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THE INFLUENCE OF DISTOCYA ON THE TYPES OF INDICES OF BREEDING IN DAIRY COWS

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Abstract

***Breeding technology of dairy cows represents a set of organizational and technical measures, including** sanitary - veterinary**, what have the final result, on the one hand, a large number of products from an animal and, on the other hand, getting some of the greatest productions of milk. To develop a proper breeding activity, breeders, with the help of experts in the field, you have to know and abide by certain principles and certain factors that influence this activity, known as the upward growth of the herd of cattle from the farms is the result of breeding work carried out.** One of these factors is rather frequent, distocya completed, sometimes with loss of calf mortality, influenced by maintenance conditions, irrational diet pregnant female, inadequate sanitary - veterinary conditions. Breeding activity must have the priority objective getting each year from each cow, a normal calving because milk production occurs after birth. This is achieved through an appropriate interval between calving and designed to prevent a disturbance of reproductive function of dairy cows. This paper presents a study carried out in a professional holding, on the zooeconomics implications of gestations and parturitions complicated that degenerates into various types of distocya, some quite serious, having major repercussions on both indices of breeding and milk production of cattle on the farm.*

***Key words:** distocya, dairy cattle, farm, breeding*

INTRODUCTION

Calving may evolve is a complex phenomenon eutocic or dystocia. Dystocia is defined as birth difficult or impossible. Dystocia can be of fetal, maternal or mixed (10) and may influence the puerperium and reproduce further clues which will lead to loss of production and economic course dairy farms. The incidence of dystocia in dairy cows can vary between 5.15% (8) and 23% (7). Other authors reported a lower frequency - between 3-10% of total births, but they also show that the frequency of dystocia are the cow can be much higher (4).
Complications dystocia, which causes economic losses may occur immediately after parturition: the death of the bull (2) or a cow (5) and away: reduced fertility (6; 9), milk production (1) and reform. Because of these considerations arising parturition how to become an important economic trait in dairy farming.

MATERIAL AND METODS

The research was conducted during 01.01.2013-01.01.2014 a dairy farm Holstein located in southern Romania.
Were studied 560 births divided into three groups:

- ✓ Lot E1 - dystocia births with dystocia of maternal origin
- ✓ Lot E2 - dystocia births with dystocia of fetal origin
- ✓ Lot M – eutocice births

The items followed were represented by:

- the total percentage of dystocia
  - ➢ fetal dystocia
  - ➢ maternal dystocia
- frequency of various types of dystocia
- mortality at birth;
- puerperal uterine infection rate;
- interval calving-first oestrus;
- service-period's duration;
- the total percentage of gestation;
- average number of IA / pregnancy

Cows were followed for 450 days post-partum, after which they were removed from the study and those that did not get pregnant have been reformed.

RESULTS AND DISCUSSION

Following studies conducted on 560 births was found that 67 (11.96%) were dystocia births and 493 (88.04%) eutocice. Percentage of births dystocia in farms studied was an average, compared with literature values are between 5.15% and 23% (7, 8). Of the 67 births dystocia, 41 (61.20%) were the home fetal dystocia and 26 (38.80%) of maternal origin, finding a higher frequency of dystocia compared with maternal fetal origin. Dystocia maternal origin were represented by: feto-maternal disproportion in excess of fetal volume 19 cases (46.34%), presentations dystocia 8 cases (19.51%), retention of fetal varying degrees of different body segments 12 cases (29.27%), hydrocephalus 1 case (2.44%) and fetal ascites 1 case (2.44%).

