



# Biotecnología

Revista de Ciencias Biológicas y de la Salud editada por la Universidad de Sonora



e-revist@s



indexada en

PERIÓDICA  
ÍNDICE DE REVISTAS LATINOAMERICANAS EN CIENCIAS

latindex

IC Journal  
Master List

redalyc.org

Scielo

Miembro de

crossref

**BIOTECNIA, 2023, 25, Issue 1** (January - april). BIOTECNIA is a four-monthly electronic publication edited by the University of Sonora, through the Division of Biological and Health Sciences, with the address at Blvd. Luis Encinas y Rosales s/n, Col Centro, Hermosillo, Sonora, México, C.P.83000, web page: <https://www.bioteecnia.unison.mx>, e-mail: bioteecnia@unison.ciencias.mx, Editor in chief: Jesús Adriana Soto Guzmán.

Reservation of Rights to Exclusive Use 04-2022-061515171200-102. ISSN: 1665-1456; both granted by the National Institute of Copyright.

The opinions expressed by the authors do not necessarily reflect the position of the publication's publisher. The total or partial reproduction of the contents and images in this publication is authorized as long as the publisher's authorization is obtained and the source is fully cited.



Bioteecnia is under the licence Atribución-NoComercial-CompartirIgual 4.0 Internacional (CC BY-NC-SA 4.0)

### *Review articles*

---

pp. 51 - 60

#### Dietary inclusion of clinoptilolite as a feed additive in the ruminants production

##### **Zeolite in ruminants production**

Ana Tánori-Lozano, Maricela Montalvo-Corral, Araceli Pinelli-Saavedra, Martín Valenzuela-Melendres, Libertad Zamorano-García, José Luis Dávila-Ramírez, Humberto González Rios

pp. 147 - 155

#### Extraction methods, functionality and bioactivity of saponins from Yucca: a review

GJ Gonora Chi, J Lizardi Mendoza, Y Lopez Franco, M Lopez Mata, Luis Quihui Cota

pp. 156 - 168

#### Dietary sources, bioavailability and health effects of carotenoids

##### **Dietary sources, bioavailability and health effects of carotenoids**

Claudia I. Victoria-Campos, Juan Ornelas-Paz, Saúl Ruiz-Cruz, José de Jesús Ornelas-Paz, Braulio Cervantes-Paz, Claudio Ríos-Velasco, Jaime D. Pérez-Martínez, Alfonso A. Gardea-Béjar, Elhadi M. Yahia, Vrani Ibarra-Junquera

### *Research Articles*

---

pp. 5 - 13

#### Chemical composition, antioxidant activity and cytotoxicity of flower extracts from Magnolia grandiflora L. found in southeast Mexico

Tomás Rivas-García, Jorge Alberto Alejandro-Rosas, Ángel Ramos-Ligonio, Marisol Castillo-Morales, Juan José Reyes-Pérez, Berenice Esquivel-Valenzuela

pp. 14 - 23

#### Microbiological risk assessment associated to raw oyster consumption contaminated with Vibrio cholerae and Vibrio parahaemolyticus

Karla María López Hernández, Violeta T. Pardío-Sedas, Argel Flores Primo, David Izcoatl Martínez Herrera, Roxana Uscanga Serrano

**Antagonism Trichoderma spp. strains isolated from Tanaxuri, Michoacan, Mexico against pathogens of avocado (Persea americana Mill)**

pp. 24 - 33

María Estela López-López, Carmen Lizette Del-Toro-Sánchez, Salvador Ochoa-Ascencio, José Antonio Aguilar-López, Oliviert Martínez Cruz, Jaime Alberto Madrigal-Pulido, Miguel Angel Robles-García, Ariadna Thalia Bernal-Mercado, María Guadalupe Ávila-Novoa, Pedro Javier Guerrero-Medina, Melesio Gutiérrez-Lomelí

**Biological effectiveness of extracts of Agave striata and Fouquieria splendens against Clavibacter michiganensis subsp. michiganensis.**

pp. 34 - 42

Jesús Eduardo Ramírez Méndez, Francisco Daniel Hernández Castillo, Marco Antonio Tucuch Pérez, Isaac Irving Camacho Aguilar, Roberto Arredondo Valdés, José Ángel Villarreal Quintanilla

**Physicochemical, techno-functional and antioxidant characterization of coffee silverskin**

pp. 43 - 50

Dr., M.C., Dr., Armida Sánchez-Escalante

**Polyphenolic-rich extracts from the leaves of Ilex paraguariensis and Larrea divaricata and their antioxidant and antiCOVID-19 potential**

pp. 61 - 66

Juan C. Contreras-Esquivel, Carlos N. Cano-González, Juan Ascacio-Valdes, Jorge A. Aguirre-Joya, David Aguillón-Gutierrez, Javier Breccia, Judith D. Espinoza-Perez, Cristóbal N. Aguilar, Cristian Torres León

