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1.

COLD HARDINESS OF ENTEROTOXIGENIC AND NON-ENTEROTOXIGENIC STRAINS OF *Clostridium perfringens type A*.

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Clostridium perfringens type A enterotoxin causes food poisoning. The spores of these bacteria are found in almost all raw food, soil, sewage and animal droppings. Recent studies have shown that increased virulence of enterotoxigenic strains is due to its resistance to extreme temperatures. The aim of this study was to evaluate and compare the cold hardiness of five enterotoxigenic (E) and five non-enterotoxigenic (no-E) strains. The strains used in this study were isolated from food of San Luis, Argentina. Starter vegetative cultures of each isolate were prepared by overnight growth at 37ºC in thioglycolate broth (TG). Sporulating cultures were prepared by inoculating 0.2 ml of starter TG medium culture into 10 ml in sporulation medium of Tortora (Tm) and incubated for 72 h at 37°C. The diluted samples were plated onto brain heart infusion agar (BHI) to determinate the total number of vegetative cells at the start of cooling. The temperatures used were -20°C and 4ºC. Recounts were done every day for a week and then each week during three months. At 4ºC at the end of the experience 14% E strains survived while only 0.68% no-E strains survived. At -20°C 4.82% E, and 0.11% no-E survived respectively. In both cases the survival was lower at -20°C. This study shows the greater resistance to cold of enterotoxigenic strains which could favour the development in foods slowly cooled and kept under refrigeration.

2.

GLUTAMATERGIC NEURONS OF THE HIPPOCAMPUS INFLUENCE SELECTIVE BEHAVIORS RELATED TO EXPLORATORY PREFERENTIAL DECISIONS IN THE RAT

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Previously our laboratory has shown that rats exhibit spontaneous lateralized behavioral patterns during exploration of novel environments, showing dependency on the activity of hippocampal neurons. The objective of the present work was to continue and to complete previous observations about the possible glutamatergic activity in the hippocampus on the lateralized exploratory behavior in the rat. Adult male rats were implanted bilaterally into the ventral hippocampus with guiding cannulae for *in situ* microinjections. 48 h later, animals were locally injected with monosodium glutamate (MSG, 1 nmol/µl) into either right (n=16) left (n=16) or both hippocampi (n=15) with simultaneous injection of 2 µg of lidocaine into the respective contralateral hippocampus. Saline-injected animals (n=22) were considered control. 5 min afterwards, all groups of animals were tested in the Multiple Double Choices labyrinth (MDC), and the Double Lateral Holeboard (DLHB) during 5 min as previously described. Results have shown that in the MDC, MSG did not change the behavioral exploratory patterns observed in control. However, in the DLHB, MSG administration into left or right hippocampus significantly increased Total Behavioral Activity in the corridor compared to Control (339±35 Counts/5 min vs 224.5±18.9 Counts/5 min, $p<0.01$). MSG administration into left or right hippocampus significantly decreased the proportion of animals choosing left exploration of corridor compared to control (0% vs 81.8%; MSG left, $p<0.001$; 11.8% Vs 81.8%; MSG right, $p<0.01$). Results suggest that glutamatergic neurons regulate exploration but do not modulate the hippocampal lateralized exploratory behavior.

3.

COMPARATIVE EFFECTS OF GASTROPROTECTIVE ACTIVITY BETWEEN *Plantago major* AND OMEPRAZOL IN RATS

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In this study was evaluated and compared the gastric cytoprotective effect of *Plantago major* (Pm) against omeprazole by absolute ethanol-induced gastric mucosal injury in rats. The administered substances through a stomach tube were: 96°ethanol (ETOH), 10% lyophilised Pm and omeprazole 20 mg/kg. Wistar rats were used and organized in 4 groups (6 each): normal control, injury control and two experimental groups. After 2 hours of treatment, the animals were sacrificed, blood was extracted for determinations: malondialdehyde (MDA) and total antioxidant (TAS). We performed histological examination of gastric mucosal ulcers and index. Statistical studies used were ANOVA-1 test and post Bonferrone (p values < 0.05 were considered significant). MDA levels are significantly increased in injury group against the remaining showing no significant differences among them. TAS is decreased in injury control and increased in lyophilized Pm and omeprazole groups. These results indicate that *Plantago major* and omeprazole have gastric cytoprotective effect against ETOH-induced gastric injury, probably by similar mechanisms through biochemical and histological parameters. However, other studies will be necessary to confirm this speculation.

4.

MORPHOLOGICAL RELATION BETWEEN FOLLICULOSTELLATE AND ENDOCRINE CELLS IN THE PITUITARY PARS DISTALIS OF VISCACHA

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The folliculostellate cells (FSC) have been reported in pituitary pars distalis (PD) of several mammalian species. The purpose of this work was to study the relation between the FSC and endocrine cells of the pituitary PD of adult male viscacha. Doubleinmmunostaining were performed and the antibodies against S-100 protein, Prl, LH, FSH, ACTH, GH and TSH were used. DAB and New Fuchsin were selected as chromogens. The FSC (S-100-ir) originated follicles and were disposed in groups or isolated. They were stellate-like in shape and exhibited short cytoplasmic processes that contacted with blood vessels and endocrine cells. The hormone secreting cells of PD, mainly lactotrophs (Prl-ir), gonadotrophs (LH-ir and FSH-ir) and corticotrophs (ACTH-ir) were found to be close associated with FSC and follicles, while somatotrophs (GH-ir), although widely distributed in the PD parenchyma, were observed in proximity to the follicular structures. On the other hand, thyrotrophs (TSH-ir), which were mainly distributed in the medial and cephalic regions, were not found close to the follicles. The follicular colloid was immunostained with anti-S-100 and occasionally with anti-Prl and anti-LH. This differential association of FSC with endocrine cells suggests a dynamic communication and a probable paracrine regulation between them in pituitary PD of viscacha.

5.

ANTIFUNGAL PROPOLIS ASOCIATED TO SAN JUAN MEDICINAL FLORA, ARGENTINA

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During the last five years, assays of propolis elaboration associated to native flora of Andean piedemont as *Baccharis grisebachii, Larrea nitida and Zuccagnia punctata* we carried out. Previous works of propolis's ethyl acetate extract (PEE) from Bauchaceta district showed antifungal activity against *Candida albicans* and *Cryptococcus neoformans* by the agar dilution method. This study was undertaken to isolate and identify the main antifungal metabolites by means of bioautography assay, percolation on Sephadex LH-20 and silica columns. Assay-guided isolation of PEE, led to a lignan methyl nordihydroguaiaretic acid (MNDGA), as the main antifungal constituent, which was identified by nuclear magnetic resonance (NMR) and MS. *C. albicans* and *C. neoformans* were strongly inhibited by MNDGA with a MIC= 31.2 µg/ml.

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6.

SORTILIN: A NEW ALTERNATIVE FOR THE TRANSPORT OF PROTEINS IN EPIDIDYMAL CELLS

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Epididymal cells exhibit a significant secretory activity, and it is thought that participate in maturation of sperm. The intracellular transport of lysosomal proteins is regulated by M6P receptors (MPRS) in most eukaryotic cells, and significant levels of these MPRS were also found in rat epididymis. Acid hydrolases are found in the epididymal fluid due to an active secretion by the epithelium. Cathepsin D, which is secreted into the lumen as the precursor form (PCD), is increased due to hormonal changes. Based on cell models that involve other proteins in the transport and secretion of PCD, we intended to study the incidence of the membrane protein sortilin on transport and secretion of PCD in epididymal cells. We performed an experimental model based on a cell line from rat epididymis (RCE-1), which was depleted of sortilin by gene silencing. The cells were transfected with the plasmid sortilin pSilencer neo (Ambion) to produce stable sortilin siRNA. The transfected cells were selected with Geneticin and depletion of sortilin was confirmed by IFI and western blot. This silencing affected the expression and localization of other proteins, such as cation-dependent MPR (CD-MPR) and prosaposin, a ligand for sortilin. CD-MPR and prosaposin increased significantly, meanwhile PCD decreased under these conditions. In turn, changes in distribution of prosaposin and CD-MPR were observed by IFI. However, distribution of PCD showed no major changes. These preliminary results suggest that PCD could be transported by sortilin and CD-MPR alternatively.

7.

A SOURCE OF MICRONUTRIENTS WITH AN ANTI-OXIDIZING AND NUTRITIONAL FUNCTION

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Sechium edule (Se) is a native vegetable from Mesoamerica, where its greatest genetic diversity is found. It was cultivated from pre-Columbian times in Mexico. In Argentina it is known as "papa del aire" and its nutritional quality has been shown in previous studies by our research group. The purpose of this work was to assess zinc, selenium and copper, which are chemical elements with antioxidizing activity, and other elements with essential nutritional functions that contribute to the quality of this fruit. Determinations were performed by inductively coupled plasma optical emission spectroscopy was used (ICPOES), and flour obtained from pulp (Sep), seed (Ses) and whole fruit (Sewf) was used. The results indicated a higher content of zinc in Ses (86.17 ppm) as compared to Sep (37.47 ppm). Selenium content was adequate for vegetables (< 0.10 ppm) and a higher copper concentration (16.60 ppm) is observed in the pulp fruit. The potassium content is important (19623.40 ppm in Sep) and the contents of Mg, Ca, P and F are higher to those reported for watermelon, a fruit of the same family. It can be concluded that the essential mineral elements contributed by this fruit meet the Recommended Dietary Allowance (RDA) standards.

8.

YIELD OF SEEDS OF ALFALFA: EFFECT OF THE WATER STRESS DURING THE FORMATION OF THE FLOWER BUD

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Nowadays in Argentina they are consumed more of 7.000 annual TN/of seed of alfalfa where 75% is imported. Our country needs to develop the production of alfalfa seed as a specializing industry that could supply this increasing market. The objective of this work was To evaluate, if the application of water stress during the formation of the flower bud, induces some variation in the yield of seeds in alfalfa. There were applied 4 levels of water stress (T1: 100%; T2: 70%; T3: 30%; T4: 10% of ETO) 5 and 15 days before the beginning of the formation of the flower bud on the variety Monarca SP INTA. The number of flowers was evaluated by clusters, the number of pods by clusters and the yield of seeds by hectare. In the T3 we observe an increase in flowers (26%) compared with the control, also he proved to be some more 58% of pods for cluster that the control, and I increase one of 130% in yield of seeds in kg / has. The T2 and T4 showed similar behavior that the T3 in number of flowers and pods, but in yields of seed they were similar to the control. We concludes that the best level of water stress, which allowed to obtain the major yield of seed applied 5 and 15 days before the formation of the flower bud was the Treatment 3 (30% of ETC).

9.

GROWTH KINETIC CHARACTERIZATION AND PROTEASE PRODUCTION BY *Vibrio cholerae* NON-O1

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Vibrio cholerae non-O1 produces an extracellular hemagglutinin protease (Hap), which is an important virulence factor that promotes bacterial colonization of the intestinal epithelium. The aim of this study was to analyze different parameters of growth and its relation with the Hap production.
Microorganisms: *Vibrio cholerae* non-O1 strain. Culture medium (CM) g/l: proteose peptone 30, yeast extract 5, trypticase 5, glucose 2, cysteine chlorhydrate 0.5, pH 7.6. Overnight cultures were diluted 1:1,000 in 100 ml of fresh CM in a 500-ml flask and incubated at 37°C with shaking (80 rpm), for a total period of 10 h. Culture biomass was estimated periodically by dry weight determinations. It was further determined the protease activity (PA) with azocasein to 0.5% and glucose consumption, in culture supernatants.
The highest biomass (4.51 g/l) was obtained at 5 h, coinciding with the total consumption of glucose; the specific growth rate was 0.84 h^{-1}. The PA was detected after 6 hours culture (9 U/l) and the maximum was reached at 10 h (680 U/l).
These results demonstrated that Hap is produced by *V.* cholerae non-O1 in response to glucose limitation when reaching the maximum growth, which suggests the existence of a catabolic repression phenomenon and kinetics of production characteristic of a secondary metabolite.

10.

SERUM IMMUNOGLOBULIN AND PROTEIN CONCENTRATION IN CREOLE KID GOATS OF MENDOZA, ARGENTINA

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In the early postpartum period, serum immunoglobulin levels depend on the intake of antibody-rich colostrum. During this period serum immunoglobulins ensure immunological protection against infectious diseases until the kid goats can actively produce their own antibodies. The aim of this study was to estimate the age from which the kid's immune system develops. 5 single-birth kid goats suckled their dams until weaning at 42 days. Blood samples were taken from birth to 135 days of age. Colorimetric Biuret test was used for determination of serum total protein (TP) and electrophoresis using cellulose acetate strips for immunoglobulin (Ig) determination. The correlation coefficient between TP and Ig was 0.85 ($p < 0.01$). Ig reached their peak (2.47 g dL^{-1}) at 48 hours postpartum. The lowest concentrations of TP and Ig (5.27 and 1.84 g dL^{-1}) were observed at weaning (42 days). Then TP and Ig increased progressively up to 64 days (6.28 and 2.31 g dL^{-1}) and remained constant from 85 to 135 days (6.09 and 2.18 g dL^{-1}). Since changes in TP concentration were parallel to those observed in Ig levels, the concentration of TP might be used to estimate postpartum transfer of passive immunity. The progressive rise in levels of Ig after weaning could indicate the time at which the kids begin to produce their own antibodies.

11.

DIESTER HYDROLYSIS USING PURE STRAIN OF *Cunninghamella* spp

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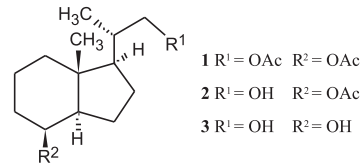
Enzymes are biological catalysts that can take part in many reactions like chemical ones. They can promote functionalization of nonreactive carbons, bond formation, etc. Our task was to functionalize diester **1** in ring A as a precursor of Vitamin D analogs. A two stage standard protocol was used. In stage I a liquid medium was inoculated with the fungus and grown 72 hs. Then an aliquot was used to inoculate the same amount of medium (stage II) and after 24 hs substrate **1** was added. Mycelium was filtered off and metabolites recovered by liquid-liquid extraction. Solvent was evaporated and crude product purified by chromatography to give: compound **2** after 24 hs and mixture of **2** and diol **3** (2:1 ratio) after 48 hs incubation. They were structurally elucidated by ^{1}H and ^{13}C NMR. Although A-ring could not be functionalized regioselective hydrolysis of diester **1** with lipases of *Cunninghamella* sp. was achieved depending on time of incubation. This reaction can be applied in organic synthesis.



1 R^1 = OAc R^2 = OAc
2 R^1 = OH R^2 = OAc
3 R^1 = OH R^2 = OH

12.

QUALITY CONTROL OF MOTHER TINCTURES AND DYNAMIZATIONS HOMEOPATHIC OF *Melissa officinalis* L.

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The lemon balm leaves, *Mellissa officinalis* L. are codified in the European Pharmacopoeia. The use of *Melissa officinalis* in the folk medicine is due to the sedative and digestive properties. The aim of this work is assure the quality and genuineness of Lemon balm leaves used in the obtaining of mother tinctures (TM-h) and homeopathic dynamizations, developing a reliable analytical methodology, for the quality control of homeopathic products by capillary electrophoresis (CE). The rosmarinic acid (RA) is the major compound found in this herb. The electrophoretic analysis of TM-h presented one mean peak at 8.98 corresponding to the standard peak of RA. In the TM-h dynamizations 1 (D1) and 2 (D2) the presence of RA was detected. In addition, the concentration decreasing in D1 and D2 coincident with decimal dilutions could be confirmed. On the other hand, in D3 under the same experimental conditions, the peak was not detected. The present method represents a useful tool for the identification and quantification of vegetal tincture components and its respective dilutions. The CE methodology application for the RA determination in Lemon balm leaves results advantageous because of this technique rapidness and versatility.

13.

HERBICIDE EFFECT ON *Adesmia bicolor,* A FORAGE LEGUMINOUS OF MARGINAL AREAS

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Adesmia bicolor (Poir.) DC. is a native leguminous with appreciated forage attributes. The species is perennial with an autumn-winter cycle, growing in the arid and semiarid region of central Argentina. It tolerates extreme temperatures (-15ºC), drought and grows in altitudes higher than 1700 meters above sea level. It species is studied in Uruguay, Chile and Brazil to introduce it in the agro-ecosystem. *Adesmia bicolor* can fix biological nitrogen and thus improve the chemical soil condition. It could be used as pure pasture or in association with other forage species. The objetive of this study is to evaluate the phytotoxic effect of the different doses of the herbicides 2,4-DB and imazethapyr on *Adesmia bicolor*. The study was conducted in the U.N.R.C. Córdoba. Located at the 33º 06´ 23.46 of South latitude and 64º 17´ 54 of longitude West. The experimental design was a split-plot with 3 replicates. The main plot were the herbicides and the subplot were the doses 1/4X, 1/2X, 1X, 2X, 4X, 8X, being X for 2,4-DB 250 grams of active ingredient/hectare (g a.i.ha^{-1}) and for Imazetapir 100 g a i..ha^{-1}. Control was determined following th escale of the E.W.R.C. (European Weed Research Council) comparing each plot with the check plot. Values of dry matter between treatments are analyzed. *Adesmia bicolor* showed great susceptibility to all the doses of 2,4-DB studied. Imazetapir was not phytotoxic at the doses of 1/4X, 1/2X, 1X, 2X so it is a good option tomanage weeds associated with *A. bicolor.* It is suggested to study the phytotoxic effect of 2,4-DB at lower doses.

14.

GROWING RATE AND IONIC ACCUMULATION IN FOUR *Atriplex* SPECIES IRRIGATED WITH SALINE WATER

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The salinity of the ground limits the vegetable species growth. However, there are halophytes species such as *Atriplex*, which are able to tolerate these conditions. This ability is due to osmotic adjustment mechanisms because of ion accumulation, affecting its normal development. The objective of this work is to evaluate the relative growth rate (RGR) and ionic accumulation in plants of *Atriplex crenatifolia, A. lampa, A. argentina and A. nummularia* (exotic) watered with saline solutions. Seedlings of four species were cultivated in a greenhouse. The watering was carried out for 30 days in random blocks and with 6 repetitions. The treatments were: 0, 1, 2 and 4% of NaCl. The RGR was determined, the content of: ashes (AC), Na+, K+, Ca++, Mg++ and Cl- was determined. The data was analyzed with ANOVA. The AC increased with the salinity of the mean, in smaller measure in *A. crenatifolia*. The Na^+ was increased gradually, mainly in *A. argentina*. The Cl^- was also increased with the treatments. K+ was variable in species and treatments, while the ions Ca++ and Mg++ diminished. RGR decreased when increasing the salinity of all the species, being fewer affected the native species, transforming them into good competitors in saline environments.

15.

***IN VIVO* EVALUATION OF SOY BEAN OIL EFFECTS ON CARDIOVASCULAR RISK FACTORS**

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The multifactorial risk to suffer cardiovascular illmess involve several sociocultural factors such as alimentay habits and stress. The objective was evaluate the soy bean oil intake effects over lipidic profile, the osmotic fragility of erythrocytes and hemostasia in chronic stressed rats. Two groups of male Wistar rats were used, one with oil supplement for 4 weeks (OS) (n16) and the other without supplement (WS)(n16). Half of the animals of each group were subjected to immobilization (IMO) stress 2h/day/14 days and the other remain as control (C). At the day 14, blood samples were obtained and activate partial thromboplastine time (APTT), coagulation time (CT), maximal (maxOF) and minimal (minOF) osmotic fragility of erythrocytes, fribrinogen (F), corticosterone (Cor), glycemia (G), total cholesterol (TC), triglycerides (TAG), HDL and LDL levels were determined. Cor (34±3ug/dl) ($p<0.05$) and G (119±4mg/dl) ($p<0.05$) were higher in IMO rats. TC (70±8 sec) ($p<0.05$) and LDL (26±3mg/dl) ($p<0.05$)were higher only in WS stressed rats but TAG and HDL-cholesterol increased in both groups with IMO. Short CT and higher F (340±10mg/dl) levels were observed in all IMO rats, without changes in APTT levels. No changes in minOF with diminished maxOF were observed in oil IMO rats (0.15±0.02%) ($p<0.05$). The increase in HDL-cholesterol without changes in TC and LDL-cholesterol and the higher resistance of erythrocytes to a osmotic solutions show a protective effect of soy bean oil supplent in stressed animals. However, stress-induced hypercoagulability was no revert with soy bean oil.

16.

LOSARTAN, ANTINATRIURESIS AND BLOOD PRESSURE IN OLD RATS WITH CHRONIC STRESS

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Free radicals are augmented in aging process and stress. Moreover stress stimulates the renin-angiotensin system (RAS) and increase sodium reabsorption and blood pressure. The aim of this work was to evaluate antinatriuresis, lipid peroxidation and blood pressure in response to stress in old rats with AT1 receptors blockade. 8 months old male Wistar rats received a daily bolus of 10mg/Kg Losartan (L) (n=12) or the solvent of the drugs (s/L) (n=12). Half animals of each group were subjected to IMO stress and the other remained as control (C). The systolic (SBP), diastolic (DBP) and mean (MBP) blood pressure in response to stress and later 6 hs of recuperation (R) were registered by cannulation of the carotid artery. Plasmatic Aldosterone (ALDO) was measured by kit RIA. Sodium renal excretion and kidney malondialdehyde (MDA) as thiobarbituric acid-reactive substances was measured. The SBP, DBP and MBP increase in all stressed rats with lower values in L (120, 90, 100) than s/L (135, 110, 120; $p<0.05$). SBP and MBP return to C values in L rats. MDA (IMO s/L 165, IMO L 80, C s/L 95 CL 50 nmol/ g tissue) and ALDO (IMO s/L 1300, IMO L 700, C s/L 300 CL 200 pg/ml) increase and sodium excretion (IMO s/L 100, IMO L 200, C s/L 170 CL 320) decrease in response to stress, being lower this response in L than s/L rats. The minor effect of stress in L than s/L rats to suggest RAS participation in this response.

17.

ROL OF NERVE GROWTH FACTOR (NGF) IN AT_2 RECEPTOR SIGNALING IN DEVELOPING RAT HINDBRAIN

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Angiotensin II (Ang II) regulates blood pressure and electrolyte balance, by interacting with specific receptors, AT_1 and AT_2. Besides its classical effects, Ang II is involved in neurite outgrowth and cell migration in NG108-15 cells via AT_2 receptor signaling. NGF is a classic growth factor, which induces differentiation and survival of neurons. The aim of the present study was to investigate whether NGF participates in the signaling pathway mediated by Ang II AT_2 receptors during rat development. Membrane preparations (120 µg prot.) from postnatal rat hindbrain (cerebellum and brainstem) (PDN15) were stimulated with Ang II (10^{-7} M) in combination with the AT_1 antagonist losartan (10^{-6} M), in the presence or not of NGF (100 ng/ml). Proteins were separated by SDS-PAGE and western blots developed with anti-p-Erk 1/2 or anti-py99 antibodies. In our model, NGF induces phosphorylation of Erk1/2 in a time and dose-dependent mode. Similarly, AT_2 receptors stimulation induce phosphorylation of Erk1/2. Our present results are in agreement with previous studies on NG108-15 cell line. Simultaneous stimulation of AT_2 and NGF receptors produces a decrease in the phosphorylation level of Erk 1/2. Thus, a possible interaction between both receptors could modulate development and differentiation of the rat hindbrain.

18.

EFFECT OF OLIVE OIL DIET SUPPLEMENTATION ON SEMEN QUALITY IN HYPERCHOLESTEROLEMIC RABBITS

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Olive oil (OO), the principal fat of Mediterranean Diet, is known to benefit hypercholesterolemia (HC), a recognized risk factor of cardiovascular desease. We have previously found that hypercholesterolemic rabbits (HCR) have poor semen quality, and hypothetize that OO supplementation might improve sperm phisiology and semen parameters affected by high saturated-fat consumption. HCR were developed by diet containing 0.05% cholesterol (chol), and were protected by the addition of 7% OO. HCR presented lower seminal volume and reduced sperm motility. Sperm acrosome was enriched with chol and this cell was unable to resist hypo-osmotic media stress. Moreover, we characterized some morphological alterations in spermatozoa from HCR. Functionally, these cells displayed deficiencies in capacitation and acrosome reaction (AR), both regulated by chol loss from membrane. Addition of protein kinase A (PKA) pathway activators, (db-cAMP e IBMX) to the medium restored capacitation, supporting our theory of membrane damage. OO diet supplementation lowered cholesterolemia and improved seminal volume. At cellular level, membrane chol significantly decreased and motility as well as AR enhanced improved. In conclusion, a diet rich in OO improved seminal parameters seriously affected by HC in rabbits.

19.

HUNTINGTIN PARTICIPATES IN CCV ENDOCYTOSIS

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Clathrin coated vesicle-mediated endocytosis (CCVE) is a common mechanism in eukariotic cells, to internalize receptors and nutrients into the cells. In neurons, CCVs are required for recycling of membrane proteins after neurotransmitter release. Among several coat proteins, AP-2 appears to contribute to the selectivity in the CCVE. Huntingtin (htt) is a cytoplasmic protein that has been also isolated from CCV. Excessive expansion of polyglutamine (poliQ) in the molecule of htt appears to be responsible for neuronal toxicity associated with Huntington's disease (HD), that involves dysfunction and death of neurons, particularly the medium spiny neurons of the striatum. This study was aimed to assess whether htt has incidence on CCVE. We evaluated whether the expression of a mutant htt alters the distribution of AP-2, dynamin and HIP1 between cytosol and membranes in different areas of the brain of transgenic mice expressing poliQhtt (HD94) or in striatal cell lines from mouse (StdhQ111). By immunoblot, we observed a decrease in AP-2 associated with membranes in the striatum of HD94 mice and StdhQ111 cells, compared to controls. However, no change was observed in the distribution of the other proteins studied. By immunoprecipitation, we observed that AP-2 interacts directly with htt and that this interaction is disrupted when htt is mutated. In addition, we have shown that excessive polyQ alters endocytosis of transferrin. These results suggest that alterations in the endocytosis of nerve terminals contribute to the pathogenesis of HD.

20.

BIOTRANSFORMATION OF (-)-α-SANTONIN BY *Cunninghamella* spp.

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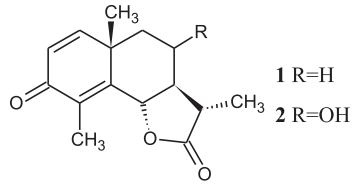
α-Santonin is a sesquiterpene lactone and it is found in several species of genus *Artemisia.* This compound has shown a number of biological activities such as anti-inflamatory, antipyretic and antihelmintic. The aim of this work was to use the enzymes of the fungus *Cunninghamella* spp. to transforn (-)-α-santonin (**1**). Biotransformation was carried out according to a two stage standard protocol. In stage I a liquid Sabouraud medium (30 ml) was inoculated with a refrigerated agar culture of the microorganism and grown during 72 hs. Stage II was then started by inoculating the same amount of medium with biomass from stage I. Then a solution of the substrate on a co-solvent was added and grown aerobically at 25ºC on a reciprocal shaker at 110 rpm. After that only one compound could be isolated, which was purified and analyzed by ^{1}H NMR spectroscopy. This was identified as 8-hydroxy-α-santonin (**2**). This is the first report that enzymes excreted by *Cunninghamella* spp. are able to catalyze oxidation of nonreactive carbon 8 of α-santonin in a regioselective way, leading to a compound whose biological activity is going to be tested. Stereochemistry of new quiral carbon (C8) has to be confirmed.



1 R=H
2 R=OH

21.

ANALYSIS OF THE BOTULINUM NEUROTOXIN TYPE A PRODUCED BY *Clostridium botulinum* AT DIFFERENT TIMES OF GROWTH

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The botulinic neurotoxin (NTBo) is a Zn^{2+} dependent protease, which is synthesized as a monomer of 150 kDa and becomes associated with non-toxic components, forming complexes of 300, 600 or 900 kDa (dimeric form of 600 kDa). In this study we proposed to evaluate if distinct complexes are produced at different time points of culture. Strain A-Hall of *C. botulinum* was grown in anaerobiosis at 37ºC in the optimal conditions for the NTBo synthesis. Aliquots of the medium were collected at 14, 24, 48 or 72 h and cleared by centrifugation at 10,000 rpm. The supernatants were precipitated with 10% trichloroacetic acid (TCA) on ice for 30 min and centrifuged at 13,000 rpm (10 min at 4ºC). The sediments were resuspended either with 30 mM phosphate buffer (PB) or 1% Nonidet P40. After measuring protein concentration, the samples were analyzed by electrophoresis in 6% acrilamide gels at non denaturing conditions. We observed that the TCA-sediments were insoluble in PB, and partially soluble in NP40. In turn, bands of ≈500 kDa were observed in the gels at each time of culture. The absence of the 900 kDa multimere in the gels may be due to the instability of this complex at the experimental conditions, (supported by previous findings [Caballero *et al.*, 2007]), or because the high insolubility of the complex impedes its entrance into the gel. A third possibility is that the strain used produces little and undetectable amounts of the complex.

22.

ODF1 IS ONE OF THE MAIN SPERM PROTEIN POSITIVE TO MONOBROMOBIMANE AND IT IS ALSO RECOGNIZED IN OTHER TISSUES

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Mammalian spermatozoa undergo maturational changes as they pass through the epididymis, like the oxidation of thiols groups (S-H) to disulfides bonds (S-S). Disulfides are involved in sperm chromatin condensation and tail organelles stabilization. Our objective was to determinate which specific protein was involved in this process. In this work, we used the fluorescent thiol labeling agent monobromobimane (mBBr) to determine the thiol status in rat sperm head and tails during maturation. In electrophoretic pattern one major band, near to 27 kDa possesses high affinity to mBBr but the origin was unclear. To address the origin of proteins labeled by mBBr, sperm cells were fractionated and pure cell fractions verified by electron microscopy were analyzed by combination of SDS-PAGE and mBBr affinity properties. The major band comes from pure sperm tail fraction. Finally by MALDI-TOF techniques, this protein band was analyzed and the sequence highly correlated with ODF1 data base. The results taken together demonstrate that ODF1 is one of the major protein bands contributing to mBBr fluorescence sperm tail pattern, detectable at light microscopy and SDS-PAGE. Now by inmuno techniques in several tissues we are looking for another protein/s detected by the correspondent antibody.

23.

ESTRADIOL IN CELIAC GANGLION, MODULATES THE LUTEAL REGRESSION AT THE END OF PREGNANCY IN RAT

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Estradiol (E_2) is a key hormone in the regulation of reproductive processes acting both on peripheral organs and sympathetic neurons associated to reproductive function. We found, using the *ex vivo* Celiac Ganglion-Superior Ovarian Nerve-Ovary (CG-SON-Ovary) system, that E_2 added to the CG inhibited the liberation of progesterone (P) in ovary but did not modify the activity of 3β-hydroxysteroid dehydrogenase (3βHSD), and 20αHSD (synthesis and degradation P enzymes, respectively). The objective of this work was to research, in the same experimental scheme, if E_2 in CG modifies the luteal regression. The *ex vivo* system was incubated in metabolic bath, keeping CG and ovary connected by the SON, in separate cuvettes. In CG compartment E_2 was added in 10^{-6}, 10^{-8} and 10^{-9}M concentrations. Controls were not stimulated. After 240 min of incubation, RNA was extracted from luteal tissue to determine the expression of 3βHSD, 20αHSD, *Bcl-2* (antiapoptotic) and *Bax* (proapoptotic) genes by RT-PCR. Was utilized ANOVA followed by Tuckey *test* with a statistical significance of $p < 0.05$. E_2 in GC did not modify neither 3βHSD, 20αHSD, *Bcl-2, Bax* expression in any concentration tested. But E_2 in 10^{-8} and 10^{-9} M concentrations increased the ratio of *Bcl-2/Bax*.
E_2 in CG, through the SON, might prevent the onset of structural luteal regression still when the ovarian P is diminished.

