BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

ROSARIO SOCIETY OF BIOLOGY

XLIII ANNUAL MEETING
"Biology challenges and applications. A perspective towards sustainable development."

Rosario (Argentina)
December 4-5, 2023
Abstract Book

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

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ISSN 0327-9545
ISSN 1667-5746 (online version)

A1

ABH ANTIGENS IN SEMEN OF YOUNG MEN WITH VARICOCELE

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ABH antigens are formed by the sequential addition of saccharide residues by gene-specific glycosyltransferases to carbohydrate precursor structures. The expression and/or modulation of blood group-related antigens in diseases and pathologies has been widely discussed. Varicocele is a testicular disease that affects 15% of the population of young men and is considered the most common correctable pathology in young men with infertility. The incidence of varicocele is much more frequent in infertile men (40-81%) than in the general population (15%). The objective of this work was to evaluate the expression patterns of ABH antigens in the sperm membrane of patients with varicocele compared to men without varicocele. Materials and methods: 86 men (62 healthy potentially fertile donors as group C) and 34 infertile patients (group P) were examined at the Laboratory of Reproductive Immunology (LRI) of the National University of Rosario. The mean age of the patients was 31.5±4.2 years. The research was approved by the ethics committee and the study was conducted after obtaining written consent from the patients. A comprehensive infertility evaluation was performed in all patients according to the 2021 WHO criteria. The diagnosis of varicocele was based on physical examination and confirmed by ultrasound study. To distinguish between ABO genes, genomic DNA was extracted by enzymatic digestion and the PCR was designed with two sets of oligonucleotides that allow two different regions of the transferases to be amplified without the use of restriction enzymes. A quantitative immunoassay was performed with monoclonal antibodies anti A, anti B and *Ulex europaeus* lectin to determine the pattern and intensity of blood group antigens in the spermatozoa. A score of 0.0 to 0.6 was established to detect changes in the expression and intensity of ABH antigens in sperm. The ABH antigen expression profile was generally consistent with the ABO genotype of the individual. Antigenic expression patterns were similar for the same blood type in control group C ($r= 0.87.p<0.01$). In group P, 15 men out of 24 (44.1%) had varicocele and loss or variability in the expression of the ABH antigen was observed in the sperm of these individuals ($p < 0.01$). The exact mechanisms by which varicocele affects fertility are still unknown. Perhaps the altered expression of ABH antigen in the sperm of patients with varicocele is related to changes in molecular and metabolic pathways in the testes. The surgical treatment of varicocele, varicocelectomy, has shown better semen quality, as well as differences in the expression of seminal plasma proteins. We proposed to evaluate the expression patterns of ABH antigens along with conventional testing in patients with varicocele before and after surgery as an additional diagnostic tool to predict fertility outcome. More studies are needed that conduct more research in large-scale population and multicenter studies.

A2

EVALUATION OF GLYCEMIC CONTROL ACHIEVED BY DIABETIC OLD ADULTS

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The amount of people aged 60 and over has grown up worldwide. The aging of Argentinian demographic structure has become noticeable and according to projections of the National Institute of Statistics and Census (INDEC), the aging process will continue at least till 2040. At the same time, an unprecedented increase in type 2 diabetes mellitus (T2DM) prevalence has been reported all over the world. In Argentina, medical care for older adults is provided mainly by the National Institute of Social Services for Retirees and Pensioners (PAMI). Since T2DM is the most common metabolic disease in older adults, it can be expected in the short term a marked increase in elderly diabetic patients and consequently a greater demand for care at health services. In this context, it becomes essential to assess target population characteristics in order to plan new care actions and improve those already implemented. Related to glycemic control, glycated hemoglobin HbA1c is a variable that reflects the behavior of patients' blood glucose values in the last three months and therefore allows assessing the risk of developing complications in the medium and long term. An HbA1c value ≤ 7.5% is established as the goal of adequate glycemic control in diabetic older adults. The objective was to evaluate the degree of glycemic control achieved by diabetic older adults under pharmacological treatment. A non-interventional, descriptive study was carried out. The present work constitutes a preliminary analysis of 200 adults over 60 years of age with T2DM (~30% of the framework project). Conveniently anonymized information was collected in the first half of 2023 from the patient history of the PAMI I Polyclinic laboratory. The distribution by sex was 47% female and 53% male, with an average age of 73.4 ± 7.24 years. Poor glycemic control (HbA1c > 7.5%) was detected in 43% of the patients; among the remaining 57%, 12% presented HbA1c ≤ 6%. There were no statistically significant differences between the groups (adequate control versus poor

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

control) in sex (p = 0.383) and body mass index (BMI) 30.25 ± 5.04 vs 31.24 ± 6.67 (p = 0.326). These results confirm that the treatment of T2DM in older adults represents a great clinical challenge, since on one hand 43% did not achieve adequate glycemic control (HbA1c > 7.5%) and on the other hand, patients with HbA1c ≤ 6% could be in risk of overtreatment, including hypoglycemia. In order to give the greatest possible well-being to patients, minimizing risks while optimizing the cost-benefit ratio, it is necessary to highlight the importance of reviewing the pharmacological strategies and the continuous monitoring of patients' response. Therapeutic inertia is ill-advised and should be avoided.

A3

EFFECTS OF OCCUPATIONAL EXPOSURE TO HEAT ON SPERMATOGENESIS IN A SELECTED POPULATION OF MEN WITH REPRODUCTIVE DISORDERS

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Testicular function and especially the spermatogenesis depend on the optimal scrotal temperature being regulated between 2 and 4 °C below body temperature. The increase in testicular temperature alters the differentiation and synchronous development of germ cells in the seminiferous epithelium, affecting the quality of the ejaculate. Our objective was to evaluate the effect of occupational exposure to heat on seminal parameters related to the spermatogenic process in men who consulted for reproductive disorders. One hundred and sixty two semen samples were selected from patients who attended the URHMA (May 2018 to June 2023) with ages between 24 and 53 years. Individuals with any functional or structural andrological pathology, users of cigarettes, drugs of abuse, men exposed to toxic substances and agrochemicals were excluded. Two groups were formed: G_E (n=52) men occupationally exposed to heat sources or body contact with high temperatures for more than 7 hours a day and G_{NE} (n=110) males with activities that do not involve gonadal exposure to high temperatures. Progressive sperm motility (MP) was evaluated with the ISAS-LAB (Proiser, Espain) computerized system. Sperm concentration (C) was determined subjectively in Makler Chamber. Hematoxylin stains were performed to evaluate sperm morphology (M) and identify the presence of immature germ cells (CG) in the ejaculate. The condensation state of nuclear chromatin (AA) was determined with aniline blue (AA). T-student test ($p<0.05$) was applied to compare the averages of the variables between both groups. A statistically significant difference was found in C (G_E: 34.40 ± 18.18 vs G_{NE}: 52.30 ± 33.70; p=0.0214) and in AA (G_E: 61.15 ± 8,7 vs G_{NE}: 70.54 ± 15.11; p=0.004). No significant differences were obtained in % MP (G_E: 58.10 ± 18.50 vs G_{NE}: 61.37 ± 14.80; p=0.344) and in % of sperm with normal morphology (G_E: 5.10 ± 2.40 vs G_{NE}: 5.30 ± 2,10; p=0.654). Applying the Chi square test, an association was found between exposure to heat and the presence of GC in the ejaculate between both groups (p=0.0430). The increase in the testicular temperature due to body contact or exposure to sources that intermittently radiate heat alters the development of spermatogenesis, affecting semen quality. The incidence of these occupational factors should be considered in the study of men in couples who consult for reproductive problems.