**Evaluation of arbuscular mycorrhizal consortia in interaction with phosphorus levels in the promotion of growth and biomass of Stevia rebaudiana Bertoni**

pp. 67 - 80

Rodrigo Armando Cauich-Cauich, Dr. Tun-Suárez, Dr. Cristóbal-Alejo, Dra. Herrera-Parra, Dr. Andueza-Noh, Monica Guadalupe Lozano Contreras

**Effect of microbial biostimulants on the size and weight of bell pepper and tomato fruits under protected conditions of macrotunnel**

pp. 81 - 87

Jacel Adame García, Félix David Murillo Cuevas, Héctor Cabrera Mireles, Jazmín Villegas Narváez, Adriana Elena Rivera Meza, Andrés Vásquez Hernández

**Antioxidant, toxic and antimicrobial activity of Rosmarinus officinalis, Ruta graveolens and Juglans regia against Helicobacter pylori**

LCA, Dra., Dr., Dra., Dra., Dr., Dr.

**Trichoderma harzianum and spinosyn in the control of wheat weevil Sitophilus granarius (L. 1758)**

pp. 94 - 99

Gabriela Andrade-Bustamante, Angel Manuel Suárez Hernández, Emmanuel Aispuro-Hernández, Francisco Eleazar Martínez-Ruiz

**Effect of seasonality on the microbiological and physicochemical quality of goat's milk produced in the center of Veracruz, Mexico**

pp. 100 - 108

Pablo Díaz-Rivera, Victor Daniel Cuervo-Osorio, Gregorio Hernández-Salinas, Adan Cabal-Prieto, José Andrés Herrera-Corredor, José Manuel Juárez-Barrientos, Emmanuel de Jesús Ramírez-Rivera

**Development and characterization of active films with silver-nanoparticles obtained by green synthesis**

pp. 109 - 115

Enna Berenice Estudillo-Diaz, Federico Antonio Gutiérrez-Miceli, Daniel González-Mendoza, Benjamín Valdez-Salas, Miguel Abud-Archila

**Evaluation of edible chitosan, agar and thyme films to maintain the quality of 'Hass' avocado fruits during storage**

pp. 116 - 125

Tomas J Madera-Santana, Victor M Toledo-López, Karla Martinez-Robison, Victor Rejón-Moo, Judith Fortiz Hernández

**Proposal for a metabolic syndrome model in CD1 mice induced with a hypercaloric diet**

pp. 126 - 132

**Metabolic syndrome model in CD1 mice**

Xochitl Cruz Sollano-Mendieta, Gerardo Norberto Escalona-Cardoso, Edgar Cano-Europa, Norma Paniagua Castro

**Associated factors with human papillomavirus infection in adult women from northwest Mexico**

pp. 133 - 139

Morales Figueroa, Marlene Bravo Parra, Karla M Olivas Matas, Julian Esparza Romero, Manuel Valenzuela Zamorano, Oscar M Olivas Lopez, Luis Quihui Cota

**PCR Reliability to Detect Rickettsia rickettsii through Cutaneous Swab and Urine Samples**

pp. 140 - 146

**PCR to confirm Rocky Mountain spotted fever**

Cynthia Y Garcia-Cortez, Gerardo Alvarez-Hernandez, Enrique Bolado-Martinez, MC Candia-Plata, Miguel Angel Martinez-Medina

**Evaluation of antimicrobial susceptibility and genetic profiles (ERIC-PCR) of Enterococcus species, isolated from chicken viscera**

Evaluation of antimicrobial and genetic profiles of *Enterococcus* species, from chicken viscera.

pp. 169 - 176

A Almada-Corral, MA Cordero-Ortiz, LD Ballesteros-Herrera, SJ Calderón-Montoya, E Bolado-Martínez, RI Sánchez-Mariñez, A García-Galaz, IC, Rodríguez-Hernández, MO Cortez-Rocha, ML Álvarez-Ainza

**Influence of temperature on the infectivity of *Fusarium oxysporum* f. sp. *vanillae* in *Vanilla planifolia* and in hybrids *V. planifolia* x *V. pompona***

pp. 177 - 183

JM Barreda-Castillo, RA Menchaca-Garcia, A Perez-Silva, NG Sanchez-Coello, M Luna-Rodriguez

**Desi-type chickenpea (*Cicer arietinum L.*) forage yield, grain and quality**

pp. 184 - 192

R Avalos-Castro, R Ramirez-Orduña, E Gutierrez-Perez, CM Melgoza-Villagomez, JA Acosta-Gallegos