24.

INCREASED VASCULAR CELL ADHESION MOLECULE-1 EXPRESSION AND VESSEL REMODELING IN FRUCTOSE-FED ApoE DEFICIENT MICE

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Adhesion molecules and vascular structural changes, known as "vascular remodeling", are involved in the development of cardiovascular disease. ApoE-deficient mice (ApoE-/-) create an atherosclerotic model that mimics vascular lesions. Little is known on the effect of fructose intake in Apo-E deficiency on expression of adhesion molecules and vascular remodeling of these animals. In this study ApoE-/- mice were fed with 10% fructose in drinking water (FF-ApoE) over 6 weeks. Immunohistochemistry was used to localize vascular adhesion molecule (VCAM-1) and morphometric studies of histological sections of aorta and mesenteric arteries were performed. Results show a significant increase in the expression of VCAM-1 in both aorta and mesenteric arteries of FF-ApoE mice. Compared with controls, aorta and mesenteric resistance arteries from fructose-treated mice show decreased in the lumen/media ratio. Chronic fructose administration appears to promote vascular adhesion molecule expression, the initial stages of an inflammatory reaction that may induce vascular remodeling.

25.

DOES APOPTOSIS PLAY A KEY ROLE DURING RAT LUNG DEVELOPMENT?

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Programmed cell death or apoptosis is a process characterized by morphological changes and energy-dependent biochemical mechanisms. It is considered a vital component of various processes including normal cell turnover, remodeling, surveillance, proper development and chemical-induced cell death. Bcl-2 family members determine cell death and survival by controlling mitochondrial membrane ion permeability, cytochrome *c* release, and the subsequent activation of downstream procaspases. The aim of this study was to investigate mediators of apoptotic signalling during postnatal lung development in rat. Lungs from Wistar rats at four different ages, PND0, PND8, PND15 and PND30 were evaluated. The expression of anti-apoptotic Bcl2 and pro-apoptotic BAX genes was analysed by RT-PCR, and caspase-3 activity was confirmed by Western blot analysis. We observed an up-regulation of the expression of the antiapoptotic Bcl2 at PND8 and PND15 with respect to PND0 and PND30 (ANOVA, $P<0.001$). Moreover, we observed a constitutive BAX expression during lung development. Proteolysis of procaspase-3 detected by western blot was highest at PND0 and PND30, in correlation with the Bcl2 levels. Our present observations suggest that apoptosis constitutes an important role during rat lung development.

26.

EXPRESSION, PURIFICATION AND PRELIMINARY STRUCTURAL STUDIES OF *T. cruzi* mRNA MADURATION PROTEINS

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Chagas' disease is caused by the flagellate protozoan *Trypanosoma cruzi*. Current drug treatments are generally unsatisfactory. Available medications are highly toxic and often ineffective, particularly those used to treat the chronic stage of the disease. The objective of our work is the resolution by X-ray crystallography of the three-dimensional structure of proteins which are vital for *T. cruzi.* This information may provide new drug targets for the treatment of the disease. The *T. cruzi* proteins studied in this work are: TcFIP1-like (factor interacting with Pap1) and TcCPSF30 (cleavaje and polyadenylation factor 30), both involved in mRNA cleavaje and polyadenylation. They were expressed in *Escherichia coli* fused to a N-terminal His-tag. The protein purification was optimized using different methods. TcCPSF30 was correctly refolded *in vitro*. This refolded protein was used for subsequent native PAGE, transverse urea-gradient, and other conformational assays. Modelling studies of these two proteins using homologous part of different proteins have given important structural clues.

27.

FLORA OF SALINAS DEL BEBEDERO, SAN LUIS, ARGENTINA. PRELIMINARY RESULTS

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Salinas del Bebedero is located at 45 km west from San Luis city and belongs to Monte Phytogeographical Province. Its extension is approximately 5 km in breadth for 15 km in length. It is a tectonic depression from the Salado-Desaguadero fluvial system fed by the intermittent Bebedero stream floodings. The climate presents a great seasonal difference of cold winters with an average temperature of 9ºC and hot summers with an average of 29ºC. The annual rainfall oscillates between 300 - 350 mm, in the spring-summer season. The aim of the present work is to contribute to the identification of the flora of Salinas del Bebedero. Data were obtained from 40 sampling sites in different seasons from 2006 until 2009. The taxa were collected, pressed, dried and identified with systematic classical methods. The nomenclature follows the Catálogo de las Plantas Vasculares de la República Argentina. The plants are provisionally preserved at the herbarium of Diversidad Vegetal II (UNSL).
There are 126 taxa recorded. They correspond to 95 genera and 31 families of vascular plants. The best represented families are: Poaceae (24%), Asteraceae (15%), Fabaceae (10%), Solanaceae (7%), Chenopodiaceae (5%) and Verbenaceae (4%); the remaining 35% is distributed in 25 families, most of them are represented by one genus each. These records will be increased with future explorations and complementary taxonomic works.

28.

SEROPREVALENCE OF *Trypanosoma cruzi* INFECTION IN CHILDREN OF 6 AND 12 YEARS OLD OF TWO GRAN MENDOZA URBAN SCHOOLS

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Chagas disease is a serious problem for public health. Mendoza was included by INCOSUR in the High-risk provinces group in 2002. For this reason, and in order to contribute to achieve Chagas disease control in our country, we perform a serologic survey for chagasic infection in 6 and 12 year-old schoolchildren in two Gran Mendoza urban schools. The importance of serologic detection of *T. cruzi* infection remains in the fact that more of 60% of children and adolescents opportunely treated with antiparasitics get cured. The aim of this work was to study *T.cruzi* infection seroprevalence in Gran Mendoza schoolchildren and to include seropositive cases in the Programa Provincial de Chagas for their treatment and medical follow up. On the other hand, we propose to make educational community aware of Chagas disease. The serologic screening was performed by Indirect Hemmagglutination, ELISA and Indirect Immunofluorescence to discordant samples. The information about this disease was provided to the educational community throught informative meetings and, this way, also we obtein the parents´consent to realize the blood extractions. *T. cruzi* infection was detected in a 0.8% (1/124) of schoolchildren tested. The finding of positive cases in urban areas stablishes the importance of realizing an active search of the infection in populations customarily considered of low risk.

29.

CASTRATION INDUCES CHANGES IN M6P RECEPTORS IN RAT EPIDIDYMIS. IMPLICATIONS IN SECRETION OF CATHEPSIN D

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It is believed that the mammalian epididymis participates in the maturation of the sperm due to its secretory activity. High concentrations of several secreted acid hydrolases are found in the epididymal lumen. Moreover, some of these enzymes are secreted by the epididymal epithelium in an androgen-dependent fashion. In this study, we attempted to discern whether mannose-6-phosphate receptors (MPRs) regulate transport and secretion of lysosomal enzymes in the rat epididymis, and if these events are altered when the animals are subjected to hormonal manipulation. We observed that expression of cation-dependent- (CD-MPR) and cation-independent-MPR (CI-MPR) increased significantly in caudal epididymis of castrated rats by immunoblot. This increase was corroborated by quantisation of MPRs, by using binding assays. This change could be due to androgen deprivation, as a similar effect was observed after treatment with the anti-androgenic drug Flutamide. Furthermore, we observed that the CD-MPR was redistributed to the apical area of the epithelium on castrated rats by immunohistochemistry, which is compatible with the redistribution of the receptors toward lighter fractions in a Percoll gradient. Consistent with a possible involvement of the CD-MPR in the secretion, we observed an increase in procathepsin D levels in epididymal fluid after castration. We conclude, that the CD-MPR might be regulated by hormones and that this receptor is involved in the secretion of specific enzymes into the rat epididymis.

30.

PROGESTERONE MODULATE NITRIC OXIDE LEVELS IN SUBSTANCIA NIGRA OF THE 6-HYDROXYDOPAMINE RAT MODEL OF PARKINSON'S DISEASE

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Parkinson's disease (PD) is the second most common neurodegenerative disorder in humans. Nitric oxide (NO), a potentially toxic molecule, has been implicated in a wide range of diverse pathophysiological processes. In this study, we investigated the modulatory effects of Progesterone (P) on the generation of nitric oxide (NO), measured as nitrites, in substancia nigra. We used adult male Spague-Dawley rats (n=10/group). We inyected 6-hydroxydopamine (6-OHDA) neurotoxic-drug in left striatum to induce neurodegeneration dopamine pathway. Experimental groups: 1) SHAM, 2) Lesion 3) Lesion and progesterone treatment 4 mg/kg subcutaneous 7 days post-lesion 4) Lesion and progesterone treatment 24 hours post-lesion. Nitrites levels were measured after 2 month post-damage. We observed a significant difference between left (L) and right (R) striatum on nitrites levels in group 2 (R=5±0,52;L=7±0.44). No changes in nitrites levels was observed in group 3 (R=4,3±0,27;L=4±0,23) and 4 (R=4,4±0,19;L=4,1±0,25) compared to group SHAM. We concluded that P treatment has differential effect on reactivity after 6-OHDA injury in a time dependent manner. Therefore we propose the neuroactive steroids like P could have potential neuroprotective effect regarding different neurotoxins.

31.

REDUCED EXPRESSION OF NeuroD1 IN THE NEONATAL HYPOXIC-ISCHEMIC RAT BRAIN IS RESTORED BY PRECONDITIONING

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Preconditioning (PC) is an endogenous mechanism that protects organisms against injury. It promotes the expression of genes involved in neurogenesis. We have induced PC in a neonatal rat brain model of hypoxic-ischemic lesion, and assessed the expression of NeuroD1, a member of the bHLH transcription factor family that is known to determine the fate of specific neuronal cells. For immunohistochemistry at P15, 4% PFA-fixed brain slices were obtained from lesioned (L) (P8 pups with permanent ligature of the right common carotid artery followed by 1-2 min of asphyxia); PC (same as L, but submitted to 3 consecutive sessions of autohypoxia in the previous day) and control (C) (sham operated, non-asphyxiated) animals. L rats showed reactive gliosis (GFAP (+) and Vim (+) astrocytes) while PC animals exhibited a milder reaction. In C and PC, NeuroD1 (+) signal was observed in the nuclei of the subgranular zone (SGZ) cells of the dentate gyrus (DG), external and internal granule cell layers of the cerebellum with migrating positive cells between both layers and a cluster of cells in the cerebral cortex (CC) close to the IV ventricle. L animals showed a decrease in migrating cells in the cerebellum, and labeled cells in the ipsilateral hippocampus and CC. These preliminary results suggest that neonatal hypoxia-ischemia affects NeuroD1 expression in the brain, and PC prevents these effects.

32.

PRODUCTION OF *Medicago sativa* Vr. DK166 IN SALINITY AND DROUGHT CONDITIONS

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The effects of salinity and water stress on plant growth has been the subject of intense research in recent years due to the constraints on productivity of crops over large areas in arid and semiarid areas. Alfalfa (*Medicago sativa*) is one of those crops, therefore, the aim of this study was to evaluate productivity under conditions of water and saline stress. Plant height of 10 cm that were watered with 100 ml of osmotically active solutions of PEG 6000 (-0.5, -1 and -1.5 MPa) and with salt solutions of 50, 100 and 200 mM NaCl and growth parameters evaluated.

The PF (fresh weight) of leaves, roots and whole plant did not decrease with saline and osmotic stress. The PS (dry weight) of shoot and total effect was increased by salt and water stress; however the root remained without magnification.

TL (total length), the LF (leaf length) remained constant under saline stress, whereas the LR (root length) compared to high salt concentrations significant decreased their growth (100 and 200 mM NaCl). With osmotic stress the LT, LF and LR were increased under the three osmotic pressure. This variety is very tolerant to drought stress, with increased air mass and high root growth and moderately tolerant to salinity.

33.

INVESTIGATION OF THE EFFECTIVENESS OF *Cetylpiridium chloride* IN PATIENTS WITH ESTOMATITIS FÚNGICAS

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The genus Candida is involved like the main etiologic agent in the majority of the stomatitis. For these stomatitis of fungous etiologic, We used of the *Cetylpiridium chloride* (CPC) with fungicide effect, like treatment. The objective of this work was to prove the fungicide action of the CPC on the Candida isolated of the patients with prosthetics dental stomatitis. Methods. The studied population was patient of both sexes between 40 and 60 years of age, carriers of complete prothesis with fungous stomatitis; To which one took samples of swabbed from the injuries candidiasis. The samples with Candida were typified and soon the Tests of Sensitivity of the CPC were made. 1° was seeded in plates of Petri with Agar Sabouraud, 0.5 ml of suspension of the leavening in study. Equivalent to a concentration determined by turbidimetry of $9x10^7$ leavenings by milliliter. 2° the sensitivity tests were realised with two methodologies: with smalls cup/worked in the agar and absorbed discs of paper in the antiseptic. It was used CPC in dilutions of 0.5% 0.25%. 3° was incubated to 37°C and the inhibition halos were read to 24 and 48 hours. Were read a total of 72 halos with inhibition among 5 to 30 mm. Conclusion In the studied conditions, the CPC (in both dilutions) owns fungicide action that is increased with time. The recommended concentration is of 0.25%, for being effective still to that concentration. The effectiveness of the CPC was similar against the different isolated species of Candida from the patients.

34.

TOXIN PRODUCTION BY *Clostridium argentinense* IN COCULTURE WITH *Listeria monocytogenes*. EFFECT OF TEMPERATURE

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Botulinal neurotoxin production by *Clostridium argentinense* (BoNT/G) is influenced by various environmental factors and the presence of other organisms that share the same ecological niche. In this work, we evaluate the BoNT/G production at different temperatures, in individual culture of *C. argentinense* and coculture with *Listeria monocytogenes*.
Microorganisms: *L. monocytogenes* CLIP 74902, *C. argentinense* strain G89. Culture medium (g/l): proteose peptone 30, yeast extract 5, trypticase 5, glucose 2, cysteine chlorhydrate 0.5, pH 7.6. Cocultures of both microorganisms were obtained in a microfermenter followed by incubation at 37ºC and 26ºC for 100 h, under static conditions. Individual cultures were performed as controls. The analytical techniques included: biomass by dry-weight (DW), BoNT/G (LD_{50}/ml) by intraperitoneal mouse injection. DW and BoNT/G obtained to 100 h by monoculture of *C. argentinense* and coculture with *L. mocytogenes* respectively were: at 26ºC: 0.42, 0.78 g/l and 330, 300 LD_{50}/ml; at 37ºC: 0.75, 1.11 g/l and 100, 10 LD_{50}/ml. These results demonstrated the important effect of temperature on the kinetic growth and the physiology of toxin production by *C. argentinense*, both individually and in coculture with *L. monocyto*genes, an effect that is very interesting in microbial ecology of food.

35.

CYTOLOGICAL ANALYSIS OF THE GLANDULAR EPITHELIUM OF PROSTATE OF VISCACHA (*Lagostomus maximus maximus*)

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Prostate is an accessory gland of the male reproductive system. The differentiation and growth of this gland is androgen dependent. The objective of this work is to study the different cells types in the epithelium of prostate. Samples of prostate were processed by means of conventional techniques for electron microscopy. One micrometer thick sections were cut with ultramicrotome and dyed with toluidine blue for to study to light microscopy. In the epithelium of prostate were identified four cells types: principal (P), basal (B), clear (Cl), and halo (H) cells. The P cells constituted the predominant epithelial population and located along glandular lumen. The nucleus of P cells is elongated, with lax chromatin and one or more evident nucleoli. Abundant small vacuoles and numerous dense bodies with irregular shape and size are observed in the cytoplasm. Cl cells extend from the basal membrane towards the lumen. They have oval basal nuclei, with lax chromatin. The cytoplasm is less electronic densite than the P cells. The basal cells are at the base of the epithelium, located between P cells, and show an oval nucleus with lax chromatin and a poorly developed cytoplasm. Cells located at the base of epithelium and filled with cytoplasmic dense bodies are classified as mature halo cells. These results are part of the first cytological study of glandular epithelium of prostate in viscacha, which will allow us to design future studies to better understand the reproductive biology of this wild rodent.

36.

INNERVATION OF AMPHIBIAN OVARY AND OVIDUCT. HISTOLOGICAL AND IMMUNOHISTOCHEMICAL STUDY

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Previous biochemical works performed in our laboratory indicate the participation of catecholamines in amphibian reproductive process. However, up to the present there are not data about the nervous regulation of the principal reproductive organs.
The aim of the present work is to determine the ovary and oviduct innervation in *Bufo arenarum* adult females. Samples of both organs were analyzed by means histological and immunohistochemical techniques.
The observations with Hematoxylin - Eosin reveal the presence of ganglion well defined, axons and nerve fibers at the ovarian cortex close to the hilium. Similar images were observed near the muscle layer of the pars convoluta, oviductal portion related to the secretion of the jelly envelopes components involved in the fertilization process, and in the uterus where oocytes are stored before deposition.
The immunohistochemical observations using the antibodies against peripherin and neurofilament 200 show positive reaction with the same localization detected in the histological analysis, supporting the above data.
These results suggest, for the first time, the probably participation of the nervous system in the direct control of ovary and oviduct functions in amphibian females.

37.

SCREENING FOR INHIBITORS IN SEMINAL VESICLE WHICH REGULATE SPERM SERINE PROTEASES

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The regulation of serin protease activity in spermatozoa was attributed to inhibitors found in seminal plasma (SP). SP is mainly composed by secretions of the seminal vesicles (SV). The aim of this work was to find and identify serine protease inhibitors in murine SV. We obtained protein extracts from SV of CF-1 mice. Small molecules were selected by filtration membranes (30-6kDa). Total activity in this fraction was quantified by the ability to reduce trypsin and endogenous protease activity from capacitated sperm, showing both 26% and 35% inhibitory activity, respectively. Proteins with inhibitory activity were detected by reverse zymography. By means of MS, SV-IV precursor was identified. Although the inhibitory activity of this protein has not been demonstrated, it evolved from a cluster of genes containing the WFDC motif, present in some serine proteases inhibitors. An enriched fraction was obtained by affinity chromatography of trypsin agarose. MS of the retained fraction identified SPINK3.
In conclusion, a low Mw protein fraction from SV containing putative serine protease inhibitors is able to inhibit both trypsin and endogenous sperm proteases. However, we look forward to elucidate which proteases would be their substrates.

38.

FELINE IMMUNODEFICIENCY VIRUS (FIV): SEROPREVALENCE IN SHELTERS OF DOMESTIC CATS *(Felix catus)* IN MENDOZA CITY

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The feline immunodeficiency virus (FIV) is a lentivirus of the Retroviridae family, distributed worldwide, with different variations according to geographical areas and habits of the cats. The primary modes of FIV transmission are bite wounds during fights or copulation, when the virus is inoculated with saliva or blood, free or cells associated. This is a no environment-resistent and no zoonotic virus.
Throught this study it was established the prevalence of FIV in 56 cats from 4 shelters in the city of Mendoza. The population consisted of feral or semi-wild cats rescued from the street, who live in shelters with a high population density and chances of wandering. The specimens were evaluated by clinical examination and blood samples were taken to be tested for FIV using immunochromatography. The prevalence was of 26.31%. The clinical presentation in most diseased individuals were skin diseases (66.6%), followed by oral conditions (40%). The final results showed a high percentage of carrier cats in the refuge, raising the question about FIV in house cats. They also showed the existence of VIF in the city of Mendoza, Argentina and a high prevalence in populations from the shelters.

39.

DESCRIPTION OF CALL OF *Prhygilus fruticeti* (EMBERIZIDAE) IN HIGH LAND OF CENTRAL ANDES IN SAN JUAN, ARGENTINA

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The communication is part of the social´s behavior of the bird and other animals. The analysis of these signals may contribute to the understanding of biodiversity, for conducting censuses and ecological management of species. The call of bird of high land in the Central Andes are scarcely known. In October and December of 2008 we record the song of *Phrygilus fruticeti* (Emberizidae) with the digital recorder (Olympus-VN2000). The sampling method was random walks. The calls were process whit Syrix bioacoustic´s software. We record the 71 calls, the variables measured for the description was dominant frequency, total length, number of phrases of the call.
The call is composed for the 5 phrases. The initial phrase poses two syllables. The mean of total length was 1.47 ± 0.34 second and the dominant frequency was 2905 ± 899.7 Hz. This work constitutes a contribution to knowledge of structure of call and bird´s communication of land high of Central Andes.

40.

EFFECT OF THE MELATONIN ADMINISTRATION ON THE EPIDYDIMAL CORPUS OF VISCACHA (*Lagostomus maximus maximus*)

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The pineal hormone melatonin plays an important role in the regulation on annual rhythms that are controlled by the photoperiod. Viscacha is a seasonal rodent living in the Southern Hemisphere. The adult males exhibit an annual reproductive cycle with periods of maximum gonadal activity (summer) and gonadal regression (winter). The objective of this work was to evaluate effects of the melatonin administration on the epididymal corpus of viscacha. Animals captured during the summer were divided in two groups: 1) experimental group (n=4), received two daily subcutaneous injections of melatonin (Sigma, 100µg/kg body weight in oil solution) at 09:00 h and 17:00 h for 9 weeks, and 2) control group (n=4): received only the diluent. Epididymides were removed and studied by optic microscopy. Measurements of structural parameters (luminal diameter, epithelial height, and thickness of the lamina propria) were performed. Principal (P), basal (B), clear (Cl), and halo (H) cells of epididymal epithelium were quantified. No significant variations were observed in the measurement of structural parameters of both groups. Experimental group showed a significant decrease in P cells and a marked increase in Cl cells, in relation to control group. In conclusion, these results demonstrate that administration of melatonin induces changes in the relative cellular distribution of the P and Cl cells of epididymal epithelium. Similar changes in epididymal epithelium were found in wild viscacha during the period of gonadal regression.

41.

Leptodactylus chaquensis OOGENESIS: HISTOLOGICAL ANALYSIS

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For the first time we report the histological analysis of the oogenesis in *Leptodactylus chaquensis*. Ovaries from animals captured in the reproductive period were processes with routine histological techniques for light microscopy. The observations indicate the presence of: a- few small oogonia with basophilic cytoplasm and a large euchromatic germinal vesicle (GV); b- previtellogenic oocytes of varied sizes. The small ones present a basophilic cytoplasm, a nucleus with regular envelope and visible leptotene, zygotene and pachytene features and nucleoli located at the nuclear surface. The largest previtellogenic oocytes show an less basophilic and homogenous cytoplasm with nucleus evinced an infolding envelope; c- early vitellogenic oocytes in which appear deposits of cortical granules and yolk platelets, GV and nucleoli remains the same characteristics as the before ones; d- late vitellogenic oocytes with yolk platelets filling all cytoplasm except at the perinuclear region and showing dark pigments granules at the equatorial zone. The GV located at the animal pole evince an irregular envelope and central small nucleoli; e- auxocitotic oocytes, showing a marked difference beetwen animal and vegetal hemisphere. A clear polarization of the GV envelope is apparent becoming more highly convoluted at the vegetal side than the animal ones. The largest previtellogenic, vitellogenic and auxocytotic oocytes show diplotene features in the GV. All the oocytes observed in this period transite the prophase of the first meiotic division.

42.

EFFECT OF _Origanum vulgare_ (OREGANO) IN THE GENE EXPRESSION OF _Helicobacter pylori_ BIOFILM

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Bacterial biofilms are common cause of persistent infections because cells within biofilm are more resistant to antibiotics than planktonic cells. In previous studies we observed the inhibition effects of oregano extracts on both *H. pylori* biofilm formation and already established biofilms. The aim of this study was to analyze the effect of oregano extract on the gene expression of *H. pylori* biofilm cells. Reference strain NCTC11638 and HP 796 were grown on glass surfaces in Mueller-Hinton Broth supplemented with 5% fetal calf serum. The cultures were incubated under microaerophylic conditions for 48 h at 37ºC until formation of biofilm. Then the biofilm was transferred into a new plate with medium added of 2.5 mg/ml of oregano extract and was incubated for 26h. The *lux*S gene, encoding for the autoinducer type 2, which is important for cell-to-cell signaling and *fla*A gene were analyzed at 90 min, 6h and 26h. For RNA extraction, the biofilm cells were treated with Trizol reagent. cDNA was performed with random hexamer and 200 U Moloney murine leukaemia virus reverse transcriptase. The results obtained showed an inhibition in the expression of *lux*S and *fla*A genes in *H. pylori* biofilm cells at 6 and 26h for both strains. The study suggests that oregano extract can be considered a possible alternative treatment due to its inhibition effect on the gene expression responsible for the formation of *H. pylori* biofilm, considered a pathogenicity trait during chronic infections.

43.

INVOLVEMENT OF THE GNRH IN THE P_4 RELEASE IN RAT OVARY

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The ovarian nervous plexus (ONP) is originated in fibres posganglionic of the superior mesenteric ganglion SMG. The objective of this work was to investigate at the dioestrous II stage and in an *ex-vivo* sistem, if the addition of Acetilcholine (Ach) and noradrenaline (NA) in SMG, modify through ONP the GnRH and progesterone (P_4) release in ovary compartment and the gene expression of the P_4 síntesis (3β- HSD) and degradation (20α- HSD) enzymes. Previously was standardized the integrated system SMG-ONP-Ovary and incubated with/without Ach and NA (both in concentration 10^{-6}M) in the ganglion compartment at 37ºC in metabolic bath .Student´s t-test was applied with a significance of $p<0.05$. The results show that Ach stimulated GnRH release in the both time incubation, P_4 at 120 min ($p<0.001$) and NA only increased GnRH at 60 min ($p<0.001$) and diminished at 120 min. ($p<0.001$) and P_4 diminished in both time ($p<0.001$).On the other hand Ach increased 3β-HSD and diminished 20 α-HSD, and NA diminished 3β-HSD ($p<0.001$)increased 20α-HSD gene expression. The results show the possible influence the GnRH presence on the P_4 release and to evidenciate the antigonadotrophic effect in the ovarian functions.

44.

INDUCTION BY SLIME-POSITIVE AND MULTI-RESISTANT _Staphyloccocus aureus_ OF NITRIC OXIDE, TNF-α AND ARGINASE IN INNATE IMMUNE CELLS

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The multi-resistant and methicillin-resistant *Staphylococcus aureus* strains have complicated the therapeutic antibiotic for this pathogen. In addition, biofilm formation is considered to be an important virulence factor. In the present work, we analyzed the capacity of slime-positive or slime-negative and multi-resistant and methicillin-resistant *S. aureus* strains to stimulate the induction of nitric oxide (NO) and TNF-α in macrophages and epithelial cells, and arginase induction, which has anti-inflammatory properties, in epithelial cells (*S. aureus*, can persist in epithelia). Sixteen strains of *S. aureus* were isolated from patients. Bacteria were incubated with RAW 264.7 or A549 cells. The productions of NO, TNF-α and arginase were detected by the Griess's technique, capture ELISA and measuring urea levels respectively. NO levels produced with slime-positive or slime-negative *S. aureus* strains did not demonstrate differences. Multi-resistant or methicillin-resistant *S. aureus* strains were poor inductors of NO, TNF-α and arginase ($p\leq0.05$). Our results show that the production of slime did not correlate with a higher capability to activate immune cells. Nevertheless the reduced capacity of activation by resistant strains have may be related to their high virulence, but this low capacity in epithelial cells, was not related to a deviation bias the arginase metabolic way.

45.

CAPACITIES OF *Staphyloccocus epidermidis* AND LIVE AND DEAD *STAPHYLOCCOCUS AUREUS* ISOLATED FROM PATIENTS, TO ACTIVATE INNATE IMMUNE CELLS

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Staphyloccocus epidermidis is the main pathogen in foreign body infections, and it not induce a significant inflammatory response, whereas, *Staphyloccocus aureus* cause infections with a prominent inflammatory response. In the present work, we analyzed the induction of nitric oxide (NO), an inflammatory mediator, and arginase, which has anti-inflammatory properties, by both species in macrophages or epithelial cells. We also analyzed, the production of NO by macrophages infected with live and dead *S. aureus*. Sixteen strains of *S. aureus* and 11 of *S. epidermidis* isolated from blood cultures and catheters of patients, were studied. Bacteria were incubated with RAW 264.7 or A549 cells and the NO production and arginase activity were evaluated by the Griess's technique or measuring urea levels respectively. Bacteria were killed by autoclave conditions. Our results showed that *S. aureus* had high capacity to induce NO in RAW 264.7 ($p \leq 0.05$) and A549 cells. We observed that both species were poor inductors of arginase activity. In addition, the low capacity of *S. epidermidis* to induce NO, was not related to a deviation bias the arginase metabolic way. Our results might explain the different clinical presentation observed in patients affected by these microorganisms. In addition, exposure to live *S. aureus* resulted in higher levels of nitrite production than the dead *S. aureus* cells.

46.

CROSS-REACTION BETWEEN PROTEINS OF *Larrea divaricata* Cav. AND PROTEINS OF SLIME-NEGATIVE OR SLIME-POSITIVE *Staphyloccocus epidermidis*

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Larrea divaricata (jarilla) is an abundant plant of the Northwest of Argentine with a documented folk use related to antimicrobial and antitumoral activities. *Staphyloccocus epidermidis* is important as the main pathogen in foreign body infections, and it has emerged as a leading cause of nosocomial infections. *S. epidermidis* is considered as a pathogen for its ability to colonize specially when medical devices implanted are used as well as its ability to form biofilms. The aim of this study was to characterize the immunogenicity of proteins from a partially purified crude aqueous extract (JPCE) of jarilla. We evaluated the cross reaction between JPCE and cellular proteins (CP) obtained by sonication of *S. epidermidis* strains. Slime-negative (ATCC 12228) and slime-positive (clinical) strains were used. Mice sera of anti-JPCE were used. Protein profiles of JPCE and CP were analyzed by SDS-PAGE. Levels of IgG anti-JPCE against CP were determined by ELISA. JPCE showed 18 bands (from 20 to 176 kDa). We find a percentage of similarity between the protein profiles of JPCE and CP (35% approximately). CP showed cross reaction with the anti-JPCE serum. The mean titers of anti-JPCE against CP of ATCC 12228 or clinical *S. epidermidis* strains were >1/100 and >1/200 respectively. Although these results it is necessary to continue searching to identify and purify the antigens responsible of this cross reaction with jarilla.

47.

IMMUNOGENIC CAPACITY IN MOUSE OF *Staphyloccocus epidermidis*'s CELLULAR PROTEINS OBTAINED BY SONICATION

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The incidence of infection caused by coagulase-negative staphylococci, particularly *Staphylococcus epidermidis*, has risen significantly over the past two decades. This increase is due of the use of medical devices implanted such as central venous catheters, continuous ambulatory peritoneal dialysis catheters, prosthetic hip joints, and cardiac and vascular prostheses. *S. epidermidis* has come as a prominent pathogen due its ability to colonize the above mentioned medical devices. *S. epidermidis* form biofilms, a significant virulence factor. The aim of this work was to characterize the immunogenicity of proteins from *S. epidermidis* obtained by sonication. The slime-negative (ATCC 12228) or slime-positive (clinical) *S. epidermidis* strains were used. Mice of Rockland strain weighing 18-20 g were subcutaneously immunised with the proteins. Specific IgG response was evaluated by ELISA. Results showed significant differences compared with negative control and among slime-negative or slime-positive *S. epidermidis* ($p \leq 0,05$ LSD Fisher Alfa Test). The IgG mean title anti-sonicated cells against ATCC 12228 was 1/1600 and 1/3200 against clinical strain. These results suggest that cellular proteins obtained by sonication may be used as immune stimulants in patients at high risk to suffer infections by *S. epidermidis* strains. Previously it is necessary to check the protective power of these antibodies elicited from cellular proteins of obtained by sonication.

