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The effect of algal biomass supplementation on performance and welfare of rabbit does and kits

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Abstract

One of the challenges confronting rabbit production is mortality of rabbit kits most especially at birth. This research aimed to investigate the effects of algal biomass supplementation on the performance and welfare of rabbit does and kit survival. Twenty does (mixed breed) with an average weight of 1.8 kg was used for this study. Four bucks (mixed breed) was used for mating (1buck: 5 does). The does were randomly divided into four treatments and five replicates: treatment one: 0 % algal biomass, treatment two: 0.5 % algal biomass, treatment three: 1 % algal biomass, treatment four: 1.5 % algal biomass was included in the diets. Forage (*Tridax* spp) and finished concentrate feed purchased from a known feed company was fed to the rabbits. Hand-mating method was used and pregnancy test was carried out 14 days after mating. The experiment lasted for eight weeks from gestation to four weeks after parturition. Growth, reproductive, welfare and behavioural parameters including vital signs were monitored. In addition, hematological parameters, serum biochemical profiles, and indicators of oxidative stress were assessed. Data collected was analysed using One way analysis of variance. Tukey test was used to separate the means. Results revealed that rabbit does supplemented with 1.5 % algal biomass exhibited significantly higher body weight gain, higher litter size, vital kits and improved feed efficiency ($p < 0.05$). Furthermore, serum biochemical profiles indicated enhanced metabolic functions. Rabbit does in the algal biomass supplemented group displayed reduced signs of stress, and enhanced reproductive performance compared to the control group. These findings suggest that algal biomass supplementation positively impacts both performance and welfare of rabbit does and kits.

Keywords: Algal biomass, rabbits, animal welfare

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