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# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

## FACULTY OF ENVIRONMENTAL SCIENCES

### DEPARTMENT OF FOREST RESOURCES AND WILDLIFE MANAGEMENT

#### FINAL (4<sup>TH</sup>) YEAR PROJECT

Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Environmental Science Honours in Forest Resources and Wildlife Management

An investigation into the influence of egg weight, hen age and season of lay on hatchability of Ostrich (*Struthio camelus*) eggs.



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By  
**TAWANDA G MASANGO**  
N005858D  
SUPERVISOR: MR SEBATA

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## Abstract

The influence of egg size, season of lay and hen age on hatchability and chick weight in ostriches was studied using 432 eggs from Cawston Ranch located in Nyamandlovu about 60 km north of Bulawayo. A total of 56 batches of eggs were incubated between November 2007 and September 2008 and these were classified according to egg size (small, medium and large), hen age (young, mature and old) and season of lay (early dry, late dry, early wet and late wet). Study results showed that egg size has significant effect on both hatchability and chick weight ( $P < 0.001$ ) in ostrich eggs. Medium sized eggs hatched better than small and large counterparts showing that this is the optimum egg size for incubation. The effect of hen age on both hatchability and chick weight was also significant ( $P < 0.001$ ). Mature birds produced eggs which hatched better ( $53.57 \pm 2.99$ ) than those from young birds ( $49.34 \pm 2.61$ ) and old birds ( $26.56 \pm 2.83$ ). Hatchability was significantly ( $P < 0.001$ ) affected by season. The highest hatchability was recorded in the late dry season which coincides with the breeding season in wild bird's. The low hatchability values in the early wet and late wet season can be attributed to reduced egg shell conductance due to mud and microbial contamination because of the moist environment. The results obtained from this study have shown that productivity in the ostrich industry can be improved through the selection of middle sized eggs from mature birds, hatchability of these eggs are best when these eggs are incubated in the dry season particularly the late dry season.