ABSTRACT

The experiment was conducted in order to detect the purity of Bali cattle by examining the hemoglobin tape patterns obtained from Isoelectric focusing methods. The blood samples were taken from five Bali cattle from Bali, three Bali cattle from West Nusa Tenggara, two Brangus cattle from Tapos, three Limousin and three Simmental cattle from Australia reared at Balai Inseminasi Buatan Singosari, Malang. Tetrametric hemoglobin and globin subunit sample preparation were used. The results indicate that out of eight Bali cattle reared at Balai Inseminasi Buatan Singosari, four of them are not pure. Sample No. 3 which is Bali cattle from NTB has \( \beta^A(\beta^{A1}\beta^{A2}) \) tape instead of \( \beta^X \) Bali, Samples No. 4 and 7 which are Bali cattle from Bali has \( \beta^B \) instead of \( \beta^X \) Bali, and sample No. 9 which is Bali cattle from NTB has no \( \beta^X \) Bali, but has \( \beta^A \). Based on these results, it can be concluded that the bulls have contaminated the purity of Bali cattle in the basic population, including at Bali island. The used of tetrametric hemoglobin method for testing the purity of Bali cattle using isoelectric focusing methods show a better result and more efficient when compared to subunit globin method.

Key words: Bali cattle, Isoelectric focusing, tetrametric hemoglobin, subunit globin.