A4

ERYTHROCYTE SHAPE, DEFORMABILITY AND AGGREGATION IN RELATION TO THE SLEEP HABIT IN UNIVERSITY STUDENTS, WITH NORMAL WEIGHT, OVERWEIGHT OR OBESITY

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Sleep habit (SH) has proven to be a determinant of health. Their variations cause neuroendocrine changes and predispose to overweight and obesity. Our objective was to analyze the shape, deformability (ED) and aggregation (EA) of the erythrocytes (RBC) in young people categorized according to their BMI in normal weight (NW), overweight (OW) or obesity (O) and compare the results in relation to SH. This data was collected through a self-administered questionnaire according to the Pittsburgh sleep quality index in: sleep disturbance (wD) and non-sleep disturbance (nD). The cell shape was determined by optical microscopy (Bessis technique) and the average morphological index (MI) was calculated considering discocytes (MI=0), stomatocytes (MI<0) and echinocytes (MI>0). ED measurements were made with a computerized instrument based on the technique of Reid et al. RBCs were suspended (Hct 10%) in saline solution containing 0.25% of bovine albumin. Using negative filtration pressure of 10cmH_2O, the solution was passed through polycarbonate filters with 5µm pore size. The filtration index (FI) was calculated as: $FI = (t_s\text{-}t_0/t_0) \times (100/Hct)$. t_s is the suspension passage time and t_0 is the passage time of physiological

solution. FI is an estimate of erythrocyte rigidity (inverse of ED). EA was analyzed in RBC's suspension at 40% in its own plasma (Pl) and in dextran (Dx) 500 2%, with an instrument that detects changes in the transmission of light through the sample during the aggregation process. Two parameters were obtained: T (size) and V (velocity) of the aggregates. The data were analyzed by one-way ANOVA test with Medcalc Software, considering a statistically significant difference at $p<0.05$. Results were expressed as mean ± standard deviation. According to nutritional status, T values in Dx were: 1.75 ± 0.08^a (NW), 1.72 ± 0.12^b (OW), 1.77 ± 0.10^c (O); V in Dx: 0.58 ± 0.25^a (NW), 0.54 ± 0.22^a (OW), 0.65 ± 0.24^b (W); T in Pl: 1.46 ± 0.19^a (NW), 1.47 ± 0.25^a (OW), 1.45 ± 0.18^a (W); V in Pl: 0.25 ± 0.08^a (NW), 0.21 ± 0.07^b (OW), 0.21 ± 0.08^b (W). FI was: 11.8 ± 4.1^a (NW), 15.9 ± 5.3^b (OW), 17.2 ± 7.2^b (O). MI was: 0.1 ± 0.2^a (NW), -0.5 ± 1.2^{ab} (OW), 1.4 ± 1.6^b(O). Based on SH, T in Dx: 1.60 ± 0.08^a (wD), 1.73 ± 0.07^b (nD); V in Dx: 0.45 ± 0.12^a (wD), 0.45 ± 0.03^a (nD); T in Pl: 1.59 ± 0.15^a (wD), 1.80 ± 0.02^b (nD); V in Pl: -0.27 ± 0.12^a (wD), 0.39 ± 0.06^a (nD). FI was: 13.3 ± 4.1^a (wD), 14.0 ± 6.3^a (nD). MI was: -0.4 ± 1.0^a (wD), -0.2 ± 0.9^a (nD). T values obtained in Dx showed significant differences in all nutritional categories. V in Dx was higher in O compared to NW and OW. These variations were not observed in Pl suspensions; possibly Pl could have a protective effect on EA. Lower ED was observed in O and OW compared to NW. Whereas BMI increased, MI showed tendency to stomatocytes. Regarding the SH, we observed a greater T both in Dx and in Pl for nD. This could be because of intrinsic changes in the erythrocyte.

A5

DEVELOPMENT OF A METHOD FOR THE DETECTION OF KRAS MUTATIONS IN COLORECTAL CANCER FOR FUTURE USE AS A POPULATION SCREENING TOOL

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Colorectal cancer (CRC) ranks among the top three most common cancers and is the second leading cause of cancer-related deaths in Argentina and globally. It is genetically linked to mutations in the KRAS oncogene. A pivotal aspect of this pathology is the slow transition from pre-tumorous lesions, such as polyps, to carcinoma. This progression underscores the importance of early diagnosis, significantly enhancing treatment outcomes and the potential for cure. Thus, the implementation of early detection strategies is crucial in reducing morbidity and mortality. Colonoscopy, the standard method for CRC detection, is invasive and suffers from low population adherence. The National Program for the Prevention and Early Detection of Colorectal Cancer in Argentina recommends the fecal occult blood test as a non-invasive screening method, despite its low sensitivity. Droplet digital PCR (ddPCR) represents an advancement over the conventional real-time PCR technique, facilitating the detection of DNA at very low concentrations and enabling the identification of tumor DNA in blood and stool samples. This study aimed to develop two multiplex assays, one for three mutations and another for four KRAS driver mutations, and compare them with genomic sequencing results. DNA extraction from paraffin-embedded colonic biopsies was performed using the commercial QIAamp DNA FFPE Tissue Kit (Qiagen, Germany). Genomic DNA sequencing was conducted using the SANGER technique (Macrogen, South Korea). DNA extracted from 13 biopsies with an anatomopathological diagnosis of colonic adenocarcinoma underwent SANGER sequencing, revealing KRAS mutations in six patients: two with G13D, two with G12C, and two with mutations not clearly identified in the sequencing. Subsequent ddPCR analysis confirmed these mutations. ddPCR enables the precise identification of KRAS point mutations, potentially serving as a non-invasive population screening tool in liquid biopsies in the future.

