

ABSTRACT

AQILLA HAYA LAYINAH. Detection of 35 bp Indel Mutation Gene ATP-binding Cassette Sub-family G Member 2 (ABCG2) Merino × Garut (MEGA) sheep. Guided by Dr. Yulia Iridayanti, M.Si and Widya Pintaka Bayu Putra, M.Sc.

The high mortality at birth and the low weaning weight and small body size of the lambs also causes low milk production. Good conditions for lambs during the pre-weaning period will also produce good conditions during the weaning and production phases. Therefore, crossing is one way to improve the performance of sheep, including milk production and meat production. Merino and Garut (MEGA) sheep crosses have a genetic composition of 75% Merino and 25% Garut. Genetic diversity in sheep can be used for livestock selection based on candidate genes controlling production traits. The ATP-binding Cassette Sub-family G Member 2 (ABCG2) gene is one of the candidate genes used for selection because this gene has a significant influence on the amount of milk production. Indel 35 bp mutations in the sheep ABCG2 gene can be detected using the PCR (Polymerase Chain Reaction) method. The results of this study were that the ABCG2 gene in MEGA sheep had a 3 bp deletion that was monomorphic or uniform because it only had one allele, namely D with an allele frequency of 1.00 and all samples were of the DD genotype.

Keywords: ABCG2 gene, Garut, Merino, Mutation, PCR