



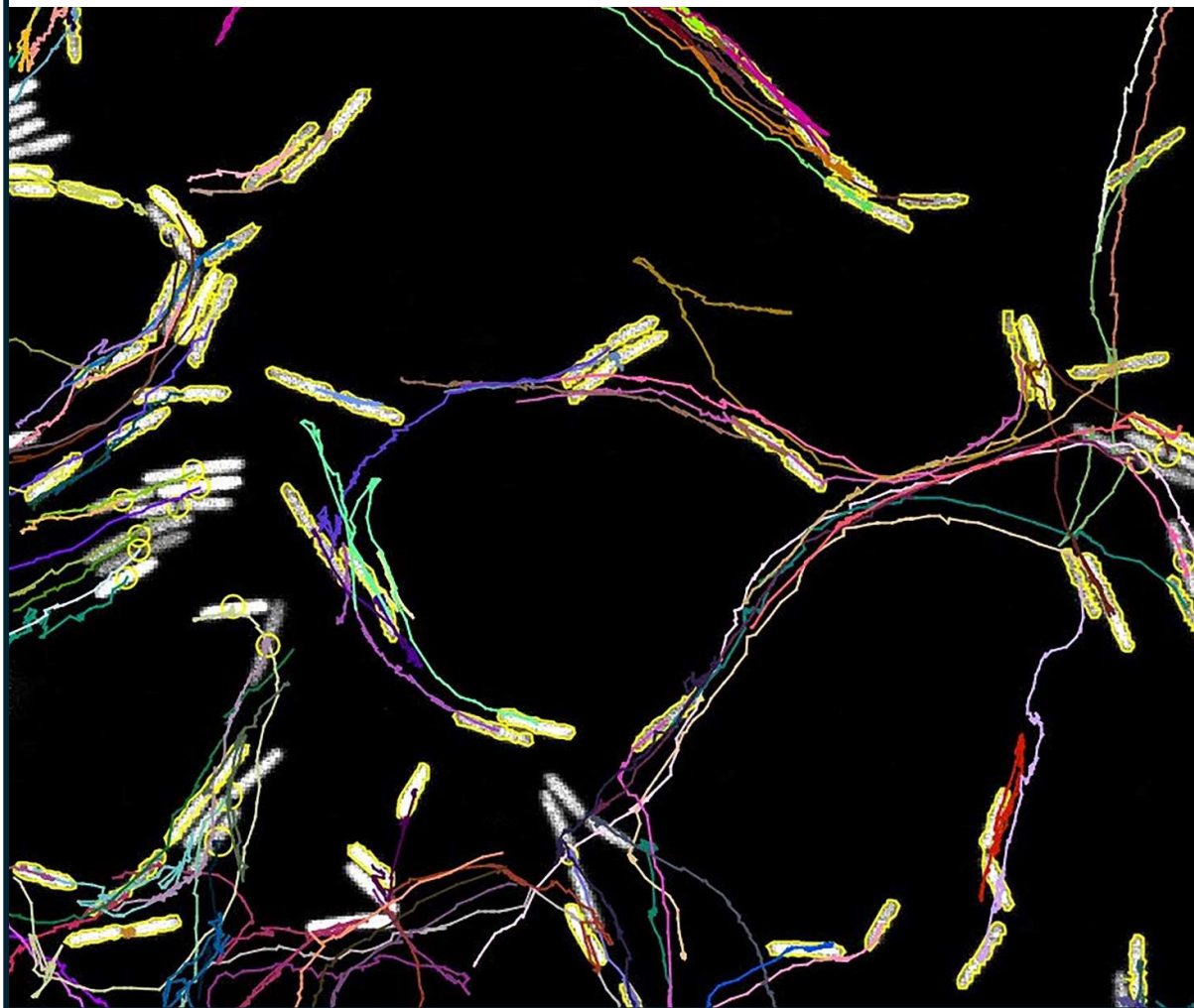
Sociedad Argentina de Microbiología General

XIX CONGRESO DE LA SOCIEDAD ARGENTINA DE MICROBIOLOGÍA GENERAL

22 al 25 de octubre del 2024

Centro cultural y Pabellón Argentina de la Universidad Nacional de Córdoba,
Córdoba, ARGENTINA.

