

# Virginia M. C. Luquez

## Researcher

Instituto de Fisiología Vegetal (INFIVE), CONICET - UNLP. La Plata, Argentina.  
[www.infive.conicet.gov.ar](http://www.infive.conicet.gov.ar)

### Flooding tolerance in Salicaceae (poplars and willows)

The main area for poplar and willows plantations in Argentina is the Paraná River Delta, where flooding episodes are frequent, and their occurrence will increase with climate change. In my group, we try to understand the mechanisms that enhance poplar and willow tolerance to flooding, at morphological, physiological, biochemical and molecular levels.

We work in close collaboration with the Poplar and Willows Breeding Group from the National Institute for Agricultural Technology (INTA). In our work, we use several of the new genotypes obtained by this group at the INTA Delta Research Station.



### Use of Salicaceae to produce biomass for energy

In Argentina, the use of biomass for energy is scarce. There is little information about yield and management practices for Short Rotation Coppice (SRC) plantations with poplars and willows that are well developed in other countries. Because of their rapid growth and high demand for resources, SRC systems are more similar to annual crops than to traditional forest plantations. Our aim is to learn about the factors that determine the productivity and sustainability of SRC systems under local conditions.



### Recent Publications

1. Mozo, I., Monteoliva, S. E., Cerrillo, T., & Luquez, V. M. C. (2024). Flooding tolerance, biomass production, and leaf nitrogen assimilatory efficiency in 29 diverse willows (*Salix* spp.) genotypes during early growth. *Journal of Forest Research*, 1-8. <https://doi.org/10.1080/13416979.2024.2386704>
2. Guillermo Doffo, Corina Graciano, Fabio G. Achinelli, Virginia M.C. Luquez (2024) Nutrient extraction is related to stem diameter distribution, tissue concentration, and yield in an annually harvested *Salix* coppice. *Forest Ecology and Management* 567:122103. <https://doi.org/10.1016/j.foreco.2024.122103>.
3. Luquez VMC, Bartolozzi M, Martínez S (2022) Utilización de álamos y sauces para la producción de biomasa para energía. *Revista de la Facultad de Agronomía La Plata* 121 (1): 1-17. <https://doi.org/10.24215/16699513e091>
4. Mozo I, Rodríguez ME, Monteoliva S, Luquez VMC (2021) Floodwater Depth Causes Different Physiological Responses During Post-flooding in Willows. *Frontiers in Plant Science* 12:575090. doi: 10.3389/fpls.2021.575090.
5. Monteoliva S, Mozo I, Rodríguez ME, Luquez VMC (2021) Impacto de la aplicación de una metodología de marcación del cambium en la evaluación de vasos formados exclusivamente en el xilema bajo tratamiento de estrés hídrico. *Revista de la Facultad de Agronomía, La Plata* 120 (1): 1-12.
6. Rodríguez ME, Mozo I, Cortizo S, Cappa EP, Luquez VMC (2021) Early rooting and flooding tolerance in cuttings from a *Populus deltoides* full-sib family under greenhouse conditions. *Canadian Journal of Forest Research* 51: 732-741.
7. Rodríguez ME, Lauff D, Cortizo S, Luquez VMC (2020) Variability in flooding tolerance, growth and leaf traits in a *Populus deltoides* intraspecific progeny. *Tree Physiology* 40 (1) 19-29. <https://doi.org/10.1093/treephys/tpz128>

For a complete list of publications, go to ORCID: <https://orcid.org/0000-0002-8433-909X>