



Impact of Body Condition Score on Performance of Sahiwal Cattle

Vikramjit Singh^{1*}, Poonam Choudhary² and Arun Kumar Jhirwal³

¹Department of Livestock Production Management, College of Veterinary and Animal Science, University of Veterinary and Animal Sciences, Bikaner, Rajasthan, India

²Department of Veterinary Parasitology, College of Veterinary and Animal Science, Rajasthan University of Veterinary and Animal Sciences, Bikaner, Rajasthan, India

³Department of LPM, College of Veterinary and Animal Science, Rajasthan University of Veterinary and Animal Sciences, Bikaner, Rajasthan, India

***Corresponding Author:** Vikramjit Singh, Department of Livestock Production Management, College of Veterinary and Animal Science, Bikaner, RAJUVAS, Rajasthan, India

DOI: 10.31080/ASVS.2020.02.0071

Received: May 19, 2020

Published: May 27, 2020

© All rights are reserved by **Vikramjit Singh, et al.**

Livestock plays a pivotal role in the Indian economy. About 70% of India's population is dependent on agriculture and livestock associated activities. Animal husbandry is probably the most important amalgamated activity providing a means of instant cash to farmers and thus plays a vital role in socio-economic life of livestock farmers in India. Economical and balanced feeding of livestock for optimum production is extremely important. The value of milk group stands at Rs. 7,58,417 crores and the livestock sector contributes nearly 4.9% to India's GDP [10]. India has an enormous livestock population and it ranks 1st in cattle population and milk production too by contributing 21.29% of total milk production throughout world [6]. The total milk production of India stands at 187.7 million tonnes in 2018-19 [2]. Cows provide 47.85 % of milk production in India with a production of 89.83 million tonnes in 2018-19. The population of milch Non-descript/Indigenous animals stands at 35.17 million in 2019 and the milk production from these Non-descript/Indigenous cows is 38.57 million tonnes [2].

The dairy animals use their body reserves as an energy source in early lactation to support high milk yield that is why adequate amount of nutrients must be stored in body tissues during late lactation. In early lactation the energy intake does not keep pace with continuously rising milk yield as a result energy deficit increases. This leads to a competitive situation among milk yield, fertility and health of the dairy cow because these traits are linked with energy requirement [4].

The various blood metabolites are used to measure the energy balance (EB) status in dairy animals, which has been reported to be strongly correlated with energy balance [3,8]. However, analyses of these blood metabolites are only feasible on experimental farms. Therefore, there is interest in other traits, which could serve

as indicators of EB and may subsequently be related to the production and fertility status of an animal. Body condition score (BCS) is one of those measures which are widely used in many species to assess body composition and energy status of animals [5,12].

The body weight of animal did not provide reliable estimate of the energy reserves, as the reserves vary about 40% in animals with same body weight which directly or indirectly affects the performance of dairy animal [1]. To overcome this [9] introduced the body condition score (BCS) system developed for feeding strategies of animal in such a way that animal is neither too thin nor too obese.

Body condition score (BCS) is an easy, inexpensive and subjective method to evaluate the body tissue reserves of lactating animals, independent of frame size and body weight. It is based on evaluation of the external appearance of the animal that interacts with its body fat reserves [11].

Animal with high BCS at calving are more prone to milk fever, ketosis and downer cow syndrome [7]. Thus, BCS has received considerable attention as a tool to aid in the management of nutritional and production programs in dairy herds.

Milk production capacity of dairy animals is also influenced by the length of service period in the same lactation. An optimum service period is necessary for providing the required rest to the animal after calving so that proper involution of uterus and energy regain takes place for subsequent lactation. A long service period would lead to higher calving interval, thereby, increase in dry period. However, both shorter and longer service period causes loss of production. So, to maximize the milk production, optimum length of service period should be judged.

Bibliography

1. Andrew SM., *et al.* "Direct analysis of body composition of dairy cows at three physiological stages". *Journal of Dairy Science* 77 (1994): 3022-3033.
2. Basic Animal Husbandry Statistics, Government of India, Ministry of Agriculture, Department of Animal Husbandry Dairying and Fisheries, Krishi Bhavan, New Delhi (2019).
3. Clark CEF., *et al.* "The use of indicators to assess the degree of mobilization of body reserves in dairy cows in early lactation on a pasture-based diet". *Livestock Production Science* 94.3 (2005): 199-211.
4. Coenen H., *et al.* "Associations among body condition score, body weight, and milk weight in crossbred dairy cattle in a confined dairy operation". Tarleton State University (2014).
5. Devries, M.J., *et al.* "Energy balance of dairy cattle in relation to milk production variables and fertility". *Journal of Dairy Science* 83.1 (2000): 62-69.
6. Food and Agriculture Organization Corporate Statistical Database (FAOSTAT) (2019).
7. Gransworthy PC., *et al.* "The influence of body condition at calving and dietary protein supply on voluntary food intake and performance in dairy cows". *Journal of Animal Production* 44.3 (1987): 347-353.
8. Konigsson K., *et al.* "Energy balance, leptin, NEFA and IGF-I plasma concentrations and resumption of postpartum ovarian activity in Swedish red and white breed cows". *Acta Veterinaria Scandinavica* 50.1 (2000): 3.
9. Lowman BG., *et al.* "Condition scoring of cattle". East of Scotland College of Agriculture, Bulletin No. 6, Edinburgh, U (1973).
10. NDDB. "National Accounts Statistics, Central Statistical Organization". Ministry of Statistics and Programme Implementation, GoI (2019).
11. Rao KS., *et al.* "Body Condition Score (BCS) system in Murrah buffaloes". *Buffalo Bulletin* 32 (2013): 1290-1298.
12. Veerkamp RF., *et al.* "Genetic correlations among Body condition score, yield, and fertility in 1st parity cows estimated by random regression models". *Journal of Dairy Science* 84.10 (2001): 2327-2335.

Assets from publication with us

- Prompt Acknowledgement after receiving the article
- Thorough Double blinded peer review
- Rapid Publication
- Issue of Publication Certificate
- High visibility of your Published work

Website: www.actascientific.com/

Submit Article: www.actascientific.com/submission.php

Email us: editor@actascientific.com

Contact us: +91 9182824667