



NEWSLETTER

A Journey Completed, A Legacy Continues

As we bring the Se4All project to a close, it is with immense pride and gratitude that I reflect on our 54-month journey together. What began as a vision to harness the potential of selenium biofortification in dairy systems has evolved into a collaborative achievement that bridges science, innovation, and society across Europe and Latin America.

Ass.Prof Maria - Jesus Sanchez Martin

Se4All Highlights



Through four international workshops, four science cafés, over fifty secondments, and a rich portfolio of outreach activities, we have not only advanced scientific knowledge but also strengthened bonds between researchers, farmers, SMEs, and citizens. Together, we transformed laboratories into living networks, turning research into tangible products such as selenium-enriched milk and cheese, which were tasted and celebrated at our final workshop in Argentina.

On behalf of the Universidad Autónoma de Barcelona, I thank all our partners—INTA, INTI, UNL, Beal Organic Cheese Ltd, Sapienza University, ALBA Synchrotron, and REDINN—for their unwavering commitment, as well as the European Commission for making this journey possible through the Horizon 2020 MSCA Staff Exchanges programme.



Se4All Scientific Highlights

- Developed selenium-enriched alfalfa and dairy products with demonstrated nutritional and functional benefits.
- Advanced analytical techniques and data-driven approaches applied to food innovation.
- Consumer studies and sensory evaluations strengthened understanding of market potential.
- Results disseminated through scientific papers, conferences, and international symposia.

Se4All Events & Outreach Activities Highlights

- 4 International Workshops (Barcelona, Rome, Barcelona, Argentina)
- 4 Science Cafés (Barcelona, Rome, Barcelona, Argentina)
- 90+ news stories and continuous updates on secondments
- Participation in high-level global events, including ICSEHH Bangkok, Macfrut Rimini, and Circular Economy National Conference in Rome



The conclusion was wonderful in Argentina

Se4All Final International Workshop

The Se4All project successfully concluded with its 4th International Workshop, held on 3 September 2025 at the National University of Litoral in Argentina. Titled “Dairy Products at the Forefront of Nutrition: New Trends and Future Opportunities”, the event gathered 55 participants, including researchers, industry experts, and policymakers. Discussions focused on enhancing selenium concentration and bioavailability in milk and dairy products, while exploring market opportunities and consumer perspectives. The workshop showcased the project’s achievements, fostered international collaboration, and set the stage for future innovation in functional foods.



Secondments: Knowledge in Motion

Over 50 staff exchanges across Europe and Latin America fostered skills development, knowledge transfer, and new collaborations.

Se4All Secondments

Carlo Marini: Decoding Se Speciation with Synchrotron Power

ALBA to Rome, a physicist refines biofortification insights

Carlo Marini, a group leader at ALBA Synchrotron, led a productive secondment at the University of "La Sapienza". His work focused on applying synchrotron techniques to study selenium (Se) speciation in biofortified plants, aligning with Se4All's mission to unravel the mechanisms behind Se bioavailability in biological systems.

Key Highlights:

- 1. Ecomondo Conference (Rimini, Italy):**
 - Participated in sessions on EU funding for green projects and circular economy innovations, gaining insights into sustainable practices for the dairy industry.
 - Attended workshops on bioenergy, waste valorization, and regulatory frameworks, directly applicable to Se4All's sustainability goals.
- 2. Field Research & Institutional Visits:**
 - Italy: Explored Emilia-Romagna's dairy sector, including the University of Bologna's Food Science Campus, Centrale del Latte di Bologna, and Parmigiano Reggiano Consortium.

Erica Schmidt

This secondment was a transformative experience, bridging Argentina's expertise with European advancements in sustainable dairy production. The need for advanced statistical methods in data analysis was highlighted, leading to the development of a Python-based tool for fast data analysis (FDA).

Carlo Marini - ALBA

The secondment provided a unique opportunity to combine synchrotron expertise with plant science, paving the way for automated, high-precision speciation analysis. The results will significantly benefit the Se4All network and beyond.

