

Report produced by:  
ChileCarne A.G.

Edited by:  
La Llave / [www.agenciallave.cl](http://www.agenciallave.cl)

Designed by:  
Dioslascría / [www.dioslascria.cl](http://www.dioslascria.cl)

Translated by:  
Claudia Hormazábal G.

## About this report\_

This year, we have decided to tell you about ChileCarne's work in a different way. Each article not only includes technical content but also the experiences of our professionals and people from public and private entities that make our work possible.

We want everyone who reads this report to learn about the work we do and its purpose. We aim to create interest in reading every single article and for ChileCarne to be thought of in the future as a source of timely and high-quality information about the sector.

Because we are aware of the need for our industry to be eco-friendly, the report was printed on Cyclus Print paper made from 100% recycled pulp, certified by FSC and Ecolabel.

We hope you read, learn and enjoy :)

Exportadores  
de Carne  
de Chile



**CHILE  
CARNE**

**We promote the  
development of  
the Chilean meat  
export industry.**



**04**

Letter from  
our president

**07**

Board and  
team

**08**

Industry  
figures

**14**

2019 Outlook

**24**

Health  
asset

**42**

Chile, open  
to the world

**50**

New  
technologies

**54**

Nutritional  
analysis

**60**

Sustainability

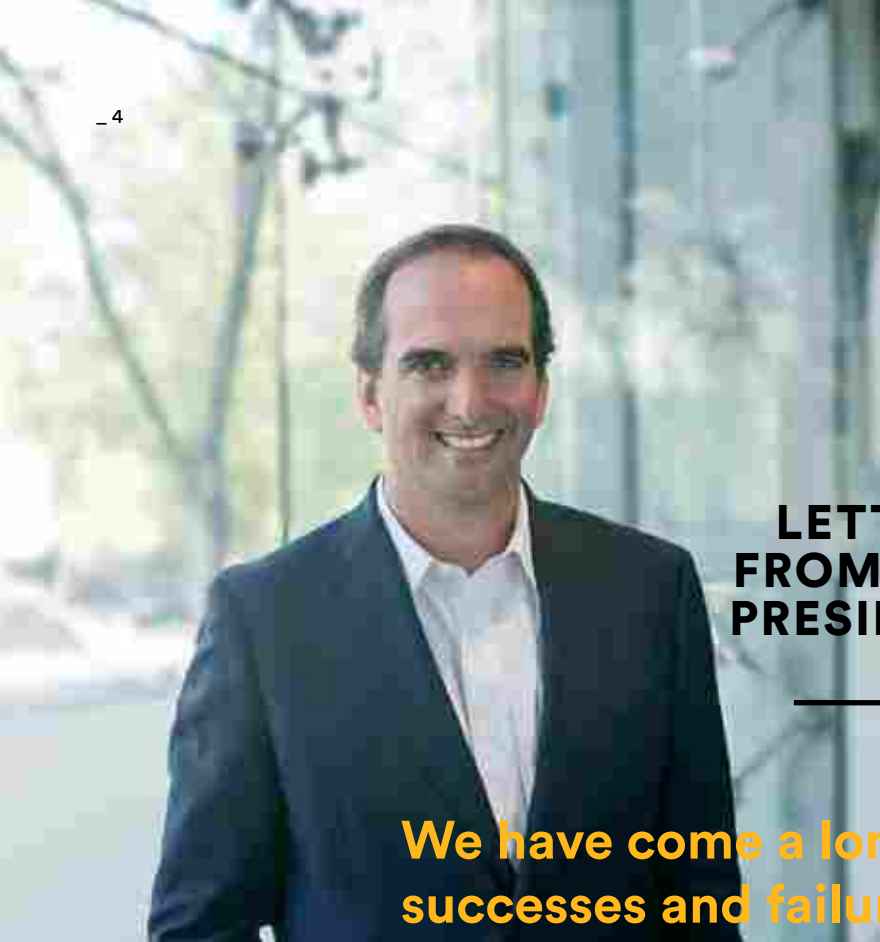
**82**

ChilePork

**88**

2018  
Activities





## LETTER FROM OUR PRESIDENT

---

Juan Carlos  
Domínguez  
Covarrubias

**We have come a long way as an industry, with successes and failures but a clear horizon: exports are the cornerstone of our industry and the joint efforts of the private and public sector is what will allow us to continue this development and keep contributing to make Chile a better place to live, for our children and for generations to come.**

For a country of just over 18 million inhabitants and an open economy with average import tariffs lower than 1%, the only way to achieve a sustainable industry is to look to international markets.

In 2018, Chile exceeded the USD 1 billion barrier in meat exports while consolidating the sector as a relevant player in Chile's food export offer.

This was achieved thanks to the serious and ongoing work of companies that have developed meat exports and reached the most demanding markets with high-quality products through a clear, long-term strategy. Certainly, another key element that facilitates this large growth is the continuous and coordinated

work with the Chilean public sector, in particular the General Directorate of International Economic Affairs (DIRECON), the Chilean Exports Promotion Bureau (ProChile), Chilean embassies, Commercial and Agricultural attachés, and the support of the Agricultural and Livestock Service (SAG), the Office of Agricultural Research and Policies (ODEPA), and the entire Ministry of Agriculture.

The joint effort between the private and public sector has been the key to achieving this development, with shared goals and challenges and a sense of country where the common good prevails over individual interests.

In this vein, since its creation on June 7, 2016, the Chilean Meat Exporters' Association has played a fundamental role by facilitating an understanding between both sectors to align strategies and promote joint work to attain a common goal: the development of the Chilean meat export industry.

Although Chile is renowned worldwide as a supplier of high-quality food, this success was mainly related to fruit, wine, salmon and other products, but few knew about the growth of meat exports from Chile, which is why the association was first promoted as "Expocarnes."

It was crucial for relevant actors both in Chile and abroad to be included in the country's export offer, as well as for the public to identify us as an export sector. During our first 2.5 years as an association, we focused on just that: on promoting our sector and showcasing the great work done by both companies and the public sector over the past few years, which has allowed us to build a world-class industry that contributes to Chile's development.

## Today, our association is facing a new challenge\_

The reality is Chile enjoyed certain advantages over the last two decades thanks to trade agreements and favorable tariff conditions compared to competing countries.

These advantages are now fading away: there are trade agreements between various countries and trading blocs and the shift towards exports in countries that used to be focused on their domestic markets has increased the export offer and competition.

In the case of food, the main differentiation undeniably comes from the origin of the products. Although our industry has reached a world-class development level when it comes to knowledge, competencies and technology, these elements do not constitute a differentiating factor in the long term: it is our origin, Chile, which really makes a difference.

Our geography provides us with a privileged health condition, which, combined with the high quality of our natural resources, allows us to have a unique asset. On the one hand, our efforts must focus on preserving and protecting it, and, on the other, on supporting the development of the country's image to make its features known to the world.

This is why we have decided to use 'ChileCarne' as the label of our association. We believe it reflects who we are and what we want to communicate in a simple and direct manner.

We wanted to seize the opportunity to unveil our new image in this report. It was prepared by the entire ChileCarne team using a different format, with various articles and interviews that largely summarize the work of the association during 2018, and the most relevant topics for the development of the industry. With the help of a group of designers and journalists, we believe we have produced a friendly and easy-to-read report. Nevertheless, we have not sacrificed the depth or professionalism when addressing the various aspects of our association's day-to-day work, which are instrumental for the development of the Chilean meat export sector.

2019 will undoubtedly be a year filled with major challenges in the exporting field. The world and the largest economies are debating over free trade, protectionism and trade barriers. For a country like ours that depends largely on exports for its development, these discussions create some uncertainty for the medium and long term, and will force us to be more cautious when making decisions.

While the world debates over free trade, our country is negotiating three agreements that are of utmost importance for the development of our sector: the modernization agreement with the European Union, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, and the agreement with the United Kingdom after its expected exit from the European Union. The form and timeliness in which our authorities negotiate these three agreements will be vital for the development of the food export sector.