48.

HIGH TEMPERATURE INFLUENCE ANTHOCYANINS LEVELS IN GRAPEVINE

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The predicted increase of temperature by effect of climatic change (1,5°C to 4,5°C), will affect some berry components of grapevine. Anthocyanins (AN) and flavonols concentration are responsible of wine color. The level of AN is affected by light intensity, temperature (T), sugars, growth regulators and cultural practices in the vineyard. Abscisic acid (ABA) increases the synthesis of AN. The object of this work was to evaluate the effect of different T in berries, *in vitro,* of two cultivars combined with ABA treatments. Grape clusters were sampled along the ripening process. Berries of similar size were placed in sodium hypochlorite (15%) during 15 minutes and then separated into control (water) and ABA treatment (1000 ppm) and immediately they were incubated in cameras at different T (25, 33 and 40ºC). In Cabernet Sauvignon, 25 and 33ºC did not affect AN concentration but 40°C produced a 15-30 % decrease in AN. ABA treatment increased AN respect the control at 25 and 33ºC, mainly due to glucosylated forms But ABA + 40ºC showed a 44-60% decrease in all these compounds. Response of Malbec to the highest temperature (40ºC), at the end of ripening, was different; AT produced only slight decrease of AN concentration. AT + ABA at 21 and 33ºC increased AN. But AT + ABA at 40ºC decreased glucosylated and cumarylated forms of ABA.

49.

EFFECTS OF ABA AND WATER STRESS ON ACCUMULATION OF POLYPHENOLS ON GRAPE SKIN AND WINE FOR *Vitis vinifera* L.

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Wines are a rich source of polyphenols like anthocyanins, and these compounds has potential benefits for human health. The level of anthocyanins in the berry skins can be increased by water stress (**S**) and by exogenous applications of abscisic acid (**ABA**) during berry ripening. The objective was to determine the effects of exogenous **ABA** supply and **S** treatments on anthocyanin concentration in *Vitis vinifera L.* cv. Cabernet-Sauvignon. The study was carried out in Mendoza Province, Argentina. Two irrigation treatments: irrigated (**W**) and water stress (**S**), were applied:. Plants of W and S were separated into ABA treated (**A)** and control, without ABA (**C**). Finally, four treatments were performed: WC, WA, SC and SA. Exogenous ABA supply produced an enhancement on total antocyanins content in grapes without affecting parameters such as yield, foliar area, soluble solids and pH. The same increments were obtained in wines where S enhanced total anthocyanin concentration (10% vs WC). However, treatments did not affect different types of anthocyanin in the same way. S treatment mainly increased malvidin 3-O glucoside and ABA treatments enhanced all species in the same magnitude. Irrigated plants subjected to ABA treatments gave higher levels of total anthocyanin contents than stressed plants.

50.

STANDARDIZATION BY HPLC OF EXTRACTS FROM FIVE SPECIES OF *Achyrocline* and *Gnaphalium* ("MARCELAS") FROM FOLK MEDICINE

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Five South American medicinal species (*Achyrocline satureioides*, *A. venosa*, *A. alata*, *Gnaphalium cheiranthifolium* and *G. gaudichaudianum*) known as "marcelas" ("macelas" in Portuguese) are widely used both in the treatment of liver and digestive diseases, as well as raw material for the elaboration of beverages called "amargos". In order to identify and quantify the concentration of their "bioactive markers", the methanolic and aqueous extracts were standardized by HPLC chromatography. The methanolic and freeze-dried aqueous extracts were obtained using the Soxhlet technique and preparing infusions, respectively. Extracts were analyzed in a Gilson 170 chromatograph, DAD detector to 290 and 362 nm, column Restek C18, 5 µm particles, 4.6 x 250 mm, used as mobile phase phosphoric acid:methanol 0.6 ml/min. Chromatographic data were relevant to the characterization of each study drug and therefore useful in quality control of crude drug, raw materials, and extracts for pharmaceutical industry, dosage and administration of these widely used medicinal plants.

51.

ASTERACEAE, A LARGE FAMILY OF ECONOMIC AND ENVIRONMENTAL IMPORTANCE PLANTS

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The Asteraceae plant family includes a large amount of useful (medical, agricultural, industrial, etc.) species that have been domesticated and cultivated from ancient times; others dominate large tracts of landscape. Their ethnobotanic use has contributed with the progress of a lot of peoples. We offers here a summary of useful and harmful Asteraceae, by mean of the study of their ethnobotanical uses, phytochemical and pharmacological properties, with an update of its taxonomic and conservational status. Today, near 40 genera are relevant in human and/or animal feeding (*Lactuca*, *Cichorium*, *Cynara*), sources of fixed oils (*Helianthus*, *Carthamus*), essential oils (*Tagetes*), fodder (*Helianthus*), nectar and pollen (*Solidago*, *Aster*), sweeteners (*Stevia*), spices (*Carthamus, Helichrysum*), dyes (*Solidago, Flaveria*), insecticides (*Tanacetum*), rubber (*Parthenium, Taraxacum*) and wood (*Eremanthus, Montanoa*); many are important weeds (*Carduus, Centaurea, Cirsium*) and/or toxic for man and livestock (*Arnica, Baccharis, Helenium*), allergens (*Ambrosia, Artemisia*) and valuable ornamentals (*Senecio, Gerbera, Gaillardia, Helichrysum, Mutisia, Rudbeckia, Tagetes, Zinnia*). Many therapeutic metabolites are synthesized by Asteraceae (*Achillea*, *Achyrocline*, *Baccharis*, *Chamaemelum*, *Echinacea*, *Gnaphalium*, *Inula*, *Matricaria*, *Tanacetum*), while others are insectifuge (*Pulicaria*, *Schkuhria*).

52.

PHYTOESTROGENIC EFFECT OF THE METHANOLIC EXTRACT OF *Prosopis torquata* ON THE REPRODUCTIVE SYSTEM OF WISTAR MALE RATS

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The phytoestrogens of the fruits of *Prosopis torquata* produces morphological changes in the reproductive organs of mammals. The present study shows the effects caused by the methanolic extract (ExM) of *P. torquata* on the morphology and physiology of testicles and epididimus of juvenile male Wistar rats. We measured quantity, motility and morphology of sperms in the epididymis. Pups at day 3 after birth, were distributed randomly among four groups (n=6). Three of them, fed with a phytoestrogen free diet, were injected with ExM, E (Estradiol) and vehicle (Clf) respectively and the other fed with a commercial diet (Cf) was injected with vehicle. The animals were sacrificed at day 55. The germinative epithelium of testicles in ExM in comparison with Clf, was organized with abundant round shaped espermatids, few elongated cells and hypertrophied Leydig cells. In Cf there were elongated espermatids and in E there was atrophy. Epididymis in ExM showed a disorganized epithelium and the lumen was reduced. Cf presented an epithelium with Clear cells and abundant sperms in the lumen. In E, Halo cells, a reduced lumen and absence of sperms were observed. Clf, Cf and ExM showed few and slow sperms but with a normal morphology. These results demonstrated differences in maturation of sexual organs.

53.

INTERMITTENT ADENOSINE ADMINISTERED AT REPERFUSION DID NOT PROTECT AGAINST VENTRICULAR ARRHYTHMIAS

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Postconditioning (PC) maneuvers as 3 cycles of 30-s reperfusion/ischemia or short-term adenosine treatment performed immediately after the 10 min ischemia reduced reperfusion arrhythmias (RA) in rat hearts. Here we tested whether intermittent adenosine (IADO) may trigger PC-like cardioprotection. Isolated rat hearts underwent 10 min regional ischemia and 15 min reperfusion. Three cycles of 30-s reperfusion/adenosine 10 µM (IADO10) and 100 µM (IADO100) (both n=10) where compared with control (n=13). We analyzed the incidence and severity of RA and its relationship with changes on ECG and action potentials recorded simultaneously. Control group hearts developed RA in 11/13, IADO 10 µM in 8/10 and IADO 100 µM in 10/10 ($p>0.05$ by χ^2). Sinus rhythm was restored in 2, 2 and 4 hearts in control, IADO10 and IADO100 respectively. IADO100 reduced action potential duration from 53.7 ± 5.2 ms to 36.6 ± 8.4 ms ($p<0.05$ by ANOVAI) at the end of the experimental maneuver. Both treatments reduced heart rate from 248.3 ± 14 beat/min in control to 196.1 ± 13.7 and 67 ± 20.8 in IADO10 and IADO100 respectively ($p<0.05$ by ANOVAI).
Both IADO doses did not reduced incidence or duration of reperfusion arrhythmias, although they act in a similar electrophysiological way as others PC maneuvers.

54.

VITAMIN A DEFICIENCY INDUCES OXIDATIVE STRESS IN RENAL CORTEX OF RAT

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Vitamin A deficiency is an important public health problem in many developing nations. We have previously found lipoperoxidation, a decreased paraoxonase-1 activity and an increased nitrite levels in serum of vitamin A-deficient rats. The present *in vivo* study was undertaken to investigate the prooxidant effect of vitamin A deprivation on renal cortex of rats. Wistar female rats at 21 d age were weaned onto either a vit A deficient diet (-A) or the same diet with 8 mg retinol/kg diet (control, +A). They were fed for 3 months. Also, a –A group was refeed by 15 days with control diet (-A refeed) before sacrifice. Serum and liver Vit A was measured by HPLC. Lipoperoxidation was determined by quantifying the tiobarbituric acid –reactive substances (TBARS). Protein oxidation was measured by determining the concentration of carbonyl groups. Nonprotein thiol groups was measured using 5,5′-Dithio-bis(2-nitrobenzoic acid. The –A group showed an increase of TBARS ($p<0.01$) and carbonyl groups ($p<0.05$) levels in renal cortex, compared with +A rats. In addition, the total nonprotein thiols decreased ($p<0.01$) in the renal cortex of –A rats suggesting a lower antioxidant defenses. The oxidative stress induced by vitamin A deficiency in kidney was reversed after vitamin A refeeding.

55.

PLASMA AND MILK PHARMACOKINETICS OF DANOFLOXACIN 18% IN LACTATING GOATS

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Danofloxacin (DFX), is a fluoroquinolone with broad antibacterial spectrum against Gram positive (aerobia and anaerobia) and Gram negative bacteria and mycoplasma. The aim of the present study was to determine blood and milk pharmacokinetic profiles of DFX following subcutaneous single dose, 6 mg/kg to healthy and lactating goats (n=6). Plasma and milk concentrations of DFX were determined by HPLC with fluorescence detector. A non-compartmental pharmacokinetic data analysis program PKSolution was used. Principal pharmacokinetic parameters for subcutaneous route were: $t_{1/2}\beta$: 5.9 ± 1.5 h; Total systemic clearance: 12.1 ± 3.0 mL.min/kg; $Vd_{area:}$ 6.2 ± 2.4 L/kg; Area under curve ($AUC_{0\text{-}24\ h}$): 8.7 ± 2.2 µg.mL/h. The value of Vd > 1 L/kg, indicates good capacity of tisular diffusion, like to other fluoroquinolones and that could allow the treatment of bacterial pathologies with different localization. The values of area under curve (AUC) obtained with this dosage, not guarantee the achievement of clinical success, since the value of the index of the predictor of clinical effectiveness AUC/MIC_{90} is smaller than the conventional value of 125. So the dose should be corrected. Considering that DFX reach high levels in mammary gland, the maximal residues levels in bovine milk (MRL) established in 0.03 µg/ml and kinetic values, the withdrawal milk time was 164.5 h with a confidence level of 99%.

56.

PLASMATIC AND TISSUE DISPOSITION OF LEVOFLOXACIN IN BROILERS CHICKENS

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Kinetic parameters were determined for levofloxacin (LFX) for EV and oral administration in broilers chickens, formed randomly in batches of 5 individuals who received a single dose of 5 mg/kg oral LFX after fasting for 12 h before and within 3 h following administration. Blood samples were obtained by exsanguination at various times until 24 h post application and muscle, kidney, liver and lung up to 120 h post application. The mean concentration of LFX in terms of the respective times of sacrifice were analyzed by a non-compartment pharmacokinetic model using the software PK Solutions, indicating that LFX undergoes full oral absorption reaching a Cmax of 1.1 µg/ml, exhibited moderate retention in the body. The results are consistent with the plasma kinetic profile shown by LFX in humans and domestic animals. LFX wide circulation to tissues according to the volume of distribution is obtained, the ratios area under curve tissue/plasma of 1.5, 1.5, 1.7 and 4.1 in kidney, muscle, lung and liver, respectively. Also in the tissues studied, the Cmax tissue far exceeds the plasma Cmax. The results obtained suggest this antibiotic to the therapeutic dose used as a resource. However,it is necessary to observe a withdrawal period of 4, 6.2 and 5.7 days, estimated liver, muscle and kidney, respectively, obtained from the kinetic parameters and considering the MRLs established for sarafloxacin in chickens, because this has not yet been established for LFX.

57.

PLASMA PHARMACOKINETIC OF DANOFLOXACIN 18% IN CALVES

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Danofloxacin (DFX) is a fluoroquinolone with broad antibacterial spectrum against Gram positive and negative bacterias and mycoplasma. The aim of the present study was to determine the plasma pharmacokinetics of DFX 18%, following intravenous and intramuscular single dose, 6 mg/kg to healthy calves (n=6) in a crossover design. Plasma concentrations were determined by HPLC. A non-compartmental pharmacokinetic data analysis program was used. Pharmacokinetic parameters for intravenous route were: $t_{1/2}\beta$: 9.4 ± 10.5 h; Mean residence time: 12.8 ± 2.3 h; Total clearance: 3.0 ± 0.4 mL.min/kg; Vdarea: 2.5 ± 0.2 L/kg; Area under curve: 32.7 ± 4.0 µg.mL/h. Intramuscular DFX provides fast absorption and distribution, offers a Cmax: 1.2 ± 0.2 µg/ml at 2.7 h and high bioavailability (93 ± 15%). DFX exhibits excellent tissue distribution according to Vd obtained: 2.5 ± 0.2 (EV) and 2.7 ± 1.6 L/kg (IM), high permanence in the organism $t_{1/2}\beta$ 9.4 ± 1.5 (EV) and 14.6 ± 2.5h (IM) and MRT of 12.8 ± 2.3 (EV) and 19.4 ± 4.8 h (IM). With the dose and used concentration, the pharmacokinetic characteristics of DFX in calves, are similar to those observed in other species. The relations Cmax and AUC respect *Pasteurella haemolytica* minimum concentration inhibitory, generated by intramuscular application were 10 and 246 respectively, are clinical and microbiological predictors of effectiveness in contrast to the results obtained with DFX 2.5%.

58.

THE NEUROSTEROID ALLOPREGNANOLONE DECREASES RECEPTIVITY AND ANXIETY BEHAVIOR IN FEMALE RATS

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Gonadal and adrenal steroids heavily impact sexual function in the brain. The nervous system synthesizes steroids de novo from cholesterol, called neurosteroids. Allopregnanolone (Allo) levels change also with behavioral and/or environmental stimuli and may have a role in other reproductively-relevant behaviors, such as exploration and anxiety (socio-sexual behaviours).To investigate these behavioral changes, ovariectomized (OVX) rats (8-10 per group) were primed with estrogen (E) and progesterone (P) and infused 48 h later with vehicle (saline) or Allo (6 µM) in the lateral ventricle. Rats were assessed in a battery of exploratory (open field), anxiety (elevated plus maze), and sexual (paced mating) tasks. Results were expressed as mean ± SEM and statistically analyzed by a Student *t*-test; $p<0.05$ was considered significant. Allo administration significantly decreased lordosis quotients compared to vehicle administration (10±2.6% vs. 78.5±6.3%, $p<0.001$), but did not modify exploratory behavior. EP-primed females infused with Allo showed less anxiety (elevated time spent on the open arms) than vehicle group ((83.2±22.9 secs vs. 6.8±3.2 secs, $p<0,005$). The results support the hypothesis that Allo is a potent modulator of anxiety and reproductive behaviors. The contemporaneous changes in anxiolytic and sexual behaviors in response of Allo administration might be functionally linked to reproductive processes in female rats.

59.

MOLECULAR AND BIOCHEMICAL STUDY OF THE ANTIOXIDANT DEFENSE IN OXIDATIVE STRESS BY CADMIUM IN *Glycine max* LEAVES

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Antioxidant defense systems allow plants to develop a tolerance to contamination with cadmium (Cd). The objectives of this study were:-analyze the activity of glutathione reductase (GR), - the levels of GSH and -the gene expression of enzymes involved in the synthesis of GSH: γ-glutamilcysteine synthetase (γECS), glutathione synthetase (GSHS) and GR. Soybean seeds were germinated and developed under controlled conditions. On the tenth day of development were subjected to cadmium poisoning (40 µM) for 4, 6, 24 h. The expressions of γECS, GSHS, GR were determined by RT-PCR. We observed that the expression of γECS, GSHS as well as the GR have the same behavior, i.e. the treated leaves increased at 4 h and decreased from 6 h ($p < 0.001$). GR activity increased after 24 h. GSH decreased at 4 h, and increased significantly after 6 h ($p < 0..05$) Cd treatment revealed in the leaf a significant decrease in GSH content, this could be interpreted as a possible use of GSH in the early hours as an antioxidant molecule, which correlates with an elevated content of the oxidized form (GSSG) (previous own data). This decrease is reversed from 6 h to increase significantly at 24 h of treatment. The activity of GR in leaves increased significantly from 72 h. This variation would justify that the contributions to the pool of GSH by GR would be subsequent to possible contributions from the synthesis of its precursors.

60.

A QUICK AND EASY METHOD FOR DNA EXTRACTION FROM APPLES INFECTED WITH *Botrytis cinerea*

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Botrytis cinerea is a phytopathogenic fungus responsible for grey mould in apple. Several methods of fungi genomic DNA extractions have been used, but no previous work has considered microbial DNA extractions from apples. *B. cinerea* has been molecularly characterized in transposa or vacuma distinguished by the presence of transposable elements. The objective of this work was obtaining an extraction method of DNA by *B. cinerea* from infected apple. Fruit were wounded with a punch and inoculated with 20 ul of a conidial suspension. Apples were processed in a mortar in liquid nitrogen to homogenize. DNA quality was determined through the absorbance at 260/280 nm. DNA concentration was evaluated in agarose gel 1% by comparison with standard molecular weight marker. DNA quality was validated through its consistent amplification using PCR technique, with primers of ribosomal regions 18S (IGS spacer) and the transposable elements Flipper and Boty. Products were analyzed on agarose gel 2% by comparison with standard molecular weight marker. PCR amplification indicated presence of transposable elements Flipper, Boty and ribosomal IGS spacer. Fungus genomic DNA was molecularly characterized in subpopulation transposa. This methodology for DNA extraction is fast, simple and renders genomic DNA of good quality, free of proteins and secondary compounds. Then, we obtained an extraction method of DNA by *B. cinerea* directly from homogenized infected apple.

61.

IDENTIFICATION OF THE MDR1/P- GLYCOPROTEIN MRNA IN A PASSERINE BIRD, *Taenopygia guttata*

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Animals are exposed to natural and artificial xenotoxins contained in most foods. A first line of protection for animals ingesting those lipophilic toxins is through the permeability glycoprotein (P-gp) of the intestinal mucosa. This is a transmembrane protein that protects cells by actively pumping lipohilic toxins out from enterocytes. The mRNA is an important molecular tool to study gene expression and regulation. No sequences of MDR1 genes available for passerine birds have been reported yet. Thus, the main objective was to develop specific primers for MDR1/P-gp of zebra finches. We designed primers pairs using the predicted sequences of P-gp from chicken. The small intestine was excised, homogenized and the RNA extracted. Then reverse transcription reaction and a PCR with the designed primers was performed. Amplified fragments were identified using gel electrophoresis assay. Fragments' lengths were 134bp and 88bp. PCR products were cloned with a TOPO TA cloning system and products sequenced. Fragments matched portions of the sequenced genoma. Sequences were uploaded to the GenBank.

62.

COMPARISON OF THE NUTRITIONAL VALUE OF PROTEIN CONCENTRATES FROM VEGETAL SOURCE

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The objective of this work was to evaluate the quality of the protein extracted from the vegetal material (*Atriplex lampa)*, using membranes technology through a (Millipore® PTGC-type, USA) system, having a molecular weight cut offs (MWCO) of 10 kD. An ultrafiltration followed by a discontinuous diafiltration to obtain a protein concentrate (CPU) was carried out. This concentrate was subsequently compared to the acid thermocoagulation process through the modification of the Ostrowski-Meissner method (CPT), suitable for the forage.

The results indicate that the CTP protein is limited in its Biological Value by the sulphated amino acids showing a chemical score (CS) of 79.54 for methionine + cysteine. The lysine content was also remarkable, showing an availability of 51%. Regarding the concentrate (CPU), the recorded CS was 82.85. The high content of the rest of the essential amino acids is outstanding, particularly the lysine, with an availability of 58%.

The percentage chemical composition of the concentrate obtained by ultrafiltration (CPU) has a higher protein content (85% d.m.) and better ashes reduction (2.50% d.m.) than the concentrate (CPT). As regards to the anti-nutricional factors in the CPU, it may be noticed that they decreased. In general, the CPU is superior to the CPT in terms of lysine, threonine and tryptophan. In virtue of the aforesaid, it is suggested that this concentrate is used as ingredient of supplements deficient in lysine and threonine; such as the flours of soja, cotton seed and flax seed.

63.

RECOVERY OF BOVINE SEROALBUMIN FROM PLASMA BY AN AFFINITY ADSORBENT

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The objective of this work is to study the performance of a affinity macroligand and to contribute to the design of a separative process to obtain BSA from bovine plasma. Affinity microparticles from yeast cells modified by chemicals and with the Cibacron blue 3GA ligand molecule covalently coupled to the wall cells were prepared. The amount of ligand immobilized to the wall cell was determined by spectrophotometric method after acid hydrolysis and high temperature of adsorbent material. The morphology of macroligand was observed by Scanning Electron Microscopy (SEM). The adsorption experiments from plasma on this adsorbent were carried out at 25ºC, in batch system. The purity of BSA was assayed by gel electrophoresis (SDS-PAGE). The maximum attachment of Cibacron Blue 3GA on the wall cell was 224 μmol g^{-1}. SEM micrographs showed that after chemical treatment the structure of the cell remains intact but inactivated. The lyophilized macroligand have a uniform size of approximately 4-5 μm of diameter. Preliminary results of BSA adsorption from bovine plasma indicate by electrophoretic analysis, that BSA is the main protein adsorbed from plasma, however, adsorption of other proteins on the adsorbent were observed. We are working to improve the purification process to obtain BSA of high purity.

64.

SECRETIONS OF MACROPHAGES OF SPLEEN MODIFY THE HORMONE RESPONSE OF CELL POPULATIONS FROM RAT POLYCYSTIC OVARY

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We have showed that progesterone (P) release from rat polycystic ovary (PCO) is modified by secretions of splenocytes. Now, we investigate the effect of spleen macrophage (Φ) secretions on the release of P and androstenedione (A) from interstitial cells (IC), and P and estradiol (E) from granulosa cells (GC) of PCO ovaries. The PCO was induced in adult rats by a single i.m. injection of estradiol valerate, 2 mg/rat. After 2 months, the rats were sacrified. MΦ ($1x10^6$ cells) from PCO and non-PCO (control) rats were cultured for 24 h in RPMI medium added with 10% of FBS. Nitrites (NO) (Griess reaction) in the MΦ culture medium, and the mRNA levels (RT-PCR) of nerve growth factor (NGF) and NFkB transcription factor in MΦ, were determined. After 24 h of culture, the ovarian cells were stimulated with MΦ secretions or medium alone (basal) for 24 h. Hormone concentrations were measured by RIA. In PCO MΦ, the NO release and NGF mRNA expression were higher than control. The NFkB mRNA levels did not change. Both, PCO and control MΦ secretions induced a similar increase of P and E release from GC, and P from IC ($p< 0.001$), compared with basal. The release of A from IC induced by PCO MΦ secretions was higher than that induced by control MΦ. Possibly, NGF and NO can modify the activity and cytokine production from PCO MΦ.

65.

PITUITARY OF NON-PREGNANT AND PREGNANT FEMALE VISCACHAS (*Lagostomus maximus maximus*)

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In female viscacha the pregnancy lasts approximately 154 days, and three stages were described: early, mid and late pregnancy. The aim of this work was to study the LH and FSH gonadotrophs, lactotrophs, somatotrophs, corticotrophs, and thyrotrophs of pituitary PD (part distalis) of non-pregnant and pregnant viscachas by immunohistochemistry and morphometric analysis. The morphometric parameters: immunopositive percentage area, cell percentage in PD, number of cells per reference area, major cellular and nuclear diameters have been consider as a measure of the cellular activity. In early pregnancy was observed an increase FSH gonadotrophs activity and a decrease of somatotroph activity in relation to non-pregnant females, suggesting that might exist a differential regulation between the gonadotrophs. In mid pregnancy there was an increase of gonadotrophs, somatotrophs, and thyrotrophs activities, probably according to the increase of ovarian steroidogenesis and to support the metabolic requirements. In late pregnancy the activity of both gonadotrophs, somatotrophs and corticotrophs were decreased, whereas the activity of thyrotrophs was maintained. The lactotroph activity increased from early to late pregnancy. These results might be due to the negative feedback effect of the gonadal steroids, the rate of somatotrophs and lactotrophs in relation to the hormonal requests, and the hyporesponsiveness of the hypothalamus-pituitary adrenal axis. Thus, the modifications in each cellular type occur synchronously in relation to the physiological condition of the animals.

66.

MYCOLOGICAL STUDY OF 100 CASES OF FOOT FUNGAL AFFECTION IN DIABETIC PATIENTS AND A CONTROL GROUP OF SAN LUIS CITY

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The aim of this work was to analyze the frequency of plantar (P) interdigital (ID) and onychomycosis (OM) affection in diabetic patients (D) and a control group (C) without diabetes. We gathered 100 samples (50 D and 50 C) from a private laboratory of San Luis city during three years. The samples were studied including the following laboratory test: direct microscopic exams with 40% KOH, and mycological cultures. D were more frequently diagnosed with P (38%, n= 19) than ID (20%, n=10) infection. In C the frequency was 32% (n=16) and 14% (n=7) respectively. The distribution of OM in D was: 80% (n=23) with ID and P affection also had OM too. C only 61% (n=14) had all 3 conditions. The fungi isolated by culture were the following: D: *Candida non-albicans*: 59% (n=16), *Candida albicans*: 11% (n=3), dermatophytes: 22% (n=6) and opportunistic fungi: 8% (n=2). In C the frequency was: *C. non-albicans*: 40% (n=12), *C. albicans*: 6,6% (n=2), dermatophytes: 50% (n=15) and opportunistic fungi: 3,3% (n=1).
The frequency and the distribution of the etiological agents of the studied mycoses do not show important differences with other similar studies. Is very important the clinic control of Diabetic's foot and non diabetics to establish an appropriate treatment to avoid further affections.

67.

EFFECT OF STARVATION ON THE GASTROINTESTINAL TRACT IN HOUSE SPARROW (*Passer domesticus*)

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Starvation is a condition that often affects animals in nature (e.g. by unpredictable events such as storms). The gastrointestinal tract (GIT) is the first organ system that displays the most rapid and dramatic changes to nutrient deprivation. To date, little is known about the effect of starvation in the organ morphology and enzymatic function of the GIT in small passerine birds. Our objective is to determine the effect of starvation in the organ morphology (measuring mass of the digestive organs) and enzymatic function (measuring sucrase-isomaltase activity) in the gastrointestinal tract. To test our goal, ten *Passer domesticus* were acclimated to laboratory conditions with water and food *ad libitum* and then five animals were fasted by 34-36 hs (when loss body mass was more than 15%). The GIT was removed and organs (stomach, small intestine, liver and pancreas) weighed. Then, the small intestine was sectioned in three portions (proximal, medial and distal) and enterocytes were isolated for enzyme assays. Our results showed a significant reduction (between 25 to 50%) on all organs masses (ANOVA $P < 0.005$) in fasted birds, and a significant increase (150%) of the sucrase-isomaltase activity compared with controls (ANOVA $P < 0.001$). While autophagy of digestive organs is induced by starvation, there is an up-regulation of sucrase-isomaltase activity in long-term fasting passerines birds to be ready for a refeeding.
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68.

PHARMACOGNOSTICAL CHARACTERIZATION OF *Tripodanthus flagellaris* "LIGA BLANCA" OR "LIGUILLA" IN THE CENTRAL-WESTERN ARGENTINEAN

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Tripodanthus flagellaris (Cham. & Schldtl.) Tiegh. (Loranthaceae), known as "liga blanca" or "liguilla", is a northern and central Argentina native hemiparasite subshrub, used mainly as cardioactive drug in Cuyo region. This work aims to perform the pharmacognostical quality control of the commercialized products. The aerial parts were collected, preserved in aceto-alchoholic formalin or dried 45°C, were ground and extracted in methanol. Pharmacobotanic and pharmacognostic studies were carried out. The methanolic extract was fraccionated in Silica Gel column using petroleum-ether and ethyl-acetate at 50%. Purification was re-chromatographied in Sephadex LH-20. Isolated compounds were elucidate by ^{1}H-NMR spectroscopy. Micrographic parameters were: stomata number and stomata index [4 ± 0,1 and (7,25) 7,3 (7,5)] in epiphyllous and [10,5 ± 0,5 and (5) 5,25 (5,5)] in the hypophyllous leaves, palisade ratio (2,25) 2,4 (2,5), islet number 12.8 ± 1.9 and terminal nervation number 16,4 ± 1.80. Fron the methanolic extract was isolated a triterpene compounds. This study contributes to the quality control of the therapeutics drugs, mainly when it is finely crushed or powdered. The pharmacological study validated cardiovascular properties conferred by folk medicine.

69.

MICROPROPAGATION OF *Phytolacca dioica* L., *Prosopis flexuosa* DC AND *Schinus molle* L.

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The micropropagation offers a great support potential to the traditional methods of propagation and conservation *ex situ*, when increasing the production of natural populations' selected genotypes or of a limited number of seeds. With the objective of establishing protocols of micropropagation of *P. dioica*, *P. flexuosa* and *S. molle,* three differential nutritious culture media were compared, Murashige-Skoog (MS), Broadleaves Tree Medium (BTM) and Woody Plant Medium (WPM) in different salt concentrations and with different combinations of plant growth regulators, evaluating the shoots and roots development percentage. As plant growth regulators were used α-Naphtalenacetic acid (NAA), Indole-3-butyric acid (IBA) and Kinetin (K). The BTM medium with half of their saline concentration, with NAA addition (2 mg/l) and IBA (3 mg/l) addition, it presented 100% of shoots development in *S. molle*. On the other hand, *P. dioica* responded with shoots and roots induction in MS complete salt and NAA addition (1 mg/l) and K (0,5 mg/l) addition, presenting significant differences regarding the rest of the treatments (Test of Tukey). The complete MS medium with NAA (1 mg/l) and K (3 mg/l) it induced the formation of buds in *P. flexuosa*. This way, it is facilitated the propagation and germplasm conservation *in vitro*.

