

## **REPRODUCTIVE PERFORMANCE OF EGYPTIAN BUFFALO HEIFERS FED DIETS SUPPLEMENTED WITH YEAST CULTURE (GASTUR NATURE):**

### **3- OVARIAN ACTIVITY AND PROGESTERONE PROFILE.**

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### **ABSTRACT**

Eighteen Egyptian buffalo heifers aging 7-11 months and weighing  $197 \pm 12.09$  kg LBW were used in this study. The experimental animals were divided into three similar groups according to LBW and age. All animals were fed concentrate feed mixture (CFM), berseem hay (BH) and rice straw (RS). The 1<sup>st</sup> group was fed CFM, BH and RS (control ration G1), and the 2<sup>nd</sup> (G2) and 3<sup>rd</sup> (G3) groups were fed the control diet supplemented with 20 and 30 g YC (Gustor nature)/h/d, respectively. Buffalo heifers in all groups were fed the experimental diet up to conception. Ovarian activity was studied and blood was collected for progesterone assay. Results revealed that just prior to puberty, no ovulations occurred in G1 while two silent ovulations occurred in two animals of G2 and 5 silent ovulations in 5 animals of G3. Average Pg concentration was insignificantly the highest in G3 (1.971 ng/ml), followed by G1 (1.403 ng/ml) and the lowest in G2 (0.957 ng/ml). Age of heifers at Pg peak was insignificantly lower in G3 (472.1 days) and G2 (491.5 days) than in G1 (519.6 days). From puberty to 1<sup>st</sup> service, average number of ovarian cycles/animal was 1.0, 0.83 and 0.67 in G1, G2 and G3, respectively. Average and peak of Pg concentration, and interval to Pg peak showed insignificantly the highest values in G3, moderate in G1 and the lowest in G2. From the 1<sup>st</sup> service to conception, number of ovarian cycles/animal averaged 0.50, 0.17 and 0.50 in G1, G2 and G3, respectively. Number of services per conception and service period were lower in G2 (1.17 and 3.8 days) and higher in G3 (1.5 and 14.7 days) than in G1 (1.33 and 10.8 days). From pre-puberty up to conception, overall length of the oestrous cycles was 20.3, 17.3 and 26.1; overall number of ovulations/animal was 2.5, 2.33 and 3.0 and number of silent ovulations/animal was 0.83 in G3, 0.50 in G2 and 0.33 in G1, respectively. Conception rate was 66.7, 83.3 and 50% in G1, G2 and G3 after the 1<sup>st</sup> service, respectively. All heifers were conceived after the 2<sup>nd</sup> service. Maximum Pg concentration during the first two weeks of pregnancy was the highest in G3, moderate in G1 and the lowest in G2. This may indicate the beneficial effects of feeding buffalo heifers on diets supplemented with 20 g YC/h/day prior to puberty (5 months) up to conception.

**Keywords:** *buffalo heifers, puberty, service, conception, progesterone.*