



Tikrit University
College of Veterinary Medicine

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Reproductive management.

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Reproductive management.

Reproductive efficiency has a greater and deeper impact on productive efficiency, which is profitability, sustainability, and feasibility of work in animal production projects. For example, reproductive efficiency is about 10 times more important than carcass quality and 5 times more important than calf growth rates in beef cattle herds. Obtaining the best reproductive efficiency requires a set of requirements, the most important of which is management, not only of reproduction, but also of (environmental conditions, feed provided, etc.). Because the goals of reproductive efficiency are species and herds in general, data must be recorded and documented on an ongoing and periodic basis. The aim of this lecture is to briefly explain the most important methods that must be followed to improve reproductive performance.

Reproduction management in beef cattle.

Beef cattle management.

It is very important to achieve a confined calving season (~ 60 days). In herds whose calving season is not limited to a specific period, this can therefore be achieved gradually by reducing the length of the reproductive season. Cows can be excluded based on the performance of their offspring. The specific reproductive season provides for two basic points(nutrition and management). Cows can be divided according to Their nutritional needs and vaccination dates, and in the end, the timing of marketing and selling the calves will be at

similar ages and sizes. The main goal is that 60% of births occur during the first 21 days. Calves born during this period can gain weight by an average of 14 kg at weaning compared to those born in the second 21 days.

As it is known that rough fodder (green and dry) is the basic material for feeding livestock, the breeding and birth season must fall within the period of availability of that type of fodder. Females when giving birth to their first time, which is considered a challenging point in the life of the cow in the herd because it is still growing and at the same time suckling its new-born. Therefore, this cow will often enter a season or a long period of lack of mating, delay in insemination and a decrease in the pregnancy rate.

Hence, it is recommended to replace them with heifers with a shorter reproductive season (42-45 days) and which begin or enter their reproductive season about (20-30 days) earlier than adult cows. This results in better synchronization of births and a longer post-calving period before the start of the season. Reproductive in any case, as a result, calves can give birth before the season of pasture availability and growth, which is the ideal period. Why do we consider it ideal? This is because feed will be available after a while, at which time the new-born will have developed a belly and will begin eating feed. Therefore, it is recommended to isolate cows that have given birth for the first time (primiparous) from cows that have given birth more than once (multiparous) after birth. It is preferable to provide some feed additives when The need for this would reduce or reduce the period from birth to maturity or the period of non-pregnancy that occurs after calving, improve reproductive efficiency or reproductive performance, and reduce the percentage of cows that are excluded because they do not get pregnant.

Managing the replacement of beef cattle heifers.

About 15-20% of the cows in herds are replaced annually, so the development and increase in the number of heifers replaced is very critical for the herds. Traditionally, the oldest and largest heifer are chosen for replacements, although this will gradually lead to an increase in weight. Adult cows Fertility increases from the first to the third radial in heifers, with the need to ensure that they must reach adult weight, which enhances and improves reproductive in general, at the beginning of the reproductive season, the weight of the heifers should be approximately 60-65% of their expected adult weight, which is called (target weight). The heifers must be weighed when they are weaned in order to develop forecasting plans. Through subsequent weights, including the target weight at weaning, breeders choose the largest and oldest heifers. Therefore, age and weight are the keys that will determine the age of puberty Performance.

One of the important things is that no less than 30% of the heifers must be selected for replacement and farm development operations in order to allow the isolation and exclusion operations to be carried out freely. For example, in the United Kingdom, heifers that are well fed and raised under a good condition While the Brahma breed may not reach the target weight until after 24 months of age. Age at puberty is affected by many reasons, the most important of which are genetic factors, which is achieved through cross-breeding, and administrative factors, by which we mainly mean nutrition. Management system reach their target weight at the age of 14-15 months.

There are many ways by which the arrival of heifers to adulthood is determined.

1- The simplest and easiest way is to observe the phenomenon of heifers jumping over each other, mounting behaviour.

2- Measuring the concentration of the progesterone hormone (at least two samples are taken, 10 days apart), and it is often performed in scientific research in order to confirm the occurrence of oestrus cycles.

3- The heifers are examined by trans rectal palpation or using an ultrasound.