70.

COLD STRESS INDUCED CHANGES IN THE LEAVES ANATOMY OF *Digitaria eriantha*

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Digitaria eriantha is native in Africa and has been adapted to the semi-arid central zone of Argentina. In ours previous studies, it was observed that low temperatures affected growth and levels of photosynthetic pigment, levels of hormonal and antioxidants defenses system. The aim of this study is to determine the effect of low temperatures on the anatomy of leaves. Thirty day old seedlings, of *Digitaria eriantha,* Sudafricana and Mejorada INTA cultivars, were exposed to 4ºC for 72 h and 5 days. Leaves samples were taken and fixed in FAA (formaldehyde, acetic acid, alcohol), were dehydrated and included in paraffin. Cuts were carried out in rotating microtome and were colored in Hematoxiline-Safranine-Fast Green.
Results showed that treatment of 72 h affected the anatomy of leaves in both cultivars. Chloroplasts were swollen and occupied a large part of the cell. In Sudafricana, 5 days at 4ºC Treatment, was observed that chloroplasts lost their colour and form, however, in Mejorada INTA chloroplasts located in the sheath appear to retain its integrity, despite observed swollen. These results demonstrate that cold stress causes damage to leaves' anatomy, although it is most intense in Sudafricana cultivar.

71.

ANGIOGENIC AND APOPTOTIC PROCESSES IN RAT HEART DEVELOPMENT

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Vascular endothelial growth factor (VEGF) is essential in vasculogenesis and angiogenesis and regulates migration and differentiation of vascular endothelium, endocardium and cardiac valves. Apoptosis is a process characterized by morphologic changes and energy-dependent biochemical mechanisms.Bcl-2 family members determine cell death programmed and survival. The aim of this study was to analyze the VEGF isoforms and mediators of apoptosis expression during postnatal development in the rat heart. Wistar rat at different postnatal days: PND0, PND8, PND15, PND30 and PND60 were evaluated. Splice variants of VEGF, anti-apoptotic Bcl2 and pro-apoptotic BAX expression were assayed by semi-quantitative RT-PCR. $VEGF_{188}$ and $VEGF_{164}$ isoforms were mainly expressed in postnatal stages. Significant increase in the $VEGF_{188}$ expression at PND0, PND8 respect to PND30, PND60 (ANOVA, $P<0.001$) was observed. No significant changes of $VEGF_{164}$ expression during the stages studied were detected. $VEGF_{144}$ and $VEGF_{120}$ isoforms were expressed only during the first week of development ($P<0.05$). We found high BAX expression and no significant differences with ages, and significant changes in Bcl2 expression (ANOVA, $P<0.007$) at PND0,8,30 respect to PND60 ($P<0.05$). The relation BAX/Bcl2 indicates progressive elevated level to PND15. In conclusion, the observations suggest that occurrence of angiogenesis and apoptosis plays an important role in heart morphogenesis.

72.

HEAT SHOCK RESPONSE IN OXIDATIVE STRESS DURING NEONATAL UNILATERAL URETERAL OBSTRUCTION

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Oxidative stress represents the common denominator of multiple cellular alterations and contributes to tubulointerstitial mechanism damage in neonatal unilateral ureteral obstruction (UUO).
Proposed alternatives of protection to renal injury include statin, due to its effects decreasing oxidative stress and tubulointerstitial fibrosis. Recently, we have demonstrated an association between nitric oxide (NO) bioavailability and Hsp70 expression in UUO. The goal was to evaluate possible antioxidant/antiapoptotic effects of rosuvastatin (Ros) during UUO in order to establish its nephroprotective effects. Neonatal rats (n=5) with and without UUO and Ros treated rats (10 mg/Kg/d) for 14 days, were nephrectomized to evaluate in cortexes oxidative stress and heat shock response. After 14 days of obstruction, oxidative stress markers as lipid peroxidation (MDA) (90±5 vs 70±4 nmol/mL) and NADPH oxidase activity (21682±234 vs. 8200±123 RUF/µg prot/min) increased, whereas hsf1 and Hsp70 expression (0.35±0.04 vs. 0.87±0.05) and lower endogenous nitric oxide levels (67±2 vs. 74±2 nM) decreased. Conversely, Rosuvastatin administration increased hsf1 and Hsp70 expression linked to increase in NO levels with absence of apoptotic response and decreased oxidative stress. These findings suggest that Rosuvastatin exerts citoprotective effects against oxidative stress through NO restoration and upregulation of hsf1 and Hsp70 in neonatal unilateral ureteral obstruction.

73.

DIFFERENTIAL EFFECT OF SUBSTANCE P IN CELIAC GANGLION ON OVARIAN STEROIDOGENESIS FROM RATS ON DIESTRUS 1 AND 2 CYCLE STAGES

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We have showed in Holtzman rat on Diestrus (D) day 2 that stimulation of celiac ganglion (CG) with Substance P (SP) in the ex vivo integrated system CG-superior ovarian nerve (SON)-ovary incubated with Krebs-Ringer buffer in a metabolic bath increases the ovarian progesterone (P) response. The aim of this study was to establish in the same *ex vivo* system from rats on D1 y D2 whether ovarian P and androstenedione (A) release is associated with the IL-1β and membrane-prostaglandin E2 synthase (mPGES2) mRNA expressions. For that, 50 ng/ml of SP were added in CG. Samples from the ovarian cuvette were taken at 30, 60, 120 y 180 min of incubation to measured P and A (by RIA). The mRNA levels of ovarian 3 β-hydroxysteroid dehydrogenase (3β-HSD), IL-1β, mPGES2 and GAPDH, as internal control, were determined at 180 min of incubation (by RT-PCR). Basal values were obtained by incubating CG with buffer alone. In ovary of D2, SP on CG increased the P release and mRNA 3β-HSD levels ($p<0.01$), and decreased the A release ($p<0.01$), compared with control. Those changes were associated to a higher ovarian IL-1β and mPGES2 mRNA expressions. In D1, SP on CG increased P, decreased IL-1β mRNA levels and did not modify the A release and mPGES2 mRNA expression. SP in CG induces a differential ovarian response at the hormone and gene expression levels on D1and D2.

74.

KINETIC CHARACTERISTICS AND INHIBITION OF PPO FROM WILLIAMS PEAR

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Plant polyphenoloxidases (PPO) are responsible for the enzymatic browning reaction occurring during the handling, storage and processing of fruits and vegetables. These enzymes catalyze both the hydroxylation reaction of mono-phenols to di-phenols, and in a second step, the oxidation of colourless ortho-diphenols to form o-quinones, the condensation of which generates highly coloured melanines. These compounds negatively influence the organoleptic and nutritional qualities of foods. Experiments were performed to evaluate kinetics characteristics of PPO extracted from pear (cv.Williams) and different forms of inhibition.PPO was analyzed spectrophotometrically at 25°C and 400 nm using 4-methylcatechol as substrate (100 µL in 3 mL buffer). One unit of PPO activity (UE) was defined as the change in absorbance of 0.001/min and mL of enzyme. The pH-activity optimum for the enzyme was 7.2 with 4 mM 4-methylcatechol in phosphate buffer. At pH 7.2 and T= 25°C, K_M and V_{max} values were 8.5 mM and 1060 UE. The temperature activity optimum was 28ºC. Ascorbic acid was found an uncompetitive inhibitor. Thermal stability of pear PPO extract was investigated at pH optimum 7.2 , at 6 constant temperatures from 20 to 60°C using various incubation times (5-20 min). At 20°C, the enzyme activity is 100% after 20 min of treatment, whereas that at 25ºC 15% of PPO activity was lost after 5 min, at 50°C more than 30 % of the PPO activity was lost after 5 min, and was 70% inactivated after 20 min of heating.

75.

BIOLOGICAL ACTIVITY OF *Cynodon dactylon* IN RATS

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Cynodon dactylon (L.) Persoon (Poaceae) is known popularly as "chipica". *C. dactylon* is used in folk medicine as a diuretic, antiblenorragic and laxative (Del Vitto *et al*., 1997).
The objetive of the present work was to assess the biological activity of *C. dactylon* infusions in rats. Gastroprotective activity: Twenty four hours before the experiments, Wistar rats were fasted. NaOH 0.2N or HCl 0.6N were administered orally as the necrotizing agents. The degree of erosion was assessed from a scoring system designed by Marazzi-Uberti and Turba. The results were expressed in terms of an ulcer index. The diuretic experimental model was produced in according to the Lipschitz method. The treated rats received 10% or 20% infusions (p. o.) of the aerial parts of *C. dactylon* or furosemide as standard drug (10 mg/kg, p. o.). The control group received only the NaCl isotonic solution (50 ml/kg, p. o.). Urinary volumetric excretion was measured in 3 hours diuresis. All values were expressed as the mean ± SEM. Student's t-test was performed to evaluate the statistical differences between the control and the experimental samples and p values < 0.05 were considered significant.*C. dactylon* do not prevents the formation of gastric lesions induced by NaOH 0.2N or HCl 0.6N. The lots treated with *C. dactylon* infusions showed diuretic activity (10% infusion: between 75 and 90 min; 20% infusion: between 30 and 90 min; $p<0.05$ vs. control). This fact support the use in traditional medicine of *C. dactylon*.

76.

EXTRACTS OF *Heterotheca subaxillaris* var. *latifolia* AS A POTENTIAL BIOPESTICIDE

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Biopesticides offers a sustainable solution to pests and seems ideal for integrated pest management (IPM). They can offer new prospects for safer means of protection against insect pest. As part of a program aimed to study the biological activities of plant natural products as bioinsecticides, we report the bioactivities of *H. subaxillaris* extracts. This plant is considered a vegetal plague that affects the development of pastures and cultivations. We have studied the nutritional and toxic properties of the ethanolic, methanolic, and chloroformic extracts of *H. subaxillaris* against *Tribolium castaneum Herbst* and *Tenebrio molitor* L. (Coleoptera: Tenebrionidae) larvae. The most interesting results were observed using the methanolic extract which caused more significant mortality in the contact toxicity bioassay against *T. castaneum*. Moreover, the same extract against *T. molitor* larvae revealed a significant inhibitory effect on the efficiency of conversion of ingested food (ECI). These results suggest that the methanolic extracts of *H. subaxillaris* might be compatible with newer integrated pest control approaches.

77.

IN VITRO GERMINATION OF _Cleome aculeata_ (CAPPARACEAE) AND _Agalinis communis_ (OROBANCHACEAE)

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The semi-arid ecosystem possesses a great variety of plants with a great ornamental potential. In the domestication one of the inconveniences that should be confronted, is the mechanisms characteristic of the species that prevent that their seeds germinate (latency), it is necessary physical-chemical stimuli previous to the incubated to achieve their good germination. In this work the conditions and physical and chemical stimuli were analyzed in the germination of *C. aculeata* and *A. communis*. Diverse treatments were applied: different periods of exhibition to the humidity and dry cold, and/or immersion in AG3 in different concentrations and time; with 3 repetitions of 25 seeds each. It was sowed in Murashige and Skoog media and it was incubated in cultivation camera (25± 2°C, fotoperíodo of 16 hs light and 8 hs darkness). The recounts lower glass magnifying 16x, they began to the third day of cultivation, extending until the following twelve days. The treatment that achieved the significantly higher percentage of germination was that of humidity cold and during 10 days for *A. communis*. While in *C. aculeata* the dry cold was successful. A significant progress is contributed regarding the germination requirements for the multiplication of ornamental native species with potential use in gardens with low maintenance requirements.

78.

DIURETIC EFFECT OF _Artemisia douglasiana_ Besser IN RATS

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Artemisia douglasiana Besser (*Ad*) popularly knows as "matico" has been used in folk medicine as panacea for a great diversity of health problems. The aim of this study was to evaluate the potential diuretic effect of aqueous infusions at 10% and 15% of the aerial parts of *Ad*. Male Wistar rats weighing 150-200 g were assigned four groups (n: 6): the treated group received 10% or 15% infusion of *Ad* (p.o.), the reference group received Furosemide (20 mg/ kg, i.p.) and the control group received saline solution (50 ml/ kg, p.o.). Urinary volume was measured at 15 min intervals for 3h and the urinary volumetric excretion (UVE) was calculated (Lipschitz, 1943). Other urinary excretion parameters were measured. *Ad*- treated rats showed significant diuretic effect at both doses levels between 30 min and 105 min. UVE 10%: 71.80 ± 2.284; UVE 15%: 74.31 ± 3.225, vs UVE control: 56.66 ± 2.797, ($p < 0.001$, Student´s *t*-test). Urinary density and pH were similar to controls. This diuretic activity could be due, in part, to the presence of flavonoids in this plant. Flavonoids are responsible for diuretic effect in other vegetable species. More studies will be necessary to get more information about the potential diuretic value of this botanic species.

79.

EFFECT OF LOSARTAN ON CAVEOLIN-1 AND Hsp70 EXPRESSION IN VASCULAR SMOOTH MUSCLE CELLS (VSMC) FROM SPONTANEOUSLY HYPERTENSIVE RATS

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Full expression of Angiotensin II signaling in VSMCs is dependent on the ROS derived from NADPH oxidase and the dynamic association of the Ang II (Ang II) type I receptor (AT_1R) with caveolae/lipid rafts.The chaperone Hsp70 regulates a diverse set of signaling pathways through their interactions with proteins. We examined the AT_1 receptor antagonist Losartan effect, on Caveolin-1 and Hsp70 protein and its involvement on oxidative stress in VSMCs from SHR and WKY rats. VSMCs stimulated with Ang II (100 µmol/L) for 15 min in the presence or absence of Losartan (100 µmol/L) added 30 min before Ang II stimulation were subjected to RT-PCR and Western blot analysis. The exposure of SHR VSMCs to Ang II for 15 minutes downregulated membrane caveolin expression and overexpressed p22 and Nox4 NADHP oxidase isoforms, whereas Losartan increased Cav-1 expression, lightly increased Hsp70 and decreased p22 and Nox4 protein levels in SHR VSM cell membranes. VSMCs from WKY rats pretreated with Losartan 100 µmol/L and subsequently stimulated with Ang II (100 µmol/L) for 15 minutes decreased NADHP isoforms p22 and Nox4, and increased Hsp70 expression in cell membrane. Furthermore, Losartan abolished the phosphorylation of ERK1/2 that was induced by Ang II in SHR VSM cells. These findings suggest that after Losartan administration, translocation of Hsp70 to VSM cell membranes might exert a cytoprotective effect on oxidative stress.

80.

IN VITRO-CULTURED PLANTLETS OF _Vitis vinifera_ L. cv MALBEC RESPOND TO UV-B RADIATION BY INCREASING MEMBRANE β-SITOSTEROL

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The scientific literature reports that the ultraviolet-B (UV-B, 280-320 nm) radiation affects plant secondary metabolism differently according to fluence rate, dose, and wavelength of the UV-B treatment. Plant membranes possess complex sterol profiles that reinforce the membrane cohesion, dominated by sitosterol and stigmasterol. This work studied the UV-B effect on sterol composition in grape leaf tissues. Plantlets of 45 days-old grown under a photosynthetic active radiation (PAR) of 100 µmol m^{-2} s^{-1} without UV-B were exposed during 16 h to the same PAR with two UV-B dosis: 0 (control), and 4.75 kJ m^{-2} d^{-1}; the UV-B dose was administered at two intensities: low UV-B (8.25 µW cm^{-2} during the 16h photoperiod) or high UV-B (33 µW cm^{-2} during the 4 final h of the period). Methanol: chloroform (1:1) extracts were analyzed by gas chromatography coupled to mass spectrometry. β-sitosterol content was significantly increased under both UV-B treatments, although this effect was more noticeable under low UV-B. These results suggest that UV-B-induced sitosterol synthesis is dependent from both, the UV-B intensity and the UV-B dose.

81.

ENHANCED ANTIMICROBIAL ACTIVITY OF TWO *Lactic Acid Bacteria* STRAINS BY CHANGING CULTURE MEDIUM COMPOSITION

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The use of *Lactic Acid Bacteria (LAB)* in food preservation requires strains with a high degree of antimicrobial activity against foodborne pathogens It is possible to increase their activity varying growth conditions and/or medium composition. The aim of this study was to stimulate the *LAB* antimicrobial activity and to determine the peptide nature of inhibitory substances present in culture supernatants. Two *LAB* strains classified as *Lactococcus lactis ssp* lactis 2 with API CH50 were used in this study. They were grown in Lactobacillus Broth to de Man, Rogosa, Sharpe medium (MRS broth) added of lactose (20 g/l) in replace of glucose (20 g/l) or with high concentration of K_2HPO_4, incubated at 30ºC for 24-72 h in microaerophilic conditions. The inhibitory capacity determination was performed using the well diffusion method, with *Enterococcus faecalis* as the indicator strain. Supernatants treated with trypsin and chymotrypsin were used to determine the peptide nature of the antimicrobial substances. The results showed 8 mm and 8.5 mm inhibition halos when lactose or K_2HPO_4 were added to culture media respectively. Which were significant high in comparison to the base medium (6-7 mm). Replacement of glucose by lactose and an increased concentration of K_2HPO_4 stimulated the antimicrobial capacity of the two studied strains. Treatment with proteases confirmed the peptide nature of antimicrobial activity, probably bacteriocins, in the *LAB* culture supernatants.

82.

A QUANTITATIVE STUDY OF THE ANDROTROPHIC EFFECT ("IMPOSEX") OF AN ORGANOTIN AND OF OTHER METAL COMPOUNDS ON FEMALES OF AN AMPULLARIID SNAIL

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Some metals such as tributyltin (TBT) but no other compounds are known to induce development of male-like penis in females ("imposex") in neogastropod species. The architaenioglossan ampullariid snail *Pomacea canaliculata* differs from neogastropods in that females normally bear rudimentary homologues of male copulatory organs. In the current study, we have quantitatively assessed the androtrophic potential of metal levels on or below the maximum concentrations allowed in drinking water by government regulations: tin, 22 ng/L (as TBT), mercury, 2 µg/L (as $HgCl_2$), arsenic, 10 µg/L (as AsO_4Na_3) and uranium (as UO_2). For such purpose, either none or one of those metal compounds were added to the artificial aquarium water and the animals were exposed for 30 days, and sacrificed at 4, 5, 6 or 7 months old. Only the organotin had a definite trophic action on the female copulatory organs as shown by a significant increase in penis length and in the "vas deferens sequence index" (a usual measure of imposex) in the 4, 5 and 6 month old females ($P<0.05$, Kruskal-Wallis/Dunn tests). However, no significant differences were observed in the 7 month old groups, since 7 month control females already had well grown copulatory organs. It is concluded that the age of the animal is an important parameter to be considered when assessing androtrophic actions on females.

83.

RUDIMENTARY MALE COPULATORY ORGANS IN FEMALES OF AN AMPULLARIID SNAIL

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"Imposex" is the development of male sexual characters in female invertebrates after exposure to endocrine disruptors (EDs, environmental pollutants which interfere with endocrine functions). Imposex occurs in many neogastropod snail species, in which normal females are generally assumed to be lacking any male-like organs. However, the normal occurrence of rudimentary male copulatory organs in *Pomacea canaliculata* (an architaenioglossan snail) has been reported as a curiosity, from time to time, since the XIX century, i.e. much before any significant spilling of EDs had occurred. Also, we have described the development of those organs from hatching to maturity (50 days old) in cultured snails unexposed to known EDs, and have found that the copulatory organs are present in all females. We here report that those organs continue to grow in later life. Indeed, the female penis lengthens from 0.77±0.44 mm (mean±SEM, n=15, at 4 months old), to 1.40 ±0.70 (5 months old) and finally to 6.23±1.07 mm (6 months old); significant differences (ANOVA, Tukey's test: 4 vs 6 months, and 5 vs 6 months). The "vas deferens sequence index" (VDSI, a usual measure of "imposex") also increased from 1.7 (4 months old), to 1.9 (5 months old) and to 2.8 (6 months old). It is concluded that the animal´s age is a significant parameter (even though not amenable to field studies) which has to be considered when assessing the potential effects of EDs on *P. canaliculata*.

84.

DIFFERENTIAL 3α-HOR GENE EXPRESSION IN PUBERTY

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The onset of puberty in female rats is triggered by an early pulsatile GnRH release from hypothalamus. This event becomes evident when vaginal opening (VO) occurs. GnRH release is controlled by glutamatergic inputs that are regulated, among others factors, by neurosteroids such as allopregnanolone (Allo). In a previous work of our group we have demonstrated that Allo increases glutamate release in medial basal hypothalamus (MBH) and preoptic area (POA) of pubertal (P) and VO rats. One important point to be addressed is how neurosteroidogenic enzymes are expressed in MBH and POA at different stages of the reproductive life. The enzyme 3α-hydroxysteroid oxidoreductase (3αHOR) catalyzes the synthesis of Allo. The aim of this work was to determine if there is a differential gene expression of 3αHOR in MBH and POA of prepubertal (PP), P and VO rats. RNA was isolated from pooled MBH and POA obtained from PP (30d), P (50d) and VO (39d on average) rats (n=3 per group). Multiplex RT-PCR amplification was performed by using specific primers for 3αHOR and cyclophilin (housekeeping gene). Relative optic density of the bands was obtained after electrophoresis and ethidium bromide dying. The results were analyzed by ANOVA 1 and Tukey's post hoc test ($p<0.05$ was considered significant). The expression of 3αHOR was increased in VO rats compared with PP ($p<0.01$) and P ($p<0.05$) rats. These results suggest that Allo levels would be increased in VO rats and that this neurosteroid might play an important role as a regulator of the onset of puberty.

85.

ROLE OF Rab 11 IN THE ENDOCYTIC PATHWAY OF *Brucella abortus*

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Brucellosis is a highly prevalent zoonosis in our country, affecting both human and animal health. *Brucella* is an intracellular parasite able to survive within phagocytes. The Rab GTPases plays important roles in the regulation of the intracellular traffic. During phagosome maturation, new proteins are added in the endocityc pathway and others are removed by recycling processes. Rab 11 increases phagocytosis and regulates recycling. For this reason, we aimed at studying the role of the protein Rab 11 in normal phagosome maturation. The HeLa epithelial cell line was used as a phagocytic model. In phagocytosis assays *Brucella abortus* 2308, S19 and RB51 marked with rhodamine were used. For directed mutagenesis the mutants Rab:11WT (form wild type), Rab:11Q70L (form activates of Rab11) and Rab11:S25N (inactive mutant of Rab11) were obtained. The transfected cells were allowed to phagocytize marked bacteria during 30 min and then were kept at 37ºC for 2 h. Afterwards the endocytic pathway was stopped at early stages. Results show the viability of transfected HeLa cells as a model for phagocytosis. *Brucella* induces recruitment of Rab11WT and the active mutant Rab11Q70L to the membrane of the phagosome that contains them. This recruitment adopts the form of discrete patches. The permanency of Rab11 associated to *Brucella*-containing phagosomes suggests that the bacterium retains Rab11 actively to avoid the full maturation of the phagosome which contains it.

86.

COMPARISON OF POLYMORPHISM FABP2 GENE IN DIABETICS PATIENTS AND FIRST DEGREE RELATIVES

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The Ala54Thr polymorphism of the fatty acid binding protein FABP2 gene, is associated with dyslipemia which is common in diabetic patients. The aim of this study was to investigate possible association of FABP2 Ala54Thr polymorphism in T2DM patients and first-degree relatives. The studied subjects were genotyped for the FABP2 Ala54Thr polymorphism using PCR-RFLP method. Other variables measured were BMI, total cholesterol, LDLc, HDLc, triglycerides and atherogenic index. In the whole population the 51% were genotyped as AA, 41,8% as AT and 7,1% as TT for the FABP2 Ala54Thr polymorphism. No significant difference was observed in genotypes between diabetic and first degree relatives (52% vs 50% of AA, 40% vs 43,75% of AT and 8% vs 6,25% of TT genotypes). The diabetic subjects carrying the A/A genotype had significantly higher waist circumference 111.7 ± 13.8 vs 96.1 ± 13.0 ($p<0.01$), total cholesterol 281.5 ± 63.5 vs 222.9 ± 50.5 ($p<0.03$), and triglyceride levels 279.5 ± 92.5 vs 200.7 ± 74.7 ($p<0.05$), and lower HDLc levels 40.6 ±11.0 vs 62.1 ± 20.4 ($p< 0,005$). The first degree relatives subjects carrying the Thr54 allele had significantly higher levels total cholesterol 195.8 ± 21.2 vs 241.8 ± 43.0 ($p<0.02$), LDLc 116.2 ±19.8 vs 168.1 ± 33.7 ($p<0.003$), waist circumference 108.0 ± 9.6 vs 92.2 ± 6.9 ($p< 0.004$). No association of FABP2 Ala54Thr polymorphism was found with diabetic type 2 patients and first degree relatives.

87.

COUNTS OF RUMINAL FIBROLYTIC BACTERIA IN CREOLE GOATS OF MENDOZA, ARGENTINA

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In Lavalle, Mendoza, goats consume a high proportion of shrub species, which represent a large supply of fiber. The digestibility of dry matter and fiber (cellulose, hemicellulose and lignin) of goat breeds adapted to arid areas is higher than that of other races and domestic ruminants. A high efficiency in use of fiber may be due to a large concentration of fibrolytic bacteria on food particles present in the rumen. The aim of this study was to quantify the ruminal fibrolytic microbiota in Creole goats in two seasons. Rumen samples were taken from a cannulated goat grazing on natural grassland in the summer (wet season) and winter (dry season). Cellulolytic, hemicellulolytic and pectinolytic bacteria were quantified by most probable number method. Bacterial counts were submitted to logarithmic transformation before performing ANOVA (Tukey test). Concentrations of cellulolytic, hemicellulolytic and pectinolytic bacteria were significantly higher in summer ($0.08325x10^9$, $7 x10^{10}$ and $7x10^{10}$ bacteria.mL^{-1}, respectively) than in winter ($0.0035x10^9$, $0.01725x10^{10}$ and $0.585x10^{10}$ bacteria mL^{-1}, respectively). Lignin affects fibrolytic bacteria count, because it inhibits the hydrolysis and utilization of carbohydrates by bacteria in the rumen. Higher counts observed during summer may arise because the goats selected shoots of shrubs with lower lignin content in the wet season. Further work should assess the relationship between the nutritional composition of diet and fibrolytic rumen microbiota.

88.

INFLUENCE OF THE CULTURE MEDIUM ON THE PRODUCTION OF SIDEROPHORES BY *Rahnella aquatilis* BNM 0523

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The aim of this work was study of production of siderophores by Rahnella aquatilis BNM 0523, which was isolated from apple skin and was proved as an efficient Control Agent (BCA) on apple postharvest decay. From preliminary assays it was possible to establish that this strain produces a siderophore type catecholate, probably Enterocheline. Siderophore synthesis is regulated by iron and influenced by other environmental factors. Taking into account this fact, the effect of culture medium composition on the production of siderophore was studied. The microorganism was grown in 500 ml flask with 125 ml of Vitamin Free Medium (200 rpm at 28ºC by 48 h). Cells were removed by centrifugation; pH of the medium was controlled. Biomass was dried at 50ºC and weighed. Siderophore was detected in supernatant with the Arnow assay. It was observed that the production of the siderophore reached the highest concentration at the stationary phase of growth. The production was influenced largely for the presence of Fe into the culture medium. Fe concentrations of 2,5 uM reduced until 7 times the production. The use of different carbon sources such as succinate or lactate increased the production of siderophore, perhaps due to the stimulation of the aerobic metabolism increasing the need of Fe. In consequence, the microorganism would produce more siderophore for to improve its uptake of the metal.

89.

BIOCHEMISTRY DETERMINATION OF PROLINE FROM *Jatropha curcas* L.

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Jatropha curcas L is a perennial oilseed adapted to marginal conditions for agriculture and with high oil production, able to produce biodiesel.
Proline is an amino acid that acts as compatible osmolytes to increase the cellular osmotic potential and water uptake to the cell, despite the water stress conditions. Evaluation of proline is critical in determining responses to abiotic stress and behaves as a compatible solute that accumulates in unfavorable growth conditions.
The objective was to determine the presence of proline in leaves of *Jatropha curcas* L. We used 0.5 g. of fresh weight from plants which grown at 25ºC in growth chamber and photoperiod 8 / 16, leaves were processed in triplicate to quantify proline. Proline was extracted from the plant cell with sulfosalicylic acid and reacted with the addition of ninhydrin, producing amino acid decarboxylation, an aldehyde and reduced ninhydrin. It was quantified by spectrophotometry at 520 nm. The result was 29.04 mg proline / g of leaf material and the next step is to quantify this amino acid under abiotic stress conditions.

90.

DISSEMINATED FUSARIOSIS IN PATIENTS WITH PERIPHERAL T AND NATURAL KILLER (NK)-CELL LYMPHOMAS AND LEUCOPENIA

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We report the first case of systemic fusariosis in an adult male patient in San Luis (Argentina), with clinical suspected malignant neoplasia (severe leucopenia) and without oncologic treatment. The patient showed an ulcero-vegetative lesion on the right lower limb with eight months of evolution. Fusarium *spp.* was isolated from the lesion biopsy. He was refractory to antifungal treatment with amphotericin B and then, he was referred to Berazategui Hospital (Buenos Aires), where he was diagnosed with nasal type T/NK-cell lymphoma. The specimen of dermis tissue showed infiltration of atypical cells (CD3+), angio-invasion and extensive coagulative necrosis, and the diagnosis of deep mycosis was confirmed. The aim of this study was to identify of Fusarium species to understand its pathology. For that, was used selective culture medium and was examined to microscopic the morphologic characters of colony. Fusarium is an emergent fungus that may cause disseminated infection in immunocompromised patients and is a major cause of morbidity and mortality (50-70%). The risk factor associated to this invasive fungal infection is the severe and prolonged neutropenia in patients with hematologic diseases under chemotherapy or bone marrow transplant. Early isolation and typification of Fusarium is of importance in the investigation of immunosupressive patologies, as is the case of the lymphoma.

91.

***Trypanosoma cruzi* BROMODOMAIN PROTEINS: FUNCTIONAL AND STRUCTURAL STUDIES**

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Trypanosoma cruzi is a protozoan parasite that causes Chagas' disease. The objective of our work is the functional and structural study by X-ray Crystallography and Theoretical Methods of parasite bromodomains proteins: TcBDF1 (bromodomain factor 1) and TcBDF3 (bromodomain factor 3). Bromodomains are conserved structural domains that recognized acetyled-lysine found in many nuclear and no nuclear proteins. The parasite proteins have certain characteristics with respect to their function and location. As preliminary structural studies and to do comparative studies of both structures we have carried out model-building of the bromo-domain part of our protein on the basis of the known three dimensional structures of homologous bromo-domains, using the program Modeller. In terms of the experimental studies, TcBDF1 and TcBDF3 have been overexpressed in *E. coli* as a N-terminal fusion His-tag, solubilized and purified by Ni-Sepharose affinity chromatography. The solubilization of TcBDF1 was performed under different conditions with SDS and Urea. TcBDF3 conformational state was analyzed by Urea-PAGE and Native-PAGE and we have carried out preliminary crystallization screenings of TcBDF3.

92.