## BOARD AND TEAM

---

**We are committed to the growth and sustainable development of the industry while striving to guarantee healthy, safe and high-quality products for our consumers.**



INCUMBENT MEMBERS

---

**Juan Carlos  
Domínguez  
Covarrubias**  
**PRESIDENT**

**José  
Guzmán  
Vial**  
**VICE-PRESIDENT**

**José Manuel  
Allende  
Vial**  
**TREASURER**

**Guillermo  
Díaz del Río  
Riesco**

**Guillermo  
García  
González**

**Juan  
Lyon  
Lyon**

**Jorge  
Enríquez  
Fuentes**

ALTERNATE MEMBERS

---

**Facundo  
Porolli  
Goransky**

**Felipe  
Silva  
Rivera**

**Jaime  
Bascuñán  
Noguera**

**John  
Lüer  
Barbieri**

**Pablo  
Álvarez  
Ravera**

**Pablo  
Espinoza  
Lynch**

TEAM

---

**Juan Carlos  
Domínguez  
Covarrubias**  
-

**Daniela  
Álvarez  
Gennaro**  
-

**Pedro  
Guerrero  
Cañete**  
-

**Renzo  
Boccanegra  
Pelayo**  
-

**Mauricio  
Fernández  
Figueroa**  
-

**Francisco  
Lorenzo  
Urrutia**  
-

**Carolina  
Larraín  
Bunster**  
-

**Pía  
Barros  
Abrigo**  
-

**Miguel  
Adasme  
Gutiérrez**  
-

**Natalia  
Sepúlveda  
Piñones**  
-

**María  
Ignacia  
Apel  
Jiménez**  
-

**María José  
Pinto  
Piccardo**  
-

**Simón  
Araya  
Corey**  
-

**Patricio  
Saavedra  
Ortiz**  
-

**Matías  
Andrade  
Hernández**  
-

**María Luisa  
Mella  
Petersen**  
-

**Gonzalo  
Rocha  
Ibarra**  
-

**Alonso  
Gómez  
Mejías**  
-

**Francisco  
Rodríguez  
León**  
-

**Nayiver  
Araya  
Bravo**  
-

**Rodrigo  
Castañón  
Garbarino**  
-

**Héctor  
Navarro  
Figueroa**  
-

# INDUSTRY FIGURES

## PRODUCTION

## CONSUMPTION

PORK	<b>534,024</b> Ton cwe	<b>1,167,987</b> TUSD	<b>313,753</b> Ton cwe	<b>818,467</b> TUSD
CHICKEN	<b>669,014</b> Ton cwe	<b>1,402,632</b> TUSD	<b>641,369</b> Ton cwe	<b>1,277,336</b> TUSD
TURKEY	<b>91,487</b> Ton cwe	<b>291,776</b> TUSD	<b>64,720</b> Ton cwe	<b>226,384</b> TUSD
BOVINE	<b>201,044</b> Ton cwe	<b>514,505</b> TUSD	<b>449,276</b> Ton cwe	<b>1,567,420</b> TUSD
OVINE	<b>16,218</b> Ton cwe	<b>58,414</b> TUSD	<b>10,840</b> Ton cwe	<b>23,684</b> TUSD
TOTAL	<b>1,511,787</b> Ton cwe	<b>3,435,315</b> TUSD	<b>1,479,959</b> Ton cwe	<b>3,913,291</b> TUSD

EXPORTS

IMPORTS



**336,329**  
Ton cwe

**540,157**  
TUSD

**116,058**  
Ton cwe

**190,637**  
TUSD



**159,924**  
Ton cwe

**310,382**  
TUSD

**132,279**  
Ton cwe

**185,086**  
TUSD



**38,226**  
Ton cwe

**98,362**  
TUSD

**11,458**  
Ton cwe

**32,970**  
TUSD



**12,261**  
Ton cwe

**46,258**  
TUSD

**260,494**  
Ton cwe

**1,099,172**  
TUSD



**5,377**  
Ton cwe

**34,730**  
TUSD

-  
Ton cwe

-  
TUSD

**552,117**  
Ton cwe

**1,029,889**  
TUSD

**520,289**  
Ton cwe

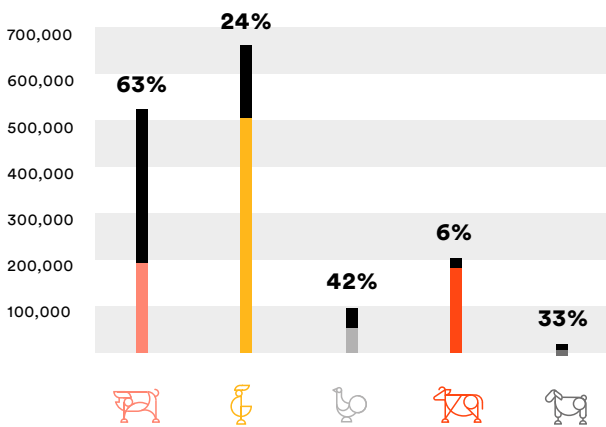
**1,507,865**  
TUSD

# In 2018, we surpassed 1 billion in meat exports.

## EXPORTED MEAT PRODUCTION 2018

Ton cwe

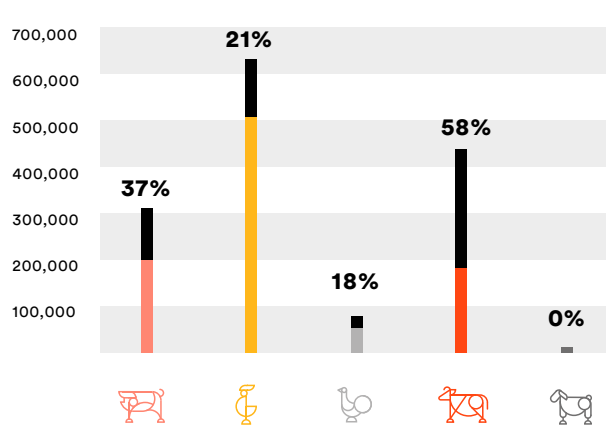
Product for domestic consumption Exports