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

A6

ASSESSMENT OF ERYTHROCYTE AGGREGATION AND PLASMA FIBRINOGEN CONCENTRATION IN RELATION TO NUTRITIONAL STATUS AND DEGREE OF PHYSICAL ACTIVITY OF UNIVERSITY STUDENTS

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Erythrocyte aggregation (EA) is mainly influenced by plasma fibrinogen concentration (Fp), which can be increased due to fatty acids released from adipocytes. The study evaluated EA and Fp in students from 18 to 25 years old of both sexes considering their nutritional status and degree of physical activity. For EA, erythrocytes (RBCs) were re-suspended in two fractions, one in plasma (Pl) and one in dextran (Dx). The measurements were made using an instrument that detects changes in light transmission through the sample during the aggregation process. Two parameters were obtained: T (average of the aggregate size) and V (speed of aggregate formation). Fp was determined by coagulometry. Nutritional status was assessed using the BMI according to WHO criteria, grouping participants into normal weight (NW), overweight (OW) and obesity (OB). The level of physical activity was established following the guidelines of the World Confederation for Physical Therapy through a self-administered questionnaire and the volunteers were grouped according to the METs scale as: <600 low (LI), 600 to 1500 medium (MI) and >1500 high intensity (HI). A total of 56 students participated in the study: 31 (NW), 15 (OW), 10 (OB); 32 (LI), 19 (MI) and 5 (HI). The data were analyzed with Medcalc Software by one-way ANOVA test, with a statistically significant difference at $p<0.05$. Different letters express significant differences. Results are expressed as mean ± standard deviation. Based on the nutritional state, the T values in Dx were: 1.75 ± 0.08^a (NW), 1.75 ± 0.08^a (OW) y 1.78 ± 0.09^b (OB); V in Dx: 0.57 ± 0.22^a (NW), 0.54 ± 0.27^a (OW), 0.67 ± 0.34^b (OB); T in Pl: 1.45 ± 0.25^a (NW), 1.49 ± 0.19^a (OW), 1.47 ± 0.24^a (OB); V in Pl: 0.25 ± 0.10^a (NW), 0.20 ± 0.06^b (OW), 0.22 ± 0.08^b (OB). Fp (mg%): 349 ± 120^a (NW), 351 ± 76^a (OW), 391 ± 98^a (OB). According to the level of physical activity, the T values in Dx were: 1.76 ± 0.10^a (LI), 1.76 ± 0.08^a (MI), 1.72 ± 0.09^b (HI); V in Dx: 0.62 ± 0.30^a (LI), 0.49 ± 0.15^b (MI), 0.57 ± 0.18^{ab} (HI); T in Pl: 1.47 ± 0.24^a (LI), 1.48 ± 0.23^a (MI), 1.46 ± 0.22^a (HI); V in Pl: 0.21 ± 0.08^a (LI), 0.27 ± 0.10^b (MI), 0.27 ± 0.13^b (HI). Fp: 344 ± 89^a (LI), 358 ± 126^a (MI), 386 ± 181^a (HI). A significant difference is observed in the T and V parameters in Dx for OB and HI physical activity categories, but not in these parameters in Pl, which could be attributed to an effect of plasma on aggregation. The results show that HI physical activity would cause a decrease in the sizes of the aggregates in Pl and in Dx, with an increase in the rate of aggregation in Pl. The Fp did not show significant differences for none of the groups studied. It is necessary to expand the number of participants to explain the intercategory variations and to include variables that describe characteristics of RBCs: deformability and hemoglobin content.

A7

COMPARISON OF BREAST AND COLON CANCER MORTALITY IN WOMEN DURING THE FIVE-YEAR PERIOD 2013-2017, IN ROSARIO.

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In Argentina, breast cancer (BC) is the leading cause of cancer incidence and mortality among women, while colon cancer (CC) is the second in incidence and third in mortality, according to the International Agency for Research on Cancer of the World Health Organization. In 2020, the following mortality rates (MR) have been registered: crude MR (CMR) and age-adjusted MR (AAMR): 29.5‰ and 18.9‰ for BC and for CC 14.9‰ and 8.4‰, respectively. The aim of this study was to determine and compare female BC and CC mortality in Rosario during the period 2013-2017. An observational, descriptive and retrospective design was used. Databases of death certificates from Rosario, provided by the General Direction of Statistics of the Municipality of Rosario, were reviewed. An Excel spreadsheet of BC and CC deaths among women was elaborated, and statistical analysis of these data were performed. Crude and age-specific MR (ASMR) for both neoplasms and their respective 95% confidence intervals (95% CI) were calculated. AAMR were also obtained using the direct method of standardization, taking as standard the Argentine 2010 census population. The BC:CC mortality ratios were calculated. The results found are shown below: the MRs by age group for BC with their respective 95% IC were: group 25-44 years: 9.99‰ (9.41 - 10.58), group 45-64 years: 66.94‰ (66.02 - 67.02), and for those over 65 years: 173.89‰ (166.46 - 181.32) For CC, the MRs by age group were: 25-44 years: 4.38‰ (3.98 - 4.78), 45-64 years: 23.78‰ (22.94 - 24.61) and for those over 65 years: 110.77 ‰ (104.62 - 116.92). The CMR for BC was 43.93‰ (42.96 - 44.90) and for CC 23.45‰ (22.62 - 24.28). AAMR for BC: 36.01‰ (35.07 - 36.95) and for CC: 18.55‰ (17.79 - 19.31). The BC:CC mortality ratio for age groups were the following. 25-44 years: 2.26:1, 45-64 years: 2.81:1 and for those over 65 years: 1.56:1. BC:CC mortality ratios for CMR: 1.87:1 and for AAMR:1.94:1. For BC, the observed data show higher

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

MR, both crude and adjusted, when compared to those recorded in the country and in province of Santa Fe. For CC both, CMR and AAMR, were also higher when compared to those of the country. In this study, it was observed that deaths due to BC were approximately double those due to CC, with the exception of the 45-64 age group, where the difference was even greater. The present findings update the descriptive epidemiology of BC and CC in women in Rosario.

