periods throughout the year, it has become possible to organize the birth of cows at different times of the year to obtain a permanent supply of milk.

Dairy cattle are an important part of the production capacity of many countries for many reasons?

1. High capacity to absorb large quantities of fodder crops and other crop residues.
2. The balance between plant and animal agriculture in terms of the mutual role between land and animals.

3. The high conversion capacity of the food into meat and milk.

Morphological characteristics of dairy cattle...

1. A large, well-formed udder that extends forward and backward rather than hanging down.
2. The prominence of the milk veins and the quality of their formation.
3. Elongation of the body, large size of the abdomen, and the appearance of pin bones.
4. A wedge-triangular shape of the body resulting from narrow shoulders, a medium chest, a deep abdomen, and wide hindquarters.

The main obstacles facing livestock development in the Middle East...

1. Weak genetic makeup of local cows in terms of milk and meat production, as well as growth and fertility.
2. Unavailability of green fodder in large quantities and at acceptable prices.
3. Lack of natural and cultivated pastures.
4. Lack of sufficient capabilities to collect production and transform it into storable products.
5. Breeders' lack of commitment to the necessary veterinary and technical care.

Means and methods for developing local livestock...

1. Improving the genetic composition of local animals through (selection within local animals, and selection is choosing the best animal, graded with original international livestock such as Friesians, and following artificial insemination using distinct offspring).
2. Improving the environmental conditions surrounding the animal to reduce the impact of high temperatures, recommending raising them in places with the most suitable climate, and expanding the cultivation of fodder throughout the year.
3. Paying attention to veterinary care.
4. Paying attention to production and developing methods for marketing, manufacturing or preserving it.

The following points must be noted when starting to establish a herd of livestock...

1. Determine the type and quantity of feed used, whether green or concentrated, produced on or outside the farm.
2. Choose the appropriate breeds for the prevailing conditions.
3. Determine the appropriate seasons of the year for breeding to ensure reduced costs when marketing.
4. Study the weather and environmental factors in the breeding sites and the extent of their impact on production.
5. An inventory of the tools and buildings that actually exist and can be used.
6. Study the market situation for feed and meat and milk demands locally and regionally.

Dairy cattle breeds.

- 1) Holstein-Friesian.
- 2) The jersey.
- 3) The Ayrshire.
- 4) brown Swiss.

Important notes...

- I. The length of the milking season globally is 305 days, plus two months, meaning 60 days, from the day of birth until the appearance of the first estrus. Therefore, the cow's productive year is 365 days complete.
- II. The color of Friesian milk is whiter than the milk of most other breeds due to the efficiency of this breed in converting yellow-colored carotene into colourless vitamin A.
- III. The age at the first calving is 27 months, meaning that the cow's first estrus was at the age of 18 months, or an average of a year and a half.
- IV. Gestation period is 279 days.
- V. The period between the two births is 360-420 days.

Cows in the Arab region:

Original habitat and spread.

It arose from the mixing of Indian and African zebu cattle, then mixed with European cattle. It is widespread in most Arab countries, and this can apply to southern cows, which are called (southern). As for the Levantine cattle, they are influenced by the cattle of southern Anatolia.

Environmental suitability.

Almost all types of local cows in the Arab world (except Levantine cattle) are weak in their current productive qualities and cannot be relied upon as milk-producing animals as they do not achieve high economic rates. Their growth rates and ability to fatten are also weak. If we add to this the delay in age at the first birth, the increase in the length of the period between the two births, the short length of the milk period, and the percentage High mortality at an early age, we found that the need has become urgent to improve these livestock. The quickest way to do this is to breed them with purebred dairy cattle. It has become clear from experiments and research that breeding with Holstein cattle has given the best results, provided that the percentage of crossbreeding achieved is taken into account so that it does not affect the acclimatization characteristics.

Cross breed cows.

Due to the weak production efficiency of Iraqi cows, the principle of crossbreeding was resorted to with indigenous cattle (breeds) distinguished by milk production, as well as with indigenous cattle (breeds) distinguished by meat production, in order to raise the level of production.

Iraqi cows....

- 1) Southern.
- 2) Al-Sharabiya.
- 3) Kurdish.
- 4) Rastakiya.
- 5) Cross breeds cows.

Environmental suitability....

Almost all local cows in the Arab world are weak in their current productive qualities and cannot be relied upon as milk-producing animals as they do not achieve high economic rates. Its growth rates and ability to fatten are weak. If we add to these not good characteristics such as delayed lifespan at the first birth, increasing the length of the period between the two births, and shortening the length of the milk production period, we will find that it has become urgent to improve the local livestock. The quickest way is to breed them with indigenous types of dairy cattle.