## IMPORTED MEAT CONSUMPTION 2018

Ton cwe

Consumption of domestic product Imports

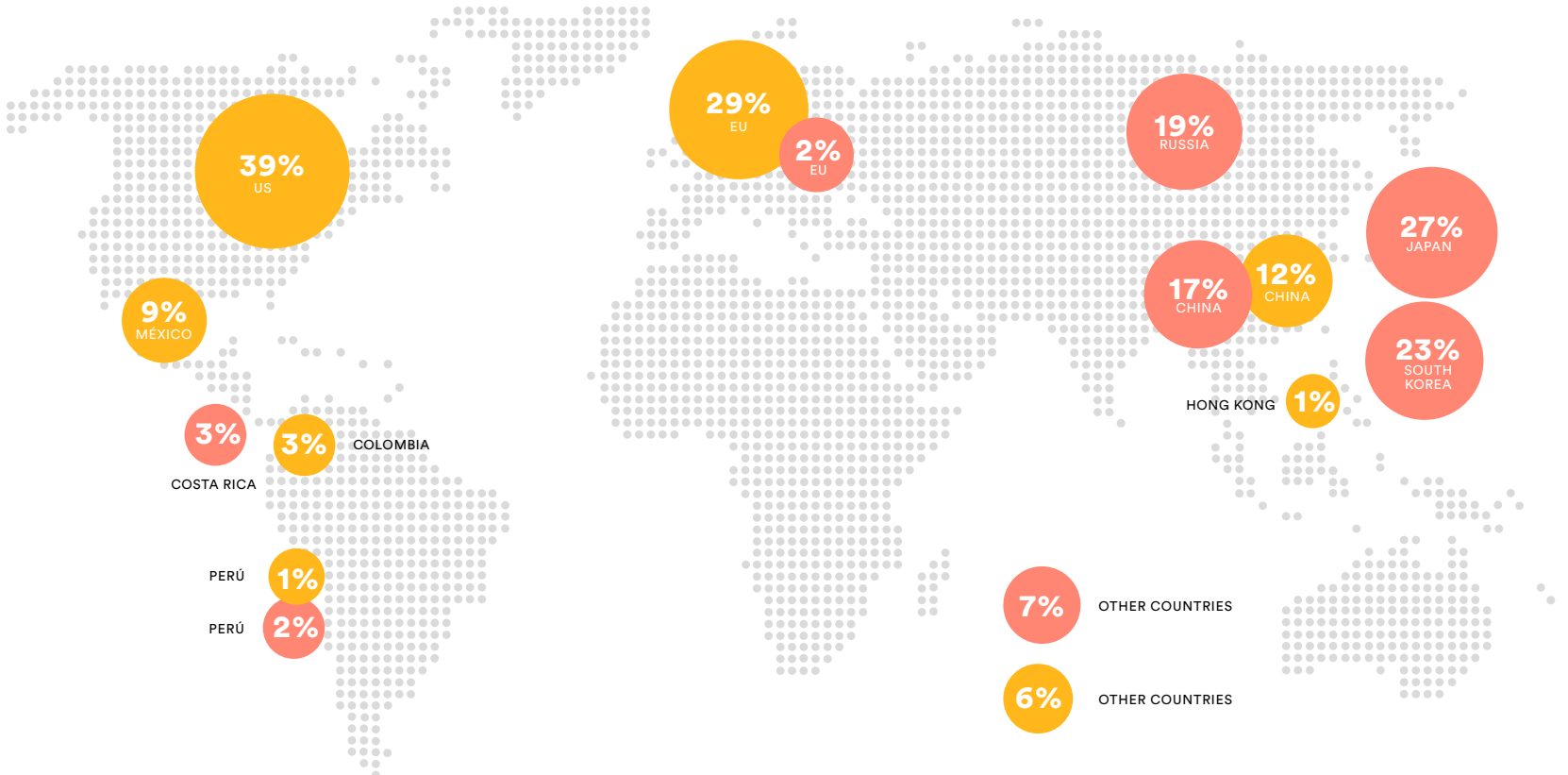


Source: Created by ChileCarne with data from Chilean Customs and the Chilean Statistical Institute.

## WHITE MEAT EXPORTS 2018

TUSD

● PORK ● POULTRY



Source: Created by ChileCarne with data from Chilean Customs.

### RANKING GLOBAL POULTRY EXPORTS

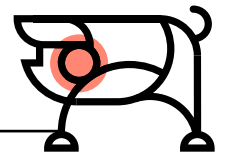
Ton cwe



	2018	2019f	Var
1. Brazil	3,685	3,775	2%
2. US	3,158	3,248	3%
3. EU	1,425	1,500	5%
4. Thailand	850	900	6%
5. China	460	475	3%
12. Chile	105	110	5%
Others	1,470	1,611	10%
Global Total	11,153	11,619	4%

### RANKING GLOBAL PORK EXPORTS

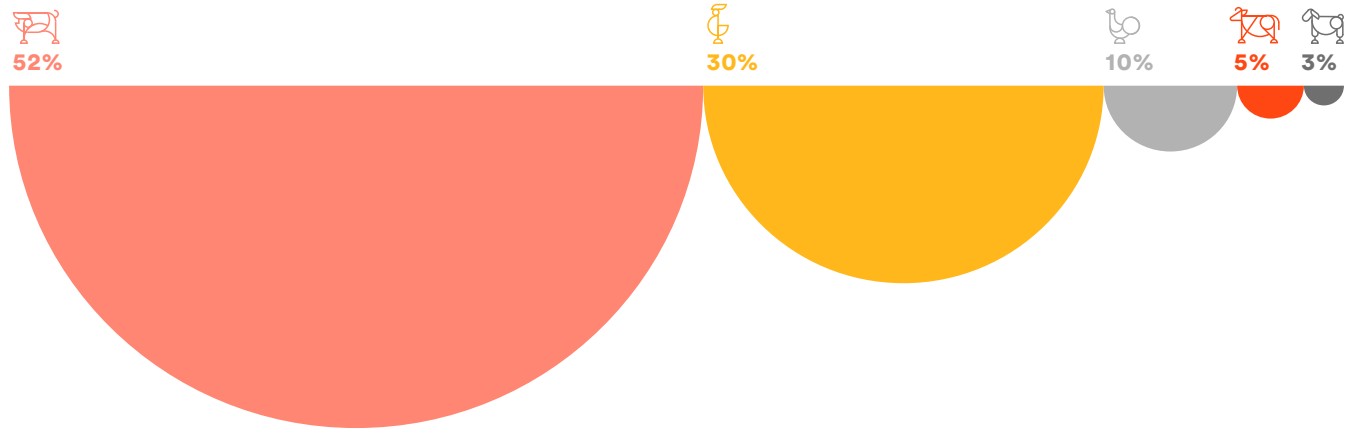
Ton cwe



	2018	2019f	Var
1. EU	3,050	3,150	3%
2. US	2,717	2,813	4%
3. Canada	1,350	1,365	1%
4. Brazil	685	735	7%
5. Chile	185	195	5%
Others	550	532	-3%
Global Total	8,537	8,790	3%

Source: USDA.

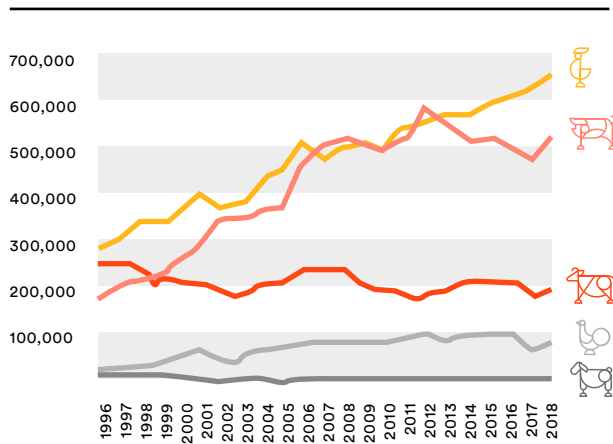
### MEAT EXPORTS 2018



Source: Created ChileCarne with data from Chilean Customs.

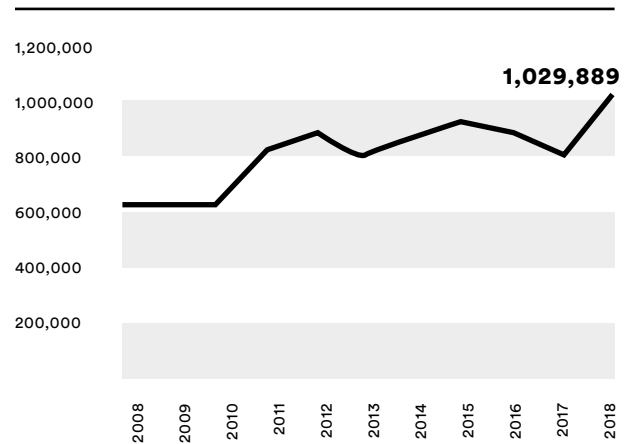
### MEAT PRODUCTION EVOLUTION

Ton cwe



### MEAT EXPORT EVOLUTION

TUSD



Source: Created by ChileCarne with data from the Chilean Statistical Institute.



**The white meat  
industry accounts  
for 92% of meat  
exports.**

A close-up photograph of a roasted pig's head and neck, presented on a thick wooden cutting board. The pig's head is the central focus, with its skin glistening and browned. The neck is cut into several thick, diagonal slices, showing the white fat and pinkish meat. The board is garnished with fresh green herbs, a bunch of dark purple grapes, and a slice of orange. The background is a dark, textured surface, possibly a stone countertop.

2018 SUMMARY  
AND 2019  
OUTLOOK

---

# GLOBAL PORK, BEEF, AND POULTRY SITUATION

Brett Stuart



**Brett Stuart is one of the founding partners of Global AgriTrends, analyst, economist and advisor for organizations such as the U.S. Meat Export Federation.**



## Politics\_

A review of 2018 shows a tumultuous year for the global protein space. Political actions include retaliatory tariffs against U.S. meats by China, Mexico and Canada that remain in place into 2019. These actions were in response to President Trump's steel/aluminum tariffs against Mexico, Canada, and China, as well as U.S. tariffs imposed on Chinese imports.

U.S. pork now pays an additional 50% tariff to China and an additional 20% duty to Mexico (previously duty-free). Canada imposed 10% duties on processed U.S. beef. Also, President Trump's withdrawal from the TPP agreement (now the CPTPP) means that all key beef competitors in Japan now face tariffs that are 11% lower than U.S. tariffs into Japan. In addition, the U.S. pork sector will be at a 2% duty disadvantage to Canada going forward. While Japan has committed to free trade talks with the U.S., no timeline has yet been given.

Things will get tougher for U.S. pork into Japan, likely in early 2019, when the EU-Japan agreement gives EU pork equivalent access to Japan as was granted under the CPTPP agreement, again leaving U.S. pork behind.

Chinese officials moved to relist 70+ Brazilian meat and poultry processing plants for export in late 2018. China has surged ahead as the #1 buyer of Brazilian meat and poultry in 2018 (USD 2.6 billion); in 2014 China was the #8 buyer of Brazilian meat and poultry (USD 0.5 billion). These commercial ties are expected to strengthen in 2019.

