Animal Reproduction

Abstracts - 35th Annual Meeting of the Brazilian Embryo Technology Society (SBTE)

Embriology, developmental biology and physiology of reproduction

Hair color on production and reproduction of Angus heifers

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Resumo

The perspective of global temperature increase makes essential to identify more adapted individuals. Thus, hair coat (HC) is evaluated in genetic selection programs. This study was designed to determine the influence of hair color (red or black) on HC, body weight, body condition score (BCS) and puberty in Angus heifers (52 black and 41 red) from 15 to 18 month-old, raised in Dom Pedrito-RS. Animals were evaluated three times, with 45 days interval, from October 2021 to January 2022. At each evaluation heifers were weighed, evaluated for BCS (1-5), classified according to HC (HC1 - short, fine and flat hair, HC2 - intermediate and HC3 - long, thick and woolly hair), and evaluated to determine the reproductive tract score - RTS (1-3 = prepubertal and 4-5 = pubertal). Puberty data were evaluated by Chi-square, body weight data by analysis of variance, and BCS data were evaluated by the Kruskal-Wallis test. Means were compared by Fisher's test. The hair color had no influence on the body weight of black (270.38kg, 313.24kg, 320.40kg) and red (260.72kg, 306.63kg and 310.77kg) heifers in the first, second and third evaluation, respectively. However, the HC was associated with ($P<0.05$) this characteristic at the first evaluation (HC1=283.63kg, HC2=264.09kg and HC3=248.94kg). In the second evaluation, the body weight of HC1 animals (324.31kg) was higher ($P<0.05$) than HC2 (309.57kg) and HC3 (295.93kg). At the third evaluation body weight was different ($P<0.05$) for HC1 (333.72kg), HC2 (315.09kg) and HC3 (297.95kg). The hair color did not influence the BCS ($P>0.05$), but the HC was associated in the last two evaluations ($P<0.05$). In the second evaluation, the HC3 group had lower BCS than the others ($P<0.05$). In the third evaluation, the HC1 animals had higher BCS than the HC3. HC was not associated with RTS during the evaluation period, but the hair color had influence in the first and second evaluations. None of the red and 9.6% of the black animals were classified as 4-5 in the first RTS evaluation and RTS 4-5 was identified in 86.5% of the black and 61% of the red animals ($P<0.05$) in the second evaluation. Whereas, at the third evaluation, the percentage of animals with RTS 4-5 was similar ($P>0.05$) between black (88.5%) and red (73.2%) heifers. Our results show that, although the HC is associated with body weight and BCS of Angus heifers, it is not associated with the percentage of cyclic animals. On the other hand, the higher percentage of cyclic black hair heifers at 15 and 16.5 month-old, is probably due to a greater selection pressure on these animals, since their numbers in the general Angus herd are higher than the red animals. The HC was not associated with cyclicity, but the body weight and BCS of animals with HC 1 and 2 was higher. To better understand the effect of hair color and type on cyclicity, new studies need to be performed, aiming to increase the number of animals evaluated.