Buffalos...

The original habitat and spread...

It originated in Asia and spread to Africa, some European countries, Yugoslavia, Italy, Hungary, Romania, Turkey, and some Latin American countries.

Formal features...

The body is muscular, the udder is variable (i.e. different), in size from small to large, but it is often regular, the quadrants are unbalanced, the teats are thick and long, the distance between the two pin bones is wide, and the hindquarter is clearly sloping downward. Grey and black are the dominant colours.

Productive qualities...

Average annual milk production is (1600) kg, average milking period is (150) days. The percentage of fat is the highest (6.5-7.5%) and the colour of the milk is bright white.

Reproductive traits...

Age at first birth (39) months, gestation period (317) days, interval between births (500) days.

According to normal circumstances, the life of livestock is divided into three main stages, each of which has special requirements in terms of management and care, and the care of females differs from that of males.

First: the first stage of life (calves) calf hood management.

It begins at birth and ends at the age of six months. The new-born's breathing begins immediately after birth, and this is due to a physiological phenomenon that is summarized as follows: ((When the umbilical cord is cut, that is, the

interruption of blood circulation from the mother to the fetus and vice versa)) The amount of carbon dioxide in the new-born's blood increases, which stimulates the respiratory center in the brain, and this in turn prompts the breathing organs to do their duty. This is aided by the reflex action resulting from the calf's sudden exposure to the atmosphere at its birth, so the diaphragm contracts immediately, the new-born inhales, and breathing continues.

Second: The intermediate stage in females (pre-maturity stage) Adolescence.

This period begins at the end of the sixth month of life and continues until birth, which usually occurs at the age of 2.5-3 years. During the period from the seventh month onwards, the calves must be cared for, especially when they reach one year of age, by providing good feed with a high percentage of routine.

Signs of estrus in cattle...

1. Disturbance and standing while the rest of the herd animals lie down.
2. Jumping on other animals.
3. Shake the tail and raise it upward.
4. Abstaining from eating and less rumination.
5. Urine comes out in drops and the number of times you urinate increases.
6. Producing special intermittent sounds at regular intervals (raagha).
7. Congestion of the mucous membranes of the vaginal opening and a transparent fluid draining from it.

The age of puberty in cattle is the age at which the first estrus appears, and in some cases it is the eighth month of life. As for the age at which mating or insemination takes place, it is known as (sexual maturity) and is at the age of one and a half to two years. There are a number of factors that affect (age Puberty and sexual maturity) such as breed, quality of food, surrounding environmental factors, as well as care methods.

- I. Estrus appears at regular intervals throughout the year when there is no pregnancy.
- II. The period between two consecutive estrus is 21 days.
- III. The length of the estrus period ranges from 9 to 28 hours, which varies from one animal to another.

Signs of pregnancy in cattle.

1. Stopping oestrus cycles.
2. The female's rejection of the male.
3. Improved health condition and weight gain.
4. Calm down and return to normal.
5. The abdomen gradually increases in size, droops down, and the back arches. This can be observed in the fourth month of pregnancy.
6. Lack of milk production in cows that were in the milking season and it stops at the end, after which the udder begins to enlarge at the eighth month.
7. It is possible to diagnose pregnancy and know its stages by rectal palpation.

Third: the stage of maturity.

This stage begins after the first birth and continues until the end of the animal's productive life. This stage is characterized by pregnancy and childbirth, in addition to the daily milking operations that take place at birth until the time of drying, which begins at (60-90) days before birth.

Care of livestock before birth.

To know the exact date of birth, you must go back to the date of insemination through records. Generally, a pregnant female shows distinctive signs as the date of her birth approaches.

The animal shows sign of anxiety, the pelvic bones sink, the iliac bones expand as a result of the lack of cohesion of the tendons that connect them, the lips of the vaginal orifice swell, and a slight congestion occurs due to the large amount of blood entering them. Relaxation also occurs in the external muscles of the sacrum, the size of the udder increases, the nipples are filled with secretions, and secretions appear outside of them. Waxy. Fetal movements may also appear on the mother's abdomen on their own.

The mother should be isolated 3-4 days before giving birth in a quiet, clean place furnished with clean straw, as long as it is away from air currents. Obstacles must be removed from the vicinity of the pregnant animal that hinder her from moving. The mother must also be closely monitored so that assistance can be provided in the event of distress. By birth dystocia.

Giving birth is considered one of the most important and critical stages. If the birth takes place smoothly and easily, this guarantees the safety of the mother's reproductive system and her ability to return to pregnancy after a short period of time (which should not exceed 60 days) and to become pregnant again. It also guarantees the safety of the newborn.