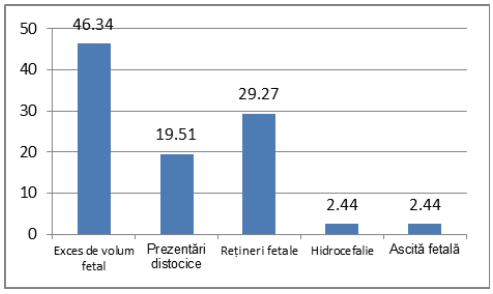

Figure 1. Frequency of fetal dystocia

The most common fetal dystocia were due by feto-maternal disproportion due to excess fetal volume (46.34%), this being due in most cases to determine seeding cows calving bulls heavy due to excessive development of the conceptus. Dystocia of maternal origin were represented: non cervical dilatation 4 cases (15.38%), uterine inertia 9 cases (34.62%), uterine torsion 5 cases (19.23%), pelvic angusta 5 cases (19, 23%) and 3 cases of hypoplastic vulva (11.54%).

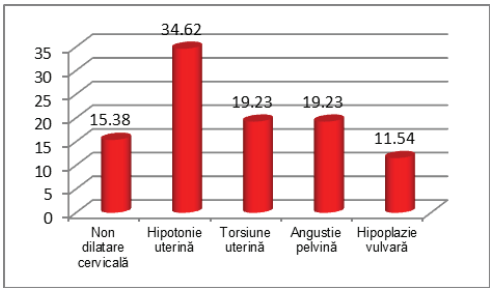

Figure 2. Frequency of maternal dystocia

From the above it appears that the highest frequency had a maternal dystocia by uterine inertia, which can be correlated with the production of milk, showing a depletion massive Ca2 + and therefore reducing the ability of contractile myometrium. In addition to depletion of Ca2 + other causes of hypotonia uterine Primary been expanding exaggerated uterine wall where births twins, weakening exaggerated some cows for decreasing tone and response uterine action oxytocin, and fattening exaggerated cows during weaning which resulted in reducing uterine contractility by fatty infiltration of the myometrium.

Of the 67 births dystocia, died five cows (7.62%) and 8 calves (11.9%). Mortality in group E1 calving with fetal dystocia was 7.31% (3 cows) and in group E2 - births by maternal dystocia was 8.69% (2 cows). Another followed in this study was the percentage of puerperal uterine infections. For the remaining 39 births in the study group were diagnosed E1 origin fetal dystocia, uterine puerperal infections were diagnosed at a rate of 87.17% (34 births) while the E2 group of 24 births in the were diagnosed dystocia of maternal origin, uterine infections were 79.16% percentage (19 births), a lower percentage compared to group E1. The control group - eutocice calving, calving in the 493, 34 (6.89%) were complicated with puerperal uterine infections.

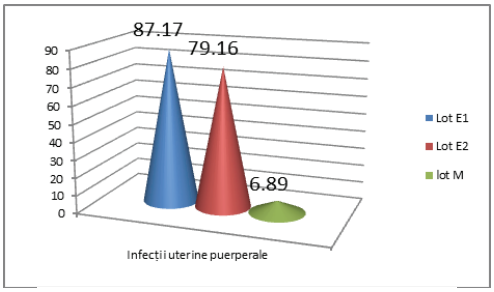

Figure 3. Frequency of puerperal uterine infections in cows

Uterine infections extensively in the groups that presented dystocia compared to the group eutocice calving may be due to uterine subinvoluției emphasized that enables and multiplying bacterial population during remediation of polluted uterus dystocia (11). Also, trauma during remediation and retention roof fetal dystocia that can be causes of puerperal uterine occurrence of these infections (3; 11).

Resuming sexual activity after calving, it was realized later in the experimental groups compared with controls. The average interval calving-first oestrus was 99.5 days in group E1, E2 104 days in group and only 65.4 days in the control group. The delay in resuming sexual activity after calving, lots experimental compared with controls was due to several factors such as the presence of uterine infection that causes the inflammation of the lining of the uterine prostaglandin F2 alpha secretion unable to luteolytic role, allowing the maintenance of the corpus luteum of pregnancy on one of ovaries. On the other hand special efforts dystocia during parturition and puerperal uterine infections then the presence of large numbers after birth reduces appetite or the existence of a selective appetite which will allow entry into a negative balance and even augmentation eenrgetică so not being able to achieve growth of ovarian foliculului and the emergence of the first estrus p.p.

