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Influence of parental age on the hatching performance of guinea fowl (*Numida meleagris*) in humid tropical climate

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A total of 180 Guinea fowl birds were randomly divided into six replicates of 30 birds (24 hen + 6 cock) each under intensive system of rearing to find out the influence of parental age on the hatching performance of guinea fowl. Hatching eggs were collected, fumigated and set at every four weeks interval from 28 weeks to 95 weeks of age. The overall mean per cent fertility, total hatchability, fertile hatchability and total embryonic mortality were 62.89 ± 0.91 , 45.68 ± 0.91 , 71.75 ± 0.92 and 31.97 ± 0.95 per cent respectively. Age of the bird exhibited a highly significant ($p < 0.01$) influence on per cent fertility, total hatchability, fertile hatchability and total embryonic mortality. Increasing trends in per cent fertility and fertile hatchability were observed as the age of the bird advanced from 28-31 weeks upto 36-39 weeks (Feb-Mar) and the level came down gradually thereafter to reach the lowest level between 60-63 WOA (Aug-Sep), then a second raise from 64-67 weeks upto 72-75 weeks, then a dip at 76-79 weeks, then a third raise from 80-83 weeks was observed and remained almost constant until 92-95 WOA (Mar-Apr). However, Increasing trend in per cent total hatchability was noticed as the age increased from 28-31 weeks upto 40-43 weeks (4 weeks later than fertility drop) and came down gradually thereafter to reach the lowest level of 24.14 ± 8.81 per cent between 60-63 WOA, then a second raise was observed from 64-67 weeks upto 72-75 weeks, then remained almost constant until 92-95 WOA. Significant decreasing trend in per cent total embryonic mortality was observed as age advanced from 28-31 weeks upto 52-55 weeks and the level increased gradually thereafter to reach the highest level between 60-63 WOA, and then remained constant until 92-95 WOA coinciding with total hatchability parameter. It can be concluded that the raise and fall of fertility and fertile hatchability of Guinea fowl indicate strong relationship between parental age, seasonality and fertility parameters.

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