Foto: Se hace camino al andar. Celeste Dea. Instituto de Investigaciones Biotecnológicas (IIB-CONICET) - Universidad de San Martín
1er puesto. Concurso fotográfico SAMIGE 20 años.



COMISIÓN DIRECTIVA SAMIGE 2021-2024

Presidente: Andrea Smania
Vicepresidente: Juan Pablo Busalmen
Secretaria: Laura Raiger-Iustman
Pro-Secretario: Alfonso Soler Bistué
Tesorera: Estela Galván
Pro-Tesorera: Natalia Gottig
Revisores de cuentas: Javier Mariscotti y Betina Agaras
Presidente saliente: Eleonora García Véscovi

RESPONSABLES DE ÁREAS

Microbiología de las interacciones (MI): Arlinet Kierbel.
Microbiología Molecular y Fisiología (MM): Paula Tribelli.
Biodegradación, Biorremediación y Biodeterioro (BB): Omar Ordóñez.
Biotecnología y Bioprocesos (BP): Martín Hernández.
Educación y divulgación en Microbiología (EM): Alejandra Pereyra.
Microbiología Ambiental, Agrícola y de Suelo (MS): Gonzalo Torres Tejerizo.

COMISIÓN ORGANIZADORA LOCAL

Adela Luján - Cecilia Becerra - Cecilia Mlewski - Andrea Albarracin Orio - Gabriela Paraje - Albano Tenaglia - Soledad Anzuay - Agustina Ponso

COLABORADORES

Mario Chiatti - Gastón Castillo Moro - Josefina Casaux - Natalia Domig - Agustina Crusianelli - Viviana Silvina Bravi - Consuelo Méndez Izares - Muriel Beltramino - Camila Comba Ruestsch

COMISIÓN EVALUADORA

Garavaglia, Betiana. Conforte, Valeria. García Véscovi, Eleonora, Herrera Seitz, Karina, Blajman, Jesica Evelyn, Campos, Eleonora, Briones, Carlos Gabriel, ARECO, Vanessa, Kurth, Daniel German, Farizano, Juan Vicente, Figoli, Cecilia Beatriz, Figuerola, Eva Lucía Margarita, Roset, Mara, Sabrina, Marina Maria, Russo, Daniela Marta, Mielnichuk, Natalia, Mlewski, Estela Cecilia, Vullo, Diana Lia, Sannazzaro, Analia Ines, Quiroga, Cecilia, Altabe, Silvia, Sisti, Federico, Ludueña, Liliana Mercedes, Checa, Susana K, Sobrero, Patricio Martín, Quelas, Juan Ignacio, Lucero Estrada, Cecilia, Trochine, Andrea, Raimunda, Daniel César, Santangelo, María de la Paz, Pettinari, María Julia, Taurian, Tania, Estrella, María Julia, Vila, Alejandro, Marcos, Magali, Romanini, Diana, Malamud, Florencia, López, Nancy Irene, Villegas, Liliana, Dotto, Cristian, Reinoso, Elina, Barra, José Luis, Guerrero, Leandro D, Paraje, María Gabriela, Larraburu, Ezequiel, Lanfranconi, Mariana Patricia, Draghi, Walter Omar, Berón, Corina, Della Vedova, María Cecilia, Rodríguez, María Eugenia, Gimenez, María Ines, Méndez, Andrea Analia Elena, Viale, Alejandro M, Pezzoni, Magdalena, Pistorio, Mariano, Del Papa, María Florencia, Romero, Fernando Matias, Cimolai, María Cecilia, Baigori, Mario, Anzuay, María Soledad, Valverde, Claudio, Yantorno, Osvaldo Miguel, Serbent, María Pilar, Gárriz, Andrés, Cohen, Ana, Soto, Carmen, Espinoza, Silvia Lorena, Capdevila, Daiana, Lagares, Antonio Jr, Arabolaza, Ana, Sieira, Rodrigo, Loto, Flavia del Valle, Tondo, María Laura, Lujan, Adela Maria, Bianco, María Isabel De Castro, Rosana, Daniel, María Alejandra, Alvarez, Héctor M, Orellano, Elena G, Maroniche, Guillermo, Pagnussat, Luciana, Fischer, Sonia, Trejo, Fernando Miguel, Delfederico, Lucrecia, Althabegotti, María Julia, Merino, Luis Antonio, Nadra, Alejandro, Robledo, Alejandro.