MONITORING OF ANURAN AMPHIBIANS VOCALIZATIONS IN THE VICINITY OF POTRERO DE LOS FUNES RACETRACK, SAN LUIS

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Reproductive male vocalizations are important in anuran amphibians, not only as a mechanism of reproductive isolation but also for social interaction. This behavior is affected by social and environmental factors; and the vocalization effort has been directly related to reproductive success in many anuran species. Traffic noise pollution and other urban sounds, that affect the vocalization behavior (rate, intensity, timing), may therefore impact on reproductive behavior and success. This study monitored anuran amphibians vocalizations at breeding sites in Potrero de los Funes reservoir, before and after the first sporting event at the racetrack located around the stream. Vocalization surveys were used to identify the species present and estimate relative abundance. Vocalizations of two species of anuran amphibians (*Rinhella arenarum* and *Leptodactylus mystacinus*) were registered in the vicinity of the racetrack. While the richness found (n=2) was lower than for other ecosystems of San Luis, we did not find any decrease in the intensity of vocalizations after the race event. More detailed studies and regular monitoring are needed in order to assess reproductive success and population trends of the anurans dweling nearby the Potrero de los Funes racetrack.

93.

SEASONAL FORAGING ACTIVITY PATTERNS OF *Acromyrmex lobicornis* EMERY (HYMENOPTERA, FORMICIDAE) IN SAN LUIS

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The genera *Atta* and *Acromyrmex* are commonly known as "leaf-cutting ants". The workers of these genera cut pieces of plants and take them to their nest to cultivate a fungus on wich they feed. Their foraging activity differs according to seasonal and daily activity variation. Many factors could influence this change, but climatic factors, specially temperature, have been proved to be more relevant for species of subtropical and temperate regions. To obtain a data-base of the harvesting pattern of *Acromyrmex lobicornis*, we studied four nests in Juana Koslay, San Luis. The foraging activity was determined using the number of ants entering the nest with plant fragments during five minutes as an indicator. This value was recorded once every two hours during a total 24 hour period. Air and soil temperature was also measured in each opportunity. Spearman index was used to analyze the data. The foraging activity pattern showed very defined seasonal variation. In October and July there was a positive correlation between temperature of air and soil and foraging activity, while in January and April the correlation was negative. These results suggest that foraging activity increases with temperature, but when it´s over 30°C, the relation changes and activity starts to decrease.

94.

PRODUCTION OF NON RADIOACTIVE RIBOPROBES AGAINST THE ANGIOTENSIN II TYPE 2 RECEPTOR

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Angiotensin II (Ang II) receptor expression is highly modulated during development, suggesting a role of these receptors in growth and organogenesis. AT_2 receptors (AT_2R) are abundantly expressed in fetal tissues and thus a potential role for these receptors has been postulated during development, differentiation and certain pathologies. In order to study the expression of AT_2R during development, we prepared a riboprobe to detect the rat AT_2R mRNA. The starting material was a vector developed previously in the laboratory pGEM –AT_2, where a fragment of the coding region was subcloned. The correct sequence and orientation of the cloned fragment were tested by sequencing. Both, *antisense* and *sense* riboprobes were generated by *in vitro* transcription and labelled with biotin. The probes were evaluated on poliacrylamide gels and initially tested by dot blot. The obtained *antisense* riboprobes were able to sensitively detect AT_2R mRNA by northern blot on tissues known to express the receptor. On the other hand the *sense* RNA probe showed to be adequate as negative control. Thus, we developed a new tool with a great potential to detect the expression level of AT_2 receptor.

95.

EFFECT OF CADMIUM ON ANTIOXIDANT ENZYME GENES EXPRESSION IN RAT TISSUES

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Cadmium (Cd) induces oxidative damage in cells. Previous results obtained in our laboratory showed an increase of TBARS, changes in glutathione metabolism and a decrease in the activities of glutathione peroxidasa (GPX), superoxide dismutase (SOD) and catalase (CAT) in the liver of rats treated with Cd. The objective of this work was determinate if Cd affects the expression of antioxidant enzyme genes in liver and small intestine. Wistar male rats (180g) were treated with Cd (15 ppm) in tap water during 2 months. Total RNA was isolated by using TRIzol, reverse transcribed at 42°C using random hexamer primers and Moloney murine leukemia virus RT. Oligonucleotide primer pairs were based on the sequence of the rat SOD, CAT, GPX, NOX (NAD oxidase) enzymes. The β actin gene was used as an internal control. The PCR products were analyzed on 2% agarose gels containing 0.5 mg ethidium bromide/mL. Band intensities of RT–PCR products were quantified using Image J software. mRNA relative amount was expressed as the ratio of signal intensity for the target genes relative to that for β-actin c-DNA. The expression of CAT showed an increment in Cd liver ($P<0.05$) and a decrease in Cd small intestine ($P<0.05$) respect to the control. The other genes showed no changes. These results indicate that Cd only affects the expression of CAT and this effect is different in both analyzed organs.

96.

EVALUATION OF SUBSTRATES USED IN THE PROCESS OF ACCLIMATIZATION OF *Prosopis caldenia Burkart*

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Due to problems of loss of large areas of natural forests is promoted planting native woody species. The *in vitro* propagation technique is most suitable for this purpose. One of the critical stages in the production of plants in this way is the acclimation, because these must adapt to changing environmental conditions. This work aims to evaluate the survival and behavior *Prosopis caldenia Burkart* against different substrates *in vitro* seedlings acclimatization stage. Acclimatization substrates were: T1: soil from a field in the area. T2: fertile soil. T3: peat. T4: soil (2) + fertile soil (1). T5: soil (2) + peat (1). T6: soil (2) + perlite (1). T7: fertile land (1) + peat (1). The substrates received a double autoclaving for 40' and 1 atmosphere pressure. It evaluated 10 pots per treatment, was irrigated with distilled water, and then took them to the acclimation chamber. Each observation recorded the number of pots with live plants, plant height, and number of leaves. The observations were analyzed statistically with ANOVA, Test of minimum significant differences (LSD). The results demonstrate that the biggest survival was achieved with T3 and T4. Therefore it is concluded that *in vitro* plantlets have a higher survival in substrates with good water retention capacity and nutrient content.

97.

COMPARISON OF CENTRAL AND PERIPHERAL CHANGES IN PROTEIN EXPRESSION AND DISTRIBUTION AFTER SCIATIC NERVE AXOTOMY

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Sciatic nerve axotomy is a well-established model for nerve injury and its consequences, both in the central and peripheral branches of injured dorsal root ganglion (DRG) sensory neurons. We have used this model to investigate changes in the levels, and anatomical and sub-cellular distributions, of functional classes of proteins. Specifically, we have looked at protein classes related to cell-cell recognition, successful nerve regeneration, signal transduction, and neurotransmitter release. Given the unique cellular anatomy of DRG neurons, that have connections from the same axon in both the central and peripheral nervous systems, this model allows us to address fundamental questions about the divergence or context-specific functions of specific protein classes. Our studies also aim to relate these observations to the formation of sub-cellular molecular complexes associated with plasma membrane sub-domains. We have analyzed the expression and distribution of the proteins Thy-1 alphaV- and beta3-integrin, GAP-43, fyn, lyn, small G-proteins, and SNARE proteins in the central and peripheral branches of the spinal nerves associated with sciatic nerve injury. Our results support the popular model that responses are reiterated between the two compartments, but raise questions about their equivalence, specifically whether the same proteins play the same role within different compartments.

98.

ENDOTHELIAL PROGENITOR CELL CHANGES IN A METABOLIC SYNDROME EXPERIMENTAL MODEL

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The aim was to observe the levels of endothelial progenitor cells (EPCs), characterized by CD34 and VEGFR-2 antigen expression during the development of endothelial dysfunction associated to a metabolic syndrome experimental model.
Wistar Kyoto (WKY) and spontaneously hypertensive (SHR) male rats were distributed in 4 groups (n=8 each): I.WKY; II. FFR: WKY receiving 10% fructose solution as drinking water for 12 weeks; III. SHR; IV. FFHR: SHR receiving 10% fructose solution as drinking water for 12 weeks. Circulating EPCs were stained with fluorescein-conjugated (FITC) CD34 and phycoerythrin-conjugated VEGFR-2 antibodies. Flow cytometry analysis was performed by Cell-Quest software.
Co-localization of both markers on cell surface was assessed by laser immunofluorescence microscopy. This test was also performed in mesenteric blood vessels tissue and bone marrow samples. Data were processed by ANOVA. Symbols * and # indicate $p<0.001$ *vs* WKY and $p<0.001$ *vs* FFHR, respectively.
Circulating $CD34^+/VEGFR2^+$ cells percentage significantly decreased in FFR^* and $FFHR^{*\#}$. A similar pattern was observed in vascular mesenteric tissue, while bone marrow samples did not show significant differences.
These results underline the decline in EPC levels associated with the progress of pathology. In other way, endothelial reparation seems to be deficient in the fructose-treated groups.

99.

NEUROLOGIC DEVELOPMENT AND BEHAVIOR IN MODELS OF PERINATAL BRAIN LESION

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Besides the estimation of histopathological changes, an evaluation of neurological development is important in experimental models of perinatal brain lesion. Once the animal reaches the adult stage, behavioural tests inform about sequelae. We applied conventional tests for development (body weight, tooth and hair eruption, eye opening) and motor coordination (righting reflex, limb grasp, walking iniciation, gait, geotaxia and traversing a square bridge) to Normal (N), Lesioned (L) (neonatal Hypoxia/Ischemia-H/I) and Preconditioned/Lesioned (L/Pcon) rat pups from the WKY strain. We also analyzed naive SHR rats. Neonatal animals: WKY animals from all groups show similar performance in most neurological tests, except for a significant delay ($p<0.05$) at PND31 in the GAIT test. SHR animals show remarkable differences in growth and development when comparing to WKY. Adult animals (WKY): Differences were observed in the Hole Board Test: A decrease in Ambulatory movements ($p<0.05$) (L/PCon), an increase in Non ambulatory movements ($p<0.05$) (L). In the plus maze test: A decrease in time spent in the open arm ($p<0.001$) and open arm extreme arrivals ($p<0.05$) (L/PCon). Present findings strongly suggest severe disturbances in exploration behaviour after treatment.

100.

PREVALENCE OF DERMATOPHYTOSIS IN HOUSECATS OF URBAN HOUSEHOLDS IN MENDOZA. ARGENTINA

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Cats, usually reservoirs of *Microsporum canis*, an agent of skin ringworm (in children and adults) and frequently isolated from tinea capitis in prepubescent children in our environment, play an important role in the transmission of this zoonosis. We studied the prevalence of this dermatophyte in housecats. 48 samples were obtained from 43 individuals, with and without skin lesions, collected from shelters or kennels and homes, preferably those where housecats live together with children, elderly or immunocompromised adults . A clinical chart was used to select the population and evaluate the results of mycological progress. The techniques used in cats with and without skin lesions respectively were: skin scraping, hair removal and Mackenzie brush. Direct observation was made with KOH + glycerol and heat. Culture duplicated in Sabouraud agar with antibiotic and cicloheximide and lactrimel with antibiotic and cycloheximide (incubation at 28ºC for 30 days). Macroscopic and microscopic study of suspicious colonies. Results: positive samples of cats: in households, 18.1%; in shelters or kennels, 40%. With lesions, 54.5%; without lesions, 16.2%. Not living with children, elderly or immunocompromised adults, 26.9%; living with such population, 22.7%. Isolated agents: *Microsporum canis,* 91%*; Trichophyton mentagrophytes*, 8.3%. The prevalence is 25% and higher in cats: with lesions, shelters or kennels, and not living with children, elderly or immunocompromised adults.

101.

REPELLENT ACTIVITY OF ESSENTIAL OILS FROM ANDEAN SPECIES OF SAN JUAN AGAINST *Triatoma infestans*

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Chagas disease is a major public health concern in Argentina with estimates near three millions infected people. Essential oils from (EO) *Azorella cryptantha* and *Gymnophyton polycephalum* were assayed *in vitro* for their repellence activity against five instar nymphs of *T infestans,* the vector of Chagas disease. Fresh aerial parts were hydrodistilled to obtain the EO in a Clevenger type apparatus. EO were evaluated at 1, 24 and 72 hours of treatment. Chemical composition was carried out by GC-MS. Percent Repellency (PR) was determined according to standard method. Analysis of EO oils identified 16 components for *G. polycephalum* representing 96.74% of the EO and 31 components for *A. cryptantha,* representing 89.06% of the EO. Main components from *G. polycephalum* EO were camphene, (E) β-ocimene and α-phellandrene. Mean repellency was 100% and 86.7% for *A. cryptantha* and *G. polycephalum* respectively, both equivalent to V class. The results provide evidence that Andean species, should be sheltered due to the bioactivity of the EO to alleviate local problems as Chagas‘ disease.

We are grateful to CICITCA UNSJ and to Servicio Nacional de Chagas, Córdoba for providing the insects.

102.

INSECTICIDAL AND REPELLENT ACTIVITY OF *Tagetes* ESSENTIAL OILS FROM TUCUMÁN (ARG.) AGAINST *Ceratitis capitata* AND *Triatoma infestans*

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We evaluated the toxic and repellent potential of essential oils from Tagetes species from Tucumán, Argentina. Fresh aerial parts were subjected to hydro distillation for 2h in a type Clevenger apparatus. Chemical composition was carried out by GC-MS. The oil yield was 1.34% p/p (6.7 mL) and 0.92% (5.6 mL) for *T. minuta* and *T. rupestris,* respectively. Qualitative and quantitative analysis of the essential oils identified 12 components for *T. minuta* representing 94.75% of the oil and 9 components for *T. rupestris*, as well as one unidentified peak, representing 96.62% of the oil. Main compounds were: dihydrotagetone, (E) β-ocimene, (Z)-tagetone, (E)-tagetone, (Z) ocimenoneand (E)-, ocimenone. At 24, 48 and 72 hs post- treatment, doses of 50 and 100 ug/insect caused significantly higher mortality than that of the control (from 80 to 96% for *T. minuta* essential oil and 38 to 78% for *T. rupestris* essential oil). On the other hand, repellent activity of Tagetes essential oils was assayed against *T. infestans* according to standard method. Mean repellency was 94.67% and 81.33% for *T. minuta* and *T. rupestris* respectively, both equivalent to V class.

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103.

LIPID COMPOSITION OF DIFFERENT AMARANTH SPECIES

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Interest in amaranth species is due to their well-known nutritional value as well as their potential for widening the diversity of commercial agricultural production and contributing to the world food reserves. The physical and social deterioration caused by the introduction of soy crops could be mitigated by this alternative crop. The purpose of this work was to characterize and assess the lipid composition of four amaranth species. The studied samples were seed flour from *Amaranthus dubius* Mart. ex Thell. (Ad), *Amaranthus cruentus (Ac), Amaranthus muricatus (Am)* and *Amaranthus standleyanus (As).* The determination of fatty acids was done according to Stanbie by gaseous chromatography with previous derivatization. The results show predominance of unsaturated fatty acids in all the studied species (Ad: 75.87%, Ac: 75.46%, Am: 61.02%, As: 76.80%), which has important health implications, since excessive intake of saturated fatty acids is one of the risk factors associated with atherosclerosis and coronary disease. The content of essential fatty acids in the studied species is acceptable for the human diet, considering that these acids have to be incorporated in the diet since they cannot be synthesized by the organism.

104.

AN INTEGRAL STUDY OF AN AMARANTHUS OF NUTRITIONAL RELEVANCE

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The genus Amaranthus includes approximately 60 species, and is characterized by its abundant production of seeds and leaves. The horticular cultivation of amaranth dates back to over 2000 years. The reasons to promote the development of this crop are based on nutritional, ecologic and economic factors. They constitute an important source of energy, proteins and other essential nutrients that favor a balanced diet, especially for low income social groups. *Amaranthus dubius* Marth. ex Thell. (Ad) has called the attention of researchers because of its rapid biomass accumulation in a relatively short time (120 days, according to previous studies). The purpose of this work was to study the fiber content and lipid composition in the whole Ad plant. Vegetable material (Adv), seed (Ads) and root (Adr) were studied in the form of flour. The fiber content was assessed as total dietary fiber, soluble and insoluble, according to Prosky. Fatty acid determination was performed according to Stanbie by gaseous chromatography with previous derivatization. Both in biomass as well as in seed and root, the total dietary fiber corresponds to the insoluble fraction (Adv: 40.48%, Ads: 15.33%, Adr: 3.06%). The lipid content study showed predominance of unsaturated fatty acids in all the studied parts (Adv: 54.95%, Ads: 75.87%, Adr: 56.54%). These characteristics are indicative of a potential beneficial effect for human health and make this species an economic and nutritional agroindustrial alternative.

105.

Acanthamoeba ISOLATION FROM ENVIROMENTAL SAMPLES. STUDY BY MORPHOLOGIC AND MOLECULAR CHARACTERIZATION

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The *Acanthamoeba* genus includes free living ubiquitous protozoa. They have been found in soil, fresh water lakes and rivers, swimming pools, tap water and air samples. Some are of medical importance as causative agents of infections and disease in humans, representing a risk factor for human health, since the contact with them is the main infection via. The aim of the present study was to isolate and characterize, by morphological and molecular methods, *Acanthamoeba* from several environmental sources of Mendoza. Subsecuently, we propose to compare and evaluate molecular methods in parallel to microscopic examinations in order to achieve a specific identification of *Acanthamoeba*. 100 samples were collected from environmental sources, 50 from rivers, lakes, outdoor and indoor swimming pools and tap water and 50 from soil of several areas. The parasite was isolated and characterized by microscopic examination from 27 water samples and from 6 soil samples. As molecular tool, we used the specific primer pair JDP1/JDP2 in order to perform a specific and sensitive PCR. All our morphological findings were confirmed by PCR. We detected the presence of *Acanthamoeba* in abundant natural and artificial freshwater reservoirs and, in low frecuence, in soils. The parasite distribution in human environments represents a potential danger for human health because the nearly contact with such amoebae is inevitable.

106.

INFLUENCE OF GLUCOSE CONCENTRATIONS IN *Yersinia enterocolitica* BIOFILMS

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Yersinia enterocolitica (*Ye*) is an enteropathogen with a biphasic lifestyle alternating between the food/water environment and the mammalian gastrointestinal tract. Bacterial in biofilms are more resistant to antimicrobial agents than in planktonic form, and this feature is determined by many factors. Previously, we demonstrated the ability of *Ye* to form biofilms on abiotic surfaces. The aim of the present work was study the influence of different glucose concentrations, in the culture medium, on the ability of *Ye* to form biofilms on abiotic surfaces. Four *Ye* "nonvirulent" biotype 1A strains, and 4 *Ye* biotype 1B virulent strains were studied. The culture medium was trypticase soy broth (TSB) without or added with glucose in the following concentrations: 0.25, 0.5, 0.75, 1.00 and 2.00% (TSBG). After an overnight culture, 100 µl of each strain were added to 10 ml of TSBG, put into a 24-well microtiter plate, and cultured for 72 h at 25 or 37°C. Then, the ability to form biofilm was measured by staining with 1% crystal violet (CV), solubilizing with 96° ethanol, and finally, reading the optical density at 590 nm (DO_{590nm}). The glucose concentrations that enhanced the *Ye* biofilm formation were 0.50 and 0.75% at 48 h of culture at both temperatures ($p<0.05$, compared with 0.00%). Although, more studies are needed to better understand the optimal conditions for biofilm formation by *Ye*, the results of the present work suggested that glucose concentration strongly influences this *Ye* feature.

107.

ANTIOXIDANT ACTIVITY OF NATIVE FRUITS FROM SAN JUAN PROVINCE, ARGENTINE

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Antioxidants are important of in the maintenance and protection of health from the damages induced by oxidative stress. The development of funtional foods and the extracction of novel potentially therapeutic compounds from medicinal plants are carrying out. No reports related with free radical scavengers activity, total phenolics, flavonoids, anthocyanins contents as well as chemical analysis of the fruits from *Maytenus viscifolia*, *Ramorinoa girolae* and *Zuccagnia punctata* has been found in the literature. The antioxidant capacity of petroleum ether (PE), dichloromethane (DCM) and methanol (MeOH) extracts was assessed through the scavenging effects on radical DPPH and the FRAP (ferric reducing-antioxidant power) assay. The highest DPPH activity was found for *Z. punctata* and *R. girolae* MeOH extracts (>90 % at 50 mg/ml).The DCM extract from *Z. punctata* showed the highest percentage of phenolic (>30g gallic acid equivalent /100g extract) and flavonoids (>10g quercetin acid equivalent /100g extract) .The results obtained indicate that fruits from *R. girolae* and *Z. punctata* are an important source of antioxidant compounds.

108.

STRUCTURAL ANALYSIS AND DYNAMICS OF AN ASSEMBLES OF BIRDS IN WETLAND OF MONTE, SAN JUAN, ARGENTINA

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The wetlands are freshwater systems of great importance in arid and semiarid areas. They are responsible for numerous ecological functions and harbor a great biodiversity. However, currently suffer major impacts. In this work we analyze space-temporary fluctuation of the diversity, richness, abundance and dominance of an assemblage of birds in a wetland. We sampled during six months in seven different environmental during the 2008. The method used was of transects and fixed point. We record 68 species and 2019 individuals. The Simpson diversity index (0,91 and 0,93) and richness (38 and 31) are higher in "Pajaro Bobo" and "Espejo de Agua" but the dominance (0,004 and 0,003) is lower. September is the month with more richness and less dominance. Julio is the month less diverse. Nine species are very common of being observed. There are significant differences between environmental (X^2= 1678,3; Gl= 6; p <0.0000001; n=36) and among the months (X^2=139,5; GL; 5; p <0.0000001; N=36) in relation to the abundance. According to the Morisita index the environmental of "Pájaro Bobo" and "Totoral" have a greater similarity (0.77) as in the months of June and Julio (0.89).
This work is the first contribution to understanding of the dynamics of wetland in the arid and semiarid system of Monte.

109.

FRACTIONS OF *Larrea divaricata* ENHANCE PHAGOCYTOSIS OF *Candida albicans* BY MURINE MACROPHAGES

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Larrea divaricata is known for its multiple applications in folk medicine, It is known that decoction possess fungicidal effect. The aim of this work was to evaluate *in vivo* the effects on macrophages (MØ) treated with 3 fractions (F1, F2 and F3) and co-cultured with *C. albicans*. Mice were injected (i.p.) twice in a 48 hs period with 15 mg/kg of each fraction. Then, MØ were co-cultured with yeast. The following determinations were carried out: 1) phagocytosis by: a) Giemsa staining and b) NBT reduction; 2) NO production and 3) candidacidal assay. Results shows that F1 increase phagocytosis, NBT reduction ($p<0.01$) and NO production ($p<0.05$), but F1 doesn't reduce the viability. On the other hand, F2 induce the increase of phagocitosis ($p<0.05$), but this increase was not observed on NO production and NBT reduction, nevertheless F2 shown a decrease of *C. albicans* viability ($p<0.05$). F3 increase the phagocytosis and NO production ($p<0.05$), but not the NBT reduction. In conclusion, while F1 exhibited microbicidal effects e.g. increase of NO and reduction of NBT, these are not enough to reduce the yeast viability in the experimental conditions. By contrast F2 does not present the same effects and reduces the viability of yeast as well as F3. This difference in the activity of fractions could be due to the relatively high content of nordihydroguaiaretic acid presenting F2 and F3 fractions and/or by the presence of others fungicidal compounds.

110.

ANTIBACTERIAL SCREENING OF A COUMARINES GROUP

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Coumarines are plant ubiquitous compounds fully distributed in families such as in *Umbelliferae/Apiaceae* and *Rutaceae.* They have been isolated as glycosides and/or in their free forms. It has been reported for them antifungal, antibacterial and, the most well-known, anticoagulant activity, the last one involved in defense mechanisms against predators.

The objetive of this work was to evaluate antibacterial activity of 5-hidroxycoumarin (**1**), 3-acylcoumarin (**2**), coumaranone (**3**), 4-hidroxycoumarin (**4**), coumarin (**5**), 3-hidroxycoumarin (**6**), 7-hidroxycoumarin (**7**), 6-hidroxycoumarin (**8**), against *Lactobacillus acidophilus*, *Bifidobacterium bifidum* and *Bacillus subtilis*, from a commercial liophilyzated of gram+ bacterium, by microdilution agar assay.

The results obtained, expresed as MIC (minimal inhibitory concentration), are: coumaranone (**3**) >250µg/mL, 3-acylcoumarin (**2**) and 6-hidroxycoumarin (**8**) 250µg/mL, 5-hidroxycoumarin (**1**) 125µg/mL, coumarin (**5**) 62.5µg/mL, 4-hidroxycoumarin (**4**), 7-hidroxycoumarin (**7**) and 3-hidroxycoumarin (**6**) <1.95µg/mL.

It is known that pure compounds with MIC values lower than 25µg/mL are very promising as antimicrobial agents. Therefore hidroxylated coumarines in 3, 4 and 7 positions, show interesting activities, similar to those of eritromicin and gentamicine, well-known antibiotics.

111.

ENVIRONMENTAL FACTORS AFFECTING LENTIC MOLLUSK DISTRIBUTION IN NORTHERN MENDOZA PROVINCE

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Although studies on distributional ecology of freshwater mollusks have recently been initiated in Centre-West Argentina, vast zones remain unexplored. The aim was to examine the factors affecting malacofauna distribution in lentic waters from Mendoza River basin (MRb). The study was conducted in summer/09 at 25 sites from Andean high wetlands to lowlands. Mollusks were counted to species and a series of environmental parameters were measured. Multivariate Analyses were used to ordinate sites based on environmental variables and to explore the relationships between measured variables and mollusk assemblages. In all, means and ranges of conductivity (CD), water temperature (WT), oxygen saturation, pH, vegetation cover (VC), depth and proportion of fine grain in sediment were 1414.4 (232-5950)④S.cm^{-1}, 17.8 (5.1-32.2)^{o}C, 70.9 (28.5-92)%, 7.8 (6.96-9.64), 54.9 (25-78)%, 15.1 (3.5-37)cm and 53.8 (10-90)%, respectively. Mollusks were present on 15 out of the 25 sites sampled. *Lymnaea viator, Physa acuta*, *Heleobia hatcheri, Heleobia* sp., *Biomphalaria peregrina, Pomacea canaliculata, Chilina mendozana and Pisidium chiquitanum* were identified. Highest species richness and relative abundance of mollusks matched with moderate levels of CD and WT and high values of VC as those of the low middle reach of MRb. Cold and moderately vegetated high waters had no mollusks. Harder, warmer and poorly vegetated waters of lowlands generally represented critical conditions for development of mollusks.

112.

ALTITUDINAL DISTRIBUTION PATTERNS IN THE LENTIC MALACOFAUNA OF NORTHERN MENDOZA PROVINCE

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Knowing regional malacofauna contributes to conserving bio-diversity, assessing water quality, designing epidemiology surveyllance plans and enhancing biogeographical and paleoenvironmental knowledge. Except *Lymnaea viator*, mollusks of northern Cuyo are scarcely studied, including those from lentic waters of northern Mendoza Province. The goal is to examine mollusk diversity in the Mendoza River basin (MRb) along an altitudinal gradient. In summer/2009, biological samples (hand sieve, 10-15min each, 3/site) were taken at 25 lentic sites from 4 zones of MRb: high Andean wetlands [HA, >3000 m above sea level (masl); *n* sites (s): 10]; high middle reach (HM, 3000-2000masl; s: 6); low middle reach (LM, 2000-1000masl; s: 5); lowlands (LO, <1000masl; s: 4). In all 8 taxa were identified, distributed as follows, HA: no mollusks; HM: *L. viator*; LM: *L.viator*, *Physa acuta*, *Heleobia* sp, *Heleobia hatcheri, Chilina mendozana y Pisidium chiquitanum;* LO: *L.viator, P.acuta, Heleobia* sp., *Biomphalaria peregrina* and *Pomacea canaliculata*. The upper part of the gradient is not favorable to mollusk development. Highest species richness (6) was detected between 1000 and 2000 masl. *L. viator* (only species found over 2000 masl) showed the broadest altitudinal range (633-2954 masl). *B.peregrina* and *P.canaliculata* were registered below 1000 masl, where tolerant species such as *P. acuta* and *L. viator* were also detected. Our results suggest clear altitudinal distribution patterns for freshwater mollusks in Centre-West Argentina.

113.

BIOAUTOGRAPHY ANALYSIS OF ACTIVE *Acacia aroma* EXTRACTS AGAINST *Staphylococcus aureus*

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Acacia aroma is used in Argentine folkloric medicine for wound healing, antiseptic and for the treatment of gastrointestinal disorders. Leaf and bark infusions have diuretic, anti-inflammatory and cicatrizant uses. Considering the therapeutic importance of the *A. aroma,* the phytochemical study was performed and antibacterial activity of the ethyl acetate and ethanolic extracts of this plant was evaluated for TLC and bioautography. Three micro-liters of both extracts were injected in plate of TLC. Ethyl acetate, formic acid, methyl-ethyl-acetone, water (5:1:3:1) and chloroform, methanol, water (70:30:4) were used as development solvents. For detection qualitative of activity anti-*Staphylococcus*, the bioautography was performed: developed plates of TLC were covered with BHI agar 0.6% containing 0.1% 2,3,5,triphenyltetrazolium chloride and a suspension of *S. aureus* (10^7 CFU/ml). The plates were incubated at 37°C for 24 h. Rutin, quercetin, oleanolic acid and β amirin were used as standards. Where bacterial growth has been inhibited an uncoloured area can be seen on the deep pink-red background. TLC analysis revealed the presence of flavonoids (rutin and quercetin) and sapogenins (oleanolic acid and β amirine). The bioautography assay demonstrated well-defined inbibition zones against *S. aureus* in correspondence with flavonoids and sapogenins bands. The findings validate the traditional uses of *A. aroma* against infections diseases.

114.

FIBROSIS AND APOPTOSIS GENE PATTERN IN NEONATAL OBSTRUCTIVE NEPHROPATHY: ROSUVASTATIN MODULATION

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Obstructive nephropathy is a kidney disorder complex to treat due to the severe apoptosis and fibrosis. Previous studies shown that rosuvastatin (Ro), may have potential utility as a therapeutic option in kidney diseases which lead to apoptosis and fibrosis. Objective: to evaluate the possible antifibrotic and antiapoptotic effects of Ro during neonatal unilateral ureteral obstruction (UUO). Materials: Neonatal rats were surgically obstructed (experimental group) or not (control group), which were Ro treated or not (10 mg/kg per day) during 14 days. Subsequent nephrectomy and processing of the renal cortex to determinate by RT-PCR technique, genes expression of inducible nitric oxide synthase (*iNOS*), heat shock factor 1 (hsf_1), heat shock protein 70 (hsp_{70}), *bax,* bcl_2, wt_1, p_{53}, *snail*, bone morphogenetic protein (bmp_7), *E-cadherin*, transforming growth factor *(tgf-β)* and tumor necrosis factor (*tnf-α*). Results: UUO induced fibrosis and apoptosis, while Ros treatment modulated the fibrotic and apoptotic genes patter and increased the *bmp7*, *caderina E, wt1*, *p53* and *bcl2* expression as well as decreased the profibrotic and proapoptotic genes expression (*bax, tnf-α y tgf-β*).
Our results allow us to suggest that Ro renal protection during UUO is linked to heat shock response and nitric oxide bioavailability interaction, with concomitant decrease in pro apoptotic gene pattern.

115.