A8

EFFECTS OF VITAMIN D ON COGNITIVE DETERIORATION AND INFLAMMATION

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Aging is a complex process that has been associated with chronic low-grade inflammation, which is linked to various conditions, such as Alzheimer's disease (AD). Vitamin D (VD) is a steroid hormone with demonstrated anti-inflammatory action. Besides, it could modulate the canonical Wnt pathway, which is altered in AD. Therefore, our objective was to evaluate the impact of VD supplementation on neuroinflammation, and cognitive impairment induced by lipopolysaccharide (LPS) treatment. In addition, through in silico analysis, we aimed to identify whether the Wnt pathway could be related to this impairment. To achieve this, C57BL/6 mice (31 females and 31 males) supplemented with VD for 3 months were exposed to a low-grade inflammation protocol induced by the intraperitoneal injection of LPS. Cognitive impairment was assessed using the Novel Object Recognition (NOR) test by calculating the Recognition Index (RI=N/(N+F)), before and after LPS administration. The neuroinflammation level was evaluated through histological sections with bichrome staining. In parallel, in silico analyses were performed to assess the impact of AD and VD on the expression of genes related to the Wnt/β-catenin pathway. The datasets analyzed (IDEP.95 or GEO2R) were: GSE48350 (hippocampus of AD patients), GSE41184 (cultured murine neurons and glia exposed to VD), GSE61326 (hippocampus of rats exposed to VD), and GSE52819 (THP1 cells stimulated with VD). Although the differences in behavior were not significant, it is important to highlight some trends. Treatment with LPS would generate a memory impairment in females, which VD seems to prevent, while in males, the LPS-induced impairment was not prevented by VD. In histological sections of those animals treated with LPS, a non-specific inflammatory infiltrate was found, characterized by reactive gliosis and the presence of a few non-specific chronic inflammatory elements, which were not modified by VD pretreatment. In silico analysis of the GSE48350 data set showed an inhibition of the Wnt/β-catenin pathway that was previously demonstrated in AD. Meanwhile, the GSE41184 and GSE61326 data sets showed no change in the differential expression. Finally, the GSE52819 data set showed activation of the Wnt pathway, both canonical and non-canonical. In summary, although differences at the behavioral level in cognitive impairment were not significant, a trend was observed that may need to be evaluated, perhaps with different LPS doses. Histology showed no significant differences; however, there could be still changes at the molecular level. Additionally, in silico analysis revealed alterations in AD, but no differences were observed in neurons or glia treated with VD. However, the pathway activation found in monocytes could be relevant in the pathway regulation in AD, as the infiltration of circulating monocytes into AD brains has been confirmed to eliminate β-amyloid deposits.

A9

NASAL AND INGUINAL SAMPLES CARRIAGE OF *Staphylococcus aureus* IN PRE-SURGICAL GYNECOLOGICAL EXAMS.

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Staphylococcus aureus (SA) are gram-positive cocci that are part of the normal human microbiota. They are relevant in the medical field both due to their pathogenesis as well as their ability to develop antimicrobial resistance (AMB). SA colonizes skin and mucous membranes in approximately 25% of healthy people (asymptomatic carriers), with transmission from the asymptomatic carrier to susceptible individuals through direct contact having been reported. From there, it can invade other anatomical locations, producing various pathologies, including infection of surgical wounds. It is for this reason that numerous guidelines suggest screening for this microorganism in patients who must undergo surgery. The objective of this work is to know the prevalence of nasal and inguinal colonization

by SA in women awaiting surgery in the Gynecology-Obstetrics Service of Centenario Hospital and possible risk factors associated with colonization. Prior to signing the informed consent, two samples were obtained through nasal and inguinal swabs, between days 2 and 5 prior to surgery; which were sown on blood agar and on selective-differential medium salted mannitol agar. They were incubated for 18-24 hours at 37°C. Identification of suspicious colonies was carried out using conventional biochemical tests (mannitol fermentation, presence of DNase and coagulase). Sensitivity to AMB was evaluated by the diffusion method (Kirby-Bauer) according to the Clinical and Laboratory Standards Institute (CLSI) guidelines. In addition, a survey was carried out in search of risk factors associated with colonization. A total of 36 samples were obtained from 01/01/2023 to 08/31/2023, of which 10 samples were positive for SA, 9 were nasal. and 1 inguinal. None of the patients tested positive in both samples. With respect to sensitivity to antimicrobials, were found these results: Total samples 36 (100%), Positive samples 10 (27.77%). Of the 10 isolated strains, 2 (%) were found to be resistant to methicillin (MRSA) without accompanying resistance, being considered community-acquired MRSA (CA-MRSA). All strains studied were sensitive to trimethoprim-sulfamethoxazole, being a valid option for pre-surgical prophylaxis. The colonization rate coincides with what is reported worldwide. These are preliminary results of a 4-year project. The presence of CA-MRSA justifies further studying this microorganism due to the severe infections it produces.

A10

EFFECT OF THE INFECTION WITH *Trichinella spiralis* (Ts) ON THE DEVELOPMENT OF THE BREAST ADENOCARCINOMA M-406 IN CBi-IGE MICE RESISTANT OR SUSCEPTIBLE TO THE PARASITE

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Trichinella spiralis, like other helminths, can successfully modulate the host's immune responses against both its own antigens and unrelated antigens such as tumor antigens: infection with the parasite would have a regulatory effect on invasion, metastasis, and antiproliferative signals. This work aimed to study whether infection with Ts exerts this antitumor effect on the development of the transplantable triple-negative murine breast adenocarcinoma M-406 in two genetically defined lines of mice from the CBi-IGE colony that differ in their response to both Ts infection and challenge with M-406. Male and female mice from the CBi and CBi/L lines were used. CBi is susceptible to the parasite, and M-406 takes and grows in 100% of bearers; CBi/L is resistant to Ts, and although the tumor takes in all animals, in some, it grows and becomes lethal, while in others, it initially grows but is finally rejected. Mice of both genotypes were orally infected with Ts L1 larvae 7 days before or 7 days after challenge with a subcutaneous tumor inoculum (treated groups, -7 and +7). Uninfected animals inoculated with M-406 on the same date were used as the control group (C). Tumor growth was monitored by measuring its largest (MD) and minor (dm) diameters three times a week. Tumor volume was calculated (VT = dm^2 x DM x 0.4; mm^3), and tumor doubling time (tdVT, days) was estimated in each group using the exponential growth curve. Mice were sacrificed when the first of them reached the maximum tumor size ethically permitted, and representative material of the tumor was obtained for histological analysis. The average control curves showed a significant sex effect in both genotypes ($P<0.01$), so the impact of treatment on M-406 was studied in males and females separately. CBi males and females responded to the treatment similarly; the -7 group showed a significantly slower growth curve than that of C and +7 ($P<0.05$), reaching a smaller tumor volume at the end of the experiment. There were no differences between groups in tdVT, but the mitotic index was higher in control tumors. Intratumoral eosinophil infiltrate was similar in all groups. CBi/L growth curves and derived variables were analyzed only in mice bearing growing tumors. CBi/L showed a sex effect in response to the date of Ts infection ($P<0.01$). CBi/L females' response to treatment was like that of CBi mice, while in males, the treatment exacerbated M-406 growth compared to its control. CBi/L treated tumors' mitotic index was also significantly lower than that of the controls ($P<0.05$), a difference associated in this line with the rejection behavior. Likewise, the magnitude of the eosinophil infiltrate showed differences associated with tumor behavior, with tumors in rejection presenting a higher value. In this experimental model, Ts showed, in general, a restrictive effect on tumor growth. However, the degree of the effect would depend both on the interaction of the parasite's biological cycle stage with the host's immune response and on the genotype and sex of the host.