Russia had banned Brazilian meat and poultry exports for nearly a year over concerns about banned feed additive residues. However, the prolonged Russian

meat/poultry import bans led to higher prices, higher margins, and significant investment into domestic production. Currently, Russia's pork and poultry sectors are largely self-reliant. While Russian officials now suggest a move toward exports, global sanitary restrictions may slow those efforts.

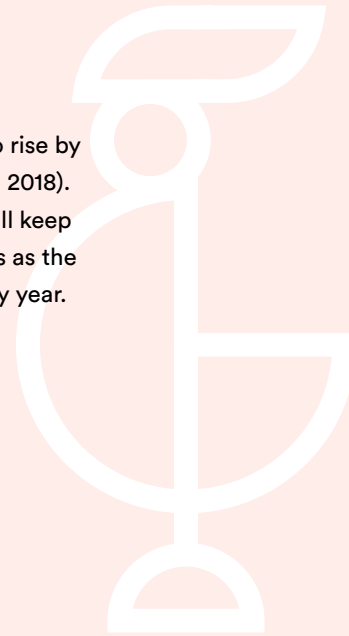
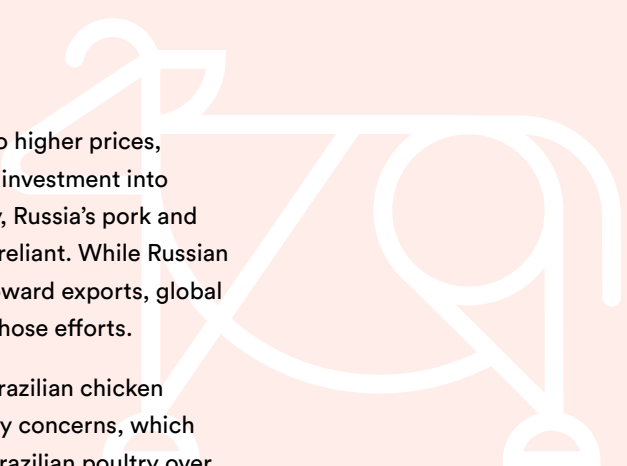
European officials banned 20 Brazilian chicken plants in April 2018 over sanitary concerns, which resulted in restricted flows of Brazilian poultry over the summer. Those volumes remain below historical levels but existing eligible companies continue exporting.

2019 will be defined by continued uncertainty around the U.S. president's trade agenda, particularly with China.

## Economics\_

Economic growth increased throughout 2018, led by optimism in key stock markets. However, by yearend, much of these equity market gains were offset by rising U.S. interest rates, and the ongoing trade war with China overshadowed this optimism. Global growth rates have recently gone down due to concerns over the effects of the U.S. - China trade war.

Note that the global population is set to rise by over 78 million again in 2019 (as it did in 2018). This perpetual increasing population will keep global agriculture producers in business as the need for global food supplies rises every year.



## Diseases\_

African swine fever (ASF) spread from Russia to China in August 2018, with enormous implications for the global meat and poultry sectors. China's hogs represent more than half of global hogs. Moreover, Chinese pork consumption is the equivalent of 20% of total global protein (beef, pork, and poultry). With this production base threatened, as well as ASF cases in Western Europe, 75% of the world's hogs are now under threat from ASF. While the virus is highly transmissible, it is not highly contagious; aerosol transmission is uncommon and the main vector is bodily fluids such as blood, mucous and feces. This means that stringent biosecurity can reduce risk. However, transmission can occur through food waste, ticks, and wild boars. The great wild boar population growth in Belgium and Eastern Europe has proven to be difficult or almost impossible to control. Wild boars in China have tested positive as well.

China's fight with ASF will be difficult, prolonged, and likely will lead to an entire restructuring of the Chinese hog sector. Small (backyard) producers will be the most vulnerable and quickest to exit the industry. However, due to weak financial margins, even large producers have not shown an interest in expanding production at this point. This suggests there will be a pork production gap in the future. The magnitude of this gap will depend not only on supplies, but also on domestic consumption trends. It will also depend on the rate of liquidation, which currently appears to be strong in China.

Consumer concerns over ASF, as well as a slowing economy, could reduce the size of the pork gap. However, as China's battle with ASF continues (as it will for years), imports will become a much



larger component of China's pork supply. In addition, note that all of the globally-traded pork in the world today adds up to only 16% of China's annual pork consumption.

2019 will likely see the emergence of a pork-supply-gap in China, possibly toward mid-year or even the second half of the year, which will manifest itself in rising prices and an increased demand for imported pork.

## Global Pork Situation\_

### 2018 Summary\_

China reduced its pork imports from the global market after an increase in 2016-2017. The fall in Chinese hog and pork prices reduced the incentive to import. Perhaps the largest global pork event in history occurred in August 2018 when African swine fever (ASF) was discovered in China, a nation accounting for over 50% of the world's hogs. The virus has since spread far and wide across China and remains uncontrolled. Outbreaks have led to transportation restrictions, causing wide price variation across the nation. 2018 ended with low hog prices as producers appear to have oversupplied the market due to ASF fears.

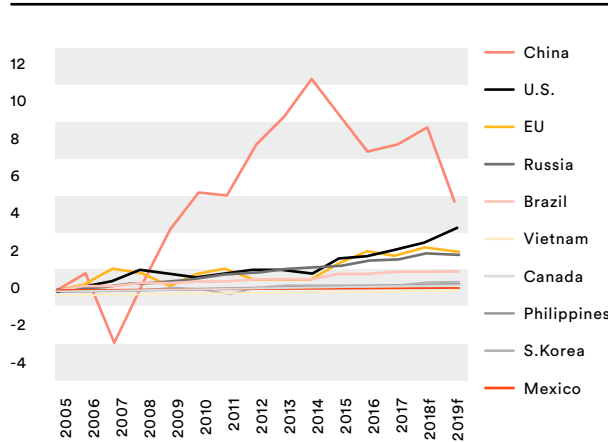
### 2019 Outlook\_

Market access is defining global pork flows. China authorized exports from 26 Brazilian pork plants to enter the country in late 2018. The CPTPP Agreement is pushing open Japan's restrictive pork market, but it will take several years to change the volume of the flow that previously had been reduced intentionally. The EU-Japan agreement is set to enter into force in early 2019 as well. In addition, the world is watching to see how President Trump's trade actions towards China will play out into 2019. Will the U.S. gain improved access to China? Who knows, since forecasting politics is a tricky business.



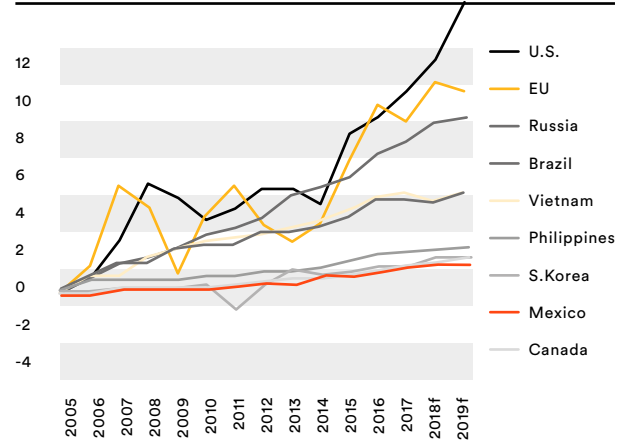
### GLOBAL PORK PRODUCTION

2005-2019f change  
Millions of tons



### GLOBAL PORK PRODUCTION, EXCLUDING CHINA

2005-2019f change  
Millions of tons



Global pork exports went up in 2015 and 2016 due to an increase in Chinese demand, resulting in an increase in international prices. However, China’s demand for imported pork dropped due to an increase in internal production, which had a negative impact on prices. Nevertheless, China’s demand for pork could lead to the redefining of global markets for this product in 2019. We will have to keep a close eye on this situation to see how it pans out. With ASF outbreaks spreading in Europe and Asia, a two-tiered pork market could emerge for “ASF” and “non-ASF” pork. Nonetheless, this is based on the grand assumption that North and South America will remain free of the virus. Both are still at serious risk of ASF due to the global flow of people, goods, and foods.