GERMINATION OF *Echinopsis leucantha* (CACTACEAE). EFFECTS OF TEMPERATURE AND LIGHT

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Echinopsis leucantha is an endemic species of widespread distribution in Argentina. Its populations in the center-west of Mendoza are being increasingly affected by urban growth and crop development which endanger its survival.
The objective of the present study was to determine, by seed germination assays, the combined effect of treatments at temperatures of 20 and 30ºC with white light, red light and darkness. The results obtained indicate that the highest germination percentages (90%) were achieved with temperatures of 30ºC and white light. Germination reached 80 to 85% with red light, and only 10% in darkness. Seeds are megathermal and photoblastic.

116.

ANTICANCER AND CYTOTOXIC ACTIVITY OF NEW SEMICARBAZONES AND THIOSEMICARBAZONES

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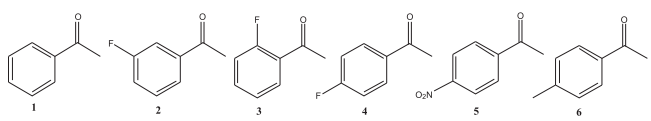
A series of new semicarbazones and thiosemicarbazones were synthesized from different prochiral ketones (1-6) using equimolar quantities of thiosemicarbazide y/o semicarbazide hydrochloride in ethanol. The reaction mixture was refluxed for 8 h. The product obtained was filtered, recrystallized and their structures were confirmed by spectral data (IR, RMN).



Ketones and products were tested *in vitro* for their capacity to inhibit the growth of two cancer cell lines, CT26 (murine colon cancer) and B16 (murine melamome). Cells were grown at 37ºC in a humidified atmosphere containing 5% CO_2 in DMEM medium, supplemented with fetal bovine serum, l-glutamine, sodium pyruvate, penicillin and streptomycin. Antitumor activity was evaluated by MTT method. Absorbance of the solution was measured at 570 nm. Semicarbazones and thiosemicarbazones were more active than the corresponding ketones. Thiosemicarbazone of **2** and semicarbazone of **3** showed a potent growth inhibitory effect toward CT26 and B16, respectively. Apoptosis was confirmed by RT PCR.

117.

FORMULATION AND STORAGE STABILITY OF BIOCONTROL AGENTS

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Yeast *Cryptococcus laurentii* BNM 0525 is an effective biological control agent (BCA) to the phytopathogen mould, *Botrytis cinerea.* The BCA must be formulated as products having long storage stability, of at least 3 months. The objective of this work was to study and to compare the shelf life of freezing liquid formulations containing different additives in combination with skimmed milk (SM) as cryoprotectants for preserving the viability of *C. laurentii* BNM 0525, after 3 months cold storage. Yeast cells were produced on Yeast Glucose Medium. Dilutions of cells were plated in duplicate onto surface of YGM in Petri plates before and after freezing. The number of colony forming units was counted (CFU/ml) and percentages of survival were estimated. Glycerol and sugars (Glucose, Sucrose, Lactose and Fructose) were used as additives. Statistical significance was set at $p=0.05$. The shelf life of different liquid formulations was evaluated. After 3 months freezing storage, survival of yeast cells was improved by using appropriate additives containing combinations of SM / fructose 5% and 10% (53.5% and 46.22%) and glycerol (50.38 %). Then, an appropriate selection of suspending medium is essential in order to preserve acceptable levels of viable counts and developed an active formulation of BCA.
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118.

ISOLATION OF *Agrobacterium tumefaciens* IN DIFFERENT SOILS

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The use of bacterias of the Genus *Agrobacterium* is a powerful alternative tool to be applied in the vegetable improvement. In many species it is possible to regenerate plants starting from the roots subject to the agroinfection, which show characteristic particular phenotypes. The objective was to isolate native strains of this microorganism in different soils, and to evaluate its effect in the morphological development of native species. It was worked with soils of different composition, to each sample was carried out dilutions and then they were sowed in plate in the medium YMB y YEB. It was incubated 28º C, during 48 and 72 h. To the isolated colonies they were carried out study to the microscope and identification tests. The best results were obtained with a dilution 1/1000 in the medium YMB and of the soil with an organic material content (%) 0,50; the isolated colonies were sowed in a liquid means YMB, incubation to 28ºC during 48 and 72 h. These suspensions were inoculated in tip segment of *Prosopis caldenia*., being evaluated their answer in the rate of growth and neo-formation of organs to the 20 days, getting a percentage of rooting of 45% of the offsprings inoculated with good answer as for the number and length of the root.

119.

ANTIBIOGRAM: A COMPLEMENTARY TECHNIQUE FOR AN APPROPRIATE ANTIMICROBIAL THERAPY

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The aim of this study is to determine the importance of adequate antibiogram to therapeutic choice. The virulence of the microorganism, its presence in emerging diseases, failure in treatment, the indiscriminate use of antibiotics, in addition to antimicrobial resistance, makes the implementation of sensitivity the most effective tool for choosing antimicrobials. With discogram of various antibiotics its action was evaluated in the presence of microorganisms such as E. coli, P. aeruginosa and Enterobacteriaceae. The culture medium used was Mueller Hinton led culture oven at 37ºC for 12 to 18 hours. The interpretation of susceptibility testing allowed us to determine the susceptibility or resistance of microorganisms to study the action of antimicrobials. Pseudomonas aeruginosa and enterobacterias proved to be very sensitive to ciprofloxacin and Escherichia coli is of intermediate sensitivity to cephalothin and amikacin. According to the results we suggest the use of multidisc as we can determine the strength, the sensitivity of different antimicrobial agents as a choice for an appropriate remedy.

120.

A Pro12Ala POLYMORPHISM IN THE PPARγ2 GENE ASSOCIATED WITH LIPID PROFILE IN T2DM

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Peroxisome proliferator-activated receptor gamma 2 (PPAR γ2) controls adipocyte differentiation and regulates lipid and glucose homeostasis. The substitution of proline to alanine at codon 12 of the PPARγ2 gene (Pro12Ala polymorphism) is most widely studied. The aim of this study was to estimate the allele frequency of the Pro12Ala polymorphism of PPAR γ2 gene and investigate the association between this polymorphism and type 2 diabetes. Our sample comprised diabetic patients and healthy controls. Biochemical measurements were: HDLc LDLc, total colesterol (TC), triglycerides (TG) and Pro12Ala PPARγ2 polymorphism were also determined, using tetra-primer ARMS-PCR method. The frequency of the genotype Pro/Ala was significant different among diabetic patients and the control group, 13.3% vs 25% respectively. All genotype frequencies were in Hardy Weinberg Equilibrium. Levels of serum TG in diabetic patients were significantly higher in the Pro/Pro genotype than in the Pro/Ala and Ala/Ala genotype ($p<0.01$), whereas levels of LDLc were higher in the Pro/Ala and Ala/Ala genotype ($p<0.003$). No association is seen between the Pro12Ala polymorphism and T2DM. It appears that the Pro/Pro genotype may contribute to higher serum TG levels in diabetic patients.

121.

APPLICATION OF SIMULATION MODEL ON CORN TO EVALUATE CLIMATIC ADVERSITIES IN THE EAST-CENTRE OF SAN LUIS

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In the agricultural semi-arid region of San Luis province, the corn crop (*zea mays L.),* it is affected by the marked variability of rains, reducing the productivity of them. The frosts are also another adversity that impact periodically on production. The simulation models represent a tool to integrate elements of climate and operation practices in the corn crop. As it is the CERES – Maize simulation model , very used in Argentina and in different parts of the World, the calibration of such model with hybrid corn widely spread and the later application to evaluate simulated operation strategies using a metereological serie 1968-2005 from Villa Mercedes was outlined as target. The crop was done with direct sowing and technology used by middle stratum farmers.
The calibrated model had the following results: in irrigated crops the early and intermediate sowing dates resulted with better perfomances. The late sowings present a hihg risk of frosts. In dry farming the middle date ones present better perfomances but it must be taken into account the danger of frosts in late sowings.

122.

CHEMOKINE mRNA EXPRESSION AFTER BACTERIAL ORAL INFECTION IN IL-12/23p40-/- MICE

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Chemokines are small peptides that promote leukocyte migration into tissues. The cytokine interleukin (IL)-12 plays a protective role against the enteropathogenic bacteria *Yersinia enterocolitica (Ye)*. IL-12 is composed by two subunits, p40 and p35. The subunit p40 is also present in IL-23. The protective role of IL-12/23p40 in the mucosal tissue after *Ye* oral infection is still unknown. A cross-talk between cytokines and chemokines may explain protective effects of cytokines. In this work we compared chemokine mRNA expression in mesenteric lymph node (MLN) after oral *Ye* infection in wild-type (WT) and *IL-12/23p40*$^{-/-}$ C57BL/6 mice. The mice were infected orogastrically with 9 x 10^7 colony forming units (CFU) of *Ye*. Twenty-four hours after infection, MLN were removed and total RNA was extracted. RT-PCR was performed using specific primers for the chemokines: macrophage inflammatory protein (MIP)-2 and monocyte chemoattractant protein (MCP)-1. We found significantly lower expression of both MIP-2 and MCP-1 mRNA (p<0,05) in MLN from *IL-12/23p40*$^{-/-}$ mice compared with those from WT mice. We concluded that up-regulation of chemokine transcripts could be one of the mechanisms involved in the mucosal protective role of IL-12/23 p40 against *Ye* infection.

123.

COMPARATIVE STUDY OF MEDICINES CONSUMPTION WITH AND WITHOUT PRESCRIPTION IN THE SAN LUIS CITY

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Our aim was to compare the use of medicines with (P) and without prescription (WP) in the San Luis city. 438 interviews were carried out (July 2008), including age, sex, health problems and medicines P and WP. They were classified according to Anatomical Therapeutic Chemical Classification (ATC). **Results (%): P** 53.5, **ATC: A** 16.6 (antacids and ulcer drugs 31.5, antispasmodics and propulsive20.6), **M** 16.2 (anti-inflammatory and antirheumatic drugs 100), **R** 15.9 (adrenergic and glucocorticoid inhalants 44.3, antihistamine drugs 22.8) **N** 15.7 (analgesics and antipyretics 47.8, benzodiazepines 30), **C** 10.4 (modifiers of the renin-angiotensin system 39.1, beta-blockers 23.9), **J** 9.3 (betalactamics 70.7). **CFD** (combinations to fixed doses) 25.9. **WP** 46.5; **ATC: N** 41.9 (analgesics and antipyretics 85.6), **M** 26.4 (anti-inflammatory 100) **A** 19.4 (48.6 antispasmodics and propulsive, vitamins 25.6), **R** 6, **J** 4.7. **CFD** 24.9. NSAIDs were the drugs most used in both groups, being higher in WP. Antacids, drugs of respiratory system and antihypertensive were the next in importance in P, whereas the antispasmodic and propulsive were the next in WP. There were a high prevalence of self-medication, a significant use of antibiotics and benzodiazepines in P and vitamins in WP, a important utilization of CFD and drugs of doubtful or null therapeutic value. It is necessary to develop strategies to modify these behaviors that have many negative connotations in the health of the population.

124.

INHIBITORY EFFECT OF *Aristolochia argentina* ON MICE GASTROINTESTINAL TRACT

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Aristolochia argentina (family Aristolochiaceae) is know as "charrua" and the popular use of the infusión of roots of this plant is to treat gastrointestinal disorders. This study was aimed to investigate the effect of infusion 10% on small intestinal transit and castor oil induced diarrhea in mice. In control mice the charcoal meal travesed 54.9±1.78% of the total length of the small intestinal transit. Infusion delayed gastointestinal motility 41.61±2.15% (p<0.0001). Barium chloride induced increase peristalsis, infusion did not inhibit this activity. Pretreatment of mice with yohimbine or phentolamine did not influence *per se* small intestinal transit but antagonized significantly the inhibitory effect of infusion: 55.08±2.82% and 58.86±4.10% respectively. On the contrary, the effect of infusion was not influenced by atropine (45.26±1.81%), verapamil (46.95±2.13%) or propranolol (40.82±1.67%). It is suggested that α_2 adrenergic receptors mediate, at least in part, the effect of infusion in intestinal motility. Three hours after castor oil administration all control mice produced copious diarrhea. Treatment with infusion prevented diarrhea. Thus, the antidiarrheal activity of *A. argentina* is possibly related to its inhibitory action against gastrointestinal motility. Phytochemical screening indicated the presence of flavonoids, alkaloids, saponins, tannins among other compounds. This constituents may responsible for the antidiarrheal activity.

125.

DETERMINATION OF START TIME ANTIULCEROUS GASTRIC ACTIVITY OF METHANOLIC EXTRACTS OF *Acacia visco*, IN RAT

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In previous studies we reported that methanolic extracts of *Acacia visco* prevents gastric damage induced by ulcerogenic agents in rat (Biocell Vol 28(3) 2004). The aim of this study has been to determine: 1- Start time of antiulcerous gastric activity of leaves (*Av*MEL) and bark (*Av*MEB) methanolic extracts from *Acacia visco* in ulcer induced according to Robert *et al.* (1979) in rats 2- Study the antiulcerous gastric activity of *Av*MEL administered intraperitoneal (i.p.) route. Male, Wistar rats (200-240g) with water *ad libitum* an deprived of food for 24h were divided into twelve groups (n=5) 1- All animals previous at absolute ethanol (A.E.) administration (1ml) (v.o.), were treated as follow:G_1 at G_5 *Av*MEL (300 mg/kg) (v.o.) 5, 15, 30, 60 and 180 min respectively previous at A.E.; G_6 at G_{10} *Av*MEB (300 mg/kg) (v.o.) 5, 15, 30, 60 and 120 min. respectively previous at A.E., G_{11} Received *Av*MEL (300 mg/kg) (i.p.) 60 min. previous at A.E. and G_{12} saline (v.o.) (ulcer control). One hour later, all animals were killed, the stomachs exposed and degree of gastric mucosa damage was expressed a Ulcer Index from 0 to 5. Statiscal analysis by ANOVA Conclusion: 1- Antiulcerous gastric activity of *Av*MEL and *Av*MEB were effective from 5 min previous to A.E. 2- *Av*MEL and *Av*MEB administered 3h and 2h previous at A.E. respectively did not show effect antiulcerous gastric 3- *Av*MEL, did not exhibit antiulcerous activity by intraperitoneal route

126.

PREVALENCE OF ENTEROPARASITES IN CHILDREN FROM SAN LUIS CITY

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Parasitic diseases represent a medical, economic and social problem affecting all social classes. The aim of this work was to determine the prevalence of parasitic infection in fecal samples corresponding to individuals of both sexes less than 15 years old. The study was made in 205 serial fecal samples preserved in 10% formalin and processed by the method of Charles Barthelemy. Then they were observed under a microscope at low magnification stained with iodine.

The 43% (n=88) of the samples tested were positive for enteroparasites. The results showed a high prevalence of enteroparasites and predominance of poliparasitism (10.24%, n=21), with associations between pathogenic and non-pathogenic species. No differences by age or sexes were observed ($p > 0.05$). It was observed prevalence of *Blastocystis hominis* (59%, n =52) and *Giardia intestinalis* (41%, n =36). We compare our results with other studies and we can deduce similar prevalence in comparison with data from other authors.

127.

EFFECTS OF CASTRATION AND TESTOSTERONE REPLACEMENT ON THE LUNG HISTOARCHITECTURE

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There is strong evidence that oxidative stress plays a key role in the pathophysiology of several lung diseases. The presence of specific androgens and estrogens receptors in the lung implies that sex hormones play a physiological role in pulmonary function. The present study was designed to determine whether castration and androgen replacement result in changes in the lung histoarchitecture. Wistar male rats (200± 20 g) were separated in three groups: controls (Co, n:6), castrated (Ca, n:6), and castrated replaced with testosterone (Ca+T, n:6), 60 days after castrations. The lungs were processed for light microscopy, image analysis system (ImageJ) was used and oxidative stress biomarkers were measured. ANOVA was used for statistical analysis. The results indicate that castration significantly affected the antioxidant status, its evidenced by a significant increase lipid peroxidation in serum TBAR'S (mM/mg protein), Co: 0.7± 0,0003 and Ca: 1,6±0,0009 ($p<0.05$). Significant morphometrical changes were observed in Ca (expanded alveoli, accumulation of polymorphonuclear and inflammation), Ca + T showed alternated collapsed and expanded alveoli and edema. Morphometry analysis of expanded alveoli in arbitrary range showed Co: 0,3± 0,02 vs Ca: 0,7±0,1 ($p<0,01$) and Ca+T : 1,1±0,3 vs Co ($p<0,05$). These results indicate that castration modified the rat lung tissue and testosterone replacement after castration produces a partial recuperation.

128.

CADMIUM EXPOSITION ON LIPID PROFILE OF AORTA: EFFECT OF SOYBEAN AS PROTEIN SOURCE IN THE DIET

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Cadmium (Cd) is an important environmental pollutants and causes lesions in different organs, depending of exposure dose, time and administration route. We investigated the effect of administration in the drinking water of 15 and 100 ppm of Cd as $CdCl_2$ for 2 months on aorta lipid content in adult male Wistar rats, which were maintained with a diet containing casein as protein source (Cd 15-Ca and Cd 100-Ca groups). Also, we study whether the lipid changes produced by Cd can be modify by an isocaloric diet containing soybean instead of casein as protein source (Cd 15-So and Cd 100-So groups). Rats without Cd treatment were used as control (C-Ca and C-So groups). After extraction of total lipids from aorta using chloroform:methanol (2:1) the free and esterified cholesterol (FC, EC), triglyceride (TG) and phospholipid (P) fractions were separated by TLC. Their contents were determined from the scraped bands by spectrophotometry. Statistical significance at $p<0.05$. Cd-100 ppm increased the content of P, FC and TG in Cd-Ca; and P and FC in Cd-So, compared with C-Ca and C-So groups. The FC levels in Cd-treated and non treated groups feeding with soybean were lower than those of casein, indicating hypolipidemic effect. The administration of 100, more than 15 ppm of Cd for 2 months alters directly or indirectly the aorta lipid content suggesting that it could be a mechanism for Cd toxicity in the artery.

129.

EFFECT OF THE CHRONIC MELATONIN ADMINISTRATION ON THE PARS TUBERALIS OF VISCACHA

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Melatonin is a hormone synthesized and secreted by the pineal gland in response to photoperiodic cues. One important target for the hormone is the pituitary pars tuberalis (PT). Previous studies in our laboratory have demonstrated that the viscacha *(Lagostomus maximus maximus)* exhibited maximal pineal activity in winter and minimal in summer. PT showed ultrastructural differences between long and short photoperiods. The purpose of this work was to investigate the effect of chronic melatonin administration in the morphological characteristics of viscacha's PT. Eight adult male viscachas captured during the summer were used. The experimental group received two daily subcutaneous injections of melatonin (Sigma, 100 µg/kg body weight in oil solution) at 09:00 h and 17:00 h for 9 weeks, and the control group received only the diluent. The pituitary gland were rapidly dissected and processed by electron microscopy. PT-specific cells of control group exhibited cell-like characteristics with an important secretory activity and a moderate amount of glycogen. The experimental group showed ultrastructural variations with signs of a reduced synthesis activity, high amount of glycogen and a great number of cells in degeneration. These results were similar to those observed in the short photoperiod, thus supporting the hypothesis that these cytological changes are induced by melatonin.

130.

CORM SIZE AND INCUBATION UNDER CONTROLLED ENVIRONMENT CONDITIONS AFFECTS FLOWERING TIME, THREADS YIELD AND QUALITY IN SAFFRON PRODUCTION

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Saffron flowering is concentrated in a short period of time, therefore, the hand labor on saffron crop is variable throughout growing season. Previous works on saffron flowering physiology have allowed extend and arrange the flowering period at regular intervals by means of incubating saffron corms under controlled temperature conditions. The aim of this work was to analyze the effects of saffron corm size and incubation time under summer-like conditions (23-27ºC) on flowering time and threads production. Two categories of corm size (S3 and S4, 2.5-3.49 cm and 3.5-4.49 cm of equatorial diameter, respectively), in six incubation periods (between 59 and 101 days), were tested. The results from corms grown under controlled environment were compared with field crop data. There was a linear positive relationship between incubation days and harvest time of flowers. Earlier flowering up to 29 days was achieved under controlled environment compared with field crop conditions. S4 corms were three times more productive than S3. Saffron production under controlled environment was higher in yield and quality compared with that from field conditions.

131.

DESIGN OF A LABORATORY SCALE FERMENTER FOR BEER PRODUCTION

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Knowledge of the beneficial nutritional of yeast, dates back over 200 years old. The yeast *Saccharomyces cerevisiae*, has given rise to the most traditional biotechnology of beer elaboration. In this work, a laboratory scale fermenter for beer production was designed. We worked with ground Pilsen malt, cascade hops and yeast. The ground beans were macerated giving a mash of 1.087 g/ml, the expected value according to experts is between 1.08 and 1.12 g / ml. Hops to flavor bitter were added. The mash was left to settle and once it get cold, yeast was added and then placed it in the fermenter designed for this purpose, which has a volume of 3 liters, of which only two are filled with mash. As the fermenter is sealed, the gas pressure inside of it is regulated through a hose with one end connected to the lid of the fermenter and the other immersed in a beaker with water. This pressure can be adjusted depending on the height of water it is placed. Besides, the fermenter provides an optimum temperature between 5°C and 10°C for alcoholic fermentation. We measured physical and chemical parameters such as density using a pycnometer, surface tension applying the law of Tate and viscosity using a capillary viscometer, of the beer obtained. The results were very similar to those of the industrial beer which underscore the quality of the beer obtained.

132.

DIFFERENCES IN PHOTOSYNTHETIC RATE, STOMATAL DISTRIBUTION AND LEAF AREA AMONG GARLIC (*Allium sativum*) CULTIVARS

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In many crops, a genetic increase in photosynthesis rate (PR) per unit of leaf area (LA) has not been required to achieve higher productivity. Yield of garlic cultivars has been directly related to the LA developed for each cultivar, LA duration, and the particular pattern of dry matter allocation to different organs of garlic plant. The aim of this work was to comparatively analyze variations in photosynthesis rate and leaf area of seven INTA garlic clones (Castaño, Morado, Sureño, Nieve, Lican, Gostoso and Union), from three ecophysiological groups. Stomatic density (SD) and stomatic index (SI) analysis were previously performed for each cultivar. Leaves of all of them were amphystomatic. Values of SD and SI allowed classifying cultivars into three groups in terms of high (Lican and Union), medium (Castaño and Morado) and low (Sureño) values. There were significant varietal differences in relation to: maximum value of leaf area reached, rate at which maximum leaf area value was reached, and photosynthesis rate. The differences observed in both photosynthesis rate and leaf area may partially explain yield of cultivars surveyed.

133.

1-MCP AND ABA ON CABERNET SAUVIGNON ENHANCE BERRIES PER BUNCH, BUT ADDITIONALLY ABA INDUCES POLIPHENOL IMPROVEMENTS

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Stimulate berry set is an agronomical tool for improve yield on viticulture. Previously we showed that foliar sprays of abscisic acid (ABA) enhance yield in *Vitis vinifera* L. cv. Cabernet Sauvignon increasing the number of berries per bunch, without affecting the anthocyanin contents and the poliphenol index. In Vitis it has been informed that it produces an increase of endogen ethylene on preveraison stages. The hypothesis of the present work is that ABA decrease fruit abscission because it inhibits synthesis and/or action of ethylene. The objective was to evaluate the effect of ABA and 1-metilciclopropene (1-MCP, inhibitor of ethylene action, SmartFresh-Rhom&Hass Co.) on yield and composition of berries in Cabernet Sauvignon. The assay was established on a vineyard in Mendoza, Argentine. 1-MCP (100ppm) was applied in two frequencies: one only application in bloom (MCP1) and six weekly applications since bloom (MCP 6); ABA (250 ppm) it was sprayed weekly since bloom until harvest (ABA). MCP 6 and ABA treatments significantly enhance the number of berries per bunch, even so MCP 6 treatment significantly improved yield. 1-MCP treatments did not affect the composition of berries considering the poliphenol and anthocyanin contents, but ABA shows significantly improvements of these metabolites at harvest, suggesting that the hormone have additionally effects besides the inhibition of synthesis and/or action of ethylene.

134.

VITAMINS, MINERALS AND PHYTONUTRIENTS. RECOMMENDED DAILY INTAKE AND POSSIBLE ADVERSE EFFECTS

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Food supplements are defined as products for increasing the habitual daily ingestion, supplementing some nutrients in the diet of the healthy people, being their administration by oral route. The objective of this work was to analyze minerals and vitamins of 14 food supplements from Tahefarma SRL (San Luis), and to compare them with the recommended daily intake (RDI) and possible adverse effects of those nutrients according to Argentinean Alimentarius Codex (AAC). Vitamins and minerals were determined by AOAC methods and atomic absorption spectrometry. From vitamins and minerals analyzed was concluded that samples 8, 9, 12 and 14 do not provide 20% of RDI required by AAC for healthy adults. Deficiencies were observed in the samples: 8 (Vitamin B3), 9 (Vitamins C, B6, B2), 12 (Mg and Vitamin B5), 14 (Vitamins C and B6). When vitamins and minerals were correlated with RDI for children, pregnancy and lactation, deficiencies in Vitamins B3 and B5 (samples 8, 12) were also observed, but AAC recommends not to use supplements in those populations. Besides, adverse effects were not observed for healthy adults in none of the analyzed supplements.

135.

CROSS-REACTION INDUCED BY *Larrea divaricata* Cav. CRUDE EXTRACT AGAINST *Pseudomonas aeruginosa* CELLULAR ANTIGENIC PREPARATIONS

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Larrea divaricata Cav. (jarilla) is a plant with a documented folk use related to antimicrobial and antitumoral activities. However, there are few articles about cross-reaction between jarilla and *Pseudomonas aeruginosa* cellular antigens. The aim of this study was evaluate the humoral response of *L. divaricata* crude extract (JPCE) against different cellular antigens of *P. aeruginosa* ATCC 27853, and to analyze antigenic similarities by SDS-PAGE. Mice of Rockland strain weighing 18-20 g were subcutaneously (s.c.) injected with JPCE. IgG response was evaluated by ELISA. The proteins from sonicated cell, cytoplasm and membrane were used as bacterial antigens. When anti-JPCE sera were tested against the bacterial antigens significative differences ($p \leq 0.01$) was observed between IgG titer from sonicated cell and membrane proteins respect cytoplasm ones. The higher proteic similarity was observed between *L. divaricata* and *P. aeruginosa* membrane (35%). These results demonstrate the presence of common antigens between *L. divaricata* Cav. extract and different cellular antigens from *P. aeruginosa*. This study suggests that proteins of *L. divaricata* could potentially be used in the manufacturing of human vaccines.

136.

MICROBIOLOGICAL STUDY OF DEHYDRATED VEGETABLE FROM MENDOZA

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To many foods stability from de microbiological point of view is must be eliminating the water that contains (dehydration). Although the dried foods are stable, the diverse methods present/display different problems, is for that reason that it is important evaluate microbiological quality for avoid that they can cause alterations or be transformed into disease vehicles. The objectives of this work, a) evaluate the microbiological quality of dehydrated vegetables, b) to realize a comparative study based on the product class and form of presentation: 1) packaged and, bulk, 2) In form of dust, crushed, chopped and flakes.

Methods: 50 products were analyzed in which aerobic bacteria quantified themselves total mesophyles. (PCA) Plate count coliforms Agar, Moulds and leavenings (MyL) and total coliforms (CT) was obtained through NMP in broth Mc Conkey. Results: Dehydrated vegetables, minimum values: PCA: $6x10^3$; MyL: <30; NMP: <3; Count of spores: <10. And maximum values: PCA: $2{,}9x10^7$; MyL: $6x10^3$; NMP: $1{,}1x10^3$; Count of spores: $6x10^6$.

The observed counts indicate that the microbial contamination is variable. High values of PCA, MyL, CT and spore count are suspect unhygienic practices during processing.

The results indicate in average a greater contamination of the onion samples. Differences between dusts, crushed, chopped and flakes were also observed.

137.
LATERALIZED EXPLORATORY BEHAVIOR IN RATS SUBJECTED TO CHRONIC ADMINISTRATION OF TRACE ELEMENTS. PRELIMINARY EVIDENCE

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Previously in our laboratory, evidence was found suggesting that the phenotypic expression of the *HSR* gene (Hand Skill Relative, OMIM 139900) was modified in school children from a mountain region of La Rioja. The *HSR* gene has been linked to handedness, brain asymmetry, reading-writing capacity and susceptibility to schizophrenia. Furthermore, it has been proposed that environmental factors might modulate the expression of this gene. Since in La Rioja region studied abundant mineral deposits and trace elements are present; these elements might represent a possible factor modulating gene expression. The objective of the present work was to evaluate the behavioral effects of chronic administration of ZnTe on a lateralized exploratory behavioral model in the rat. Pups from parents exposed to ZnTe (0.3 µg/L) were used. Two groups were compared: (1) Control rats (n=21), and (2) ZnTe-treated rats (n=12). Animals were exposed continuously from their birth up to 30 days of age to tap-water (considered control) or water with ZnTe (0.3 µg/L). At 30 days, animals were tested in the Double Lateral Hole-Board Laberinth (DLHB) during 3 min. Results show that ZnTe treatment abolished the spontaneous lateralized exploration of the labyrinth corridor (50%-50% left/right preference, NS, ZnTe-treated rats; 75%-25% left/right preference, $p<0.027$, Control rats), decreasing left exploratory activity (38.5±4.6 Counts/3 min vs 61.5±6.2 Counts/3 min, $p<0.05$), and non-exploratory activity (84.5±15.3 Counts/3 min vs 147.5±17.7 Counts/3 min, $p<0.02$). Results suggest that trace elements might act as possible modulators affecting lateralized behavior in a similar way as observed in La Rioja children.

138.
RED WINE POLYPHENOLS SYNERGISTICALLY INHIBIT ANGIOTENSIN II-INDUCED CELL MIGRATION AND REACTIVE OXYGEN SPECIES PRODUCTION

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Dietary polyphenols are associated with the prevention of arterial hypertension. Angiotensin II (AII) is an important humoral factor associated with this disease. Reactive oxygen species (ROS) are involved in AII-induced vascular effects. We studied the effect of antioxidants present in red wine, quercetin (Q) and catechin (C), on AII-induced cell migration and ROS production in vascular smooth muscle cells (VSMC) obtained from small arteries of spontaneously hypertensive rats (SHR). We determined cell migration by scrape-wound assay, and ROS production by incubation with a fluorescent probe (H2DCF-DA). Data (mean±SEM) were analyzed by ANOVA and post test of Bonferroni. Q (10, 20 and 30 µg/mL) inhibited AII (10^{-7}M) induced VSMC migration after 24 h stimulation but C had no effect at the used concentrations. However, coincubation of Q(5µg/mL) plus C (6µg/mL) significantly inhibited AII-induced migration (157%±15.8 vs. 31.7%±7.2; $p<0,001$), suggesting a cooperative effect of polyphenols. Similarly, AII-stimulated ROS production was significantly inhibited by the combination of Q plus C (2.43 URF±0.33 vs. 0.60 URF±0.30; $P<0.001$). Our data suggest that polyphenols present in red wine may reduce in a synergistic way AII-induced oxidative stress and VSMC migration, preventing vascular damage in hypertension.

