

Opportunities for Swiss innovation

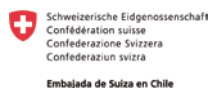
AGRITECH IN CHILE



OFFICIAL PROGRAM



IN COOPERATION WITH



1ST RANK IN LATIN AMERICA

WEF Competitiveness Ranking (since 1998)

> 200 SWISS COMPANIES IN CHILE

with more than 30.000 direct jobs

FREE TRADE AGREEMENT

Chile-EFTA since 2004

INVESTMENT PROTECTION AGREEMENT

Chile-Switzerland since 2002

DOUBLE TAXATION AGREEMENT

Chile-Switzerland since 2011

CHILE: AN INNOVATIVE AND OPEN MARKET

Chile has a much diversified climate and highly fertile land. It accounts for one of the five macro-areas of the world with Mediterranean climate. This is enhanced by maintaining zoo and phytosanitary security, thanks to Chile's natural barriers and the strictest controls, which has allowed to establish a sustained leadership in the export of primary agricultural products. However, Chile is also one of the countries most affected in the world by to climate change. In the Northern region, more and more frequent rainfalls occur, while the Central region is exposed to strong prolonged periods of drought. The southern area is also exposed to droughts in addition to forest fires and unusual heat waves for that region. For this reason, the government, the private sector and an important part of civil society are committed to mitigation and adaptation strategies to climate change.

Because of its political and economic stability and the clarity of its business environment, Chile is attractive to companies investing for the first time in Latin America. However, at the end of 2019 for the first time in decades, this stability was shaken by protests, looting and riots that occurred throughout Chile which was called the "estallido social." This phenomenon, which arises as a response to social inequality and a distrust in the political class, seeks, among other things, the creation of a new political Constitution. The decision will be made in October 2019 through a people's referendum.

The country has ratified Free Trade Agreements with 65 markets, including Switzerland, which is more than any other country in the world. This allows access to 88% of the world's GDP under preferential tariff conditions, which means 4.7 billion potential consumers.

In 2010, Chile became the first South American country to become a member of the Organization for Economic Cooperation and Development (OECD). It has a per capita income of more than USD 17.000 the second highest in Latin America.

Bilateral relations between Switzerland and Chile have been strong. On the commercial front, Swiss exports reached CHF 369 million in 2019. Products of Swiss origin are renowned for their high quality standards among the Chilean population.

Switzerland represents an excellent partner as a platform for the food industry worldwide with strong commerce, high degrees of innovation and very demanding consumers in terms of quality and sustainability.





THE ADVANTAGES OF FOOD PRODUCTION IN CHILE

From the northern border with Peru and Bolivia to the Strait of Magellan, Chile extends along the Pacific Ocean for 4.300 km with very different temperatures. And in its Central Valley lies one of the most fertile Mediterranean territories on the planet.

The Central Valley of Chile shares with California (USA), Valencia (Spain), Cape Town (South Africa) and Perth (Australia), a Mediterranean climate of clear summers and winters and a thermal oscillation not exceeding 15 degrees. These are five unique territories in the world.

Its geographical location in South America allows for off-season food production in the Central Valley compared to the main consumption centers in the northern hemisphere. In addition, the length of the country allows for staggered production with a relatively long export period, thanks to its diversity of climates.

With Chile protected in the north by the Tarapacá and Atacama deserts, in the south by the Antarctic ice, in the west by the Pacific Ocean, and in the east by the great Andes Mountains, the country has become a phytosanitary paradise free of pests and genetically modified organisms (GMOs).

According to InvestChile, Chile is actively promoting advances in technology and innovation and has the necessary human talent. It also has a very good logistical infrastructure. Therefore, it is one of the 15 largest agricultural exporters in the world.

One of the five territories
**WITH MEDITERRANEAN
CLIMATE WORLDWIDE**

OFF-SEASON
and staggered production

**PHYTOSANITARY
PARADISE**
free of pests and GMOs

TOP 15 EXPORTER
Chile is one of the world's
leading exporters of
agricultural products

USD 42 BILLION
market size

14% OF GDP
agricultural sector

EXPORTS
30% of the
agricultural sector

+11% IN 2018
Fastest growing sector

**+7% PER YEAR
UNTIL 2025**
will result in
USD 30 billion

AGRICULTURE IN CHILE

The national agro-industrial sector is made up of a set of subsectors: agriculture, livestock, aquaculture and fisheries, which together with the forestry sector represent 14% of Chile's GDP and 30% of national exports.

