

## **Relationships of plasma and very low density lipoprotein lipids and subfractions with abdominal fat in chickens**

### **ABSTRACT**

A study was conducted to determine the relationships between triacylglycerol (TAG) of plasma, very low density lipoprotein (VLDL) and fat deposition in two different breeds of chickens. The VLDL apolipoproteins of both breeds were also characterised. The breeds used were crossbred village chicken (AK) (Sasso crossed) and commercial broiler (CB) (Avian). They were housed in six pens with 30 female and 30 male birds of each breed per pen. Three male and three female birds from each pen were slaughtered and the blood was collected. The VLDL was isolated and sub-fractionated using Fast Protein Liquid Chromatography (FPLC). VLDL TAG of CB was significantly lower than AK. The particle size was negatively correlated with VLDL TAG and positively correlated with abdominal fat. Sub-fraction 2 contained more apo E that will enhance the lipolysis process of the VLDL TAG than sub-fraction 1. CB had a higher proportion of sub-fraction 2 than AK. The results showed that the proportion of sub-fraction 2 was negatively correlated with VLDL TAG concentration and positively correlated with abdominal fat.

**Keyword:** Very low density lipoprotein; Broiler; Crossbred village chicken; Apolipoprotein