

**THE INFLUENCE OF ORGANIC AND SYNTHETIC ANTIOXIDANTS ON
THE REPRODUCTIVE PERFORMANCE OF HEAT STRESSED RABBIT
UNDER TROPICAL CONDITION OF NIGERIA**

By

Anoh Kevin U

Introduction

Rabbit production holds promise for:

- **Relieving protein malnutrition**
- **Improving smallholder agriculture**

Heat stress has been known to:

- **Reduce reproductive efficiency in rabbits**
- **affect hormones secretion and fertilization**

Ameliorating heat stress with anti-oxidants was found to be:

- **Cheaper**
- **physiologically friendly for rabbits compared to other methods**

Materials and Methods

- **Experimental Site**

- **Housing**

- **Preparation of buffer**

- **Experimental animals, diets and design**

Determination of thyroxine (T4) concentration

Reproductive performance of Rabbit Does

Statistical analysis

Results and Discussion

Table1: Effects of Bicarbonate Buffer, Vit C and BFPM on Thyroxine Levels (ng/ml) in Adult Rabbit Does

Parameters	CONTROL	NaCO ₃	Vit. C	BFPM
Initial (24 h before mating)	56.00	55.33	62.67	64.67
During (14 th Day of Pregnancy)	66.67 ^c	68.33 ^{bc}	76.35 ^{ab}	82.42^a
After (24 h after kindling)	68.50 ^b	70.00^a	70.33^a	71.00^a

Table 2: Effect of Bicarbonate Buffer, Vit C and BFPM on Reproductive Performance of Adult Rabbit Does

Parameters	CONTROL	Na₂CO₃	Vit. C
Number of parities/Doe	2	2	2
Average Litter size at birth	5.67^a	4.00 ^b	5.00^a
Average Weight of litter (g)	236.67^a	180.00 ^b	200.00 ^b
Average Weight of kit (g)	41.78 ^b	45.00^a	40.00 ^b
Average Litter size at weaning	4.00^a	0.67 ^b	2.67 ^b
Average Litter weight at weaning (g)	500.00 ^b	550.00 ^b	540.00 ^b

Conclusion

- **Heat stress adversely affected thyroxine secretion in reproductive does**
- **The NaCO₃ buffer reduced reproductive performance in rabbits, whereas the vitamins especially the organic BFPM improved Kitten weight at weaning**
- **Vitamin antioxidants are recommended to be used in rabbit diets during hot conditions**

Many Thanks for Listening