Genomic Prediction in Japanese Black beef cattle: some Topics

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The Japanese Black is a representative of the beef cattle breeds constructing Wagyu in Japan. The beef produced are high quality, especially highly marbled (shimofuri), and they are also famous overseas. Carcass traits including the degree of marbling have been remarkably improved through use of a low number of elite sires with high predicted genetic abilities (breeding values) for meat quality. Breeding values are predicted by using a deep pedigree information and a large amount of carcass performance data of fattened progenies. Breeding values for growth performance and feed efficiency of young bulls and those for female reproductivity of cows have been also evaluated using pedigree information. Recently, prediction of breeding values by using genotype information on genome-wide high-density single nucleotide polymorphisms (SNPs) as DNA markers, also called genomic prediction, have been studied in Japanese Black cattle. Genomic prediction is believed to have a potential to achieve more efficient breeding in livestock species. In this presentation, some relevant topics for genomic prediction in Japanese Black cattle, as well as the possibility of genomic prediction and the future issues in this breed, will be discussed.

Research Biography

Shinichiro Ogawa received his Doctor of Agriculture from Kyoto University in 2017 (JSPS Research Fellowship for Young Scientists DC2, No.15J02417). Since 2017, he has served Graduate School of Agricultural Science, Tohoku University as an assistant professor. His current research interest is to explore an efficient breeding and selection scheme for Japanese Black cattle and pigs.