Agradecemos a las siguientes instituciones y empresas que patrocinan nuestro congreso anual

FUNDACIÓN
WILLIAMS



SCH SOUBEIRAN
CHOBET



Y-TEC
YPF TECNOLOGÍA



novonesis

lobov
científica



Y también a quienes lo auspician:

Química Viva



EVALUATION OF THE EFFECTIVENESS OF ENTOMOPATHOGENIC FUNGI NATIVE FROM YUNGAS FOR THE BIOCONTROL OF *Dalbulus maidis* (HEMIPTERA: CICADELLIDAE), VECTOR OF CORN STUNT DISEASE

Vega Gordillo, Aelia^{1,2} - Manzano, Carolina¹ - Luft Albarracín, Erica¹ - Fariña, Julia¹ - Delgado, Osvaldo^{1,2}

1) PROIMI-CONICET - San Miguel de Tucumán - Tucumán - Argentina

2) FACEN-UNCa - SFV Catamarca - Catamarca - Argentina

Contacto: jifarina@yahoo.com

Maize (*Zea mays*) plays a fundamental role in the global economy, serving as human food, livestock feed, and a raw material for a wide range of industrial products. In Argentina, maize production has reached approximately 26.5 million tons over the past 5 years, cultivated on 4 million hectares. However, in the last growing season, this crop experienced significant losses due to the population explosion of the "corn leafhopper" (*Dalbulus maidis*), an insect vector of several pathogens that cause corn stunt disease. *D. maidis* transmits *Spiroplasma kunkelii*, a bacteria that causes stunt disease and results in severe crops damage, significantly reducing both yield and grain quality. This pest has led to a decrease in maize planting by between 1.3 and 2 million hectares in recent seasons. In response to this issue, finding sustainable alternatives to chemical control becomes crucial. Therefore, this study evaluated several fungi isolated from the Tucumán Yungas rainforest for the biocontrol of *D. maidis* and its transmitted disease. Eight fungal isolates, selected for their bioactivity (insecticidal and/or phyto-stimulating properties), were tested: LY 4.1, LY 4.4, LY 72.14, TF, HM9, CHW2, CHI1, and CHI3. These were cultured for 14 days on MP20 agar at 30°C in the darkness. From the active colonies (~9 cm in diameter), spores were recovered with a known volume of 0.1% Tween 80 and counted using a Neubauer chamber. The spore concentrations used in the assays ranged between 10⁶-10⁸ spores/mL, depending on the fungus. Biocontrol assays were conducted using a spraying inoculation technique of these spore suspensions onto *S. kunkelii*-carrying leafhoppers, maintained in a controlled chamber (25 ± 1°C, RH 70-80%, and 12L:12D). Groups of 5 *D. maidis* adults were sprayed with the various suspensions using an airbrush in hemolysis tubes. After 30 minutes, the insects were transferred to glass cages (15 x 5 cm) with a V2 stage maize plant for feeding. Insect mortality was daily monitored for 14 days. Ten replicates were performed for each fungal suspension, plus a control with 0.1% Tween 80. Mortality rates for *D. maidis* ranged between 64% and 96% after 14 days, with entomopathogenic fungi (CHI1, CHI3, LY 72.14) being the most effective. Fungal virulence was assessed using Kaplan-Meier survival curves, where accumulated mortality was observed throughout the trial. The work will continue with the selection of the best fungal candidate/s and the formulation optimization. These strategies would contribute to the maize biological protection at the same time of promoting Argentine agroecosystem sustainability, by means of reducing the dependence on chemical products, minimizing environmental impact, preserving biodiversity, and being applicable to integrated pest management.

Palabras clave: *Dalbulus maidis* - *Spiroplasma kunkelii* - corn stunt disease - biocontrol - entomopathogenic fungi