This sector generates more than 1,4 million jobs, the main source of employment at the national level, and its productive activity is carried out in all 16 regions of the country.

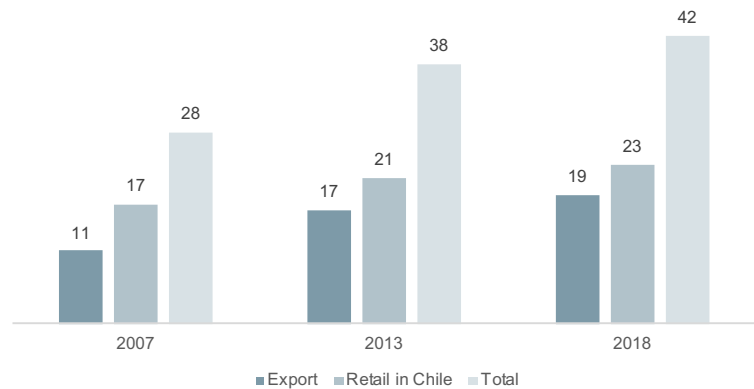
More than 30 million hectares are suitable for forestry and agricultural activities (almost half of the continental territory), of which 1,8 million hectares are used for crops and fruit plantations. There are about 300.000 agricultural operations, 93% of which have less than 12 hectares.

Food exports reached a value of USD 19 billion in 2018, an increase of 11% over 2017, which marked a new historical record for the country.

By 2025, food exports are projected to reach a value of USD 30 billion, at an annual growth rate of 7%.

Growth of the sector since 2007

USD billions



CHILE IS A GLOBAL LEADER IN EXPORTS

The country is a global leader in export of



Grapes



Blueberries



Plums



Dried apples



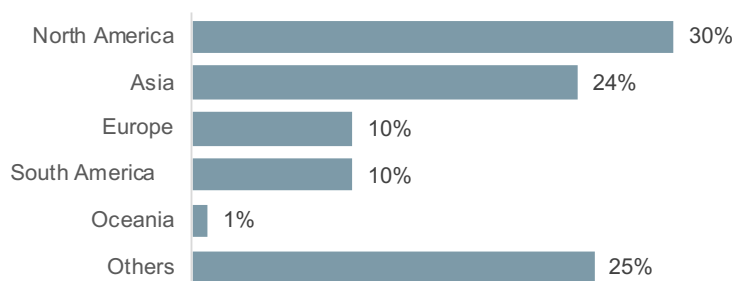
Salmon fillet



Mussels

DESTINATIONS OF CHILE'S EXPORTS, 2017

In terms of destination, the US received 26% of food exports in 2017, followed by China and Japan with 11% and 10% respectively. Brazil also stands out with 6% of the total, the Netherlands with 4%, and others with 3% of the total (Mexico, South Korea, Russia and the United Kingdom).



Chilean exports by product, 2018

Product	Investment (USD million)	%
Salmon and trout	5.157	31%
Other industrialized foods	2.312	14%
Wines	2.005	12%
Grape	1.229	7%
Cherry	1.079	6%
Apple	733	4%
Mollusks and crustaceans	709	4%
Other agriculture and fisheries	686	4%
Blueberry	649	4%
Pork	485	3%
Frozen fruit	371	2%
Poultry	357	2%
Dehydrated fruit	356	2%
Fruit juice	232	1%
Other beverages	188	1%
Plum	174	1%
Canned fruit	162	1%
Total	16.884	100%

1ST RANK

- Grapes
- Blueberries
- Plums
- Dried apples
- Salmon fillet
- Mussels

2ND RANK

- Fresh cherries
- Walnuts in shell
- Flower bulbs
- Frozen horse mackerel

3RD RANK

- Raisins
- Shelled nuts
- Agar-agar
- Inulin
- Bulk wine
- Frozen raspberries



New technologies for
**SUSTAINABLE
PRODUCTION**

EFFICIENT USE OF WATER

87% of the country's use in
agriculture
(Source: Fundación Chile)

LABELLING LAW

Chile is leader in
transparent labelling

**RECYCLING
PROMOTION LAW**

The REP law protects
people's health
and the environment

**TRENDS IN CHILE
AGRITECH FOR MORE SUSTAINABILITY**

The agro-industry is a major driving force for the Chilean economy, but this achievement is accompanied by significant production costs given the requirements for sustainability and environmental care.

