

Project Title: “*Determinants of seed quality in crops*”

Supervisor: Prof. Balestrazzi Alma

Reviewer: Prof. Macovei Anca

Nicolò Bedotto

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Education

October 2025 – Present PhD student in Genetics, Molecular and Cellular Biology, Department of Biology and Biotechnology “L. Spallanzani”, University of Pavia, XLI Cycle.

September 2023 – July 2025 Master’s Degree in Advanced Biotechnology (LM-8), University of Pavia. Thesis: “Exploring the genotoxic stress response in primed orphan legume seeds challenged with heat stress and sodium butyrate”. Supervisor: prof. Balestrazzi Alma. Final grade: 110/110 *cum laude*.

October 2020 – July 2023 Bachelor’s Degree in Biological Sciences (L-13), University of Pavia. Thesis: “Seed priming protocols for orphan legumes’ development: *Pisum sativum* var. *arvense*”. Supervisor: prof. Balestrazzi Alma. Final grade: 110/110 *cum laude*.

Technical Skills

Molecular biology and bioinformatics: RNA extraction by using TriZol and Oñate-Sánchez & Vicente-Carbajosa protocols; standard PCR and *q*RT-PCR; alkaline comet assay; oligonucleotide design and validation for *q*RT-PCR.

Plant biotechnology: seed quality analysis, germination curves, phenotypic analysis, seed priming (hydropriming, biopriming).

Publications & Conference Presentations

Pagano, A., Dueñas, C., Jr, **Bedotto, N.**, Elleuch, A., Khemakhem, B., El Abed, H., Tani, E., Goufa, M., Chachalis, D., & Balestrazzi, A. (2025). Exploring the genotoxic stress response in primed orphan legume seeds challenged with heat stress. *Genes*, 16(2), 235. <https://doi.org/10.3390/genes16020235>

Bedotto, N., Pagano, A., Pinna, F., Tarozzo, S., Balestrazzi, A. Exploring the genotoxic stress response in primed *Lathyrus sativus* L. seeds challenged with heat stress and sodium butyrate. Learning with seeds – basic, translational & applied science, Pavia, Italy. 6 June 2025.

Pagano, A., **Bedotto, N.**, Pinna, F., Laurenti, A., Macovei, A., Balestrazzi, A. Neglected crops toward climate-ready farming: DNA damage profiles of heat-stressed legume seeds. Plant genome stability and change 2024, Olomouc, Czech Republic, 16-19 June 2024.

Pagano, A., Bontà, V., Calvio, C., Macovei, A., Pinna, F., **Bedotto, N.**, Laurenti, A., Balestrazzi, A. From bench to field: scaling-up seed priming technology on orphan legumes in the Mediterranean area. ISSS (International Society for Seed Sciences), Paris, France, 3-7 July 2023.