26th ICSPR Prague 2022

20. - 24. June 2022

International Conference on Sexual Plant Reproduction

26th International Conference on Sexual Plant Reproduction

20. – 24. June 2022

Pyramida Hotel, Prague, Czech Republic

TABLE OF CONTENT

P63 A reproductive calendar of apomictic and sexual genotypes of *Eragrostis curvula* (Schrad.) Ness

Petrus Bisp[1], Juan Pablo Selva[1,2], José Carballo[2], Diego Zappacosta[2,3], Jimena Gallardo[2,3], Viviana Echenique[2,3]

[1]Departamento de Biología Bioquímica y Farmacia, Universidad Nacional del Sur (UNS), Bahía Blanca, Argentina
[2]Centro de Recursos Naturales Renovables de la Zona Semiárida (CERZOS–CCT–CONICET Bahía Blanca), Bahía Blanca, Argentina
[3]Departamento de Agronomía, Universidad Nacional del Sur (UNS), Bahía Blanca, Argentina

Weeping lovegrass (*Eragrostis curvula*) is a perennial forage grass native to southern Africa naturalized in semiarid regions of Argentina that reproduces mainly by apomixis, showing full, facultative and sexual genotypes. The type of apomixis present in *E. curvula* is diplospory, where the megaspore mother cell (MMC) undergoes mitosis instead of meiosis and there is no fertilization of the egg cell, only the polar nucleus is fertilized to form the endosperm. To study the genetic basis of the different components of apomixis in this grass, it is important to be able to recognize and isolate pistils at different developmental stages in order to identify differentially expressed genes. The aim of this work was to develop a detailed and precise reproductive calendar for its use in transcriptomic analysis. The methyl salicylate clarification method was used in order to avoid the long process of paraffin embedding protocol, and the male and female developmental stages in anthers and pistils were confirmed through Differential Interference Contrast microscopy. Five different growth parameters from pistils and anthers from different genotypes were registered during the mega and micro-sporogenesis and gametogenesis over more than 500 flowers. Pistil length was found easy to measure and effective to identify different developmental stages. This parameter was more reliable than anther length to infer the correct female developmental stage, providing an effective method to collect pistils at the desired stage.