There is a growing need for innovative technologies to facilitate planting, fertilization, irrigation, fumigation, transport, field cleaning, harvesting, data collection and crop traceability. The country requires new energy-efficient technologies and also technologies from innovative companies with cutting-edge know-how that help increase productivity and crop yields.

A critical element is water, which is scarce in the country due to the longest drought recorded. Chile needs companies to help build new irrigation infrastructure to maximize efficiency in the use of the resource, and provide equipment to align canals, tunnels and underground reservoirs, all aimed at water storage, transport and supply. In order to address the water crisis, the Chilean government created the Mesa Nacional del Agua in October 2019 comprised of national and regional public representatives as well as specialists from the field. Its purpose is to establish basic principles of the legal and institutional framework to support long-term water policy and define the infrastructure needed. At the same time, it was also announced that the government will invest USD 5 billion in projects to help reduce the use of water – one of the sectors being agriculture.

Furthermore, the Labelling and Extended Producer Responsibility Laws aim to reduce the generation of waste caused by packaging and to better declare ingredients. As a result, companies have had to adapt to their requirements. Thus they seek to innovate their packaging and to internalize regulations for products with high amounts of sugar, salt, saturated fat and calories. This implies a growing demand for innovations on how to manufacture products that comply with the regulations, that are healthier and that find the same or better acceptance by consumers, hopefully within the same price range.

THE IMPORTANT ROLE OF INNOVATION – A STRATEGIC INVESTMENT FOR CHILE

The government of Chile, through the Ministry of Agriculture, aims to “Position Chile as a provider of quality and sustainable food” and is working on the following objectives:

- New ministry with an integral vision of food
- Image of Chile with high standards of: condition, taste, quality, safety and sustainability
- Enhancing the partnership between the public, private and academy sector
- International relations
- Alignment with the objectives of Transforma Alimentos



Source: Minister Antonio Walker Prieto, Ministry of Agriculture, in the “Chile Alimentos”, December 2018

INVESTMENT IN THE SECTOR WITH 70 PROJECTS

Today, more than 70 projects are in the Environmental Impact Assessment System (SEIA) under qualification (submission date between June 1, 2017 and June 7, 2019) for a total investment amount of nearly USD 390 million, according to the following distribution:

Sector	Investment (USD million)	N° of projects
Fishing and aquaculture	208	43
Agriculture	102	9
Manufacturing facilities	44	5
Hydraulic infrastructure	18	3
Environmental sanitation	14	12
Total	387	72

Source: Own elaboration using SEIA information, <http://seia.sea.gob.cl>

Chile as a supplier of
**QUALITY AND
SUSTAINABLE FOOD**

**USD 387 MILLION
INNOVATION
INVESTMENT**
with more than 70 projects

Summary Agriculture and Agritech in Chile

- EMBASSY OF SWITZERLAND
- CHILEAN-SWISS CHAMBER OF COMMERCE
- S-GE CLEANTECH PROGRAM

Market analysis

Search for partners, distributors, customers

Trade fairs, individual & group business trips

Events & networking

SWISS COMPANIES

Arviem	Penergetic
Bühler	SICPA
Clariant	Surlat (Emmi)
Fromm	Syngenta
Nestlé	UAV Sensefly

CHILEAN MARKET CONDITIONS

Free Trade Agreement with 65 markets

Stable bilateral relations with Switzerland

Chile – a leader in Latin America in terms of competitiveness

ASSOCIATIONS

SNA

Chile Alimentos

Fundación GTT

MUCECH

Sofofa

AB Chile

SWISS AGRITECH INNOVATION



INSTITUTIONS AND FUNDS

CORFO

Transforma Alimentos Program

InvestChile

INIA

Fraunhofer

AGRICULTURE IN CHILE

Size USD 42 billion

30% of exports

Fastest growing sector

Global leader in exports of various products



Top 12 companies of the agro-industry in Chile

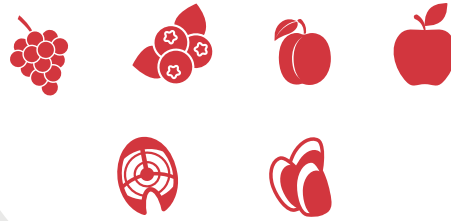
Turnover 2018

Company	USD mio
CCU	3.286
Coca Cola Chile	3.222
Agrosuper	2.383
Nestle Chile	1.219
Carozzi	1.152
Viña Concha y Toro	884
Colún	786
Chilenas Unidas	752
Aquachile	716
Acrícola Ariztía	643
Soprole	639
WATT'S	632

