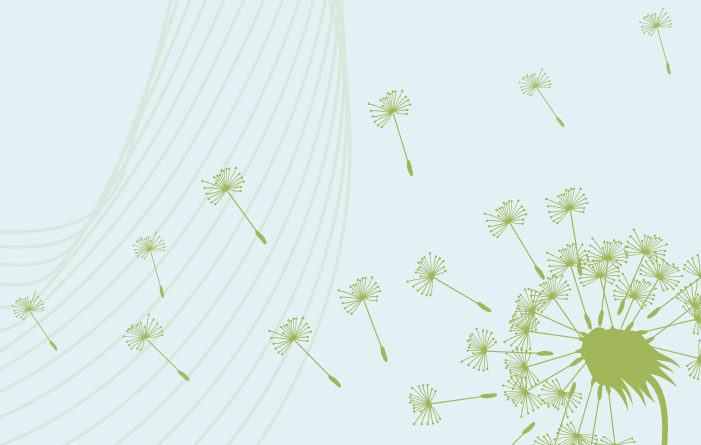


# IV INTERNATIONAL CONGRESS ON APOMIXIS

December 3 - 7, 2023 • ROSARIO, ARGENTINA

**Book of Abstracts**



Introduction .....	3
Committees .....	4
Sponsors .....	5
Scientific program .....	6
List of Posters .....	9
Apomixis Awards .....	10
Abstracts .....	11
Invited Speakers .....	11
Oral Communications .....	20
Posters .....	29

The **IV International Congress on Apomixis Research** gave us the opportunity to celebrate 28 years of nonstop progress in this field since our first international meeting, which was held in Texas (USA) in 1995. After that, the apomixis community met in Como (Italy) in 2001, and Wernigerode (Germany) in 2007.

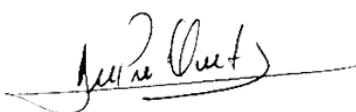
This conference brought together 80 participants coming from 18 different countries. The most represented communities were the argentinian and the italian ones, but there were also eminent professors and scientists from Albany, Australia, Bangladesh, Canada, China, Czechia, France, Germany, India, Mexico, Perú, Portugal, Switzerland, The Netherlands, The United Kingdom and The United States.

We discussed 47 scientific contributions and enjoyed the presentations of 16 invited speakers, 9 session talks selected from the submitted abstracts, 1 round table on scientific policies and a discussion session on perspectives. Finally, we organized an open-to-the-community session in order to share our work with the general public of all ages.

During their stay in Rosario, the attendees had the opportunity to visit some of the iconic places of the city. We hope they found this congress inspiring and went back home with creative new ideas, collaborations and friends, as well as an increased interest in their work.

We would like to thank the institutions and consortiums that provided financial and practical support to the event: the Italian Embassy in Argentina, the Italian General Consulate of Rosario, the Ministry of Foreign Affairs of Italy, the University of Milano, the Government of the Santa Fe Province, the National University of Rosario, the National Agency for the Promotion of Research, Technological Development and Innovation of Argentina, the National Council for Scientific and Technological Research of Argentina (CONICET), the Rosario Board of Trade and the Agricultural Science Foundation (FCA UNR). The congress organization has also received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No [872417], Project MAD and No No [101007438], Project POLYPLOID. We are also grateful for the support received from the Faculty of Agronomy of the National University of Rosario, the Research Institute of Agricultural Sciences of Rosario (IICAR), the Scientific and Technological Centre of CONICET Rosario (CCT Rosario) and the ROSCYTEC Foundation.

Finally, we would like to thank all the members of the Apomixis Argentina Group, for their valuable help during the organization of this event, and specially the people of the IICAR Plant Reproductive Development group.



**Dr. Juan Pablo Ortiz**  
IICAR Director  
Local Host



**Dra. Silvina Pessino**  
IV International Congress on Apomixis  
President of Organizing Committee

**P21**

**A 3D analysis of the reproductive development of *Eragrostis curvula* (Schrad.) Ness.**

**Pasten, M.C.** (1,2); Carballo, J. (1); Díaz, A.R. (1,3); Mizzoti, C. (4); Cucinotta, M. (4); Colombo, L. (4); Echenique, V. (1,2); Mendes, M.A. (4)

(1) Centro de Recursos Naturales Renovables de la Zona Semiárida (CERZOS), Universidad Nacional del Sur - Consejo Nacional de Investigaciones Científicas y Técnicas (UNS-CONICET), Bahía Blanca, Argentina.

(2) Departamento de Agronomía, Universidad Nacional del Sur, Bahía Blanca, Argentina.

(3) Departamento de Biología, Bioquímica y Farmacia, Universidad Nacional del Sur, Bahía Blanca, Argentina.

(4) Dipartimento di Bioscienze, Università Degli Studi di Milano, Milano, Italia.

cielo.pasten@yahoo.com.ar

Apomixis, defined as asexual propagation by seeds, is a type of plant reproduction found in more than 400 angiosperms. This polyphyletic trait has been studied in various species, and it is considered of great importance in the agricultural industry as it would allow the fixation of desired traits and its propagation through generations. The study of ovule development in an apomictic model is necessary to strengthen the knowledge of the mechanisms governing this reproductive mode, and would contribute to improve plant breeding procedures. Weeping lovegrass (*Eragrostis curvula* (Schrad.) Ness) is a perennial grass that has been extensively studied as a model species for diplosporous apomixis. This species, mostly used as forage in semi-arid regions of the world, comprises a polymorphic complex that includes sexual and apomictic cytotypes, where all apomicts are polyploids, ranging from tetraploids (4X) to octoploids (8X). The aim of this work was to provide a thorough description of the developmental stages taking place in the ovule of three tetraploid genotypes of weeping lovegrass: the full apomictic Tanganyika, the facultative apomictic Don Walter, and the sexual OTA, as well as evaluating pollen development, using confocal laser microscopy. Moreover, in order to further understand the mode of reproduction in this species, an *in-situ* hybridization (ISH) was performed using an SPL gene (Squamosa Promoter-binding-Like), found to be differentially expressed between two of the contrasting genotypes (OTA-S and Tanganyika). The present analysis of the female gametophyte aided in increasing the knowledge of the reproductive development in *E. curvula* and allowed the identification of differences between sexual and apomictic development.