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

A11

FREQUENCY OF ENERGY DRINKS CONSUMPTION BY STUDENTS OF HEALTH SCIENCES

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For several years, on the market, there have been drinks called "energizing" by their producers, which have become very popular among young people, since they are easy to purchase, have no restrictions on their sale, and are promoted through images of fun, energy and associated with successful people. This descriptive, analytical and cross-sectional study aims to know the consumption habits of energy drinks (ED) in students of health. An anonymous survey was applied to 1st and 3rd year students of the Speech Therapy, Nursing and Medicine courses of the Faculty of Medical Sciences of the National University of Rosario, after they signed the informed consent. We collected descriptive variables and about ED consumption. We calculated means, standard deviation and relative frequencies. The differences significant were obtained with Chi-Square test, statistic signification 5% (p=0.005). For quantitative variables, were applied T student test. We obtained 1119 surveys 8% de speech therapy students 29% de medicine students and 63% nursing students. 77% reported consumed ED. Age means for consumer was 24.17 SD 6.43 years, and for non-consumer 28.03 SD 9.77 (p=0.0001). The 84% of consumers mix with alcohol. Age means of this groups was 23.63 SD 6.1 years front to 26.83 SD 8.16 years (p=0.0001). The average number of cans consumed per times is 1.82 SD 1.59 cans. In women this value was 1.79 SD 1.43; in men it was 1.92 SD 2.11 and in those who did not want to declare their gender it was 2.13 SD 2.42. We obtained significant differences consumption according careers ; consumed ED 73% and 75% students speech therapy and nursing; front 83% students medicine (p=0.0076). According to gender, 88% males and 75% females consume energy drink (p=0,006). Regarding consumption frequencies, 7 % males ingested 20 times in the last month, front to 3% females. 34% females only 1 time in the last month front to 29% males. And 17% females ingested 1 times in this life, front of 12% males (p=0.04). Of the sample studied, those who consumed 1 time in their life and they did not consume again , reported 67% felt no effect, 15% felt other effects or did not like it, 11% felt bad and 7% felt the opposite effect than expected. It is concluded that the consumption of ED is another habit among students in the health area, with medical students consuming more than those from other careers, and men more than women.

A12

TCBDF6: A CENTRAL BROMODOMAIN IN THE INFECTIVITY AND DEVELOPMENT OF AMASTIGOTES IN *Trypanosoma cruzi*

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The structure of chromatin, essential for nuclear functions, is established by multiprotein complexes that can both modify histones and exchange canonical histones with variant histones in the nucleosomes. Many of these complexes possess proteins with bromodomains, a module with a bundle of four alpha helices each separated by loop regions of variable lengths that form a hydrophobic pocket that recognizes histone acetylated lysines. For one of the bromodomains in *T. cruzi*, using the CRISPR/Cas9 system, we generated two mutant strains, Dm28cBDF6$^{-/+}$ and Dm28cBDF6$^{-/-}$, which showed slower growth in epimastigotes compared to the control strain. The Dm28cBDF6$^{-/-}$ trypomastigotes showed a deficiency in the ability to infect Vero cells and nearly negligible replication of intracellular amastigotes. We performed a complementation by transforming the mutant strain with a pTEXbdf6 plasmid. Epimastigotes and amastigotes showed a partially reversed phenotype. One of our hypotheses is that TcBDF6 might be involved in some DNA repair process (UV damage) or a response related to oxidative stress (H2O2, Benznidazole, and Nifurtimox). To investigate this, we conducted various stress assays and analyzed the results of exposing the BDF6$^{-/-}$ mutant strain. We calculated survival percentages as the ratio between the number of parasites at 72 hours after treatment and the number of parasites in untreated cultures at the same time. However, the Dm28cBDF6$^{-/-}$ strain did not show increased sensitivity to peroxide or UV. This suggests that TcBDF6 may not be involved in DNA repair, at least in the context of the damages caused by the lesions we tested. Concurrently, we conducted an RNA-Seq analysis and observed that TcBDF6 affects the expression of a limited number of genes, which are decreased. Among these genes is the coding sequence for nitroreductase (responsible for reducing the trypanocidal drugs BZL and NFX), which shows a decrease in mRNA levels. Indeed, Dm28cBDF6$^{-/-}$ displays significant resistance to these drugs compared to the control strain, and this effect is partially reversed when complementing the mutant strain with TcBDF6. The RNAseq results showed that almost 90% of the decreased genes are concentrated in four specific

regions of the genome. These results suggest that the function of TcBDF6 could be very important, even essential, in amastigotes, in contrast to what happens in epimastigotes, where growth is almost normal.

A13

Diutina mesorugosa (Candida mesorugosa) IN ARGENTINA.

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The *Diutina rugosa* complex (formerly referred as *Candida rugosa*) comprises *Diutina pseudorugosa*, *Diutina mesorugosa*, and *Diutina neorugosa*, which were identified as genetically related species in 2006. These species, recognized as emerging human pathogens, have been extensively investigated for their biotechnological properties. This report presents the first case of *Diutina mesorugosa* isolated in Argentina. This study focused on a patient previously hospitalized at home due to paraplegia resulting from a vertebral fracture three years earlier. Hospitalization became necessary due to a refractory sacral eschar with a foul odor and purulent secretion in the exposed areas, reaching the bone. The patient underwent toilet and escharectomy, and samples (blood culture, urine, and bone biopsy) were sent to the laboratory. Blood cultures were negative for bacteria and fungi, whereas urine and escharectomy samples tested positive for *Proteus mirabilis*. Additionally, yeast-like elements were observed in the escharectomy sample, prompting referral to the CEREMIC (Centro de Referencia de Micología). A yeast-like strain with a green color on CHROMagar *Candida*® medium was recovered. Micromorphological analysis of milk agar-Tween medium revealed a pseudomycelium with abundant lateral branches, lacking chlamydoconidia. Initial identification using the Vitek2® equipment indicated *Diutina rugosa* with 99% probability. Considering that *Diutina rugosa* is an emerging pathogen that forms a complex of species indistinguishable by physiological methods, ribosomal DNA was sequenced, and the isolated strain was identified as *Diutina mesorugosa*. This is the first report of the isolation of *Diutina mesorugosa* in Argentina. Species within the *Diutina rugosa* complex are prevalent colonizers in high-risk patients, constituting 0.6% of *Candida* isolates globally, and 2.7% in Latin America. The absence of precise epidemiological data in our country may stem from the intricate identification of these closely related species, potentially leading to underestimation of their prevalence. This study highlights the emergence of *Diutina mesorugosa* in Argentina and underscores the need for enhanced surveillance and accurate identification methods to better understand the epidemiology of these cryptic species in the *Diutina rugosa* complex.