Reproductive system measurements or records reproductive tract scoring (RTS):

It is a system that relies on rectal examination to determine the maturity of the heifers. It can be used as a selection tool when half of the heifers reach adulthood, or it can be used as a means of conducting isolation operations 1 month before insemination.

This system ranges between 1-5.

1 (for the infantile stage or pre-weaning stage of the reproductive tract).

2 (The stage of development of the reproductive tract, but it does not begin with reproductive cycles).

3 (on the verge of starting reproductive cycles).

4 and 5 (in which cases it is common)

It is also possible to benefit from this system and consider it as an indication of the rate and stage of pregnancy in order to synchronize reproduction and limit births to close times.

Based on these results, the heifers ...

1- At grade (1), it is excluded from the breeding or reproductive groups.

2- At level (2), it is also excluded.

3- Grades (3,4 and 5) are included in the vaccination totals.

Difficulties at birth: Calving difficulty.

Difficulty in calving, called dystocia, directly affects the reduction in the number of weaned calves, and also leads to an increase in the number of dead calves and cows. Moreover, in many cases, dystocia indirectly affects the mortality of calves through their infection with various diseases.

As for mothers, it leads to a reduction in reproductive performance (prolonging the period of sexual quiescence after birth and reducing the rate of fertilization or insemination). All that was mentioned will, as a result, lead to a reduction in The weight of the new-born is one of the most important factors that lead to dystocia, in addition to other causes, including the area or capacity of the pelvic bones, the sex of the new-born, the length of the pregnancy, breed, age, size, number of births for the Dam or mother, breed of the Sire or father, nutrition, and degree of body condition. Exercise or sports, environmental conditions, effect of hormones, season of birth.

Breeders must take into account all of these factors, which will affect the weight of the new-born at birth, which may cause dystocia or not, especially in heifers that give birth for the first time. They must choose males for insemination carefully and stay away from heavy bulls to obtain an appropriate birth weight, thus ease of birth and length. Ideal pregnancy period.

Male calves are heavier at birth compared to female calves (heifers). As a result, the rates of dystocia in females pregnant with males are about twice as high as in cows pregnant with females. In addition, the largest percentage of fetal growth occurs at the end of the pregnancy period, so the longer it The pregnancy period exceeds the prescribed limit, which leads to difficulty in calving.

Dystocia is closely related to the area of the pelvic bones (the size of the reproductive canal). Therefore, choosing large-sized heifers will lead to a large area of the pelvic bones, and the result will be a reduced incidence of dystocia. Hence, the lack or small size of the pelvic bones is one of the measurements used to isolate and exclude heifers and vice versa.

Nutritional management during pregnancy can affect the occurrence of dystocia, and one of the common misconceptions is that the process of reducing or determining nutritional needs before birth can reduce birth weight and thus reduce the incidence of dystocia, as many studies have indicated that this procedure (reducing the food provided before Birth) has led to a slight reduction in birth weight, but it has led to weakness of cows.

In addition, there is a continuous depletion of cows that occurred throughout the pregnancy stage, which will lead to poor growth of the calves, affecting their health, reproductive characteristics, and changes in the chemical composition, not their bodies. It is recommended to improve the nutrition of the cows and provide them with feed additives (medium and high) for a period (90-100 minutes) a day before birth has led to an increase in birth weight and a reduction in the incidence of dystocia. However, 10-20% cases of dystocia have been recorded in obese cows compared to medium- and lean-weight cows.

Reducing the loss of calves in beef cattle herds.

A more concentrated calving season, with fewer incidences of dystocia, will lead to a reduction in the mortality of new-borns, which is the main reason for the economic losses that occur. Births that occur during the day will often be under the supervision of the breeder, thus increasing the percentage of calves that survive. Management strategies should focus on reducing problems or difficulties that occur at birth, enhancing the formation of immunoglobulins

(IgG), and reducing environmental pollution during birth. Dystocia is not the influencing factor that causes the death of new-borns, but it may cause many deaths related to medical injuries. It can be said that new-borns that are born without intervention or assistance from the breeder have a high survival rate because they will stand on their feet and begin to suckling colostrum from their mothers quickly. The concentration of immune antibodies is very high in the ring or the first feeding, and the ability of the calf to benefit from immune globulins begins to gradually decline 12 hours after birth. Therefore, delayed pregnancy through suckling is one of the common reasons for the lack or decline in benefiting from the colostrum intake.