ABSTRACT

Key words: body condition, milk production, reproduction traits, correlation, fitness traits.

The interest of growing milk production and a management of dairy milk for a great efficiency and avoid of affection of reproduction problems led to necessity of identify some key factors which can be manage for cows being in great condition to exteriorized their genetic potential.

Identifying of corporal reserves as factor which can influence milk production, reproduction and dairy cows health made from this a interest subject, in the last decades, for farmers, animals sciences specialists, vets, and researchers from this area of breeding dairy cows.

Abroad, in this context, after intense study on body reserves of dairy cows and their evolution on inter-calving was made body reserves quantification methods and was studied the association between their evolution in animal body and productive, reproductive traits and cows health.

In our country the literature on this subject is treated only in few specialty magazines about body condition assessing method. We consider necessary a study for quantification the interdependence between body energy reserves and some productive and reproductive parameters on BNR cows from some farms from North-East of country.

This thesis aims to assess body condition from tow representative farms from North – East of country (S.C. Agrocomplex Lunca Pascani and S.C. Panifcom, Vladeni farm) in five periods of one inter-calving and to identify his association with reproduction and reproduction parameters assess on this inter-calving.

The dairy cows' farms where was research made are:

- S.C. Agrocomplex Lunca Pascani which breeds Black and White Romanian cows housing in a free stall barn with individual bedding area, practicing two milking per day.
- S.C. Panifcom, Vladeni farm which breeds Black and White Romanian cows housing in a free stall barn with common bedding area, practicing three milking per day.

In this tow farms, cows are breeding in free stall barn over the year and are feeding with total mixed ratio.

Biological material take in study was represented by 177 Black and White Romanian cows from Lunca Pascani farm and 220 cows Black and White Romanian cows from S.C. Panifcom, Vladeni.

To achieve the aim, was studied cows exploitation condition in this tow farms. Was assessing cows body condition in five periods of inter-calving using five points method. After that was registered, processed and analyzed data for milk production and reproduction on inter-calving.

From evaluation of milk production results that cows from Lunca Pascani farm have a medium value of 6345 kg with a high variability for this trait (V%>20), 50% from cows has milk production over than 6000 kg in 305 days.

Reproduction parameters analysis for the same cows, show that values of service period was between 33 and 274 days with a high variability and medium value of 95.63 days. For period of calving interval 60% from analyzed cows had values up to 400 days.

Analysis of body condition score for Lunca Pascani dairy cows shows that 51.41% from cows in postpartum period had an optimal condition. Almost 50% from cows in service period-first month of gestation period had an optimal condition. For another three periods of inter-calving 50% of cows has optimal condition.

Following the same parameters for Panifcom Vladeni farm is obvious that cows had production with medium values of 8147 kg for milk and 4.03 for fat content. So values of reproduction parameters from this farm were in normal limits. Analyzing body condition score for this cows in five period of inter-calving shows that over 60% of cows had an optimal values for each period of inter-calving.

These parameters analyzed on all cows take in study shows that mean value of milk production in 305 days was by 7344.5Kg with 4.07% fat.

Analyzing reproduction parameters we can conclude that reproduction activity was well managed.

For body condition, over 55% of cows had optimal values for each period of inter-calving.

Following genetic determinism for analyzed traits you can see that body condition is intermediate genetic determinate, the genotype having an important act in this cycle of body condition evolution. A low to medium genetic determinism we can see for milk and fat quantity. The coefficient of heritability for fat content was strong genetic determinate (0.63).

Genetic determinisms for reproduction parameters are low to medium seeing effect of external factors in phenotype exteriorization.

Repeatability of body condition to studied cows is associated with genetic determinism of this trait, consequently being strong repeatable.

The interdependence between body condition estimates in five periods of calving interval is positive and medium to high intensity, the certitude of this association being over 99%.

Analyze of interdependence between analyzed traits on cows take in study shows existence of low negative and significant correlation between body condition and milk production.

Correlation between body condition and reproduction traits is positive, with low intensity, with an incertitude degree smaller than 1% for correlation between body condition and dry period.

A positive low intensity correlation, with an incertitude degree, smaller than 5%, are between body condition in first mouth after calving and service period, respectively calving interval.

Analyze intrapopultional structure for studied cows show that six from twenty tows genetic groups which had optimum value for body condition in each period of assessment.

Following milk quantity we see that twenty genetic groups has an average milk production over 6000kg and from this three groups had over 8000 kg in 305days.

Obvious that tow genetic groups with an optimal body condition in calving interval registered most good milk production.

Following breading value for sires used on reproduction is obvious that five bulls were improvers for body condition. Six bulls were improvers for milk quantity as note bull 51843 with a breading value of 828.79 kg.

From the bulls which are improvers for milk quantity two are improvers for both traits.

Synthesizing the results of this study we can conclude that condition of dairy cows has influence on milk production and reproduction. An important act in amplitude of this association plays genotype and external factors influences on phenotype.

The paper proves his utility by results and conclusions which can serve like knowing element of body condition evolution in calving interval.

Monitoring and control of energy body reserve in animals can be consider an management element of dairy cows, from this, can be avoid reproductions problems and can ensure necessary condition for an efficient genetic exteriorization.