Service - Recurrent site (calving interval - fertile) is one of the most important indicators of breeding, showing the efficiency of breeding at the farm level. In our study, the average service-period was in group E1 (births with fetal dystocia) of 174 days and in group E2 (births by maternal dystocia) of 181 days, much higher compared to group M (calving eutocice) to which this index was 86 days.

If you look at this index we find that if the efficiency of breeding dystocia is influenced by the dystocia, they having decisive influence on this activity both directly and remote complications that they induce.

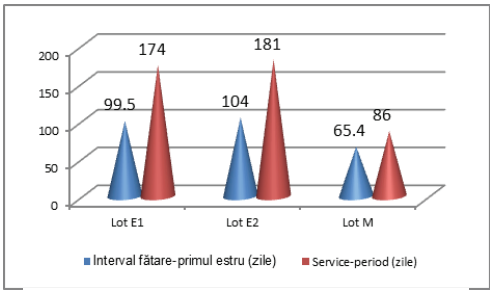

Figure 4. The average interval calving-first oestrus and service-period the cows

It also notes that there is a correlation between the proportional average calving interval during the first estrus and service-period's average.

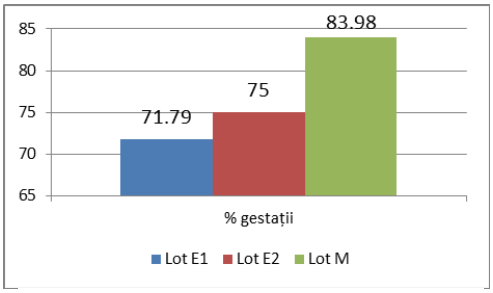

Figure 5. The average gestation in cows with dystocia births versus normal calving

The average percentage of gestation during the study period was 71.79% in group E1 (28 gestation) lower than that in group E2 was 75% (18 gestation). The average percentage of gestation control group was 83.98% (414 gestation). If we look at the average length of service compared to site-period and the average gestation is found that the E2 group to which service-period's duration was longer (181 days) compared to group E1, the average gestation was higher in group E2 (75%). The control group although service-period's duration was lower than the experimental groups, the

average gestation was much higher, which suggests a major influence on the parameters of dystocia in dairy cattle breeding.

The average number of IA / index pregnancy was another monitor. In group E1 is found to have been made 2.8 IA / gestation while in group E2 were carried 3,0 IA / gestation and 1.6 in the control group IA / gestation. And the analysis of this parameter is found dystocia influence on reproductive parameters in dairy cows.

CONCLUSIONS

The frequency of dystocia in cattle in this study was 11.96%, falling within the average values from the literature. Dystocia of fetal origin showed a higher frequency (61.20%) compared to dystocia of maternal origin (38.80%). Dystocia of fetal origin were the fetomaternal disproportion in excess of fetal volume (46.34%), presentations dystocia (19.51%), retention of fetal varying degrees (29.27%), hydrocephalus (2.44%) and fetal ascites (2.44%), the fetal origin are represented by non cervical dilation (15.38%), uterine inertia (34.62%), uterine torsion (19.23%), pelvic angusta (19.23%) and vulvar hypoplasia (11.54%).

Cow mortality was at a rate of 7.62% and 11.9% in calves. Puerperal uterine infections were diagnosed at the rate of 87.17% in group E1, E2 group and 79.16 to 6.89% in group M (eutocice calving). Resuming sexual activity after calving was achieved on average 99.5 days in group E1, E2 later in group (104 days) and much faster in group M (65.4 days).

Service-period site followed the same trend as the interval calving-first estrus, being 174 days in group E1, E2 181 days in group and 86 days in group M. The average percentage of gestation showed the lowest values in group E1 (71.79%) followed by E2 group (75%) and control group (83.98%). There was a positive correlation between duration proportional's service-period and the average calving cows with dystocia pregnancy. The average number of IA / pregnancy was higher in groups E1 (2,8I.a. / Gestation) and E2 (3.0 IA/gestation) comaparativ control group which was 1.6 IA / gestation.

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