Global pork markets will be defined by China’s ASF in 2019. We expect rising Chinese hog/pork

prices into the second half of 2019 as the disease continues to spread, which will lead to an increase in imports. Non-US pork suppliers (EU, Canada, and Chile) will be obvious choices as China seeks to import pork. U.S. opportunities will depend on the status of President Trump’s trade relations with China. China could impose a “patriotic embargo” similar to its U.S. soybean embargo in late 2018, or it could draw on existing relationships via its ownership of Smithfield Foods and make large purchases of U.S. pork.

Chinese demand will be needed to maintain global pork profitability as U.S. and European pork output continues rising. U.S. per-capita pork supplies (per-capita availability) are expected to reach 23.5 kg in 2019, the highest level in nearly 30 years.

## Global Beef Situation\_

### 2018 Summary\_

Beef production is currently expanding throughout the world. After 10 years of stagnant growth (2006-2015), prices surged to record highs and producers have responded. USDA estimates that beef cow herds grew by 9 million head from 2015 to 2019; Brazil grew by +3.8 million, China by +2.7 million, and the U.S. by +2.6 million.

This increase in the global cowherd led to a 2018 global beef production increase of +2% (the prior 5-year average was 1%). The U.S. and Brazil saw the largest gains.

While global production rose, prices remained stable, allowing greater profitability. The key reason for this: China. Chinese demand for imported beef continues to rise. Total imports into the “Greater China” region (including Hong Kong and Vietnam) surpassed USD 9 billion in 2018, up +18% compared with the previous year. This growth has been dramatic; the 10-year growth rate averages a remarkable 28%. China’s consumers are looking to increase their consumption of beef. Current consumption is around 5.4 kg per capita but is expected to rise. China’s beef prices remain near record highs, where they have been for over 5 years now.

### 2019 Outlook\_

We expect steady continued growth in global beef production led by Brazil and the U.S. Drought in Australia has reduced its herd size by -6% over 5 years and its industry expects beef output to fall by -5% in 2019. The reduction of the Australian beef supply suggests that U.S. beef exports will see sustained growth to the key markets of South Korea and Japan, where the U.S. and Australia are the dominant suppliers.

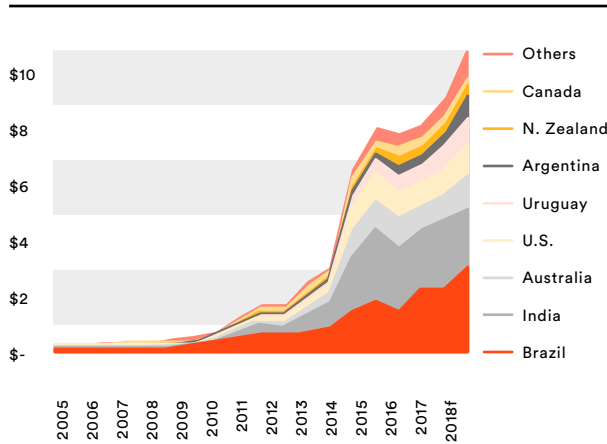
Expect beef shipments to the Greater China region to exceed USD 10 billion in 2019, with growth fueled partially by new Brazilian plant approvals.



**BEEF EXPORTS TO CHINA**

Includes Hong Kong, Vietnam, and China

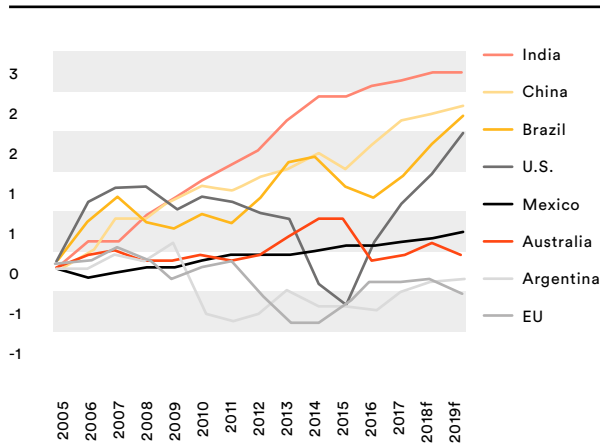
Billions of USD



**We expect a decline in global beef prices in coming years as the increasing cowherd translates into greater beef production. Note that it takes roughly 3 years for a cowherd to expand from the time that female calves enter a herd.**

**GLOBAL BEEF PRODUCTION**

Millions of Tons



## Global Poultry Situation\_

### 2018 Summary\_

Global poultry production slowed to a +1.9% growth rate in 2018 after a 5-year average growth rate of 2.3%. Brazil is still the largest global poultry exporter after the high-path avian influenza (HPAI) limited product exports from the United States to China in 2015. China remains the key market that is currently closed to U.S. poultry.

In May 2018, Brazilian truck strikes disrupted the meat and poultry sector, but poultry was most affected. The lack of trucks to transport birds, poultry meat, and feed led to culling and logistical disruptions. An estimated 100 million chickens were culled as a result.

Changes in Saudi Arabian poultry regulations affected trade in early 2018. A Saudi rule was implemented that prohibits “stunning” as a means of dispatching chickens prior to processing. The rule follows the principles of Halal slaughter. This led to short-term shortages in Saudi Arabia and a drop in Brazilian exports. However, by the end of 2018, the poultry trade has returned to normal.

In the U.S., lower demand for chicken led to price declines of around -10% for the year.

### 2019 Outlook\_

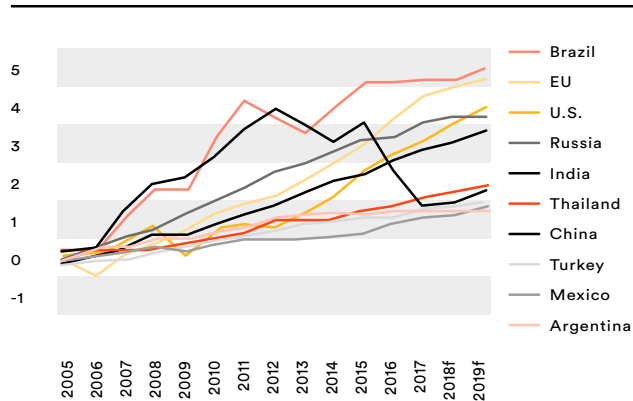
The rise in the price of poultry meat in China is being attributed to the ASF outbreak. Poultry producers appear willing to expand based on the sharp increase in chick prices across China. However, the 2015 bans on imported breeding-stock chicks limited the ability of Chinese producers to expand their flocks. As a result, Chinese flocks have aged. Therefore, while prices are going up, China’s opportunity to increase poultry production remains limited. China’s poultry production offers little in the way of compensating for lost pork production.



## GLOBAL CHICKEN PRODUCTION

Cumulative change

Millions of Tons



Nevertheless, China's poultry imports will likely rise. Chinese officials recently approved 30 Brazilian poultry processing plants for exports. Will China consider lifting restrictions on U.S. poultry (the 2015 HPAI ban) as part of a deal with President Trump? It is possible.

We expect 2019 to see global poultry production rise faster than in recent years, at a rate above 2%. This is due to modest feed prices and sustained growth in global demand for affordable poultry meat.

**Global protein markets remain dynamic with significant variables involving disease, political issues, and increased demand. These variables will ultimately shape markets and margins in 2019. Market participants should plan on additional costs of managing outside risk against political and disease uncertainty, as well as gearing up for future growth.**

HEALTH  
ASSET

---

A GREAT  
ASSET OF THE  
INDUSTRY

# Chile has met the highest standards of health and food safety for many years, which has allowed us to maintain long-term business relationships with the most demanding markets in the world.

Being able to provide guarantees regarding animal health and food safety is essential for developing an export program worldwide. Luckily, Chile has understood this since the beginnings of its export strategy, thereby recognizing the value of plant and animal health assets and using them as a competitive advantage. This is why keeping up with persistent threats from a globalized world has been a relentless challenge.