A14

PREDOMINANT NON-*Candida albicans* YEASTS IN HOSPITALIZED PATIENTS-FUNGEMIA: A RETROSPECTIVE STUDY IN ROSARIO, ARGENTINA (2018-2022)

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Candida species are the fourth most common cause of hospital-acquired bloodstream infections in humans. However, with changes in nomenclature and the emergence of new cryptic species, some even located in non-*Candida* genera, it is considered crucial to classify these infections as yeast-fungemias rather than candidemias. Several factors influence the development of these serious conditions, including the use of antibiotics and central venous catheters, parenteral feeding, hemodialysis, neutropenia, admission to intensive care units, and the deployment of immunosuppressants. Between 2018 and 2022, our institution analyzed 77 cases (out of 130 positive samples) of yeast-fungemia diagnosed by blood culture (HC). The HC samples were processed using an automated Bactec® blood culturer. Yeast were identified using a combination of methods: CHROMagar-*Candida*® chromogenic medium, Milk Agar-Tween 80 for micromorphology analysis, and the Vitek2® automated identification system. A total of 38.9% of isolates belonged to the *Candida parapsilosis* complex, while 29.8% were identified as *Candida albicans*. *Candida glabrata* complex and *Candida tropicalis* accounted for 12.9% and 5.8%, respectively. Less frequently, at rates of 2.6%, *Candida dubliniensis* and *Cryptococcus neoformans* were isolated. Few isolates of *Lodderomyces elongisporus*, *Candida lusitaniae*, and *Trichosporon asahii* were found, each at 1.2%. Mixed fungemias of the *C. albicans* and *C. glabrata* complexes was obtained in 3.8% (3 cases). A significant predominance of non-*C. albicans* yeasts (70.2%) was observed in our region, particularly attributable by the *C. parapsilosis* complex. This could be due to the prolonged use of intravenous catheters, the primary risk factor for acquiring these species due to their ability to produce biofilms, coupled with their higher frequency of carriage on the hands of

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

healthcare personnel. Accurate identification of the causative yeasts in blood infections is very important for understanding our epidemiological reality, directly impacting regional and national data. This knowledge also helps in predicting susceptibility to available antifungals for proper treatment.

A15

MYCOLOGICAL STUDIES CARRIED OUT AT A MYCOLOGICAL REFERENCE CENTER (CEREMIC) FROM CLINICAL SAMPLES IN THE YEARS 2021-2022

Bulacio L, Ramadán S, Dalmaso H, Tosello ME, Podestá MV, Funes P, Codino E, Tartabini M, Rubíes G, Sorribas A, Steckinger A, Arias M, Martinez C, Sortino M.

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The prevalence of fungal infections has increased in recent years owing to multiple factors such as immunosuppression, prolonged hospitalizations, the use of broad-spectrum antimicrobials, etc. The aim of this study was to survey clinical samples studied at CEREMIC, highlighting the behavior of fungal agents as potential causes of mycosis. In 2021-2022, 1632 samples from both inpatients and outpatients were studied. Among these, 290 samples from the skin and appendages (SA) were analyzed: 55 from smooth skin (SmS), 5 from the scalp (SC), and 230 from nail scrapings (NS). Additionally, 329 blood cultures (BC), 59 urine samples (US), 104 vaginal swabs (VS), 18 fecal samples (FS), 64 eye swabs, 39 mouth swabs (MS), 6 ear secretions, and 328 serological samples (SeS) were examined. Among non-blood culture deep materials, 128 biopsies, 122 bronchoalveolar lavages (BAL), 55 cerebrospinal fluids (CSF), 37 puncture fluids (PF), 50 sputum samples (SpS), and 3 nasal lesion were included. In SA, 49.1% of the SmS samples tested positive, being *Malassezia* spp. the most prevalent. In SC (2/5 positive samples), *Nanizzia gypsea* and *Malassezia* spp. each occurred once; regarding NS, 117 tested positive, being *Trichophyton rubrum sensu lato* the most prevalent. Among BC cases, 37.6% (90) yielded positive cultures, predominantly *Candida albicans sensu lato* (28/90), *Candida parapsilosis sensu lato* (26/90), and *Candida tropicalis* (16/90). In US, 72.9% were positive, with a higher prevalence of the *C. albicans* complex (18/43), *C. tropicalis* (7/43), and the *C. parapsilosis* complex (5/43). A total of 31/104 VS samples were positive, isolating *C. albicans* complex in 27. In FS (44.4% positive), *C. albicans sensu lato* was recovered in 7 out of 8 cases. From the eye swabs, 3.2% were positive, isolating *Fusarium* spp. Regarding MS, 25.6% were positive, with *C. albicans sensu lato* in 50% of the cases. A single positive ear secretion sample recovered *C. parapsilosis sensu lato*. Among SeS, 28/324 were positive, including 7 *Cryptococcus neoformans* antigen, 3 *Histoplasma capsulatum* antigens, and 18 galactomannan antigen detection. Biopsy positivity was 28.1%, with *H. capsulatum* complex and *C. albicans* complex having the highest prevalence. BAL samples showed 15.6% of positive results, being *Pneumocystis jirovecii* (7/19) the most prevalent. A number of 7/55 CSF were positive, and *C. neoformans* recovered in all cases. Of the PF cases, 45.9% (17) were positive, with of 13/17 findings of *C. albicans sensu lato*. About SpS, 6/50 were positive, and *C. albicans sensu lato* was isolated in 4. *Rhizopus arrhizus* was isolated from nasal lesion samples. The early and accurate diagnosis of mycosis, or the detection of colonization, will allow to establish appropriate antifungal treatments. These results provide epidemiological data to CEREMIC that are made available to the medical community.

A16

SEROEPIDEMIOLOGICAL SURVEY OF *Leptospira* spp. IN DOGS FROM THE SOUTHWEST OF CORDOBA AND SANTA FE, INCORPORATING NEW SEROVARS IN THE MAT

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Leptospirosis is a zoonotic infectious disease caused by pathogenic species of the genus *Leptospira*. It is endemic in Argentina and represents an important problem for Veterinary Medicine and Public Health. In dogs, it is a disease with high morbidity and mortality. According to the Permanent Scientific Commission on Leptospirosis of the Argentine Association of Veterinarians of Diagnostic Laboratories (AAVLD), serological diagnosis is carried out using six serovars in canine sera, as they are the most frequently detected in that species. However, others are mentioned in the international bibliography which are not evaluated in Argentina. The objective was to detect antibodies against *Leptospira* spp. in canines, incorporating six new serovars to the battery of antigens of the microscopic agglutination technique (MAT). During the years 2022-23, a descriptive observational study was carried

out, in which 66 sera from canines with clinical suspicion of the disease, of different breeds, sex, and ages, from veterinary offices in Casilda and Córdoba, were analyzed. Blood samples were obtained by venipuncture and the clear serum was stored at -20°C. For MAT, reference strains of *Leptospira* spp. were used: *Leptospira interrogans*: Pomona Pomona; Icterohaemorrhagiae Copenhageni M 20; Bataviae Batavie Swart, Canicola Canicola Hond Utrech IV; Australis Bratislava Jez Bratislava, Pyrogenes Salinem, Autumnalis Autumnalis Akiyami A, Sejroe Wolffi 3705; *L. kirschneri*: Grippotyphosa Moskva V, Cynopteri Cynopteri 3522 C and *L. borgpetersenii*: Ballum Castellonis Castellon 3. The cut-off dilution was 1:50. Thirty-seven (56.06%) reactive sera were found. It was observed that 21 (56.75%) reacted to a single serovar: 1 to Icterohaemorrhagiae with a titer of 1:50, 9 to Canicola of which 1 serum presented a titer of 1:400, and 8 presented titers of 1:50 to 1:100; 6 reacted to Bratislava with titers of 1:50 and 5 to Castellonis with titers of 1:50. In the remaining 16 (43.24%) sera, cross-reactions were detected with sera reactive to Australis, Autumnalis with titers of 1:50 to 1:200 and Cynopteri 1:100. In the canines of the study region, Canicola continues to be the most frequently detected, followed by Castellonis, Icterohaemorrhagiae and Bratislava. The detection of Australis, Autumnalis, and Cynopteri in cross-reactions suggests that they should be investigated.

