



From Breeding Fields to Natural Landscapes

Scientific exchanges on the road to the International Oat Conference 2026

Science does not advance only in laboratories or experimental plots. It also progresses through travel, exchanges among people and territories, and different ways of conducting research. In oat breeding - a crop that is key to sustainability, nutrition, and resilient agriculture - international experiences have become as important as genetics itself.

In this context, over the past 12 years, Chile's participation in international oat conferences such as the American Oat Workers' Conference and the International Oat Conference, as well as in scientific visits with people from Chile, Canada, the United States, and Wales, has strengthened links, opened new opportunities for collaboration, and shown how global exchange enhances local research. We encourage researchers, students, and other professionals to learn about different breeding programs by meeting in Chile at the International Oat Conference 2026, which will be held in November in Pucón, southern Chile.

From Southern Chile to Wales: learning from European excellence

As part of this exchange, Mónica Mathias, a researcher in the Oat Breeding Program (PMG) of the Instituto de Investigaciones Agropecuarias - INIA Carillanca Regional Center, carried out a technical visit to the Institute of Biological, Environmental and Rural Sciences (IBERS) at Aberystwyth University in Wales, one of Europe's leading centers in agro-environmental research and cereal development.

During her stay, Mónica gained in-depth knowledge of the oat breeding program, focused on drought tolerance, disease resistance, and adaptation to temperate environments, accompanied by the distinguished researchers Dr. Catherine Howarth and Dr. Sandy Cowan. The visit included field trials and advanced phenomics facilities, where multiple agronomic traits are evaluated using high-precision technologies.

One of the most relevant aspects was the evaluation of the response to water deficit at different stages of oat development, as well as metabolomic studies that seek to identify compounds associated with physiological mechanisms of stress tolerance. These approaches provide key tools to accelerate the development of varieties that are better adapted to increasingly extreme climate scenarios, a priority for both Europe and Chile.

From Canada to Chile: sharing breeding models and industrial processing in the field

The exchange also took place in the opposite direction with the visit to Chile of Dr. Aaron Beattie, oat and barley breeder at the Crop Development Centre of the University of Saskatchewan (Canada), who toured the INIA Carillanca Oat Breeding Program.



During the visit, experiences with breeding strategies, agronomic types, and systems for evaluating new varieties were shared. One especially noteworthy aspect was the Canadian model of collaborative trials, in which public institutions, private stakeholders, producers, and industry participate in the evaluation of materials across different environments. After two seasons, expert committees select the varieties with the greatest agronomic and commercial value, enabling efficient, rapid, and low-cost processes.

The tour of the trials also made it possible to compare the oat types developed in both countries. In Canada, oats must complete their cycle within a very short period, while in Chile the focus is on yield stability and adaptation to a wide diversity of environments. The discussion also addressed sustainable production systems, such as zero tillage and the use of crop residues to protect the soil, improve water infiltration, and reduce erosion, practices widely used in Canada. In this context, common challenges were discussed, including weed and disease control, where genetics plays a central role.

During his visit to southern Chile, Dr. Aaron Beattie gained first-hand knowledge of the coordination between breeding, production, and industry that characterizes the oat sector in the country. At Agrotop, Claudia Acosta, Deputy Manager of Research and Development, welcomed him and accompanied him on a tour of the company's facilities and experimental plots near Freire, where the connection between farmers and grain processing was evident. This experience reinforced a very positive impression of the Chilean oat system, where different participants in the value chain contribute in a complementary way to the development of the crop.

Global exchange of oat germplasm from the United States

Beyond data and technology, the visits highlighted the importance of open collaboration among breeding programs, where ideas, experience, and plant material circulate across borders. In this context, the International Oat Nursery initiative stands out. Coordinated by Dr. Stephen Harrison, a renowned cereal breeder and professor at Louisiana State University in the United States, it has enabled germplasm exchange among programs around the world, expanding genetic diversity and strengthening collaborative work.

Technical visits by oat breeders from North America made it possible to exchange knowledge, observe the field performance of varieties and advanced lines of diverse origins, and strengthen plant breeding in developing countries. This type of long-term international cooperation enhances local programs and contributes to the development of oat varieties that are better adapted to different environments and future challenges.

Science, travel, and connection invite the world to Chile for the International Oat Conference 2026

These experiences show that visiting other breeding programs not only makes it possible to learn new methodologies, but also to broaden scientific perspectives, build lasting networks, and connect research with the territories where agriculture is developed.



From the experimental fields of Wales, through North American production systems, to the volcanic soils of southern Chile, oats express themselves differently depending on the place. Learning about these landscapes and working together strengthens science and international cooperation.

These scientific routes now converge at a global meeting point: the International Oat Conference 2026, which will be held from November 17 to 20, 2026, in Pucón, marking the first time this event will take place in Latin America. Organized by Agrotop, with the support of INIA and other institutions, the conference will bring together breeders, geneticists, agronomists, industry representatives, students, and professionals from around the world. Along with the scientific sessions, it will be an opportunity to learn about breeding programs in Chile and enjoy the natural surroundings of the La Araucanía Region: lakes, volcanoes, native forests, and a rich cultural identity.

In this context, Aaron Beattie commented, "We hiked the Sierra Nevada trail in Conguillío National Park, and it was one of the best moments of the trip. Overall, the park was excellent, very peaceful, with abundant birds and very good places to swim." The trail is known for its beautiful views of the volcano and the lake, with a steady climb that leads to beautiful panoramic landscapes.

Pucón will not only be a place to share science, but also to experience how agriculture, nature, and people come together.

This is highly relevant, as oats are a crop aligned with current challenges: they are environmentally friendly, nutritious, and adaptable to sustainable agricultural systems. Strengthening international collaboration - through visits, joint projects, and conferences - is key to continued progress.

Travelling to learn, welcoming colleagues to our fields, and meeting in Chile in 2026 are all part of this path. This is an open invitation to continue connecting science, territories, and people, with oats as the common thread.

(See photos below)



A



B

Photo 1. From controlled environments to the field - advances in international oat research.

A: Catherine Howarth and Mónica Mathias observe drought experiments with oat genotypes in the high-throughput phenotyping greenhouse at IBERS, Aberystwyth, Wales. B: Aaron Beattie and Mónica Mathias review field trials of oat genotypes at the Institute of Agricultural Research - INIA, Vilcún, Chile.



A



B

Photo 2. Integration between agricultural production and the food industry at Agrotop facilities in La Araucanía, the main oat-growing area in southern Chile.

A: experimental oat plots near Freire. B: oat processing plant for the production of rolled oats and other derived products.



A



B

Photo 3. Discover the landscapes of southern Chile near Pucón.

Scenic beauty of Conguillío National Park, one of the most emblematic protected areas in La Araucanía. A: Llama Volcano and its landscape shaped by lava and volcanic scoria, reflecting its dynamic geological past. B: Ancient forests of *Araucaria araucana*, a native species of southern Chile. Sacred to the Mapuche-Pewenche people, araucarias produce piñones (seeds), a traditional ingredient in local cuisine.