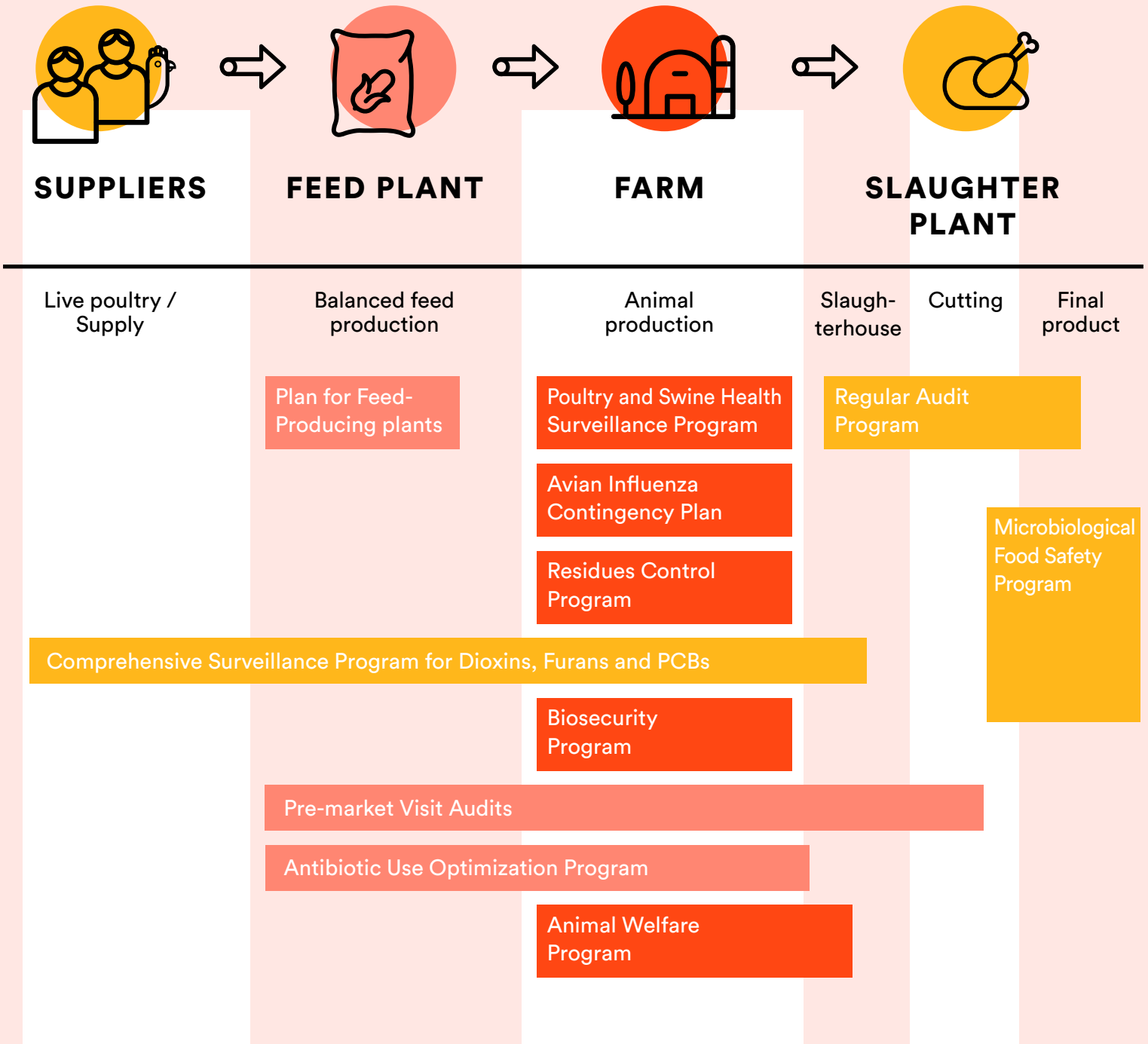
Thanks to Chile's commercial opening, the exchange of goods and foodstuffs from animal and plant origin has increased, as has the movement of people. This increases the risk of diseases and/or undesired agents entering the country, which can subsequently limit exports. In this context, Chile has developed a strategy to protect its health asset as one of the strengths of the industry, allowing us to stay free of

many diseases and meet the demands of the strictest markets in the world.

To achieve this, and thanks to a large public-private effort, our country and its food industry have developed various programs at the border and pre-border level to prevent the entry of diseases. Domestic programs have also been implemented, such as surveillance programs for early detection of diseases and/or pollutants. These programs help activate action protocols for these diseases and/or pollutants to be controlled and swiftly eradicated.

Thus, we have implemented official and self-monitoring programs throughout the entire production chain in pork and poultry, guaranteeing the animal health and food safety of our products from the source to the consumer.

# Work programs\_



## Comprehensive Surveillance Program for Dioxins, Furans and PCBs\_

This program covers the entire production chain: providers of animal feed supplies, feed-producing factories, farms and slaughter plants of export pork and poultry, to ultimately guarantee the safety of the meat from the very beginning.

The goal is to reduce the risk of dioxin contamination in poultry and pork based on the idea that the earlier a level higher than the maximum permitted limits is detected, the sooner it will be possible to keep it from entering the production chain. Accordingly, the dioxin program allows us to guarantee that our products comply with domestic and international limits for these pollutants and that consumption of these products is safe for people.

**Simón Araya,  
veterinarian,  
ChileCarne's Dioxin  
Program Officer:**

**“Every year we have been able to detect dioxin-contaminated supplies before they are sold to producers and other industry suppliers. This is precisely one of the advantages of the program, since it allows us to manage dioxin risk situations early and avoid risking the food safety and quality of the meat.”**



Dioxins, furans and PCBs are persistent organic compounds that originate naturally and as a result of industrial processes. Their chemical structure provides them with high stability in the environment, making it more difficult for them to be broken down and metabolized. In addition, because they are lipophilic, they are present in the environment worldwide: in the soil, water and air, which allows them to accumulate via the trophic chain. Chronic exposure to these pollutants can cause harmful health effects such as alterations of the cardiovascular, nervous, endocrine, and reproductive systems, as well as cancer.

Given that food consumption is the main exposure route for people to dioxins, furans and PCBs, Chile and most of the world have set maximum limits on these compounds in foods to guarantee that the products that make it to our table are safe and will not cause any harm over the short, medium or long term.

Important numbers from the program\_



**600**

Samples taken each year



**121**

Supplier audits each year



**16**

Pork producers took part in the program



**600+**

People trained since the beginning of the program

**25**

Feed factory audits

**5**

Poultry producers took part in the program

**23**

Farm audits

**67**

Risk raw material suppliers participated (with 1,588 products registered on REP)

Another one of our jobs is to help more companies understand the importance of controlling dioxins in animal feed supplies and to value the benefits of joining the Livestock Company Registry (REP). This also allows producers to develop a greater offer of certified products.



It is important to note that only those companies that comply with the aforementioned activities are certified and authorized by REP.



Despite being a private, self-monitoring program, all production and supply companies certified by REP are made public. Their status can be checked on [www.rep.cl](http://www.rep.cl). This allows other livestock industries, such as dairy, eggs and salmon to use this information and take the necessary precautions to avoid dioxin contamination of their products.

**It is essential to have a broader network of laboratories authorized by SAG to carry out dioxin analyses in Chile in order to shorten the time it takes to get a result back, and to keep improving the management of positive cases of these compounds.**

## Program in feed-producing plants\_

Feed is one of the ways for pollutants such as dioxins, diseases or medicine residues to enter the animals' productive cycle. Because of this, in order to prevent pollution at early stages, the poultry and pork industries have implemented measures to prevent feed contamination through programs such as the one for dioxins, as well as encouraging and inspecting the appropriate use of veterinary medicines.

ChileCarne supports feed-producing plants in complying with domestic and international regulations. Within the framework of the "Comprehensive Surveillance Program for Dioxins, Furans and PCBs" audits are conducted to verify compliance with the requirements to be part of the program. Additionally, our associates are informed periodically about current regulations and the aspects to consider in the event of a visit and/or audit.



**Mauricio Fernandez, veterinarian, ChileCarne's Food Chain Audits Officer:**

**"Although we were meeting international requirements before, Chile will now be able to demonstrate the proper use of medicines for animals through regulations."**

**All of this allows us to preserve our health asset and ensure food safety. Although there are not many demands in this area internationally, our programs give us a competitive advantage. Currently, we are more demanding with ourselves than other large world markets are.**

Lately, both Chilean and international regulations have significantly updated their requirements. In 2018, the Regulation on Animal Feed from 1979 was updated; Resolution 1860 on the manufacture of medicated feed was issued; and the European Union updated its regulations on feed and medicated feed-producing plants. Given this new scenario, the association created an audit program to support companies in complying with these new regulations.

With regard to regulatory changes in the European Union, it should be noted that they will be enforceable as of 2022. Chile has approached the issue on the right foot. "We are doing things well. But this year is going to bring many changes, so we must stay that way, with the national status we have achieved," he concluded.





## Surveillance programs\_

In addition, in the event of an outbreak of an exotic and/or commercially relevant disease, Chile has a strategy based on an early detection program.



