

**THE RESPONSE OF GROWING BUFFALO CALVES TO DIFFERENT  
CONCENTRATION OF ENERGY IN THEIR RATIONS**

**BY**

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MY PARENTS



## APPROVAL SHEET

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## **ABSTRACT**

This study was carried out to investigate the effect of incorporating ascending energy levels (80, 100 and 120 of El-Ashry allowances, 1980) on some productive and reproductive parameters of male and female buffalo calves and heifers till finishing weight for the males (450 Kg) and till first calving for the females. Results indicated that there was a significant difference ( $p < 0.05$ ) by age on

most of the parameters tested (live body weight, feed consumption, feed efficiency, body measurements, serum total protein and cholesterol concentration). It was also indicated that there was difference ( $p < 0.05$ ) among physiological state of the animals and between sex in feed efficiency, serum protein, urea serum concentration and cholesterol level in the serum.

Results supported the concept of the disadvantage of underfeeding and overfeeding on female reproductive performance. However, age at the first fertile service ranged from 17 to 20 months of age which helped in increasing the buffalo productive life. Results tend to support the level of 100% of El-Ashry allowances, (1980) as the proper feeding regime among the levels tested in this study.

**Key words:** diet, energy level, feed consumption, blood parameters, body measurements, age at the fertile service male and female buffaloe calves.

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## SYMBOLS LIST OF SCIENTIFIC TERMS AND ABBREVIATION

|      |   |
|------|---|
| PEL  | Poultry Excreta based on wheat straw Litter |
| CM   | Concentrate Mixture                         |
| TDN  | Total Digestible Nutrients                  |
| DM   | Dry Matter                                  |
| OM   | Organic Matter                              |
| SV   | Starch Value                                |
| SE   | Starch Equivalent                           |
| DMI  | Dry Matter Intake                           |
| OMI  | Organic Matter Intake                       |
| CPI  | Crude Protein Intake                        |
| NFE  | Nitrogen-Free Extract                       |
| CF   | Crude Fiber                                 |
| ADG  | Average Daily Gain                          |
| CFM  | Concentrate Feed Mixture                    |
| LBW  | Live Body Weight                            |
| DCP  | Digestible Crude Protein                    |
| OME  | Organic Matter Efficiency                   |
| DME  | Dry Matter Efficiency                       |
| SEE  | Starch Equivalent Efficiency                |
| CPE  | Crude Protein Efficiency                    |
| MBS  | Metabolic Body Size                         |
| g    | Gram  |
| Kg   | Kilogram                                    |
| SGOT | Serum Glutamic Oxaloacetic Transaminase     |
| SGPT | Serum Glutamic Pyruvic Transaminase         |
| u/ml | units/millie litter                         |
| g%=  | gram/100 millie litter                      |

|                |   |
|----------------|---|
| mg/d           | milligram/day   |
| mu/ml          | millie units/millie litter                                  |
| HW             | Height at Withers   |
| HH             | Height at Hips  |
| LBL            | Lateral Body Length   |
| HG             | Heart Girth   |
| WT             | Width at Thurls   |
| CN             | Circumference at Naval                                      |
| FC             | Circumference at Flank                                      |
| Cm             | Centimeter  |
| G <sub>1</sub> | Group One (80% of SE called by El-Ashry Allowance, 1980)    |
| G <sub>2</sub> | Group Two (100% of SE called by El-Ashry Allowance, 1980)   |
| G <sub>3</sub> | Group Three (120% of SE called by El-Ashry Allowance, 1980) |
| TCFM           | Traditional Concentrate Feed Mixture                        |
| WF             | Inedible Wheat Flour  |
| RS             | Rice Straw  |
| BH             | Berseem Hay   |

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