Joselina Graciela Karlen: Crafting Dairy with Precision



From INTI to UAB, a food engineer studies Se-milk techno-functionality

Joselina's work on membrane technology and cheese yield included:

- Milk Destabilization Studies:** Evaluated Se-enriched milk for cheese production potential.
 - Industry Visits:** Engaged with MARDEL Dairy and AINIA to discuss scalable applications.
 - Training:** Gained proficiency in UAB's Optigraph equipment for coagulation analysis.
- Collaboration Highlight:** Plans to co-author papers with UAB's Antonio Trujillo on dairy techno-functionality.

Se4All Secondments

Maria Belén Pirola: Bridging Bioeconomy and Dairy Innovation

An Argentine biotech expert explores sustainability in Spain and Italy

From October 26 to November 25, 2024, Dr. Maria Belén Pirola from INTI Lacteos Rafaela (Argentina) undertook a dynamic secondment at the Autonomous University of Barcelona (UAB), with additional activities in Italy. As a Managerial Staff (MNG) member, Erica focused on enhancing dairy sustainability, valorizing by-products, and fostering international collaborations aligned with Se4All's objectives.

Key Highlights:

- 1. Ecomondo Conference (Rimini, Italy):**
 - Attended sessions on EU funding for green projects, circular economy innovations, and agro-industrial byproduct valorization.
 - Gained insights into regulatory frameworks and bioenergy trends, aligning with Se4All's sustainability objectives.
- 2. Field Research & Institutional Visits:**
 - Italy: Explored Emilia-Romagna's dairy hub, including the University of Bologna's Food Science Campus, Centrale del Latte di Crema, and Parmigiano Reggiano Consortium farms. Discussions emphasized Se-biofortification protocols and technology transfer to industry.
 - Spain: Conducted Se speciation analyses at ALBA Synchrotron (led by Dr. Laura Simonelli) and coordinated with UAB's Food Technology team.

Maria Belén Pirola - INTI

This secondment was a catalyst for bridging science and industry. The partnerships forged—from synchrotron labs to dairy cooperatives—will accelerate our work in creating functional, sustainable dairy products.

Se4All Delegation

On September 25, the Se4All delegation participated in the National Conference on the Circular Economy at the National Central Library in Rome, organized by Dr. Letizia E. Toselli (INTA) and Dr. Corinna (INTI). The team engaged with experts on circular food systems, policy, and bioeconomy strategies. Horizon Europe MSCA Staff Exchanges at REDINN, the researchers gained insights from Italy's national circular economy and high-level contributions from the European Commission. The event fostered cross-sector innovation and EU alignment, committing to connecting science, policy for a more circular and inclusive future.

Se4All Meets Argentina's Award-Winning Dairy Tradition

As part of her Se4All secondment in Argentina, Kate Carmody (Beal Organic Cheese Ltd.) immersed herself in the rich dairy culture of Buenos Aires with the support of INTI.

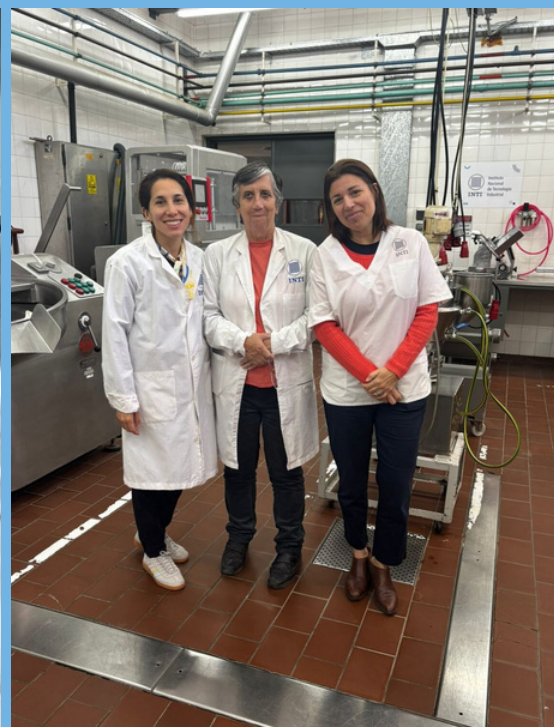
Day 1 began at the INTI Food Technological Centers, where Kate exchanged experiences with INTI staff on capabilities and technology transfer to industry. She then joined a theoretical and practical course on handmade dulce de leche production, guided by INTI professionals and attended by colleagues from the dairy sector.