**Pedro Guerrero,**  
**veterinarian, ChileCarne's**  
**Technical Manager:**

“This area has two components: active surveillance by taking samples in different locations; and passive surveillance, which means people need to be trained (and they are) to detect any hint of disease and report it to make the final diagnosis.”

## In poultry\_

The poultry industry is working on the early prevention of exotic diseases such as avian influenza and Newcastle, as well as endemic diseases such as salmonella and mycoplasma.

This program facilitates the analysis of bird samples to detect these diseases. One of the most important aspects is that, in the case of exotic diseases, samples are taken from all flocks of fattening birds three weeks before slaughter; and for the endemic ones, every two weeks in breeders and three weeks before slaughter for fattening birds. As a result, we can ensure that all meat is free from these diseases.

It is an industry effort to preserve food safety and public health, as the program has allowed the integration of all private players to obtain resources. “Of course SAG’s support is essential as they have trained personnel to analyze serotypes in the samples that test positive for *salmonella*,” adds Larraín.

On the other hand, when the analysis shows strains that may affect human health, positive results are reported to the Health Regional Ministerial Secretary, so that it can take appropriate measures.

**Carolina Larraín,  
veterinarian,  
ChileCarne’s Poultry  
Health Officer:**

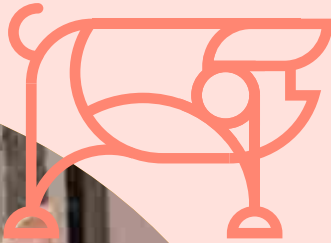
“Certainly, one of this year’s achievements is that the salmonella program became a national standard after years of only being for companies exporting to the European Union.

In addition, more salmonella strains are included in the analysis so as to cover more export markets, and laying hens are also considered.”



## In pork\_

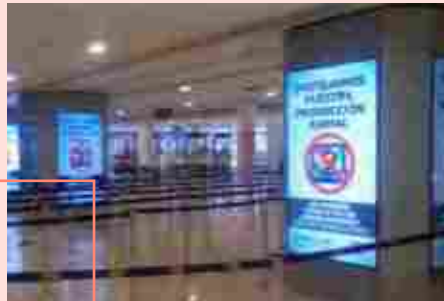
In parallel, the surveillance program is also applied to pigs by taking samples throughout the year from member and non-member producers to check for exotic diseases such as ASF or foot-and-mouth disease. In conjunction with SAG, it is also applied to non-industrial producers (or backyard) to whom we provide the materials so they can take the samples.



There are markets that are very demanding in terms of health issues, such as Asia and the European Union. This is why we must always stay up-to-date on compliance with regulations and continue covering those areas that allow us to preserve our biosecurity and prevent the entry of diseases. This must be our ongoing challenge.

**María Ignacia  
Apel, veterinarian,  
ChileCarne's Pig Health  
Officer:**

“This program has implications at the market level because we are able to demonstrate that we are free from diseases that affect trade. This makes us more competitive than other countries. High impact diseases such as classical swine fever and porcine epidemic diarrhea are present in neighboring countries, but have not entered ours.”



➔ **Prevention campaign 2018 / 2019\_**

From December 2018 to March 2019, an awareness campaign was carried out to prevent the entry of globally-significant diseases, such as ASF. During these months, ads were put up at Santiago's international airport to remind passengers entering the country of the prohibition to enter products of meat origin.



**Pedro Guerrero, veterinarian, ChileCarne's Technical Manager:**

“Prevention awareness must be constantly reinforced. Today it might be the African swine fever but tomorrow it could be something else. The risk of entry of diseases across the border is constant, so we must address the issue from various sides.”

Consequently, he emphasizes that it is necessary to keep travelers informed of the significance of preserving the health asset. “Information must be concrete and simple; authorities must be rigorous in terms of control; and the industry must keep working towards biosecurity with respect to people, machinery and everything involved in the production process.”

## Avian Influenza Contingency Plan in Wetlands\_



This program was created in 2015 to prevent the entry of avian influenza at a time when there was a major outbreak in the U.S. It aims to protect domestic birds near wetlands and to keep the disease from being spread to industrial birds. Chile has seven identified wetlands: Lluta, Punta Teatinos, La Ligua, Concón, Batuco, Río Maipo, and El Yali.



The program is 100% financed with private funds, of which 40% comes from ChileCarne, 25% from non-members, and 35% from ChileHuevos (the egg producers' association). This initiative involves all sectors related to poultry farming. In 2018, it had 175 beneficiaries for a total of almost 5,000 birds.

In a joint effort with the Universidad de Chile and La Semilla Foundation, all small-sized aviculturists close to wetlands were surveyed. This allowed us to classify them and set a baseline for the subsequent delivery of a support plan that allowed them to improve their facilities and the productive and health conditions of the birds. A clear example of the benefits obtained is the rise in egg production; small-sized farmers went from collecting 3 to 4 eggs per day, to about 20, i.e. a 400% increase, mainly due to the reduction of losses thanks to the protection of birds from predators.

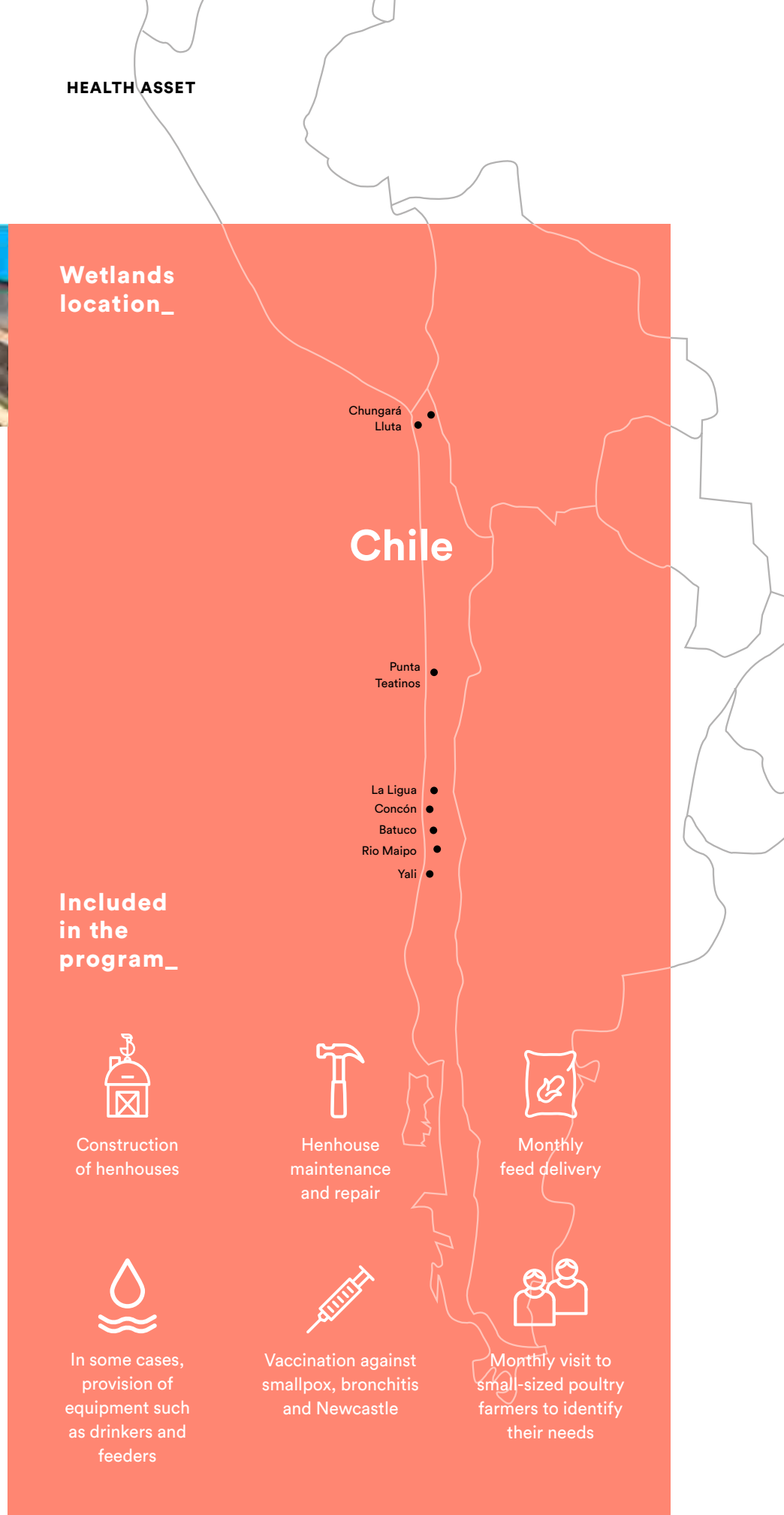
**Carolina Larraín,  
veterinarian,  
ChileCarne's Poultry  
Health Officer:**

“Without this program, there would be a higher risk of entry of impact diseases such as avian influenza via migratory and domestic birds, with the consequential closure of markets.”

