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EN CIENCIAS BIOLÓGICAS**

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Índice General

Comisión Directiva.....	3
Comisión Organizadora.....	4
Comité Científico.....	5
Auspicios.....	6
Declaración de Interés Gobierno de Mendoza.....	7
Programa General.....	8
Conferencias y Simposios.....	11
Presentación de Posters.....	20
Listado de Resúmenes.....	45



The objective of this research was to determinate the Stevia effects, added to water drinking (0.5-1 %) to broilers during the first fifteen days old, in productive parameters and intestinal health. The bioactive extract obtained from Stevia by alcohol-water/pressure (SE) was added to water drinking. Sixty broilers Cobb, males (a day of life) were divided into **Control (C)**, without additive, **Group 1(G1): 0.5 % SE**; **Group 2(G2): 0.75 % SE** y **Group 3(G3): 1 % SE**. Avian was divided into four pens/treatment, with five broilers each one. It was determined the Weight Gain (WG)(g) into each group and the broilers were sacrificed at fifteen days old, gut extracted for histomorphometric study, stained with hematoxylin/eosin and analyzed with an optical microscope with the digital camera annexed to it. It was measured: Villi Hight (HV)(μ), Crypt Deep (CD)(μ) and VH/CD relation, using AxioVision Release program. The data were analyzed by ANOVA and posteriorly test (Infostat), $p \leq 0.05$ was considerate significative. WG media was similar between all the broilers. **G2** has registered hight HV ($p \leq 0,05$) than all the groups [HV(X \pm SD): **G2**:1088.82 \pm 21.44; **C**:958.08 \pm 26.11; **G1**:928.06 \pm 11.07 y **G3**:902.79 \pm 12.36]. CD were similar between **G2** and **G3**; both of them were high than **G1** and **C** ($p \leq 0.05$) (PC: **G2**:101.36 \pm 10.01; **G3**:102.43 \pm 6.9; **G1**:91.50 \pm 9.03; **C**: 81.86 \pm 7,01). HV/CD ratio were: **G3**<**G1**<**G2**<**C** (**G3**: 8.81; **G1**: 10.72; **G2**: 10.74; **C**: 11.7). Also, it is noticed increased plasmatic cells (IgA producers) and goblet cells number and hight mucus layer in broilers receiving SE. In conclusion, SE (0.5-1 %) had better gut histomorphometric variables, increasing the intestinal health, mainly when SE is administered at 0.75 % in drinking water to broilers during the first fifteen days old.

33. EXPRESSION OF GONADAL HORMONE RECEPTORS IN PARS DISTALIS AND PARS TUBERALIS OF VISCACHAS IN RELATION TO PREGNANCY

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In mammals, parsdistalis (PD) is the anterior pituitary region mainly involved in the regulation of metabolism, growth and reproduction. Pars tuberalis (PT) has long been thought to be a support for the PD, supplementing endocrine output during times of high demand. Recently it has been shown that PT plays a role in the regulation of reproductive mechanisms. Estrogen and androgen receptors (ER α , AR) are expressed in both pituitary regions and they are sensitive to the variation of gonadal steroids. The aim of this work was to study the expression of ER α and AR in pituitary PD and PT of non-pregnant and pregnant viscachas, and to relate it to the serum levels of estrogens and androgens. Non-pregnant (NP) viscachas pituitaries of and pregnant from early pregnancy (EP), mid-pregnancy (MP) and late pregnancy (LP) (n=4 per group) were processed for light microscopy. ER α and AR were detected by immunohistochemistry and morphometrically quantified by image analysis. The labeled nuclei and cytoplasm were counted and expressed as a percentage of the total number of cells per microscopic field. The values were expressed as mean \pm SEM. The serum levels of estradiol and testosterone were determined by radioimmunoassay. In PD, the immunostaining pattern for ER α and AR was nuclear (n) and cytoplasmic (c). The %ER α n-ir cells in PD increased significantly in LP mainly in the medial and ventral regions. The %ER α c-ir cells did not differ significantly among different groups and were distributed throughout parenchyma. %ARn-ir cells and %ARc-ir cells did not vary significantly in relation to the reproductive status. ARn-ir cells were numerous in the medial region and caudal end. In PT, the immunostaining pattern for ER α and AR was only nuclear. The %ER α n-ir was not statistically significant variations between the groups studied, but %ARn-ir cells increased during LP. The ER α n-ir cells were observed mainly in the upper end of the caudal region in NP and MP animals. The AR-ir cells were observed in all the groups studied, they were located in the caudal zone of PT. Estradiol and testosterone serum levels were higher during MP compared to other groups. These results demonstrated that in PD the increase of ER is after the estradiol serum peak, whereas the expression of AR does not vary with the variations of testosterone serum levels. However, in PT the expression of ER appears to be independent of estradiol levels and AR increases after the maximum levels of serum testosterone. It is likely that these differences are related to the presence of specific cell populations and the function of both receptors in each adenohypophyseal portion.

34. SEASONAL MORPHOLOGICAL CHANGES IN OVARIES OF MATURE AND IMMATURE VISCACHAS (*Lagostomus maximus maximus*)

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The timing of the reproductive cycle in female viscacha, a South American rodent of wildlife, is related to the testicular development of males, the photoperiod, concentrations of some hormones and the morphological and morphometric characteristics of the reproductive organs. The aim of the present work was to study the probable morphological variations of the ovarian follicles and luteal bodies of viscacha. Twenty mature and immature female viscachas were captured in the San Luis province, Argentina, during February –March (presumable activity period) and August (possible period of gonadal regression). Animals were anaesthetized and sacrificed then the ovaries were quickly removed and processed for optical microscopy. Cuts of 3-5 μ m were stained with Hematoxylin-Eosin and then observed. Follicular structures and luteal bodies were cuantificated. The results showed significative variations in the number of different follicles and luteal bodies between the reproductive periods were analyzed. Primary and secondary follicles were increased in regressed and active immature females, respectively. Atretic follicles were present mainly in mature active animals. Luteal bodies showed a major number in mature regressed females. The ovary showed structural variations in the follicular development and the luteal body formation related to seasonal periods. These changes are coincident and appropriate with the reproductive changes experienced by males along the annual reproductive cycle. This allows us to postulate that both female and male show synchronization and regulation of their reproductive activities according to their habitat, in order to guarantee the reproduction of the species.