139.
CYTOPROTECTIVE EFFECTS OF Hsp70 AND ANTIOXIDANT TRANSCRIPTION FACTOR Nrf2 IN NEONATAL OBSTRUCTIVE NEPHROPATHY

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An important mechanism by which cells adapt to oxidant stress is to transcriptionally up-regulate a distinct array of cytoprotective genes responsible for buffering the cells' antioxidant capacity. In this study, we examined Nrf2 transcription factor and Hsp70 expression on oxidative stress modulation in neonatal unilateral ureteral obstruction (UUO). Rats were subjected to UUO (n=5) within the first 48h of life. After 7, 10 and 14 days of obstruction, nephrectomy was performed. The expression of Hsp70, Nrf2 and Keap1 were studied by WB; NADPH-oxidase and total antioxidant status (TAS) activity were performed. After 14 days of obstruction, decreased Hsp70 protein expression associated with Nrf2 protein cytosolic downregulation, linked to increased Keap1 expression, were shown. Oxidative stress induction was shown by NADPH oxidase activity and decreased TAS 14 days after obstruction. Conversely, 7 and 10 days after kidney obstruction, increased Hsp70 expression and cytosolic Keap1 linked to nuclear Nrf2 expression that leads to enhanced antioxidant glutathione *S*-transferase (GSTA2) gene with absence of oxidative response was demonstrated. These findings suggest that induction of Hsp70 and Nrf2 expression are involved on obstruction- oxidative stress resistance.

140.
FEEDING DETERRENCE IN THE SEED-EATING SPARROW *Zonotrichia capensis* AGAINST COMMON SEED SECONDARY PHENOLS

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Some allelochemical compounds such as phenolic secondary compounds (PSC´s) include deterrent activity against seed-eating animals. Birds have the ability to recognize such compounds and can circumvent the intake avoiding the adverse effects. *Zonotrichia capensis* it is a highly opportunistic wild bird with an ample diet breath, since it feeds on different kinds of weed seeds many of them with PSC´s. We test the hypothesis that this sparrow is able to avoid different kinds of phenols in relation to the particular phenol´s chemical structure. We realize two-choice feeding trials in the laboratory in order to evaluate the effects of topical application with solutions at 1% of PSC´s common in seeds. Only those compounds that turned out to be deterrents were re-evaluated to a minor concentration of 0.5%. The PSC´s evaluated were the high molecular weight phenols: tannic acid =TA and condensed tannins =CT and the low molecular weight phenols (phenylpropanoids): cinnamic acid =CA; cafeic acid =CfA and ferulic acid =FA. *Z. capensis* avoided significantly seeds topically applied with TA, CA and CfA at both concentrations and did not avoid the seeds topically applied with 1% of CT and FA. These results suggest that this sparrow rejects the phenols according to the particular chemical structure.

141.

GLYCATED HAEMOGLOBIN IN SUBJECTS WITH IMPAIRED FASTING GLUCOSE OR COMBINED GLUCOSE INTOLERANCE

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Impaired fasting glucose (IFG), impaired glucose tolerance (IGT) and combined glucose intolerance (CGI) are risk groups for type 2 diabetes. Glycated haemoglobin (HbA1c) is a reliable indicator of glycemic control in patients with type 2 diabetes. However, the use of HbA1c in screening for diabetes remains controversial. The aim of this work was to assess the usefulness of HbA1c as an early risk marker in subjects who had IFG o CGI. Female patients with isolated IFG (fasting glucose between 100 and 126 mg/dl and 2-h postload glucose < 140 mg/dl) (n=30) or CGI (fasting glucose between 100 and 126 mg/dl and 2-h postload glucose between 140 and 200 mg/dl) (n=28) were studied. The control group (n=32) consisted of healthy females without diabetes mellitus, fasting glucose < 100 mg/dl and 2-h postload glucose < 140 mg/dl. All subjects had body mass index (BMI) ≥ 25 and < 30 kg/m^2 (overweight). The age range was 40-68 years. After overnight fasting, HbA1c levels were measured. **Isolated IFG group:** HbA1c (5.61 ± 0.40%). **CGI group:** HbA1c (5.82 ± 0.61%). **Control group:** HbA1c (5.50 ± 0.34%). There was no statistically significant difference in HbA1c among isolated IFG and CGI groups with respect to control group. The present study suggests that HbA1c is not early marker to predict the development of type 2 diabetes in these high risk groups.

142.

BIOREMEDIATION OF "ALPEORUJO" BY *Aspergillus sp* M9-IBT, IN SOLID-STATE FERMENTATION

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"Alpeorujo" (Al) is the semi-solid waste from the olive-oil production. Al is a high pollutant waste (dark, strong odours and high chemical oxigen demand). The Al contains tannins, polyphenols, poly-alcohols, pectin, sugars, and lipids. Some of these compounds may be assimilated by microorganisms, especially if the poly-phenol content, sometimes reported as responsible of antibiosis and phytotoxicity, are dropped. On the other hand, solid-state fermentations (SSF) are suitable for the production of high-value bioproducts and also for bio-degradation of organic compounds and waste detoxification. *Aspergillus sp* M9-IBT is a mold isolated from Al (M9-IBT is an internal classification in the Institute of Biotechnology), and was found to be adequate for Al degradation. The aim was to describe the kinetics of the Al degradation and to state the level of decolourization performed. *A*. M9-IBT was cultured in Petri dishes, containing 20 g of culture medium (Al (50%) and grape pomace (50%), humidified to 50%, pH 4, sterilized at 121ºC), inoculated with 10^7 spore/g, and incubated at 30ºC for 7 days. Each 12 h, water content, pH and colour at 395 nm (in aqueous extracts), were determined. Dried weight loss (DWL) presented a sigmoidal shape, associated with the growth profile. Maximum DWL was attained at 72 h (200 mg/g). At this time, colour was reduced from 0.96 to 0.42 (Abs. 395 nm). Conclusion: at 72 h, about 50% of decolourization (removal of phenolics) and 20% solid waste reduction were attained, this is an encouraging result.

143.

AVERMECTINA PRODUCTION BY *Streptomyces Avermectilis* AND CARBOHYDRATES INTAKE

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"Streptomyces avermitilis" presents a complex morphology, and production of secondary metabolites of high interest. The biosynthesis of antibiotics (avermectin) is determined and influenced by physiological and environmental factors.
The aim was to study the production of avermectin and consumption of carbohydrates. Four different media: A (starch 40g / l, destillers soluble 7 g/l, autolizated yeast 5g / l, 2, biotin 5µg/ml, cobalt chloride, 0.05 g / l), B (dextrose 40g / l, destillers soluble 7g / l, autolizated yeast 5g / l, biotin 5 µg/ml, cobalt chloride, 0.05 g / l), AG and BG equals A and B media supplemented with glucose (5 g / l). The determination of carbohydrate intake was performed by the method of Wiener Glycemia Enzyme (glucose free), the avermectin concentration was analized by HPLC liquid chromatograph, Perkin Elmer series 200, column Waters 5µODS2 4.6mm-250mm, phase Mobile methanol: water (85:15 v / v) flow 1.2 ml / min, λ246nm. The highest production of avermectin was observed in medium A, with an average of 45ppm, followed by the medium AG 10ppm, while the medium B and BG yielded minimal productions (0.54ppm). Regarding glucose consumption, the production of avermectin required a minimum concentration of 5g / l. These data are of great interest for the formulation of culture media avermectin producers.

144.

MICROPROPAGACTION OF NATIVE SPECIES, *Prosopis.sp.*

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Native forests are a natural resource essential to life. The advance of agricultural frontiers, the intensive use of wood and frequent forest fires are major causes of deforestation. This calls for alternatives through private and / or public projects.
In San Luis,the locust tree P*rosopis sp*, is affected in this way. We propose to develop a technology for production of seedlings in an eficient way. The microprogation is a technique employed to produce *in vitro* clons of species in a large scale, in a short time, and during all year
Mother plants were produced from seeds. After three months they were used produce the internodal explant of 1 centimeter. In 20 ml glass tubes 5 ml of MS medium (Murashige and Skoog) supplemented with different auxins and cytokines, and the explanto were placed. Twenty days later, growth was observed along with the emergence of new buds. About days 40, the rooting process, begins.
This technique looks very promising and useful to obtain seedlings that can be used in reforestation and propagation of species of cultural-historical interest, as is the case of Algarrobo Abuelo in the province of San Luis.

145.

ULTRASTRUCTURAL FEATURES OF THE *Lagostomus maximus maximus* ADRENAL MEDULLA

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Ultrastructural features of the adrenal medulla have been described in a variaty of different mammals. However, very little attention has focused on *Lagostomus* adrenal medulla. The aim of this work was to study the adrenal medulla ultrastructure of this rodent. Adult male viscachas (n=4) were captured in their habitat, anes-thetized and sacrificed within 24 h. Ultrathin sections of the paired adrenal glands were processed and examined by transmission electron microscopy. The medullar parenchima is composed mainly by the chromaffin cells. These cells are triangle or ovoid in shape. They possess a single round or oval nucleus in a central or eccentric position. The cytoplasm contains numerous chromaffin granules with diameters of 300 to 500 nm. The granules display heterogeneous shape and variable electron density. The rough en-doplasmic reticulum and the Golgi apparatus, adopt a paranuclear location. Mitochondria, glycogen particles and spherical electron dense bodies are distributed among the chromaffin granules. Unusual cylindrical structures limited by endoplasmic reticulum membranes were observed near the nucleus. Sustentacular cells with a scarce cytoplasm and thin cytoplasmic processes are located between chromaffin cells. The nucleus is small, oval and indented. These cells are surrounded by amielinic nerve fibers. This study extends our knowledge of morphofunctional relationships in the *Lagostomus* adrenal medulla.

146.

MELATONIN- AND SHORT-DAY-INDUCED CHANGES IN ADRENOMEDULLARY ACTIVITY OF *Lagostomus maximus maximus*

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In wild rodents, long-duration melatonin signals (winter short days) are able to modify the symphato-adrenomedullary system. The aim of our study was to evaluate the effects of short days and exogenous melatonin on *Lagostomus* adrenal medulla. Seasonal study: adult male viscachas (n=30) were captured over the year in their habitat, anesthetized and sacrificed within 24 h. Melatonin treatment: viscachas were captured in February and maintained in long days. A group (n=6) received two daily melatonin injections (100 µg/kg) for 9 weeks. Controls (n=6) received the oil vehicle alone. August-September: chromaffin cell nuclear diameter (12.42 ± 0.42 µm**), S100 immunoreactive area (6.60 ± 0.10%*), tissue epinephrine (515.28 ± 59.97 ng/g*). February-March: 14.17 ± 0.36 µm**, 8.48 ± 0.09%*, 747.59 ± 42.90 ng/g*, respectively. Mela-tonin-treated group: chromaffin cell nuclear diameter (11.94 ± 0.15 µm*), S100 immunoreactive area (3.09 ± 0.16 %*), tissue epine-phrine (313.37 ± 53.18 ng/g*). Control group: 13.17 ± 0.17 µm*, 4.23 ± 0.13%*, 563.20 ± 35.72 ng/g*, respectively (ANOVA, $^{*}P < 0.01$,$^{**}P < 0.05$). Winter short-day viscachas and melatonin-treated viscachas showed a decrease in tissue epinephrine. The reduction in S100 immunoreactive area probably indicates metabo-lic exhaustion by excessive sustentacular cell activity. These cells may modulate epinephrine release. Adrenal medulla changes that occur during winter may be due to increased melatonin levels.

147.

***Cenchrus ciliaris*: RESPONSE TO STRESS DURING GERMINATION**

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Cenchrus ciliaris is a perennial forage grass from Africa and the midle east of Asia, they have a fast growing with life span around 50 days. This specie has been introduced in a lot of areas of the world because is a good tolerant to dry and hot temperatures. The objective of this work was to determine if this specie resist stress conditions in a most sensitive stage of our life span: the germination. Our making solutions of NaCl, KCl, $_2NaSO_4$, $_2KSO_4$, obtaining de -0.5, -1, -1.5, -2.0 y -2.5 Mpa osmotic potentials (Ψo). The seeds were planted in Petri dishes on paper, they were watered with 4ml of solution and were incubated at 25°C. Its design was at random with four repetitions, daily for ten days, the number of germinated seeds were counted, with the data obtained the percentage and the speed of germination (ERI) was calculated. The data was analyzed by ANOVA and by the Tuckey test. The interaction between solution and concentrations was statistically significance with a p-value of $\leq$0.001.This interaction. This interaction as a result of the germination in the manitol solutions was higher than in the other solutions at potencials waters below to -1 Mpa. The germination speed response in a similar way looks a high diferences between salts and manitol solutions. This specie showed the ability to germinate in high dry stress conditions, searching values near the 50% of germination in the below Ψo (-2 y -2.5 Mpa). Potentials which few species can tolerate.

148.

EVALUATION OF PARAMETERS IN PATIENTS WITH MODERATE ASTHMA TREATED WITH TWO DIFFERENT PHARMACOLOGICAL TREATMENTS (II)

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The goals of this trial were: 1-Determine the treatment in two groups of patients with moderate asthma: Group I with LABA (long action broncodilatator) and fluticasone (IC) and group II with ciclesonide (IC) and salbutamol PRN. 2-To perform forced spirometry and System of Impulse Oscilometry (IOS). 3-To evaluate bacterial colonization in induced sputum. 4- To determine the colonization with fungi into oropharynx cavity. 5- To compare bacterial infection in exacerbated patients. 6- To assess life quality by means of ACCT inquiry. We have studied 28 patients, 13 corresponding to I group and 15 to II group. The respiratory parameters by spirometry (FEV_1 and FEV_1%) and IOS were within the expected values for these patients. All of them had bronchial reversiblity (>12% and >200mL after 400 µg salbutamol). *B.catarrhalis* was isolated 10 times in group I and 9 in group II, *S. pneumoniae* 6 and 12 times respectively and *H.influenzae* 4 and 4. There was oral colonization by *Candida albicans* of 45.7% in group I and 53.3% in group II. The ACCT showed that in spite of the isolation of pathogen oportunist microorganisms in the sputum of studied patients there was not a single case of exacerbation by bacterial etiology in any of the groups.

149.

CARIOGENIC FOODS: ITS RELATIONSHIP TO FACTOR SALIVA

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Saliva has organic and inorganic components has different functions, including those related to caries activity:
Buffer Capacity Elimination of sugars Hard and fibrous foods have a protective effect for the tooth, because it stimulates saliva secretion.
Determine the correlation between cariogenic potential of food and saliva quality present. To establish the incidence of caries in relation to salivary flow and dietary habits. The study was based on a population of 75 children aged between 6 and 12 years. Odontogram and frequency of consumption of carbohydrate in a diary food diet at 7 days by evaluating the intake of such foods, indicating the times the child ate sugary foods.
Patient very susceptible: 28, with more than 6 times of sugar. Patients susceptible: 23, with more than 4 times in sugar. Slightly susceptible Patients: 6, with less than 4 times in sugar. The results showed, at higher moments of sugar, the biological risk of decay is directly proportional to them.

150.

SHIGA TOXIN-PRODUCING *Escherichia coli* O157:H7 DETECTED BY MULTIPLEX PCR IN CULTURE AND HUMAN FECES

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Shiga toxin-producing *Escherichia coli* (STEC) causes symptoms from acute diarrhea to hemolytic uremic syndrome. The aim of the present study was to establish the detection limit (DL) of *stx1* and *stx2* genes of STEC by multiplex PCR (mPCR), from culture (C) and artificially contaminated human faces (HF). Two STEC strains were used: one local (1) and one reference (2) strains. To establish the DL in C, both strains were cultured in trypticase soy broth for 18 h at 37ºC. Then, serial dilutions were performed from 10^7 to 10^0 CFU/ml, and 1 ml of each dilution was tested by mPCR. To establish the DL in HF, 1 g of a pediatric sample was inoculated with 1 ml of each strain using inocula of 10^9 and 10^7 CFU/ml, and cultured in 9 ml of EC broth at 37°C. Samples were taken for mPCR at different times: 0, 3, 6, 18 and 24 h. In C, the DL was 9 x 10^2 CFU/ml for strain (1) and 4,7 x 10^3 CFU/ml for strain (2). In HF, the *stx2* gene was amplified at any tested time for both inocula. The *stx2* gene was also detected by mPCR from the feces of a 3-year-old patient with diarrhea, after 2 h of EC enrichment. The mPCR on HF might reduce the diagnostic time of STEC in 48 h.

151.

VARIATION IN THERMAL SAFETY MARGIN IN *Odontophrynus occidentalis*: RESPONSE TO ENVIRONMENTAL CHANGE

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In vertebrate ectotherms the body temperature regulates a wide range of physiological processes. We study the thermal extremes in *O. occidentalis*. We record the critical thermal maximum (CTmax) in dry season (DS) and wet season (WS). We correlate this parameter whit the climatic variables: temperature maxima of the day (TMD), temperature minimum of the day (TmD), and relative heliphany (Hr). In the Las Flores gully, was collected 25 toads (12 in the DS and 13 in the WS). We record in the field the body temperature *(T_b)*. In the laboratory the toads were placed in the constant source of heat and were recorded body temperatures each 5 min until arriving to the CTmax, which is defined as the body temperature at which the toads could no longer right themselves when turned on their backs. The thermal range was 36 ± 2.2ºC and not shows significatives differences between season (DS and WS). The CTmax. was different between the seasons (Mann-Whitney: U=10.5, $p<0.00004$). In the WS (36.11±0.24) was more elevated than DS (34.1±0.33). The CTmax was correlation whit the TMD (Spearman, R=0.71, $p<0.00006$) and T_b (Spearman, R=0.45, $p<0.02$) and not show relation with other parameters (Hr and TmD). The modification of the thermal extremes with the climatic variables is physiological strategy for survival at the thermal changes of the environmental.

152.

POTENTIAL APOPTOTIC ROLE OF ANGIOTENSIN II TYPE 2 RECEPTORS IN RAT KIDNEY DEVELOPMENT

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Evidence suggests that Angiotensin II (Ang II) plays an important role in the complex process of renal organogenesis. Ang II binds and activates two major receptor subtypes, namely AT_1 and AT_2. Previously, we demonstrated that PD123319-treated animals exhibited kidneys with an enlarged nephrogenic zone and increased number of immature glomeruli. Since a pro-apoptotic role has been attributed to AT_2 receptors, the aim of present study was to examine the role of apoptosis mediated by AT_2 receptors in kidney development. We studied two groups at postnatal days 0, 8 and 15 (P0, P8, P15), control animals and those born from mothers treated with AT_2 antagonist (PD123319, 1mg/kg/day) during late pregnancy. In this study we detected the expression of AT_2 receptors, the pro- and anti-apoptotic genes, Bax and Bcl2 by RT-PCR. In control animals, Bax expression was higher at P8 and decreased by P15 while Bcl2 expression was low and almost constant at all ages. For PD123319-treated animals, lower levels were observed for both Bax and Bcl2 genes at all stages. DNA fragmentation was diminished in animals treated with PD123319. Recently, a potential role has been attributed to Bcl2 in cell adhesion mechanisms during kidney development. Taken together, these data suggest that Ang II AT_2 receptors could module the Bcl-2 expression required for the proper maturation of the kidney.

153.

CHALCONES AS INHIBITORS OF PHYTOPATHOGENIC FUNGAL *IN-VITRO* DEVELOPMENT

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In the search of novel antifungal compounds derived from natural products leads, a family of 22 chalcones was prepared in a "one step-one pot" procedure by condensation of methyl-aryl ketones and aryl-aldehydes, and characterized by mass spectrometry (MS). The antifungal activity of the family members was tested against the following series of phytopatogenic fungi: Six species of the *Aspergillus* genus (*A. niger, A. terreus, A. flavus, A. parasiticus, A. candidum* and *A. fumigatus*), two species of *Penicillium* (*P. notatum and P. crysogenum*) and *Fusarium graminearum.*

The results obtained showed that the presence of a furane moiety as the B ring of the chalcone is an important characteristic for the tested bioactivity, since (*E*)-3-(furan-2-yl)-1-(thiophen-2-yl)prop-2-en-1-one and (*E*)-3-(furan-2-yl)-1-phenylprop-2-en-1-one resulted in the most active derivative toward most of the above-mentioned fungal strains. On the other hand, derivatives with a tiophene moiety as the A ring demonstrated selective activity against the tested *Penicillium* strains. Moreover, the activity of the basic structure (*E*)-chalcone against two strains of *Aspergillus* and two strains of *Penicillium* is promising.

154.

CONTROL OF MYCELIAL GROWTH OF *Botrytis cinerea* BNM 0527 WITH THE IPRODIONE FUNGICIDE AND SIDEROPHORES

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Botrytis cinerea causes the gray mould in fruits and vegetables. Chemical control of this disease depended on the use of fungicides. However, these fungicides are becoming less effective because *B. cinerea* is developing resistance to them. Other alternative of control is the use of metabolites from biological control agents, such as siderophores. The aim of the present work was to evaluate the possibility of combining the iprodione fungicide with two siderophores (rhodotorulic acid and enterochelin) to help the control of *B. cinerea* BNM 0527. A conidial suspension of *B. cinerea* was placed on potato dextrose agar medium. Little holes were made in the agar and were filled with: a) iprodione-rhodotorulic acid mixture, b) iprodione-enterochelin mixture, c) iprodione, d) rhodotorulic acid and e) enterochelin. Plates were incubated at 28°C for 72 h and then the inhibition of mycelial growth was determined by the diameter of halos (mm). The mixtures iprodione-siderophore showed higher inhibitory halos than controls. Iprodione-enterochelin (250-100 ppm) showed an inhibition halo of 15 mm equal to the control with iprodione of 500 ppm. *B. cinerea* was more effectively controlled by on little dose the fungicide combining on rhodotorulic acid o enterochelin than by iprodione alone. These combined treatments would allow decrease the concentration normally recommended of iprodione (500 ppm) for standard postharvest treatments.

155.

ANTIGEN SIMILARITY BETWEEN *Larrea divaricata* Cav. PROTEINS AND *Pseudomonas aeruginosa* CELLULAR AND EXTRACELLULAR PROTEINS

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Larrea divaricata Cav. commonly known as jarilla, has been used to treat of a number of conditions. Nevertheless, no information is available so far as regards immunological properties. *Pseudomonas aeruginosa* is a Gram negative bacilli isolated from different environments mainly from hospitals, being considered a nosocomial pathogen. The aim of this study was to compare proteins from crude extract of jarilla (JPCE) and cellular and extracellular bacterial proteins. JPCE was obtained from leaves in PBS 7,4, 24 hs at 4ºC and concentrated by ultrafiltration. The microorganism used was *P. aeruginosa* ATCC 27853; the cellular proteins were obtained by sonication and the exoproducts were obtained from the supernatant, dialyzed, and lyophilized. To determine cross reactivity an anti sera JPCE against the bacterial antigens was tested The levels of IgG were obtained by using an ELISA test. Extract and bacterial protein samples were electrophoresed through a 10% separating polyacrylamide gel. The protein profiles of the three antigens showed a similarity coefficient greater than 40%. The antibodies anti JPCE showed a cross reactivity with cellular and extracellular antigens ($p \leq 0,05$) in relation to the negative control. The results obtained showed an immunological similarity between crude extract of *L. divaricata* Cav and *P. aeruginosa* cellular and extracellular proteins. These results encourage to search of protective antigens against bacterial infections produced by ubiquitous microorganisms.

156.

ENVIRONMENTAL FACTORS AFFECTING MACROINVERTEBRATE ASSEMBLAGES FROM BAÑADO CARILAUQUEN

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Bañado Carilauquen (BC) is part of the Laguna Llancanelo basin, area relevant to biodiversity conservation and oil production. Aims were to survey macroinvertebrate pleuston and benthic communities and to examine how species richness and density respond to spatial changes and water characteristics. Biological samples and environmental parameters were taken seasonally during summer/2000-spring/2001 in 5 reaches of BC. In all, 47 taxa were identified, mainly insects. A growing gradient of conductivity and hardness was confirmed between headwaters (HD; relatively soft waters) and outlet (OL; very hard and saline waters). Highest taxonomic richness values were recorded at HD or nearby reaches, and lowest at OL. Benthos and pleuston were more similar to each other at HD and OL than in the middle reaches, probably in response to higher environmental stability at the gradient extremes (HD, OL). A decline in richness and density was observed from HD to OL. *Berosus* sp., *Chironomus* sp., Bembidiina, Dolichopodidae, Tabanidae, Nematoda and *Heleobia parchappii* showed affinity for hard waters such as those of OL, whereas *Metrichia* sp., *Oxyethira* sp., *Cricotopus* sp., *Dicrotendipes* sp., *Polypedilum* sp., *Lancetes biremis*, *Hyalella curvispina*, *Heleobia hatcheri*, *Chilina mendozana* and Dugesidae were present at HD, showing preference for soft, transparent and warmer waters. Excepting HD, very hard, eutrophic, polysaprobic and contaminated waters such as those of BC represent critical conditions for macroinvertebrates.

157.

SEXUAL DIFFERENCES IN PLASMATIC LIPOPROTEINS, OXIDATIVE STRESS AND ATHEROGENIC RISK IN CHRONIC STRESSED RATS

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The association between lipoproteic metabolism, oxidative stress and atherosclerotic risk has been demonstrated. The objective was to evaluate the plasmatic lipoproteins, the oxidative stress and the atherogenic markers in response to chronic immobilization stress (IMO) in both sexs rats. Female (F) (n=14) and male (M) (n=14) Wistar rats were assigned to control (C) or stressed (S) groups (IMO 180 days/2 h day, 3 times/week). At day 180, blood and aortic tissue sample were obtained. The lipoproteins fracctions were separated by ultracentrifugation and the fracctions obtained, Apolipoprotein B (Apo B), lipoprotein (a) (Lpa) and plasmatic malondialdehyde (MDA) were determinated. Aortic nitrotirosine was evaluated. The triacylglicerides (TAG) and cholesterol (Chol) in VLDL (30%), LDL (61%) and HDL (41%) were higher in MS than MC rats. The FS rats showed higher values of Chol VLDL (20%), LDL (33%) and TAG in VLDL (22%) than FC. Moreover, the increase of Chol and TAG in lipoproteins fracctions was lower in FS than MS. Apo B, Lp (a) and MDA values were higher and the nitrotirosine was positive in aortic sample of IMO rats of both sex. Chronic stress induces changes in the atherogenic patterrn. The lower increases in lipoproteins observed in FS than MS could be due to protector effect of oestrogen present in the female rats.

158.

SPONTANEOUS EXPLORATORY PREFERENTIAL DECISIONS AFTER TRANSIENT INACTIVATION OF THE NUCLEUS ACCUMBENS NEURONS IN THE RAT

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Evidence from our laboratory has shown that during exploration of novel environments, rats display preferential decisions regarding two mutually excluding ways of spatial exploratory activity. It is not known whether the nucleus accumbens (ACC), known to participate in motivated exploratory activity, has a role in the lateralized expression of exploratory behavior. The objective of the present work was to evaluate if the ACC is lateralized to modulate exploratory activity of unknown environments. Adult male rats (90 day-old) were implanted bilaterally with guide cannulae into the ACC for *in situ* microinjections. 48 h later, groups of animals were injected with saline (Control, n=14); lidocaine (Lid, 2 µg/µl) into the right ACC (n=19) or left ACC (n=12). 5 min afterwards, all groups of animals were tested in the Double Lateral Holeboard (DLHB) during 5 min as previously described. Results show that only inactivation with lidocaine of the left-ACC modified total exploratory activity of the DLHB corridor (Lid-left ACC 141±13.8 Counts/5 min vs Control 97±9.2 Counts/5 min; $p<0.01$). The same lidocaine treatment also decreased the proportion of animals exploring more the left than the right corridor (Lid-left ACC 58.8% left exploration vs Control 78.6% left exploration; $p<0.027$). In conclusion, results suggest that ACC neurons modulate the lateralized exploration of novel environments in the rat.

159.

GLUTAMIC ACID: LOCATION AND FUNCTIONAL STUDIES IN SPERM, SPERMATOGENESIS AND FALLOPIAN TUBE IN MOUSE

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The Glutamic Acid (Glu) is well studied at the central nervous system (CNS), although Glu receptors (GluRc) and Glu functions have not been fully described in sperms or fallopian tubes (FT). We reported the presence of GluRc in sperm cell and Glu as a triggering molecule of acrosomal reaction (AR). Now GluRc location was also extending to FT and mouse's testis. The GluRc was detected during the spermatogenesis in specific stadium related to acrosomal development. On the other hand, the same antibodies imuno stained the epithelium of FT according to sexual cycle. Again superfussion assays (SA) to establish the release – uptake of Glu was definitive demonstrated at the CNS, but not at the FT. In FT is important because is the physiological place for induction of AR. Recently, SA in the FT was positive. Moreover, these interchange had also a relationship with the stadium of the female sexual cycle. The uptake and release was different within the female cycle showing high uptake during diestrus and releasing at the estrus. Results indicate that sperm possesses GluRc – progressively expressed during spermatogenesis -, Glu promote AR and Glu is secreted and capture by FT - following the sexual cycle – to promote high level of Glu at the fertilization place and moment.

160.

***IN VITRO* MICROPROPAGATION OF *Jacaranda mimosifolia* Don.**

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The Jacaranda is a native tree of great importance because of its shelf life to the climate and its aesthetic value is used for parks and green spaces. The aim of this study was to determine the means of establishment, proliferation and rooting for *in vitro* culture of *Jacaranda mimosifolia* Don. for the purpose of propagation and conservation of the species.

Seeds were growth on Murashigue-Skoog medium 50%, the plants obtained were segmented and transferred to the Aspen Culture Medium (ACM) of proliferation and after to ACM of rooting. The results were 96% germination and 0% contamination. At 40 days, after two subculture in proliferation medium (ACM), yielded the following average values: 8.73 shoots /jar, 25.37 knots / shooth 3.71 cm / plant, 30.83 leaves / plant. However, there was a 0% of root formation and 100% callus formation, this is probably very suitable for forest culture, but not for *Jacaranda mimosifolia* Don., and the resulting auxin excessive amount for this species. It was possible to determine the appropriate means for the establishment and proliferation, it remains to establish the rooting medium suitable for this species.

161.

NORADRENALINE AND ANDROSTENEDIONE RELEASE IN *EXVIVO* SYSTEMS BY STIMULUS OF CATECHOLAMINE

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The autonomic nerve fibres converge to the testis along two major pathways, the superior spermatic nerve (SSN) and the inferior spermatic nerve (ISN). The first one arises to the testis from the superior mesenteric ganglia (SMG) whereas the ISN originates in the inferior mesenteric ganglia (IMG). The aim of the present report was to evaluate 1º androstenedione (A_2) release after the addition of noradrenaline (NA) in the ganglionic compartment in the system SMG- SSN- Testis (T) and in the system IMG- ISN-T and 2º to evaluate, the NA liberation in the testis compartment using both systems.The organs were incubated in Krebs Ringer at 37°C. A_2 release was measured by RIA and NA by HPLC. Student test was applied with a significance of $p<0.05$. A_2 and NA release in the T compartment showed a significant increase ($p<0,001$) at all times compared with the control groups when NA was administered in the IMG. However when administered in the SMG A_2 shows no change and NA decreases in the T ($p<0.001$).These results show that catecholamine stimulus in peripheral nervous system would be involved in the testis physiology across NA and A_2 release via SSN and ISN.

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162.

