

ABSTRACT

**Relationship between Immune Function and Serum Vitamin A in Japanese
Black Beef Cattle**

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This study evaluated the relationship between the serum vitamin A level and immune function in seventy non-diseased Japanese Black (JB) cattle during their fattening stages. The animals were divided into two groups, a Low Vitamin A (VA) group (N=9) with below 30 IU/dl of serum VA and a Control group (N=61). Blood samples were collected for biochemical analysis and examination of the leukocyte population and cytokine mRNA expression. The numbers of CD3(+)WC1(+) T cells and MHC class-II(+)CD14(-) B cells were significantly lower in the Low VA group than in the Control group (P<0.05). The IFN-gamma/IL-4 rate was significantly lower in the Low VA group, while IL-4 was higher and IFN-gamma was lower in the Low group compared with the Control group. This study indicated that immune function imbalance was present in JB cattle with low serum VA levels during the fattening stage.

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