A17
VARIATION OF ANTIMICROBIAL SENSITIVITY OF *Escherichia coli* STRAINS ISOLATED FROM SWINE (PERIOD 2011 – 2023)

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Escherichia coli integrate pig's intestinal microbiota; pathogenic strains are classified based on virulence factors production. *E. coli* is considered an indicator of antimicrobial resistance (AMR) in gram-negative bacteria isolated from pigs. Transfer of AMR genes between bacteria from different animal species using genetic exchange mechanisms is a serious public health problem. *E. coli* produces pathologies in pigs, especially diarrhea in suckling and weaned pigs, and edema disease in weaned pigs. Increased AMR of *E. coli* (and other bacteria) isolates from pigs is well known. Indiscriminate use of antimicrobials (AM) reserved exclusively for human medicine in Europe and USA has been combated since some years because implied danger has been assumed. In Argentina, only colistin use has been prohibited in pigs by government. The aim of this work was to verify pig *E. coli* sensitivity to AM used in swine farming for treatment of diarrhea (in Argentine production area of S Santa Fe, SE Córdoba and NW Buenos Aires), and compare it with those registered in previous years (2011, 2013, 2021 and 2023). In 2023, 31 cases of diarrhea were studied. Feces were collected from each case and *E. coli* strains were isolated (blood agar and Levine's EMB, at 37°C for 24 hours) and identified (by standardized biochemical tests). Sensitivity (S) to AM applied in pig digestive pathologies was verified through antibiograms by agar diffusion technique reading according CLSI values, and it was compared with that obtained with the same method in isolated strains under the same conditions in 2011, 2013 and 2021. Virulence factors genes were not investigated and antibiograms were performed to obtain an S pattern in *E. coli* strains from each farm. Decrease of S was detected for amoxicillin: S of 14% in 2011, 7% in 2013, 6% in 2021 and 0% in 2023. In the case of macrolides, S for tiamulin is only 40%, and 0% for tylosin and tylvalosin, as in previous years; for lincomycin, S was 0% for that AM alone, but became 95% when was tested in combination with spectinomycin. Enrofloxacin S in 2023 (31%) was similar to that of 2011 (32%) and norfloxacin S increased slightly (32 to 56%). The aforementioned also happened with trimethoprim/sulfamethoxazole S, that varied from 26 to 40%. Streptomycin, not widely used for some years, had a S of 100% in 2023. Fosfomycin, whose use began to be restricted, went from a S from 75% in 2011 to 89% in 2023. In general S of most tested AM were very low. Intensive use of AM over time inevitably decreases S. Increases of S were found in those AM whose use decreased, and this indicate that the controlled AM therapy (along with other measures), could preserve the effective action of these drugs, which encourages continuing the fight against AMR.

A18
OPTIMIZATION OF DIFFERENT STAGES IN A LENTIL (*Lens culinaris* MEDIK) BREEDING PROGRAM FOR THE RAPID OBTENTION OF RILs

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A lentil breeding program involves the hybridization of superior parental lines followed by different selection methods to obtain new RILs. In this process, the length of the seed-to-seed cycle is a limiting factor since only one generation per year is possible in the field. Therefore, it is necessary it is necessary to expedite this time through acceleration methods. In this work, it is proposed to optimize every stage of a breeding program using a modified

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

SSD (Single Seed Descent) system that includes an in vivo acceleration strategy by hydroponic cultivation in a growth chamber. In 2022, 60 plants of six high nutritional quality parental lines (8r, 16a, 30r, 42a, 42r, 57a) were planted in a randomized complete block design with two repetitions in three environments: 1 (greenhouse), 2 (field) and 3 (growth chamber). Different characters were measured: Plant height (PH), Days to flowering (DF), Days to Maturity (DM), Length between nodes (LN), No. of nodes/plant (NN), No. of pods (NP) and seeds/ plant (SP), Seed diameter (SD) and Yield/plant (Y). Hybridizations were carried out in the 3 environments with the following parental combinations: 16aX30r; 42aX42r and 57aX8r and the number of F_1 seeds obtained in each cross was counted. An analysis of variance (ANVA) and DUNCAN test were performed. The ANVA showed significant differences between varieties and environments for all traits, except for NN. Additionally, Y was affected only by the environment. The genotype x environment interaction was significant for DF, DM, PH, NP and SP. When environments were compared, it was observed that in environment 3, the DF and DM values were significantly lower (31 and 72 days, respectively) than in environments 1 and 2 (87-83 and 122-116, respectively). The yield and its NP and SP components were significantly higher in environments 1 and 2 (which did not present significant differences between them) compared to 3. Regarding the amount of F_1 seeds obtained, the highest number of effective crossings was achieved in environment 3 and no significant differences were observed between the combinations of hybridizations carried out. In conclusion, the growth chamber is efficient for the hybridization of lentil parental materials and for obtaining the F_1 generation. It is advisable to sow these seeds in the greenhouse to obtain a large number of F_2 seeds, achieving greater genetic variability than in growth chamber and minimizing possible losses due to adverse weather conditions in the field. The following F_3-F_6 generations could be obtained in a growth chamber with an in vivo system coupled to an SSD scheme to shorten the cycles allowing up to 5-6 generations/year to be obtained, thus increasing the efficiency of the program.