ANTIMICROBIAL ACTIVITY OF *Lactic Acid Bacteria* IS HIGHER AT THE BEGINNING OF STATIONARY STAGE

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Bacteriocins are antimicrobial peptides produced by many bacterial species including *Lactic acid bacteria (LA.B).* The study of these peptides is interesting for its antagonism against pathogens in food. The aim of this work was to determine at the stage of growth the *LAB* strains isolated in our laboratory, showing the highest antimicrobial activity. Three *LAB* strains were tested: lcSL3, lcSL12 and lcSL36. The growth curve was based on a standard curve built with the dry weights of culture broths after 48 h incubation. OD readings at 735nm of cultures in MRS were performed every two h for 24 h. Each time, cell-free supernatants were obtained to determine the antimicrobial activity against *Enterococcus faecalis* as indicator strain, using the well diffusion technique. The growth curves showed that the stationary phase begins around 14 h of incubation. Antimicrobial activity was observed at 8 h of incubation in all strains. *LcSL3, lcSL12* and *lcSL36* strains showed the highest antimicrobial activity at 16, 14 and 18 h of incubation respectively. Eight 8 and 9 mm inhibition halos concurring with the beginning of the stationary phase. Recent studies have shown that increased antimicrobial activity occurs primarily between the end of the log phase and the beginning of the stationary phase. Knowledge of conditions such as cell growth phase and the composition culture medium are useful for the application of lactic acid bacteria in food biopreservation.

163.

STRUCTURAL BIOLOGY OF *T. cruzi* TBP-ASSOCIATED FACTOR 9 AS POTENTIAL TARGET FOR DRUG DESIGN

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Trypanosoma cruzi is the etiologic agent of Chagas' disease. The objective of our work is the resolution by X-ray crystallography of the three-dimensional structure of *T. cruzi* proteins involved in the energetic metabolism as a first step for rational drug design based on the structure. The *T. cruzi* protein studied in this work is TcTAF9 (TATA Binding Protein Associated Factor 9). It is expressed in *E. coli* as a fusion protein with N-terminal His-tag. We have over-expressed, solubilized and purified the protein for crystallization and other structural assays. We have also constructed a model for TAF9 using the homology modeling method with the MODELLER program. The model helped to predict some aspects of the function of the protein inside the cell. According to TAF9 sequence, which contains a Walker motif (G-X-X-G-X-G-K), we hypothesized that this protein would function as an adenylate kinase (AdK). This was confirmed by catalytic assays. Our results showed that the protein was in its native state allowing to start doing crystallization assays.

164.

NEW EFFECTIVE ANTIMICROBIAL COMBINATIONS AGAINST *Staphylococcus aureus* MRSA

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Staphylococcus aureus methicillin-resistant is an important pathogen associated with a large number of infections in humans. The present work aims to determine the synergistic effect of dihydroxychalcones – oxacillin (Ox) combinations against a strain of this microorganism. Using a kinetic turbidimetric method developed previously, the antimicrobial activity of 2′,3-$(OH)_2$-chalcone, 2′,4-$(OH)_2$-chalcone and 2′,4′-$(OH)_2$-chalcone and its combinations with oxacillin (constant concentration: 6 µg/mL) were assayed. The application of an action mechanism allowed minimal inhibitory concentrations (MICs) evaluation. In the Table MICs values (µg/mL) are informed for both, chalcones alone and its combinations.

2′,3-$(OH)_2$-chalc		2′,4-$(OH)_2$-chalc		2′,4′-$(OH)_2$-chalc	
Ox: 0	Ox: 6	Ox: 0	Ox: 6	Ox: 0	Ox: 6
16.7	13.1	59.5	20.9	20.3	15.1

All combinations assayed showed synergism. Although 2′,4-$(OH)_2$-chalcone-oxacillin combination shows the highest synergic effect, 2′,3-$(OH)_2$-chalcone-oxacillin combination was more efficient againts *S.aureus* MRSA (MIC: 13.1 µg/mL).

165.
URINARY NICKEL MONITORING AS INDICATOR OF TOBACCO ADDICTION LEVEL

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Smokers are exposed to compounds of nickel in quantities between 2 and 6.2 µg/cigarette. Approximately 10 to 20% of metal is expelled in the cigarette smoke and can be inhaled as nickel carbonyl, a very toxic substance. In this work, the separation/preconcentration of nickel on nylon membranes (0.45 µm pore size) previously treated with eosin is proposed for later quantification by molecular fluorescence (λ_{em} = 547 nm, λ_{exc} = 515 nm). At the optimal experimental conditions, quantitative recovery was reached (superior to 99%), with a detection limit of 1.32 10^{-4} µg L^{-1} and quantification limit of 4.40 10^{-4} µg L^{-1}. The calibration of the new methodology is linear in a concentration range of 4.40 10^{-4} to 0.41 µg L^{-1}. The tolerance level, respect to cations and anions as potential interferents, was studied, giving good results. The methodology was validated by standard addition method and satisfactorily applied to urinary nickel determination in smokers, second hand smokers and not smoker samples without previous treatment. The proposed methodology represents an alternative to the routine metal analysis methods, with the advantage of using an simple inexpensive instrumental as a spectrofluorometer.

166.
DIURETIC EFFECT OF *Jodina rhombifolia* Hook et Arn. IN RATS

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In the present study evaluated the diuretic effect of *Jodina rhombifolia* Hook et Arn. (Santalaceae) popularly known as "Peje", "Sombra de toro". Three solutions extractives were prepared: infusion of the inner bark (A), decoction of the extern bark (B) and decoction of branches of approximately three years (C) of the plant at 10% were prepared according to Argentina Pharmacopeia VI Ed. We employed Wistar rats of both sexes (200-250 g). The method described by Lipschitz et al. (1943) was followed. Control (saline solution) and Furosemide (reference drug) groups were established. Urinary volume was measured at 15 min intervals for 3h to determine urinary volumetric excretion (UVE). Student´s t- test was performed to evaluate the statistical differences between the control and the experimental samples for each time point. Rats treated with (A) showed a significant diuretic effect between 75 (UVE: 38.85 ± 5.99; $p<0.01$) and 180 min (UVE: 67.03 ± 4.62; $p<0.01$), with (B) between 135 (UVE: 53.85 ± 4.96; $p<0.05$), and 180 min (UVE: 63.13 ± 3.30; $p<0.01$) and with (C) between 60 (UVE: 22.54 ± 3.67; $p<0.01$), and 180 min (UVE: 63.31 ± 3.32; $p<0.01$) respect the control group. Saline solution (UVE: 40.86 ± 6.60) vs furosemide (UVE: 104.27 ± 5.72) showed significant difference starting at 15 min ($p<0.001$). Urinary density and pH were similar to controls. However, further studies are requiered to identify the active principle(s) and recommend the use as diuretic.

167.
EFFECTS OF BRIEF DAILY MATERNAL SEPARATION ON MATERNAL BEHAVIOR AND STRESS RESPONSE

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Early experiences induce long-lasting effects in rat pups; if pups or the dam are submitted to daily sessions of aleatory stress, adult stress response is modified. Since dam-pups separation is a major component of our stress schedules, we study the effect of short periods, similar to the intervals used in our experiments; longer periods of separation have been reported to exert influence on the pup development. Naïve females were mated, and randomly assigned to Control (C, n= 10) or Separate (Sep, n =6) groups. Litters were culled to 10 pups on postnatal day 2. Dam-pups separation (mainly 10 min) was applied on Sep group between day 2 and 15. Dams were observed in behavioral tests: Basal maternal behavior (day 6), Maternal behavior after 4 hs of separation (day 7) and impairment of activity after 1 min sound stress (day 16). A slight but significant increase of maternal activity was observed in Sep dams, with a greater score of crouching (day 6) and a decrease of negative features (day 7). Activity and exploration under stress response were similar to control. Results suggest: 1.- Separation, although brief, stimulates maternal behavior. 2.- Brief separation does not represent a stressful situation for the dam. Further studies will focus on later pup behavior.

168.
GINGIVAL STATE IN ADOLESCENT PREGNANT, DURINGTHE FIRST THREE-MONTH PERIOD

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During the pregnancy period, the female organism suffer from a series of hormonals, heart and blood vessel-related, urinary, respiratory, gastroenterology and stomatology adjustments. The Pregnancy accentuate the reaction befote the plaque and modifies the clinical situation afecting the micricirculation of the gum. Variations in seric levels of sexual female hormons, the spit, microorganisms and diet can affect the development of gingivitis. It has benn proved that the pregnancy produces serious gingivitis and the beginning of destructive periodontitis, which was assigned to the increase of steroids asociated with the slump of inmunitary sistem. The purpose of the present job is to determinate the gingival state in adolescent pregnancy during the first three-month period. To identify the relationship of this disease with bucal hygiene. The simple was of 30 pregnant adolescents ages between 14 and 19, during the first three-month period. It was used the Sillnes and Loe plaque index for typification of the sample. A week later it was done the basic profilaxis, the plaque revealing and teaching about brushing. At the end of the third month the control was repeated with the same index. The index in the first control was superior to 1 in the 100% of the sample (1,56). After the profilaxis the values were lower than 1 (0,49). The results confirm the requirements of preventive action in oral health, before, during and alter the pregnancy.

169.
GINGIVAL DISEASES IN ADOLESCENT AND ADULTS PREGNANCY
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The gestational hormonal increase produces an alteration of the Fibrinolitic equilibrium. This affects the appearance of the pregnant gingivitis. The gingivitis is greater when occurs in younger pregnants. The outcome of the present investigation work was to determine the relation between the seriousness of the gingival inflamation with the adolescent and adult pregnancy. It has been made a transverse investigation in the Sanitary Unit in Berisso City. The evaluation included 60 pregnant women, 30 adolescent (14 - 19 years old) and a witness group of 30 adults (20 - 30 years old) in the first three-month period of gestation. There were admited all women presenting optimun periodontal helth. Exclusión judment evidency of periodontal diseases with purse of periodontal patology, more than a gestation month women with dismetabolism, smokers, HIV or drug dependant, no mental illnesses, physical limits, abortion danger, or women living away from the investigation area. Variables, amount of bacterial plaque and clinical aspects of the gum. Were applied the Sillnes and Loe plaque index. The whole of the pregnant adolescent (30) presented gingivitis. In adults, 96,67% (29) presented it, whereas the 3,33% (1) of them were healthy. The 70% of adolescents showed a sligth degree of bacterian plaque, médium degree in the 30%. In adults 90% sligth degree and 6,66% in moderate degree. The severity of gingival inflamation was greater in adolescent pregnant than in adults. The average of bacterian plaque was greater in adolescent pregnancy than in adult´s.

170.
NUTRITIONAL LABELED OF FOOD SUPPLEMENTS
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The objective of this work was to determine the chemical and nutritional composition of 14 food supplements formulated by Tahefarma SRL. (Merlo, San Luis), which was required to register and to commercialize the mentioned products.
Determination of humidity was carried out by method 930,04 AOAC, protein by Kjeldhal method (960,52 AOAC), fat matter by Soxhlet method (963,15 AOAC), saturated and trans fats by gaseous chromatography (985,21 AOAC), carbohydrate by Fehling-Causse Bonans (FCB) and dinitrosalicílico (DNS) methods and alimentary fiber by the enzymatic-gravimetric method (AOAC 985,29). The obtained results ranged between 0,15 - 8,8% of humidity, 8 – 66% of proteins, 0 - 33% of carbohydrates, 0,07 - 4% of total fats, 3 - 76 % of alimentary fiber. Percentages of daily values (% DV) on the basis of a diet of 2000 Kcal were also calculated. None of food supplements contains saturated and trans fats and they are not contraindicated for diabetics and phenylceturonics. Sample 5 must be labeled with the warning that it can bring about poisonous effects by accumulation of Vitamin E. The availability of vitamins and minerals in those supplements that contain fibers will be studied, as well as the presence of antinutrients, endogenous and induced toxics.

171.
PROXIMAL CHEMICAL COMPOSITION OF AN AUTOCHTHONOUS MAMIFEROUS OF SAN LUIS, ARGENTINA
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The search for alimentary alternatives has led to the rational use of *Tayassu tajacu,* popularly known as *pecarí de collar*. The extensibility conditions of its productive systems and its alimentary scheme exclusively based on natural pasture are the factors determining the nutritional profile of the meats obtained from these systems and the basis for their comparative and competitive advantages. The *pecarí de collar* is appreciated for its abundant white meat, palatable due to its tenderness, juiciness and flavour and aroma associated to the different pastures. An added value is low contamination of the natural system. The purpose of this work was to determine the proximal chemical composition of the *pecarí de collar* meat. Fresh meat was used for this study. Humidity, ash, and total lipid determinations were performed according to AOAC, proteins (N x 6.25) were determined according to Kjeldhal as modified by Winkler, total carbohydrates and cholesterol were determined by difference and by the enzymatic method, respectively. The results indicate that the proximal chemical composition is comparable to that that of other traditionally consumed meats, with a protein contribution of de 22.15%. Total cholesterol was 32.89 mg /100 g, which is lower than those reported for cow meat (63.70%) and pork (72%). These preliminary studies are favourable for continuing further studies of the nutritional value of this autochthonous species.

172.
STATISTICAL OPTIMIZATION OF THE CELLULASE AND TANNASE PRODUCTION BY *Aspergillus awamori* ON RED GRAPE POMACE
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Grape pomace (GP) is one of the most abundant agro-industrial solid wastes in the Cuyo region. *Aspergillus awamori* has been reported as enzyme producer on white-GP. But there are few reports about production of enzymes on red-GP. Aiming red-GP valorization and reducing its environmental impact, production of enzymatic preparations appear as an interesting choice. The aim of this work was to found the optimal medium and culture conditions for cellulase (Cel) and tannase (Tan) production by *A. awamori*, in solid-state fermentation (SSF) on red-GP. Statistical optimization for Cel and Tan was performed using, for each enzyme, a Box-Benhken design (BBD) for three variables (previously stated as relevant for this SSF, using the Placket-Burman method), at three levels. Thirty SSF experiences were done, in Petri dishes, fixing the culture conditions according to the BBD, and inoculated with 10^6 spores/g. Enzymatic activities were determined by spectro-photometric methods. The optimal conditions for maximum enzyme activity were for Cel: moisture content 0.6g/g, fructose 0.08g/g, and tannic acid 0.05g/g; and for Tan: moisture content 0.70g/g, temperature 22ºC, and tannic acid 0.11g/g. Maximum enzyme activities predicted by the BBD models were experimentally confirmed. Optimization enhanced the Cel, and Tan production, respectively, 4.5 and 1.6 times.

173.
MORPHOLOGICAL AND LIPID METABOLISM ALTERATIONS IN VITAMIN A DEFICIENT RATS

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We have observed that vitamin A alters lipid metabolism and morphology of liver, heart and aorta. Our objective was determined if the vitamin A deficiency, alter the mammary gland metabolism, through different parameters. Wistar female rats were separated at weaning into 3 groups. One was fed with diet sufficient in vitamin A (A +,) another with a diet deficient in vitamin A (A.) and the third group receive Vitamin A deficient diet for 75 days after of which they received vitamin A sufficient diet for 15 days (Ar). The morphology was performed by optical microscopy and lipids were extracted by method of Folch-and post-TLC separation of the different fractions. (A+) have developing mammary virgin rats. (A-) has ductal development more than (A+) and appears to have an incipient lobe alveolar up growth. In (Ar) the lobe alveolar development had modest but much more than the (A-).We observed that decreased of total phospholipids in (A-) $p<0.001$ in relation to (A+) and (Ar). There were not differences in the amount of cholesterol and triglycerides between the three groups. The deficiency of vit A modified the morphology and phospholipids content in mammary gland.

174.
POLLEN CHARACTERIZATION OF THE CENTER OF SAN LUIS CITY, ARGENTINA

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This work is a part of an Aerobiology research of San Luis City. One of the most important areas of this discipline is the study of the atmospheric content of pollen grains, their diversity and their concentrations. Because the epidemiological significance of pollinosis, It was considered the collection of aerobiological data and the construction of a palinotheca. It were selected twelve sampling locations in the center of the city, where plants were collected in the flowering stage. Samples were collected in late summer and to a lesser extent in the fall. It was performed a crushed of the anthers and the pollens found were stained with gelatin-glycerin Fuccina. The grains were observed under microscope (40X) and they were described and photographed. The families of the recorded allergenic pollens were, in special, Chenopodiaceae, Amaranthaceae and Poaceae. In addition, a pollen phenologic calendar was constructed with the compiled data. In conclusion, for the study period, the center of San Luis City It would be an area of risk for the occurrence of health disorders by allergies caused by pollen. However, these preliminary results must be corroborated by data obtained by recording volumetric traps.

175.
CARBACHOL IN SUPERIOR MESENTERIC GANGLION MODIFIES PROGESTERONE RELEASE AND OVARIAN 3β-HSD AND 20α-HSD ENZYMATIC ACTIVITIES AND GENE EXPRESSION DURING RAT LUTEAL PHASE

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The relationships between the nervous system and ovarian physiology are widely known. The objetive of this work was to determinate whether injection of the muscarinic agonist, carbachol (10^{-6}M) into the superior mesenteric ganglion (SMG) modifies ovarian progesterone release (P) and 3β-hidroxysteroid dehydrogenase (3β-HSD) and 20α-hidroxysteroid dehydrogenase (20α-HSD) enzymatic activities and gene expression of these enzymes, during the luteal phase (DI and DII) of female rats. The *ex vivo* SMG-ovarian nervous plexus-ovary sistem was incubated with carbachol in SMG and compared with KRBG, pH 7.4, as a control. Student's *t* test was used for statistical analysis; $p<0.05$ was considered significant. Carbachol in the SMG stimulated P release at 15, 30 and 60 min ($p<0.001$) in DI, whereas in DII in did at all incubation times ($p<0.001$).3β-HSD activity was increased and 20α-HSD activity was decreased, at both stages ($p<0.05$).3β-HSD gene expression increased in DI and DII ($p<0.01$). 20α-HSD gene expression did not change in DI but decreased in DII ($p<0.05$).We conclude that cholinergic ganglionic pathway might have a physiological influence on ovarian steroidogenic activity.

176.
ANTIMICROBIAL EFFICACY OF A SOL-GEL COATING ON FOOD-BORNE PATHOGENS

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The amphoteric surfactant sol-gel coating Teos-Tego 51[R] [tetraethoxysilane - dodecyl-di(aminoethyl)-glycine] has been proposed for the control of microbial contamination in the food industry. In the present study, duplicates of microscope slides coated with Teos-0% Tego 51 and Teos-1.5% Tego 51 were exposed to 0.4 ml of: *Salmonella* Enteritidis (SE), *Yersinia enterocolitica* B2 O:9 (YE_L, local strain), *Y. enterocolitica* W1024 (YE_R, reference strain), or *Escherichia coli* O157:H7 (EC) suspension at concentrations near to $1x10^6$ cfu/ml. Inoculated slides were covered with Parafilm[R]. Each step of this assay was performed in triplicate, as follows: one slide of each pair was used to count viable cells immediately after inoculation (0 h), and the other one was used to count viable cells after 24 h incubation at 35°C. Slides were washed and serial decimal dilutions of wash liquids were spread on Plate Count Agar and incubated 48 h at 25°C for YE and 37°C for the other microorganisms. Antimicrobial activity was evaluated by means of D (percent reduction) and R (log reduction). The percent reduction of viable microorganisms exposed over 24 h to the antimicrobial Teos-Tego 51[R] film varied from a minimum of D = 99.28% for YE_L to a maximum of D = 99.99% for EC. The R values varied from 2.14 to 4.39, respectively. The sol-gel film demonstrated good performance in the reduction of pathogens.

177.

BIOCHEMICAL AND MORPHOLOGICAL CHANGES IN HUMAN MAST CELLS EXPOSED TO NATURAL α,β-UNSATURATED LACTONES

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The present work was designed to examine the effect of a sesquiterpene lactone isolated from *Artemisia douglasiana* Besser (dehydroleucodine, DhL) and a xanthanolide isolated from *Xanthium cavanillesii* Schouw (xanthatin, Xt) on compound 48/80- and calcium ionophore A23187-induced human mast cell degranulation, with the goal of testing the hypothesis that such molecules act as mast cell stabilizers.
The human LAD-2 cell line was incubated with: 1) Buffer (control) or 2) 48/80 or 3) A23187 or 4) DhL+48/80 or 5) DhL+ A23187 or 6) Xt+48/80 or 7) Xt+A23187. β-hexosaminidase release studies by colorimetric reaction, evaluation of mast cell morphology by light (toluidine blue staining) and electron (transmission and scanning) microscopy, dose-response and time-response curves, and comparative studies with sodium cromoglicate (Crgl) were carried out.
Compound 48/80 and A23187 increased β-hexosaminidase release from LAD-2 cells and elicited evident granule ultrastructural changes. These effects were inhibited by DhL and Xt in a dose- and time- dependent manner.
The present study demonstrates that DhL and Xt inhibit compound 48/80-and A23187-induced mast cell activation, acting thus as mast cell stabilizers in a human mast cell line.

178.

INDUCTION OF POLYPLOIDS IN *Gomphrena pulchella* Mart.

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Gomphrena pulchella Mart. is native from Argentina. The colours and shape of their flowers bestows this species a very interesting ornamental potential. The purpose of the present study is to explore the *Gomphrena pulchella* germplasm by means of *in vitro* polyploidization in order to improve their ornamental qualities. Accessions were collected and maintained under greenhouse conditions. The Murashige-Skoog medium, supplemented with 0,25 mg/l benzyl amino purine (BAP) was used for the nodal segments multiplication. The colchicine doses tested were: 0,0; 0,1; 0,05; 0,01 y 0,001% (24 and 48 hours). The ploidy level was determined using the flow cytometer (Partec, CA) following the commercial indications, that is, approximately 0.5 cm 2 of leaf tissue were chopped with a sharp razor blade submerged in 0.5 ml nucleus extraction buffer (HR A solution, Partec, CA) and the incubated in the same buffer during 1.5 min. After filtered, the solution was incubated 1 min. with HR B, (Partec, CA). The different flow cytometer parameters were adjusted with non treated material to obtain well defined and reproducible readings. In conclusion, the 0.5% colchicine induces tretaploidy. From a total of 120 recovered plants, 5 solid tetraploid were detected. The success in inducing tetraploids confirmed the effectiveness of colchicine as polyploidizing agents. The tetraploids that we obtained, will be used in further breeding work.

179.

***Aloysia polystachya* (VERBENACEAE) ACCLIMATIZATION**

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Aloysia polystachya (Griseb.) Mold. is a bush used in popular medicine (consumed in form of infusions) and ornamental. Their leaves contain derived terpenic, for what the infusions have tonic properties, carminative and digestive, very suitable for stomachaches and slow digestions. The present work settled down the environmental conditions in the acclimatization stage. Plants coming from the *in vitro* culture, classifying them in two categories: with smaller roots to 5 cm. of longitude and with roots of more than 5 cm. longitude. All the substrates was previously sterilized with vapor to pressure. The waterings were carried out with the inorganic salts of Murashige and Skoog media diluted to 25%. The used substrates was vermiculite, sand, organic soil, and pearl, in different combinations and proportions. The acclimatization stage was successful when the substrate was a vermiculite mixture, sand and soil with high organic content (1:1:2): the best results of survival were obtained with approximate values to 24% with smaller roots to 5 cm. of longitude and 77% with more roots to 5 cm. of longitude in the four treatments. The stages of micropropagation of this species are completed, being feasible their massive multiplication.

180.

ANTIPLATELET THERAPY RELATION TO ANTIHYPERTENSIVE TREATMENT IN ADULT PATIENTS

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Antiplatelet therapy (AT), aspirin (As) or the newer platelet aggregation inhibitors, has been shown to be safe for reducing the risk of recurrent vascular events. The aim of this study was analyze the use of antiplatelet therapy relation to antihypertensive treatment in patients of our community. Retrospective study of 700 individuals (64.3% women) from cardiologic institute, was performed. Age, weight, blood pressure and therapeutics treatment were recorded. The results were analyzed by SPSS (version 12.0). Mean values age: 55.4 ± 13.0 yr, weight: 85.9 ± 17.4 kg. 65.3% had systolic blood pressure > 140 mm Hg (61.1% women). Commonly antihypertensive drugs include the typical groups of: ACE inhibitors 59.8%, beta blockers 42.7%, calcium channel blockers 21.4%, angiotensin II receptor antagonists 18.1%, diuretics 12.6%, and combination products 6.1% and AT was administered: 4.4% (3.1% As); 2.6% (1.6% As); 1.6% (1.3% As); 1.1% (0.9% As); 1% (0.9% As); 0.7% (0.6% As), respectively. AT vs sex: 7.3% women (4.9% As), 6.8% men (5.2% As). AT vs group age: 6.1% (20-39yr), 6.3% (40-59 yr), 8.9% (60-79 yr). 5.9% AT was used in patients >50 yr and 1.1% <50 yr. AT for secondary prevention in patients with elevated blood pressure was used in approximately 7% above 50yr of age. The more common treatment was enalapril associated with aspirin to better blood pressure control. We concluded that although aspirin is not a first line of defense against hypertension, it plays a role in preventing this health problem.

181.

PREVALENCE OF THYROID PATHOLOGIES IN HYPERTENSIVE PATIENTS OF OUR COMMUNITY

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Clinical and subclinical thyroid disease can alter the cardiac function and increment cardiovascular morbimortality. The aim of this study was to characterize the prevalence of thyroid pathologies in adult hypertensive patients of our community. Age, weight, blood pressure (>140/90, JNC-7), TSH, T_4, fT_4, T_3, and antibodies by radioimmunoanalysis were recorded. Retrospective study of 1023 individuals (75.50% women) was performed, 68.20% had hypertension (74.20% women) and 35.90% had different thyroid pathologies. Results were analyzed by SPSS (version 12.0). Mean values age:53.02±14.8yr,weight: 83.05±16.9 kg. TSH hypertensive patient: 5.54±1.6µUI/ml. Systolic and diastolic blood pressure were increasing with age (r=+0.410, p= 0.0001; r=+0.285, p=0.0001, respectively). Prevalence of thyroid dysfunction of patients' age over 50 yr. Elevated TSH levels was 21.80% (19.23% women), and decreased 8.20% (7.69%women), hyperthyroidism 5.87% (5.01% women); hypothyroidism 20.34% (17.91% women) 14.61% clinic and 5.73% subclinic. Antibodies were determined 14.39% (evident 6.25%), diffuse goitre 0.68%, multinodular1.47%, solitary nodule 0.29% and 0.98% had clinical features suggestive of malignancy. The autoimmune mechanism is commonly associated with other forms of thyroid disease. High percentage of hypertensive population has concomitant thyroid diseases, more common hypothyroidism in women (50-70 years). We suggest that thyroid diseases could be affect the physiological processes that regulate the cardiovascular system.

182.

VARIATION IN LIPID LEVELS DURING PREGNANCY IN WOMEN

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Pregnancy is accompanied by changes in maternal lipoprotein metabolism which may serve for satisfying a foetus' nutritional demands. The aim of this study was analyze the lipid profile patterns between first and third trimester in pregnan women. Total cholesterol and triglycerides were investigated in 407 healthy women during normal pregnancy in the first and third trimesters. Enzymatic methods were used for measuring cholesterol and triglycerides concentrations in serum. Cholesterol (1.62 ± 0.24; 2.26 ± 0.30 g/L) and triglycerides (1.05 ± 0.30; 2.00 ± 0.45g/L) increased from first trimester to the third trimester ($p<0.001$). Abnormal values defined by Adult Treatment Panel III (ATP III): Cholesterol 7.6% increased significantly to 72.2% and Triglycerides 10.4% to 82.3% from first trimester to third trimester, respectively. The group aged < 25 years presented high percentage in both biochemical parameters: 53.8% and 58.9% respectively. Positive association was found between cholesterol and triglycerides vs pregnant month (r=+0.292, $p<0.000$; r=+0.228, $p<0.004$, Spearman). These results revealed metabolic changes in lipid profiles during pregnancy. This data will be used by physicians in following-up pregnant San Luis women who have an altered lipid profile, gestational diabetes, hypertension or other related diseases. Therefore, it is important to find in our population the normal serum lipid levels to determine when an elevation of this parameters could be physiological response, or it is a factor associated of cardiovascular diseases or disorders of the pregnancy.

183.

SEROPREVALENCE OF AMERICAN TRYPANOSOMIASIS IN PRE-OCCUPATIONAL TESTS OF SAN LUIS CITY

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American trypanosomiasis is usually asymptomatic, for this reason, its diagnosis is mainly based on laboratory tests. During the indeterminate and chronic clinical periods, detection of immunoglobulin (IgG) against *Trypanosome cruzi* by different serologic tests is the standard for diagnosis. In this work we communicate the seroprevalence of *Trypanosome cruzi* antibodies in pre-occupational tests in workers of San Luis city. A total of 243 blood samples were analyzed. All samples were tested with indirect hemagglutination test and IFI assay. Samples reactive for two assays were considered positive. Serological evidence of human *Trypanosome cruzi* infection was demonstrated in 21 (8.6%) out of 243 individuals. The percentage of negativity was: In the 27-39 years age group 93.1%/6.9 and in the 40-79 years age group 88.8%/11.2; according sex 90.7%/9.3 men, 96.6%/3.4 women. And the percentage of positivity according origin was 11.9% San Luis vs. 4.6% other. a) Prevalence in the 40-79 years age group was 62.3% higher in relation to that found in the 27-39 years age group ($p<0.05$). b) Prevalence according sex was 173.5% higher in men than women ($p<0.05$). c) Prevalence for those from the province of San Luis was significantly higher ($p<0.05$).d) These findings show general infection prevalence in this community was major to communicated in national average estimated rate (5.7 %), (National Epidemiological Bulletins).

184.

VEGETABLE COMMUNITIES OF WETLAND OF THE NORTH OF THE VILLA MERCEDES (SAN LUIS, ARGENTINA)

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The objective of this work was to know and to explain the distribution of the physiognomic types of vegetation of the sector west of the "La Salada" depression. This sector is located at the 33º 37´ 32" of south latitude and 66º 26´ 40" of west longitude. The physiographic classification of the Interamerican Center of Aerophotointerpretation (CIAF) was used and main transect of study of 50 m perpendicular to the drainage line, besides perpendicular shorter transect to the main ones where the species and covering of each were determined one of them. The sector understands to the landscape saline depression that is in the county physiographic plain "Chaco-Pampeana", low climate cold dry. The physiognomic types obtained are: salted bed without vegetation, saline beach with jume heaths, halophyte jume bushes and halophyte high bushes. In these areas affected by the excess of salts and high phreatic water, the natural vegetation is expressed presenting a mosaic of physiognomic types and many of these vegetable communities are forming ecotone. We conclude that the used methodology achieved delimitation and a more precise characterization of each physiognomic type. These they are presented forming an irregular pattern of distribution and in areas of diffuse ecotone.

185.

MAST CELL HOMING IN CONNECTIVE TISSUES OF THE TONGUE IN NEWBORN RATS

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Mast cells (MC) are predominantly localized at the interface between host and environment such as skin and mucosal surfaces. They are able to perceive a variety of allergens and invading pathogens.
In oral tissues, degranulation of mast cells has been a consistent feature of inflammatory lesion like liquen planus, gingivitis, periapical process and tumoral responsive.
The aim of the present study is to describe the morphology and establish the homing time in connective tongue tissue of the rats.
Tongue sections were collected from Wistar rats processed and included in paraffin wax, cut and stained with toluide blue and alcian blue-safranin. The total number of mast cell was counted to estimate the population density (mm2).
Results showed morphology changes and number variations between the first week and the second week samples, after birth ($p<0.001$).
These data suggest a quick MC adaptation and strategic location that allow react against different oral antigens. More studies are necessary to elucidate this phenomenon.