

Effect of the season and the sex ratio on the laying performance and on the reproduction performance of indigenous guinea fowl (*Numida meleagris*) in South Togo

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1. ABSTRACT

The study was conducted to determine the impacts of seasonal and sex ratio variations on the production and reproductive performance of indigenous guinea fowl (*Numida meleagris*) in south Togo. A total of 177 birds were divided into 4 experimental groups (S₂, S₃, S₆ and S₁₀) of 3 replicates each. Cock and guinea hen were assigned in ratio 1:2, 1:3, 1:6 and 1:10 in group S₂, S₃, S₆ and S₁₀ assigned respectively. Data was analysed by Graph Pad Prism 5.00.288 software. The results on the laying performance showed an early laying of the first egg (22.6 weeks of age) with an average live weight of 1314 ± 14.70 g. The best feed efficiency was recorded in the rainy season, as were the heaviest eggs. Eggs were obtained in all seasons of the year with an average laying rate of 45.58 ± 1.82%. The internal quality of the eggs was not affected by the season. Larger eggs were obtained during the rainy season with an average length of 48.91 ± 0.38 mm. The results on reproductive performance showed that 1:2 sex ratio allowed had the best fertility rates, 84.03 ± 1.16 % in the dry season and 79.62 ± 1.12% in the rainy season. The best hatching rates were obtained with 1:2, 1:3 and 1:6 sex ratio. In conclusion, guinea fowl reared under intensive system lay eggs all the year. The 1:3 is the efficient guinea cock to hen ratio for optimizing reproduction traits.