

NUTRITIONAL AND MANAGEMENTAL CAUSES OF DYSTOCIA

We have to learn answering following questions.

1. What may be the basic cause of dystocia under nutrition and management ?
 2. What kind of dystocia is frequently observed in primipara?
 3. How area of pelvic opening affects the incidence of dystocia?
 4. What was the most important factor in retarding body and pelvic growth
- The nutrition of a pregnant animal and its management at parturition are closely associated and may be the basic causes of dystocias.
 - Dystocia due to small size of the dam is frequently observed in primipara.
 - Area of the pelvic opening in 3 years old heifers increasing in size from 200 sq cm to over 279 sq cm, the incidence of heifers without dystocia rose from 44 to 100 percent.
 - Almost all severe dystocias were in heifers with pelvic areas of 200-240 sq cm.
 - Improper nutrition of the growing heifers was the most important factor in retarding body and pelvic growth.

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- Average pelvic area for 90 two year old Hereford heifers three months before calving was 218 sq cm.
- Heifers with pelvic areas less than 200 sq cm and more than 200 sq cm had dystocia rates of 68.7 % and 28 %.
- In 93 Angus heifers measured at breeding, 6 to 7 months of gestation and one week prepartum had pelvic areas that averaged 147 sq cm, 184 sq cm and 227 sq cm, respectively.

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Learn what are the possible causes of small size of dam at the time of parturition?

Learn why this happen that immature females become pregnant to result in dystocia at the time of parturition?

Learn that heifers not suffering from small size or carryng a large size of foetus also have more dystocia than older animals.

- This condition may be caused by breeding the female at too young an age or by breeding a poorly grown, under-fed female that may be old enough to breed but the body growth has been greatly retarded due to poor nutrition, parasitism or diseases.
- **Most domestic animals reach puberty before their body growth is great enough for a normal gestation and parturition.**
- **Dairy calves may show estrum at 3 to 12 months of age.**
- **Range calves still nursing their dams may occasionally come into estrum and be bred by a bull that is running with the herd.**
- **Many cases of severe dystocia have been reported in cattle 13 to 18 months of age.**
- **26 % of 2 year old range heifers had dystocia as compared to 4 percent of the older cows.**
- **It did not appear that the size of the heifers or the calf were important factors in calving difficulties in these heifers.**

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What is accepted strategy in nutrition and management to avoid breeding of immature females?

When does a heifer attain the weight recommended for breeding?

- **Well grown, well nourished heifers are usually not bred before 12 to 20 months of age, horses 3 years of age, swine 6 to 8 months of age, sheep 1 to 1.5 years of age and dogs 1 year of age.**
- **Dairy heifers should be bred by size or weight rather than by age. Holstein or Brown Swiss heifers should be bred when they weigh 750 pounds. Ayrshire and Guernsey heifers when they weigh 600 pounds and jersey when they weigh 500 pounds.**
- **Depending on the level of energy intake these weights may be reached from 10 to 19 months of age.**
- **The optimum feeding levels produce heifers of these weights 13 to 17 months of age.**

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What are the data regarding normal body weights at pre-parturient stage in large, medium and small sized exotic breeds of cattle?

What will happen if growth is restricted due to underfeeding?

- **During the gestation period animals should be fed sufficiently well to maintain their rate of growth so that at calving Holsteins and Brown Swiss heifers weigh about 950 to 1000 pounds, Guernseys and Ayrshires 700 to 725 pounds and Jersey 670 to 690 pounds.**
- Restricting growth by underfeeding frequently results in dystocia and other parturition difficulties.

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What are the circumstances that immature animals are bred and become pregnant?

What shall we do if we come to know about breeding of immature females and why?

- The breeding of animals that are immature or otherwise unfitted with normal parturition is usually the result of an accident or gross carelessness in management.
- If discovered soon enough steps may be taken to prevent or terminate pregnancy.
- Animals that are stunted frequently develop dystocia at parturition.

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What are the possible reasons for
delayed development of some heifers?

- This delayed development may be due to a low nutritive plane or to chronic diseases such as enteritis, pneumonia, severe pediculosis, mange or internal parasites or both.
- A low level of energy intake is the most common cause and frequently is an important factor in the development of chronic parasitic diseases.

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Is stunting of a young animal's growth
is permanent or it may be reversed?

- Stunting of a young animal's growth is not permanent unless underfeeding is continued for a long period of time.
- In many young animals the stunting effects of a low plane of nutrition may be overcome by a high plane of nutrition for 6 months or more.

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What are the common mistakes committed by farmers in rearing their young stocks?

What is the effect of these mistakes?

Why there is dystocia in such poorly reared heifers?