However, if childbirth becomes difficult for any reason, this weakens the mother's health and reproductive system, and often The newborn is weak, and conditions may deteriorate, causing the mother, the newborn, or both to die, or causing severe damage to the reproductive system, leading to permanent or at least temporary infertility.

During its fetal life, the newborn lies on his back at the bottom of the uterus, but shortly before birth he changes his position by resting on his side. Then, immediately before birth, he lies on his stomach, directing his head and muzzle between his front legs towards the opening of the cervix and placing his back legs. Under his body. This is considered the normal presentation of the fetus during birth, but some abnormalities may occur in this position, which causes the birth to be somewhat obstructed, such as the appearance of one of the front legs and the head, the appearance of the back legs, or the fetus being in a transverse position or abnormal presentation.

The birth process is divided into three stages:

the first:

As the date of birth approaches, the mother becomes anxious and abstains from eating, as the udder enlarges and often changes her place and position. If she experiences labor pain, she experiences an increase in temperature and an increase in the number of heartbeats. Labor pain occurs due to the contraction of the longitudinal muscles in the wall of the uterus. Which leads to the dilation of the cervix and the appearance of the watery sac, which gradually increases, as it bursts and the fetus then assumes its normal position.

Second: expulsion of the fetus.

A general contraction of all the muscles of the uterus occurs, as well as a contraction of the muscles of the abdominal walls and the diaphragm, and this causes the expulsion of the fetus from the uterus into the vagina, where the expulsion of the fetus begins with the expulsion of the fetal membranes.

Third: expulsion of the placenta.

The remains of the fetal and placental membranes come out and this happens under the influence of contraction of the muscles of the uterus, diaphragm and abdominal walls.

Care for the mother immediately after birth..

Attention must be paid to the udder and its general condition. For example, if the nipples of the udder are small and short, as happens with early adopters, a longitudinal massage procedure is performed on them, which consists of tightening and massaging them in order for them to take their natural size. However, if this procedure is not performed, the nipples will remain small and short.

Barley should be prepared, boiled in water, and presented to the mother at a moderate temperature for her to eat. Then a little good hay should be given to her, and she should not be allowed to eat concentrated food for (12-24) hours in order to avoid any intestinal disorder.

The descent of the fetal membranes or placenta must be observed, and they usually descend immediately after birth. If the placenta is retained, the veterinarian must be called to remove it and give appropriate treatments.

Beef cattle.

Beef cattle are characterized by high efficiency in converting ingested feed into weight gain, and success in meat production depends on several factors, including....

1) Breed...

Beef cattle breeds are characterized by their short, straight legs, deep body, broad back, and short neck connected to a good head. A good head is characterized by a wide area between the eyes, while the bridge of the nose extending from the forehead to the nostrils is short.

2) Age....

The time required to achieve the highest weight is important for the economics of a meat animal. It was found that the younger the animal, the shorter the time required to reach a certain weight, meaning that its growth rate is faster.

3) Nutrition...

Broiler animals need good, complete nutrition, and the more the breed is suitable for the purpose, the clearer the benefits of good nutrition will be.

4) Care Management...

Correct care systems, health and environmental conditions have an effective influence on the fattening process. Meat animals may be small calves, large males, or females that are not suitable for production and breeding.

As for young calves, they are cared for and fattened on milk or its substitutes at first, and then they are provided with concentrated diets in abundant quantities until they reach the age of one year, when they have reached the level required for fattening and slaughter.

The production of meat from young calves is better from an economic standpoint than from mature adult calves. Calves are often castrated to be calm and use their energy to grow.

As for fattening mature prime bullock males that have been castrated, they are often slaughtered when they reach two and a half to three years of age, and their meat is of good quality, but its production costs are high because it requires feed in large quantities.

As for females who are eliminated from the milking herd for any reason, such as decreased production, damage to the udder, or failure to conceive for reproductive reasons, these animals enter a fattening period and are slaughtered after that, but the meat of these animals is of lower quality than the previous species.

The general model for a beef animal ideal sample for beef animal...

The general shape of the meat animal is characterized by the merging of the body parts with each other, forming a “cubic” on four short legs, where the body is long and deep (which is the distance between the dorsal and ventral lines) and wide (which is the distance between the sides of the animal), and the neck is short, thick, and full. With meat, especially when it comes into contact with the chest areas for the shoulder, it must be covered with meat and proportional to the size of the animal. The back must be straight and wide, the abdomen large and wide, the chest large, and the shin area full of meat. The pin bones must be indistinct, and the hind quarters must be long, wide, and straight. The best type of beef is the one with fat interspersed between the muscle fibers, and this is called marbled meat.