Day 2 took Kate and INTI experts to Mozzari, a national company specializing in Italian-style mozzarella. The visit offered a firsthand view of cutting-edge processes and equipment, showcasing Argentina's expertise in traditional dairy innovation.

This secondment highlights Se4All's mission: connecting European and Latin American partners through knowledge exchange, strengthening sustainable dairy production, and celebrating the cultural and technological diversity of food innovation.

Finally, Kate's activities also built on earlier exchanges, such as INTI professionals' secondment at Beal in August, where they joined cheddar cheese production at Beal's pilot plant. These synergies ensure Se4All's outcomes continue to ripple across continents.

From Dulce de Leche to Mozzarella



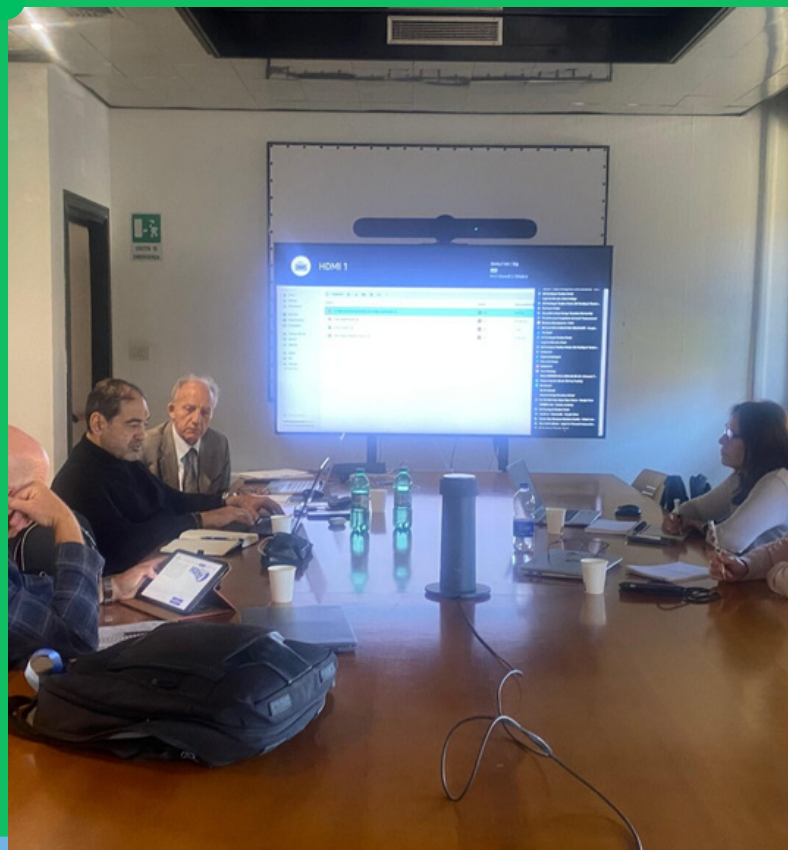
UAB Secondment at REDINN

On 2 October 2025, the Se4All project hosted a pivotal meeting within the framework of the UAB secondment at REDINN. The delegation from the Universitat Autònoma de Barcelona (UAB) included Prof. Maria Jesús Sánchez Martín and Prof. Mercè L. Lugany, warmly welcomed by the REDINN team — Dr. Leonardo Piccinetti, Fabio Buccolini, and Donatella Santoro.

