EFFECT OF ALGAL BIOMASS SUPPLEMENTATION ON THE REPRODUCTIVE PERFORMANCE AND WELFARE OF RABBIT DOES

BY

FAJENYO, IYANUOLUWA BABATUNDE

MATRIC NO: PG 19/1061

B. AGRIC. (FUNAAB, ABEOKUTA)

A dissertation submitted to the Department of Animal Production and Health, College of Animal Science and Livestock Production, Federal University of Agriculture, Abeokuta, in partial fulfilment of the requirement for the award of Degree of Master in Agriculture, (Non-Ruminant Production).

JULY, 2025

ABSTRACT

Rabbit mortality affects performance and welfare, with efforts focused on supplementing maternal diets with Algal biomass (DHA gold) to enhance survival. This study investigated the effect of dietary inclusion of algal biomass (DHA gold) on performance, welfare of rabbit does and survivability of kits. A total number of 20 nulliparous rabbit does with an average weight of 1.8 kg were allotted into 4 treatments each consisting of five replicates in a completely randomized design. Algal biomass was included in the basal diet at 0, 0.5, 1.0, and 1.5%. Blood samples for analyses were collected via ear vein after 2 weeks of feeding trial. The experiment lasted eight weeks (8) (four weeks (4) of gestation and four weeks (4) post parturition). Data were collected on haematological, serum biochemical parameters, reproductive performance indices (doe weight, conception, gestation period, litter size, kit weight, and percent survivability of the kit) and kit vitality as well as behaviour of the rabbit does. All the data collected were subjected to One-way Analysis of Variance (ANOVA). The results showed that litter size (7.33g) and kit weight (50.59g) were higher in does fed 1.5% algal biomass. Conception, kindling period, and kitten survivability increased with increased level of algal biomass inclusion. However, algal biomass supplementation did not influence ($p>0.05$) the haematological and serum biochemical parameters as they were all similar across all groups. The study found that does fed 1.5% algal biomass had significantly higher kitten vitality, as indicated by a shorter latency to suckle (33.500). Feeding, drinking, grooming, and lying position behaviors were also significantly influenced ($p<0.05$) by algal biomass supplementation, positively affecting kit survivability. The study concluded that inclusion of 1.5% algal biomass improved the reproductive performance, in terms of litter size and kit weight, without negatively impacting rabbit health or well-being. It was therefore, recommended that dietary inclusion of

algal biomass (DHA gold) at 1.5% level in the diet of rabbit does will enhance reproductive performance and vitality of kittens without any harmful effects.