



Assessing cow health condition by using the recent Cowditiion Smartphone App and its correlation with vital clinical parameters

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Highly productive milk cows suffer from increasing loss in body condition at early lactation, and are more prone to metabolic disorders. Recent Cowditiion smartphone application has the ability to determine animal health situation and it is called body condition scoring (BCS) system. It can apply adequately for proper farming and management the animal performance. BCS is also helping to assure that all stages of annual cow cycle are in a good condition. Consequently, appropriate dietary changes can be done to prevent any deficiencies and metabolic

diseases. Routinely, rectal body temperature and pulsation and respiratory rates are measured as suitable vital indicators for evaluation the health of the animals and recognize the clinical abnormalities. Therefore, this study intends to correlate between the animal body condition and vital physiological parameters measurements to assess cow health. A total of 30 cows at different stages of the reproduction period, raised at different farms location in Al Muthanna Governorate/ Iraq was nominated animal material of the present study. For each cow, Bayer smartphone Application/ BCS Cowditiion was used to measure the body condition, and at the same time, body temperature and pulse and respiratory rates were also measured. Scores that collected from the Cowditiion application system were compared with physiological vital indicators parameters. The overall means of BCS were found as 3.9 ± 0.068 and range from 2.5 to 5 for minimum and maximum values respectively. Moreover, 63.33 % (19 out of 30) cows showed the standard BCS ranged between 3.25-3.75 and revealed typical vital clinical parameters. Also, 30% (9 out of 30) cows showed fat BCS values ranged between 4- 4.25 accompanied with variation in the vital clinical parameters that increase with high BCS values. Only 6.66% (2 out of 30) cows showed extremist BCS values which were 2.5 and 5 for poor (emaciated) and grossly fat cow respectively. Moreover, these cows showed also variations in the vital clinical parameters. In conclusion, this study represented for the first time in Iraq the adoption of smartphone BCS Cowditiion system to evaluate the animal health. Besides, to understand the relationship between BCS and physiological vital clinical parameters values (body temperature, pulse and respiratory rates), to evaluate and assess the cow body health that helps in the improving of animal nutrition and avoid the metabolic diseases that commonly occur in the highly productive cow. The authors recommend another future study that uses BCS Cowditiion Smartphone Application and correlates it with the animal's metabolic diseases.

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