

ABSTRACT

Muhammad Alief Rifaldi Alfiandry, 24020120120004, Microanatomical Structure of the Heart and Aorta of Hybrid Ducks (*Anas Platyrhynchos f. domesticus*) after Feeding with Moringa Leaf Flour (*Moringa oleifera* Lam.). Under the guidance of Kasiyati and Muhammad Anwar Djaelani

Hybrid ducks are a commonly consumed source of animal protein. The rapid growth of hybrid ducks results in increased metabolism, which in turn leads to a rise in free radicals within the body. The heart and aorta are crucial organs in the growth of hybrid ducks. The Moringa plant (*Moringa oleifera*) is rich in nutrients and antioxidants and is widely used to support poultry growth. This study aimed to examine the impact of adding Moringa leaf flour on the histomorphometry and microanatomy of the heart and aorta of hybrid ducks. A completely randomized design (CRD) experimental design was used with four treatments: a control treatment and three treatments involving basal feed supplemented with different concentrations of Moringa leaf flour. Each treatment was conducted eight times. The feed treatments were as follows: K0: Standard feed (without added Moringa leaf flour); K1: K0 + 2.5% Moringa leaf flour; K2: K0 + 5% Moringa leaf flour; K3: K0 + 7.5% Moringa leaf flour. Data were analyzed using ANOVA (Analysis of Variance), and differences were tested using the multiple range test or Duncan's test at a 95% confidence level. The results showed that the addition of Moringa leaf flour did not significantly affect the weight of the heart, epicardium, myocardium, muscle fibers, or aorta. However, a concentration of 5% had a significant ($P < 0.05$) effect on the endocardium. Concentrations of 2.5% and 7.5% maintained the structure and tissue thickness of the epicardium, myocardium, muscle fibers, and aorta therefore it does not affect heart performance.

Keywords: *antioxidant, endocardium, introduced duck, myocardium.*