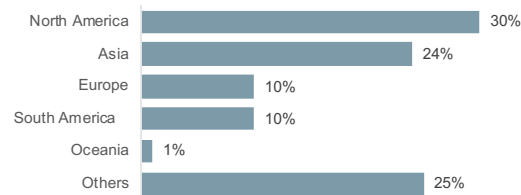
Fuente: América Economía, 2019

TOP 15 PRODUCER

Global leader in exports of



DESTINATIONS OF CHILEAN EXPORTS, 2017



TRENDS

Sustainable production (water)

Transparency (Labelling Law)

Organic products

Recyclable packaging

Efficient production

Quality improvement

TECHNOLOGY AND INNOVATION

Vision: high quality and sustainable products

USD 387 million investment in innovation (72 projects)

“Intelligent agricultural technology can also be an engine for the sustainable development of the entire food system.”

Achim Walter, Professor of Crop Science at ETH Zurich

OPPORTUNITIES FOR SWISS AGRO-INDUSTRIAL COMPANIES

AgriTech (also known as Smart Farming, Farming 4.0 or Digital Farming) is the application of information and data technology to optimize complex agricultural systems. The integration of intelligent agricultural technology and modern data technology enables the cultivation of plants and management of livestock adapted to the location as well as an efficient production process and supports the farmer in his decisions. Its objectives are:

- Profitability (cost reduction, increased efficiency)
- Quality improvement
- Minimize emissions
- Protection of resources
- Improving animal welfare and health

FIELDS OF APPLICATION IN THE AGRO-INDUSTRY



Automation / Artificial Intelligence

- Use of sensor technology
- Use of robots and drones
- Use of Artificial Intelligence
- Use of remote sensing (satellite technology) and automated image processing
- Autonomous driving and use of driver assistance systems
- Automation in the field and in the barn (e.g. milking robot)
- Internet of Things (IoT) applications for network devices and vehicles



Digitalization & BIG DATA

- Improved product traceability and counterfeit detection (e.g. using blockchain technology)
- Use of big data analysis (e.g. for forecasting)
- Reducing administrative burdens for farmers with digital applications
- Digitization of agricultural administration
- Digitization of agricultural advice (e.g. with chatbots)
- Digital direct marketing of agricultural products



Biotechnology

- Extension of product life (e.g. by “non-thermal preservation”)
- Development of meat substitutes and alternative sources of protein
- Promotion of organically produced food



Sustainability

- Reduction of packaging materials or use of sustainable materials
- Avoiding food waste
- Use of renewable energies and reduction of dependence on fossil fuels
- Development towards a circular economy (e.g. using “bioconversion”)
- Reduction of natural resources use (e.g. water)



With Chile being protected by its geography, the country has become a phytosanitary paradise free of pests and genetically modified organisms (GMOs). Therefore, it is home to unique products and functional foods.

1 Prebiotic fibers from chicory

BENEO-Orafti (part of the Südzucker group) produces prebiotic fibers (inulin and oligo fructose) extracted from chicory root in its plant located in the Biobío Region. Scientific studies reveal that these prebiotic fibers improve the balance of the intestinal flora which stimulates good digestive health. They help with weight control and promote calcium absorption for stronger bones.
www.orafti.cl

2 Maqui - native berry

Maqui New Life is a Chilean company focused on processing maqui for medical products. They produce two products - one for the Japanese market that stimulates the generation of tears for dry eye treatment and another for the U.S. to reduce the impact of insulin and blood sugar. Annual sales already reach USD 2-3 million and the company is evaluating using maqui for functional food production.
www.mnl-group.com

On the other hand, the demand from international markets for organic food has increased local interest in meeting it. This means that among other needs, adequate fertilizers and pesticides are required for organic production, which are not easily found in the country. In August 2019, the Swiss Federal Office of Agriculture and the Chilean Agricultural and Livestock Service (SAG), have agreed on mutual recognition of the standards they apply for organic products. This facilitates trade in organic products between the two countries.