A19

CONSERVATION OF THE PHYSIOLOGICAL QUALITY OF SOYBEAN SEEDS DURING STORAGE

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Soybean (Glycine max. L. Merr.) belongs to cultivated species whose seeds markedly deteriorate their physiological quality (PQ), losing viability after six months of harvesting. Humidity (H), temperature (T) and oxygen (O2) are the environmental factors with the strongest impact, being capable of promoting biological processes in seeds leading to the loss of their viability. Then, it was postulated to evaluate soybean seed storage conditions that minimize the O2 level and the H and T exchange with the environment, thus maintaining seed PQ. Two experiments (E1 and E2) were carried out. In E1, soybean seeds, cv. DM3815, after 6 months of harvesting, were packaged for one year, in 1000 kg containers with a thermal insulating cover, one open (O) and the other closed in an N2 atmosphere (N). The seeds from both containers were sown in the field at the end of the experiment, comparing the emerged plants number (EPN) and yield at harvest (Y) with each other and also concerning a sowing of control seeds (C) of the same cv. produced in the current campaign. In E2, it was scaled up to 60 containers, thus packaging 60 Tn of soybean seeds, cv. DM52R59, exclusively under N treatment conditions. The EPN was evaluated after sowing in the field concerning its respective C. For both E1 and E2, it was evaluated at the start and end of the experiment: Germination Power (GP), Cold Test (CT), Viability (Vb) and Vigor (Vg). For the E1, the initial GP, CT, Vb and Vg values were 91; 87.5; 93.5 and 87.5 %, respectively. The final values for the N and O treatment, were 82 and 20; 79 and 18; 87 and 47; 74 and 31 %, respectively. The values at the start and end of the E2 were PG: 97 and 94; CT: 92 and 90; Vb: 96 and 92; Vg: 88 and 85 %, respectively. The EPN for the N treatment did not differ significantly ($p<0.01$) concerning C in either E1 or E2, nor were there differences ($p<0.05$) in Y between the N (5422 kg.ha-1) and C (5960 kg.ha-1) in E1. By contrast, no EPN was recorded for the O treatment. H and T remained stable between treatments, while the reduced O2 level (<0.2%) by N2 displacement, would have been more relevant to maintaining a high seeds PQ, restraining the aerobic respiration of the seeds. It concluded that soybean seeds stored in modified atmosphere conditions maintain their PQ, allowing them to be sown in the next campaign after their production. In turn, this increases the efficiency of the seed industry, with a simple, accessible and sustainable technology easily implemented in the facilities and storage conditions currently available.

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

A20

GROWTH OF FORAGE PLANTS UNDER EXTREME DROUGHT CONDITIONS IN THE SOUTH OF THE PROVINCE OF SANTA FE

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This work explores whether the aboveground biomass-root biomass allometries for forage species in different functional groups (temperate grasses and alfalfa), in situations of extreme drought, follow different patterns, thus, they can be used differentially if these conditions are repeated. The experiment was carried out in the experimental field "JF Villarino", Fac. of Cs. Agrarias of the UNR|, from May to December 2022. In May, alfalfa plots were planted dormancy degree 6 (AGL6) and 9 (AGL9), Mediterranean fescue (FMed), continental fescue (FCont) and orchard grass (PO). The sowing density was 15 kg of seeds ha $^{-1}$ for alfalfa, and 10 kg of seeds ha $^{-1}$ for grasses in 12 m^2 plots. The experimental design was in randomized complete blocks with three repetitions. The experiment was conducted under rainfed conditions, in unrestricted soil. Prior to planting, the soil moisture content was determined by gravimetry; determining that the plots were between 10 and 20% of the field capacity. This condition lasted throughout the experimental period, which is why the degree of drought was determined through the percentile method. Which considers that all those years that present annual precipitation values less than the 5th percentile (ie 565 mm) correspond to conditions of extreme drought. In November, 15 plants (pl) taken at random in each plot were extracted and the weight of the dry matter of the leaves and stems in alfalfa and tillers (Mac) in the grasses (BA) was measured. The total weight of roots of the 0-20 cm layer (BR) was determined. The BA and BR were expressed in g plant $^{-1}$, subsequently the biomass values were transformed into logarithms and they were allometrically related. Linear regressions were performed using Infostat. For each forage species, the regression model showed a high R ^{2} value. Patterns of carbohydrate allocation towards BA were observed in AGL6, AGL9, FMed and PO (1.01, 0.66, 0.82 and 0.84 g of BA for each unit increase in BR, respectively). FCont showed a low ratio (0.43 g of BA for each unit increase of BR). AGL6 stands out, not only for the relative allocation towards the roots, but also for the greater production of leaves related to the stem. In the fescues the BA/BR response was more significant in FMed, who had the strategy of producing more Mac (7 FMed versus 4.75 FCont Mac/pl). These results are supported by the fact that FMed has accumulated production in autumn-winter, to remain dormant in summer as an adaptation to the water stress conditions in the region where they originate. PO presented 7.07 Mac/pl of greater weight (0.18g/Mac versus 0.1-FMed and 0.07g-FCont /Mac). Significant allometries were observed in the assignment for BA and BR, in each of the species examined. Differences that may be important to select those that perform best in situations of extreme drought. AGL6 stands out over AGL9, FMed over FCont and a regular behavior in morpho-physiological relationships in PO.

A21

PARASITOIDS OF DROSOPHILIDAE IN FRUIT TREES ORCHARDS OF SOUTH SANTA FE

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Drosophila suzukii (Matsumura) "spotted wing drosophila" and *Zaprionus indianus* (Gupta), "african fig fly" (Diptera: Drosophilidae) are two exotic fruit pests that stand out for laying eggs on fruit that has not yet ripened, causing loss of turgor, favoring the proliferation of pathogens and reducing their commercial value. The first has a wide range of hosts that includes crops (mainly fine fruits, peaches, vines, mulberry trees and citrus) and wild ones. The second has a more limited range of healthy fruits, not yet ripe, such as figs and strawberries. The chemical control of these species has harmful consequences for the environment, which is why it is important to develop biological control strategies, mainly through parasitoids. Mostly, parasitoids of frugivorous drosophilids are larvae and pupals. In Argentina, 6 genera of parasitoids associated with *D. suzukii* have been recorded: *Ganaspis*, *Leptopilina*, *Hexacola* and *Dieucoila* (Figitidae), *Trichopria* (Diapriidae) and *Pachycrepoideus* (Pteromalidae). Therefore, in this work we set out to survey the presence of *D. suzukii* and *Z. indianus* and their parasitoids in fruit orchards in the south of Santa Fe. From September 2020 to August 2021 inclusive, 3 apple cider vinegar traps were placed for each species of fruit tree, for periods of 7 days, for the capture of adults in two commercial orchards. 18 traps were used in Rosario (32° 56'S; 60° 38'W) (pomegranate, persimmon, prickly pear and figs, figs, purple and white) and 9 in Piñero (33° 06'S; 60° 48'W) (persimmon, kiwi and orange). The highest peak of abundance of drosophilids was in April with a record of 2825 individuals of *D. suzukii* and 2433 individuals of *Z. indianus*. In that same month, the highest peak of

BIOCELL, Vol.48, Suppl. 3, 2024
ISSN 0327-9545
ISSN 1667-5746 (online version)

parasitoids was also observed: 11 individuals of *Pachycrepoideus vindemmiae* (Rondani) (Hym: Pteromalidae) and 30 individuals of Figitidae spp. *P. vindemmiae* is a polyphagous pupal parasitoid, associated with *D. suzukii* and *Z. indianus*, which can also behave as a facultative hyperparasitoid. It has already been registered in Tucumán, Río Negro and Neuquén. Given that we have observed a certain temporal overlap between hosts and parasitoids, it is necessary to deepen the study to identify the Figitidae species and evaluate the parasitoidism of the most abundant species in order to determine the effectiveness of said parasitoids as possible agents to be taken into account in the design of biological control programs.