

Relevance of Coat Colour in Beef Cattle Adaptation to Climate Change in Kenya: A Review

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Beef sector contributes significantly to Kenya's economy. A large proportion of beef cattle is found in arid and semi-arid lands (ASALs) and is the main source of livelihood supplying 80-90% of the total beef consumed in the country. However, resulting from the rising human population coupled with changes in consumer preference, the high demand for beef cannot be met by the country's supply. This shortage is further aggravated by a myriad of challenges facing the beef sector in addition to impeding negative effects of climate change. The current beef breeding programmes emphasize on production traits with little attention given to adaptive traits. More so, animal's coat colour, which has been found to play a role in animal adaptation has been neglected in beef breeding programmes. Animal's coat colour is a polygenic trait with pleiotropic effects, implying that it could be having unknown genetic and phenotypic influence in other traits. The inclusion of this trait in breeding programmes could, therefore, help ameliorate the challenges facing the beef sector. The objective of this review is to bring into attention the role of animal's coat colour in helping animals abate the thermal stress as a result of climate change and therefore the need for its inclusion in beef cattle breeding programmes. The information is based on previous published studies on the same subject in various animal species from different regions.

Keywords: Animal's coat colour, cattle adaptation, climate change