

EFFECT OF TRANSPORTATION ON STRESS HORMONES OF INDIGENOUS CHICKEN IN MACHAKOS COUNTY, KENYA

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ABSTRACT

The objective of this study was to establish the effect of transportation on stress hormones of indigenous chicken in Machakos County, Kenya. The study was experimental with two treatments. The first batch of 4 hens were tied together and loaded on to an open roof top of the transport vehicle. The second batch of 4 hens was loaded into traditional transport cages and the cage loaded on top of the transport vehicle. The test birds acted as their own controls. Transport conditions of temperature, relative humidity, air speed, vehicle velocity was measured by use of automatic data loggers. Cortisol levels were measured for each treatment separately at the beginning and at the end of a 1 hour 59 minutes journey on a road stretch of 119.5 km (Machakos-Kitui road). Statistical t-tests at $P < 0.05$ were run to determine effect of each treatment and difference between treatments. The study showed that transportation increased serum cortisol levels. The amounts were significantly higher in birds transported on the open roof top by 26.05 ng/ml. The study recommends that transportation of chicken should be done using cages designed, constructed and fitted properly to ensure sufficient floor and head space to allow the chicken to sit comfortably and evenly distributed during transportation as appropriate for the chicken size and weight. Further, transportation cages should be adequately ventilated to meet the thermoregulation conditions of the birds. The findings will be important in providing empirical evidence that helps in improving transportation conditions, and help in directing policy in the industry.

Keywords: Cortisol, Stress, Transportation, Welfare.