SUPERFOODS

Maqui has the reputation of being the fruit with the highest antioxidant content in the world

ORGANIC PRODUCTS

Agreement on mutual recognition of standards between Switzerland and Chile

ACTORS IN THE SECTOR

Largest food companies in Chile

Company	Sector
CCU	Beverages and beer
Coca Cola Chile	Beverages
Agrosuper	Meat and salom
Nestlé Chile	Food
Carozzi	Food
Viña Concha y Toro	Wine
Colún	Dairy
Chilenas Unidas	Beverages and liquors
Aquachile	Aquaculture
Acrícola Ariztía	Food
Soprole	Dairy
WATT'S	Food

Swiss companies in Chile

(non exhaustive list)

Arviem
Bühler
Clariant
Ditzler
Fromm
Nestlé
Penergetic
SICPA
Surlat (Emmi)
Syngenta
UAV Sensefly

Associations in Chile

Asociaciones

SNA, National Agricultural Society	www.sna.cl
SOFOPA, Society for the Promotion of the Industry	www.sofopa.cl
Food and Beverages of Chile (AB Chile)	www.abchile.cl
Association of Beer Producers of Chile (ACECHI)	www.acechi.cl
Chile Alimentos, Chilean Food Companies Association	www.chilealimentos.com
Fedefruta, Federation of Fruit Producers of Chile	www.fedefruta.cl
Association of Pig Producers of Chile (ASPROCER)	www.asprocer.cl
National Smallgoods Producers Association (ANIC)	www.anic.cl
Dairy Consortium	www.consorciolechero.cl
FedeLeche, National Federation of Milk Producers	www.fedeleche.cl
Chilean Dairy Products Exporters Association (Exporlac)	www.exporlacchile.cl
Chilean Wine Association	www.winesofchile.org
Olive Oil Producers Association (ChileOliva)	www.chileoliva.cl
Chilean Salmon Industry Association (SalmonChile)	www.salmonchile.cl
Association of Fruit Exporters of Chile (ASOEX)	www.asoex.cl
Chilean Packaging Center (CENEM)	www.cenem.cl
Chilean Chamber of Refrigeration and Air Conditioning	www.cchryc.cl
United Peasant and Ethnic Movement of Chile (MUCECH)	www.mucech.cl
Technology Transfer Groups Foundation (GTT)	www.gtt.cl

RELEVANT INSTITUTIONS

Ministry of Agriculture: www.minagri.gob.cl and its related bodies:

- ODEPA, Agricultural Planning Office: www.odepa.cl
- SAG, Agricultural and Livestock Service: www.sag.gob.cl
- INDAP, Institute of Agricultural Development: www.indap.cl
- FIA, Foundation for Agricultural Innovation: www.fia.cl
- ACHIPIA, Chilean Agency for Food Safety and Quality
www.achipia.gob.cl

The **Corporation for the Promotion of Production (CORFO)** is the organization that certifies from a technical perspective that the R&D projects developed directly by the companies comply with the requirements to obtain tax incentives (Law 20,241).

www.corfo.cl/incentivotributario

CORFO also manages the **Transforma Alimentos program**, which is a strategic program aimed at improving the competitiveness of the economy through the development of the national food sector.

<http://transformaalimentos.cl>

Invest Chile connects the interests of foreign investors with the business opportunities the country offers and publishes reports about the business climate in Chile and concrete investment opportunities in both public and private projects.

<https://investchile.gob.cl>

The **Institute of Agricultural Research (INIA)**, www.inia.cl is a non-profit, private-law corporation linked to the Ministry of Agriculture of Chile that carries out research, technology transfer and extension to the public and private sectors.

www.inia.cl

Fraunhofer Chile, the Systems Biotechnology Center, is working on the development of new food-grade products based on essential oils, functional lipids and proteins.

www.fraunhofer.cl

Chile Alimentos is the association of food companies in Chile, a private trade association that brings together and represents processed food companies and machinery, equipment and service companies related to food processing. The purpose of the association is to promote the development and protection of the activities common to its members and the defense of their interests, in Chile or abroad, before the authorities and public or private entities.

THE MINISTRY OF HEALTH'S FOOD HEALTH REGULATION

is the general regulatory framework for food intended for human consumption.

<http://www.minsal.cl/reglamento-sanitario-de-los-alimentos/>

HEALTHY FOOD INFORMATION PLATFORM

(PIA+S). <http://piaschile.portablehost3.net/>

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