SOME PHYSIOLOGICAL RESPONSES OF CERTAIN BREEDS OF RABBITS TO CLIMATIC CHANGES

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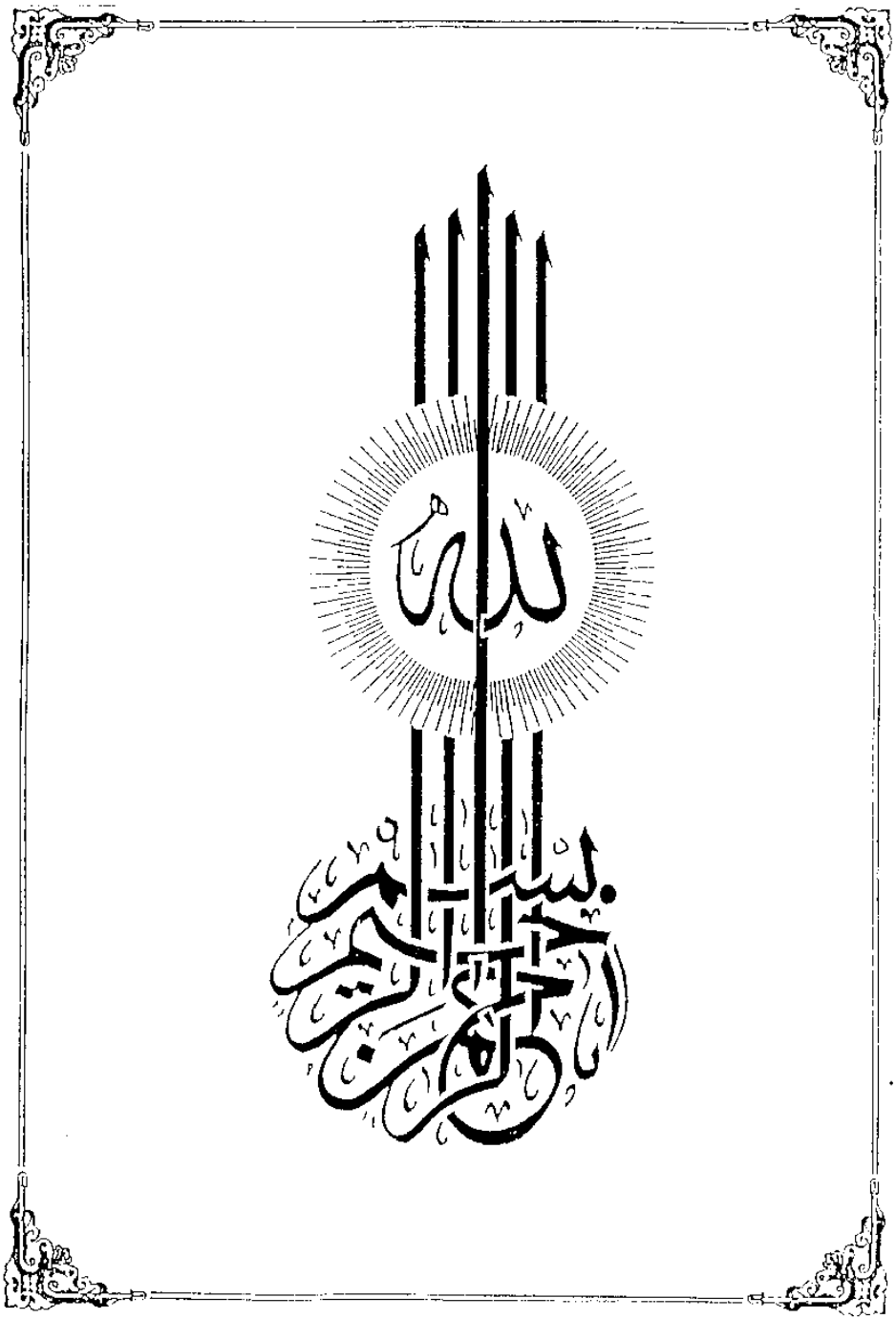

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INTRODUCTION

This investigation was undertaken for the following objectives:

1- To study the influence of high ambient temperature (30 ± 2 C0) on the reproductive performance in New Zealand White, Bouscat and Baladi Red female rabbits.

2- To study the effect of pre-coitus heat acclimation on the reproductive traits of rabbits exposed to high ambient temperature during pregnancy.

3- To study the differences in the reproductive traits of the local and foreign breeds of rabbits in response to different ambient temperatures.

4- To study the physiological responses of the different breeds of rabbits to high ambient temperature applied for different durations.

REVIEW OF LITERATURE

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I- Effect Of High Ambient Temperature On Some Physiological Parameters In Mammals.

I-1. Rectal Temperature (RT):

Rectal temperature is considered as a good overall indicator of body core temperature (Bianca, 1968). Body temperature is a balance between heat production and heat loss (Ulberg, 1971). The rabbit has a poor ability to prevent the rise in rectal temperature at high ambient temperature (Nielsen, 1979 and El-Sobhy, 1981).

Howarth et al., (1965) found a significant increase in rectal temperature in female rabbits when shifted from 21 C to 32 C air temperature. After two days of heat exposure the mean rectal temperature of all groups of females maintained at 32 C remained significantly higher than those maintained at 21 C with 0.9 C increase in their average rectal temperature. Nielsen (1979) found that rectal temperature of rabbits was increased from 41 C at 38 C ambient temperature to 42 C at 40 C ambient temperature. White angora rabbits did not tolerate a 7 hours exposure at room temperature exceeded 38 C (Nielsen, 1979). Rectal temperature of these rabbits was elevated to 42 C within 2 to 5 hours of heat exposure. These authors concluded that rabbit can tolerate ambient