The session was further enriched by the participation of Prof. Danilo Corradini from CNR – Istituto di Sistemi Biologici, who presented synergies with the Horizon Europe PATHFOOD project.

Discussions were highly productive, addressing the impact of Se4All, the evaluation of the project life cycle, and strategies to maximize outcomes beyond its official completion. Partners also explored potential knowledge transfer, synergies with EU-funded projects, and future proposals to build on the scientific and societal legacy of Se4All.

This secondment highlighted the importance of international cooperation, knowledge exchange, and innovation to drive sustainable functional food systems in Europe and Latin America.



Lessons from Ireland's BEAL Organic Farm

As part of the Se4All project, we are glad to share the results of a Master's thesis carried out by Giulia Guazzo, intern in the project and MSc student in Resource Economics and Sustainable Development at the University of Bologna.

The research applied a Social Life Cycle Assessment (S-LCA) to the Irish dairy sector, using BEAL Organic Farm as a case study. Through the Impact Pathway Type II approach, the study examined how farming practices, governance frameworks, and community relations co-produce social impacts.

The findings highlight both the strengths of BEAL—women's empowerment, transparency, cultural continuity, and nutritional innovation—and the structural challenges faced by small organic farms, such as bureaucratic burdens, unequal access to funding, and psychosocial risks.

This work reinforces the mission of Se4All in advancing a holistic understanding of sustainability, where the social dimension is addressed alongside environmental and economic ones, and where inclusive policies, stronger links between research and rural practices, and consumer engagement in short supply chains are key to a fair transition.



Giulia Guazzo, Se4All -Intern

Se4All Milestones at a Glance

2021 – Kick-Off

Se4All project begins with an ambitious mission: advancing selenium biofortification from field to fork.

2022 – First Steps

Launch of project website, visual identity, and promotional kit. First Science Café in Barcelona connects researchers with citizens.

2023 – Expanding Knowledge

- 1st International Workshop (UAB, Barcelona): Food Innovation Through Adding Value to Crops
- Se4All Symposium with UNL (Argentina) bridges EU–LATAM collaboration.

2024 – Deepening Research & Engagement

- 2nd International Workshop (Sapienza, Rome): Advanced Characterisation Techniques
- Market Research Training (UAB, Barcelona) empowers partners.
- 3rd International Workshop (UAB, Barcelona): The Power of Functional Food.
- Science Cafés in Rome and Barcelona spark dialogue with society.

2025 – Culmination

- Participation in global events (Bangkok, Rome, Rimini, Bologna).
- 4th International Workshop (INTA, Argentina): Dairy Products at the Forefront of Nutrition.
- Final Project Meeting and Workshop mark Se4All's legacy of impact.

Beyond Se4All

More than 90 news stories, 15+ videos, 8 newsletters, 4 workshops, 4 science cafés, and countless secondments have built a lasting bridge between Europe and Latin America for sustainable food innovation.

Thanks to Our Partners

Universidad Autónoma de Barcelona (UAB) | Instituto Nacional de Tecnología Agropecuaria (INTA) | Instituto Nacional de Tecnología Industrial (INTI) | Universidad Nacional del Litoral (UNL) | Beal Organic Cheese Ltd | Sapienza University of Rome | ALBA Synchrotron | REDINN

Looking Ahead

Se4All leaves behind a strong legacy: new scientific knowledge, innovative technologies, trained researchers, and enhanced EU–LATAM cooperation in sustainable food systems. The consortium is already exploring new proposals to build upon this momentum.



Se4All



European
Commission



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PROJECT PARTNERS

These organizations have partnered with us to advance our common goal: increasing the availability of Selenium-rich dairy products for common consumption. We thank them for their support and are proud of the relationships we've built thus far. They have been instrumental in the progress of this project.



Thank you to all partners, stakeholders, and supporters who made Se4All a success. Together, we've proven that science, innovation, and collaboration can transform food systems for healthier and more sustainable futures.