- Many farmers in dairy sections stunt the growth of their young stock
 - by feeding milk substitutes improperly and
 - by limited grain feeding,
 - by feeding poor hay,
 - pasturing the young stock on poor pastures, and
 - by housing the young stock under unfavourable environmental conditions.
- Thus at the time of parturition the heifers are thin, small and weak.
- Dystocia is invited by the small pelvis and underdeveloped, juvenile genital tract, the lowered resistance to disease and the lack of strength to expel the foetus in a normal manner.

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What are the conclusions from aforesaid stories about nutrition management for rearing stock to prevent dystocia in them at the time of parturition?

- Growth and development in young animals should proceed normally from birth to puberty, from puberty to conception and during the gestation period, if parturition is to be physiological.
- A proper nutritive level and efficient management are necessary to secure this goal.

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What is the probable effect of High Feeding in Causing Dystocia?

- High feeding levels may favour dystocia, especially in heifers, by excessive deposition of fat in the pelvic region, predisposing to difficult parturition.

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Learn whether the adopted strategy of farmers to supplement ration during last three months of gestation to otherwise small sized heifers, is it beneficial or loss?

Influence of over and under feeding of pregnant animals and its effect on increasing or decreasing weight of the new born have been reported.

- Many owners try to compensate for low levels of feeding and poor growth in their young stock by high feeding levels during the last third of pregnancy. This is particularly true in dairy cattle, in which lactation is of major importance. This practice is of questionable value and may even be harmful, as it is during the last third of pregnancy that the foetus grows very rapidly and the high feeding levels favour the development of a large foetus while increase in body size and growth of the immature dam occurs much more slowly. The balance between fetal size and pelvic or genital tract diameters is thus upset and dystocia is favoured. Overly fat, under exercised sows and dogs often develop dystocia possibly due to uterine inertia.

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Learn what happens with Vitamin A deficiency in animals?

- Severe Vitamin A deficiency and other deficiencies may predispose to uterine infections and death of the foetus and thus be a factor in predisposing abortion and dystocia.

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What may happen due to negligence like not watching the animal approaching parturition?

What are probable benefits of watching animals approaching parturition?

- Failure to keep animals approaching or beginning parturitions under close observations may not actually be a cause of dystocia but this neglect may cause a relatively early and simple dystocia to become more severe, with danger to the life of the foetus and the dam.
- During parturition all animals should be watched closely, if possible, so that prompt aid may be given if parturition is not normal. This aid may prevent secondary uterine inertia, death of the foetus, rupture of the uterus or birth canal, foetal emphysema, septic metritis, retained placenta and injuries such as obturator paralysis , to the dam.

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What is adopted strategy of
vaccination of advanced pregnant
animals?

- Vaccination of pregnant sows with attenuated hog cholera virus, pregnant sheep with blue tongue virus, pregnant cattle with IBR virus, and these and other pregnant animals with living viruses that may affect their foetuses is to be avoided.

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Learn one example of prevention of feeding on certain plants which may be toxic to foetus in pregnant ewes?

- Feeding or grazing pregnant animals on plants that may damage the foetus such as ewes on veratrum, should be prevented in an effort to control foetal losses and dystocia that may accompany such losses.

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- **Breeding too soon following parturition may occasionally favour sterility, abortion and dystocia in mares and cows. As a general rule it is best to withheld breeding in the mare until second estrum, or about 30 days after parturition, and in cows until after 50 to 60 days.**

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What should be the interval between parturition and breeding if the parturition has been abnormal?

Which mares suffer from bi-cornual or transverse pregnancy?

- In animals in which parturition was abnormal, breeding should be withheld for a longer period.
- Breeding too soon after parturition does not afford the uterus an opportunity to involute completely, and resistance to infection and its sequelae, sterility and abortion, is lowered.
- Most of the bicornual or transverse pregnancies observed in mares by the author were preceded by a history of dystocia or retained placenta the previous years.
- Following a severe dystocia in the mare, rebreeding that same year should be regarded with caution.

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What effect does lack of exercise is likely to cause to a pregnant animal?

What are benefits of exercise in pregnant animals?

- Pregnant animals which are not exercised and are kept in close confinement are more prone to difficulties such as torsion of the uterus and uterine inertia than those kept under more natural conditions, as on pasture.
- Exercise increases body tone, strength, and resistance and results in stronger labour contractions, less fatigue, shorter duration of parturition, less uterine inertia, and prompt recovery.
- Pregnant animals closely confined for long periods are more prone to abnormalities in the function of smooth muscle including prolapse of the vagina and uterus, intussusceptions, torsion of the caecum and displacement of abomasum.

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Learn how diseases of uterus and foetus can cause dystocia?

- In the first stage of labour the limbs of uniparous animals are flexed while during the second stage of labour they are extended. Strong contractions of the myometrium initiated active foetal movements and righting reflexes resulting in extension of the limbs. Thus uterine disease as well as foetal disease, may greatly influence the dystocia.