**HEALTH ASSET**

**Wetlands location\_**

**Included in the program\_**



Construction of henhouses



Henhouse maintenance and repair



Monthly feed delivery



In some cases, provision of equipment such as drinkers and feeders



Vaccination against smallpox, bronchitis and Newcastle



Monthly visit to small-sized poultry farmers to identify their needs

## Biosecurity program\_

**Additionally, ChileCarne worked on updating SAG's biosecurity handbooks to make them stricter. Thanks to this work, a checklist was put together with all the necessary aspects to address potential health emergencies.**

We conducted over 30 trainings for small producers in the regions of interest for the industry, mainly geared towards people who were not part of the Wetlands Program. The participants received information regarding health issues for the detection of pandemics and about public health diseases such as salmonella.

In addition, there was a chapter on productive management with recommendations on how to correctly locate the henhouse in terms of lighting, feeding, water management, vaccination, etc. Finally, necropsies were conducted as part of a practical module so small poultry farmers could be able to differentiate a healthy hen from a sick one from an anatomical standpoint.

**Carolina Larraín, veterinarian,  
ChileCarne's Poultry Health  
Officer:**

**"This year we are working on resuming biosecurity audits and updating SAG's official handbooks."**

## Regular audits and pre-market visit audits\_

ChileCarne also aims to help member companies be ready for audits from export markets. Authorities from markets such as the European Union, the United States, Mexico, South Korea, China, and Japan visit Chile to ensure the production process of food products exported to their countries meets their demands throughout the entire chain.

This support is given through regular audits to slaughter plants and specific audits before the visit from each market and throughout the entire chain.

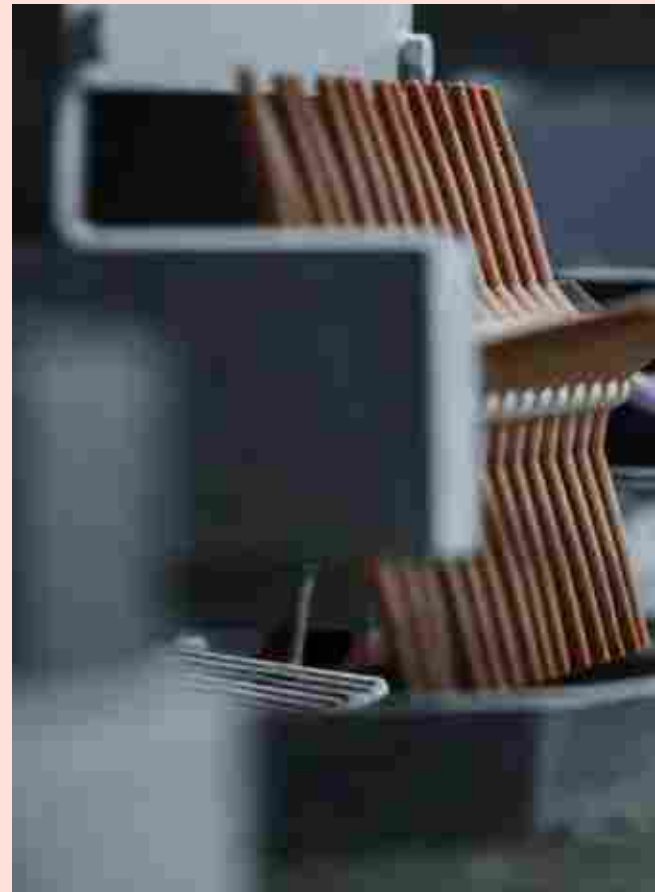
Regarding regular audits, Mauricio Fernández commented that: “These audits focus on preparing companies for the most demanding markets, understanding that this is the way to comply with all regulations from other countries.” After these audits, a report with

observations is provided so that they can make the appropriate corrections.

In the case of pre-market visit audits, aside from the specific support audit, the companies involved receive all historical findings reported by each market on their prior official audits in Chile, and, when possible, the ones conducted recently in other countries. With this information, they can assess the complete scenario and include the requirements that were analyzed in other inspections.

### **Mauricio Fernández, veterinarian, ChileCarne’s Food Chain Audits Officer:**

**“It is crucial for these audits to include all companies, because some countries assess the results individually, but others extrapolate them to the entire country. Every company must do well for the Chilean industry to do well,” added Fernández.**







From the standpoint of microbiological food safety, regulations required by different markets are constantly being reviewed.

## Microbiological food safety and animal welfare program at slaughter plants\_

Once international requirements are reviewed, they are compared with what is being done in Chile and addressed through SAG's Microbiological Program. What is left out is tackled through other public projects such as programs for consumption in the U.S., hygiene process control, finished product, etc.

Additionally, ChileCarne carries out various self-monitoring microbiological programs that include specific international requirements. A couple of examples are the Chicken Microbial Quality Program for Europe (which started in January 2018) and the Poultry Microbiological Program for the U.S. (since March 2018).

**Miguel Adasme,**  
**veterinarian,**  
**ChileCarne's Food**  
**Safety Officer:**



**"Because we comply with the most demanding markets, it is almost certain that we comply with the rest, aside from a particular one that could have additional requirements, which are specifically analyzed."**

## Residues control program\_

To verify the proper use of veterinary medicines on farms and the chemical safety of exported products, there is an official SAG program called the Residues Control Program, where ChileCarne plays a key role in supporting its proper execution.

To keep the program up to date with international regulations, in 2018 we developed a risk matrix that assesses and compares the requirements of the main destination markets with the ones described in the program.

**Included in the program\_**

Contracts with the laboratory

Transportation of samples

This program covers the analysis of two types of compounds:



### **Miguel Adasme, veterinarian, ChileCarne’s Food Safety Officer:**

“Given the above, we are incorporating avilamycin, an antibiotic that serves as a therapeutic alternative to be used in poultry and pigs. We are working closely with SAG to implement the analysis technique that meets this requirement.”

## 1.

### **Banned products\_**

This is the case for some hormones and thyrostatics that are banned by law for use in animal production. SAG takes charge of this area by collecting samples in slaughter plants and farms that are later analyzed at the official laboratory. Its objective is to provide certainty to destination markets that these compounds are not used in the animals.

## 2.

### **Permitted vet medications and pesticides\_**

As with the previous issue, SAG takes samples in slaughter plants and farms, which are later analyzed in duly authorized laboratories. The results obtained must guarantee the proper use of these substances under the maximum residual limits required by destination markets.



Expert visits to audit the program and assess potential shortcomings



Submission of counter samples to international laboratories



Support for laboratories to take part in meetings held by international organizations to validate that all laboratories are equal



Review of regulations on new limits

**Pedro Guerrero,  
veterinarian, ChileCarne's  
Technical Manager:**

“It is important to highlight SAG's role. As our official governmental authority, they lead the health program and safeguard its compliance and we support them.”

“SAG's international recognition is based on facts. It is due to its staff's training; the strength of its plans in Chile, which is measurable and quantifiable; and finally, its openness to work in public-private partnership. The world recognizes that public-private relationships are key for the existence of a competent and robust domestic authority, and it is very important for this to translate into action.”

**In summary, Chile has a favorable situation because it is free of all diseases that affect international trade.**

**This is mainly due to the efforts of both the public and private sectors, which have put energy and resources into preserving it.**

CHILE, OPEN TO  
THE WORLD

---

# CHALLENGES IN INTERNATIONAL TRADE





## Chilean exports have reached positive figures in recent years. However, some additional factors in the scenario require great efforts from the industry.

Many factors have allowed Chile to remain a strategic commercial ally for markets such as China, Japan, South Korea, Russia, the United States, Mexico and the European Union. For Chile, it is extremely relevant to have markets that receive the variety of products our sector offers. Just considering pork, 60% of production is exported, while for poultry it is approximately 20%. These figures reveal the importance of international trade for the Chilean meat industry.

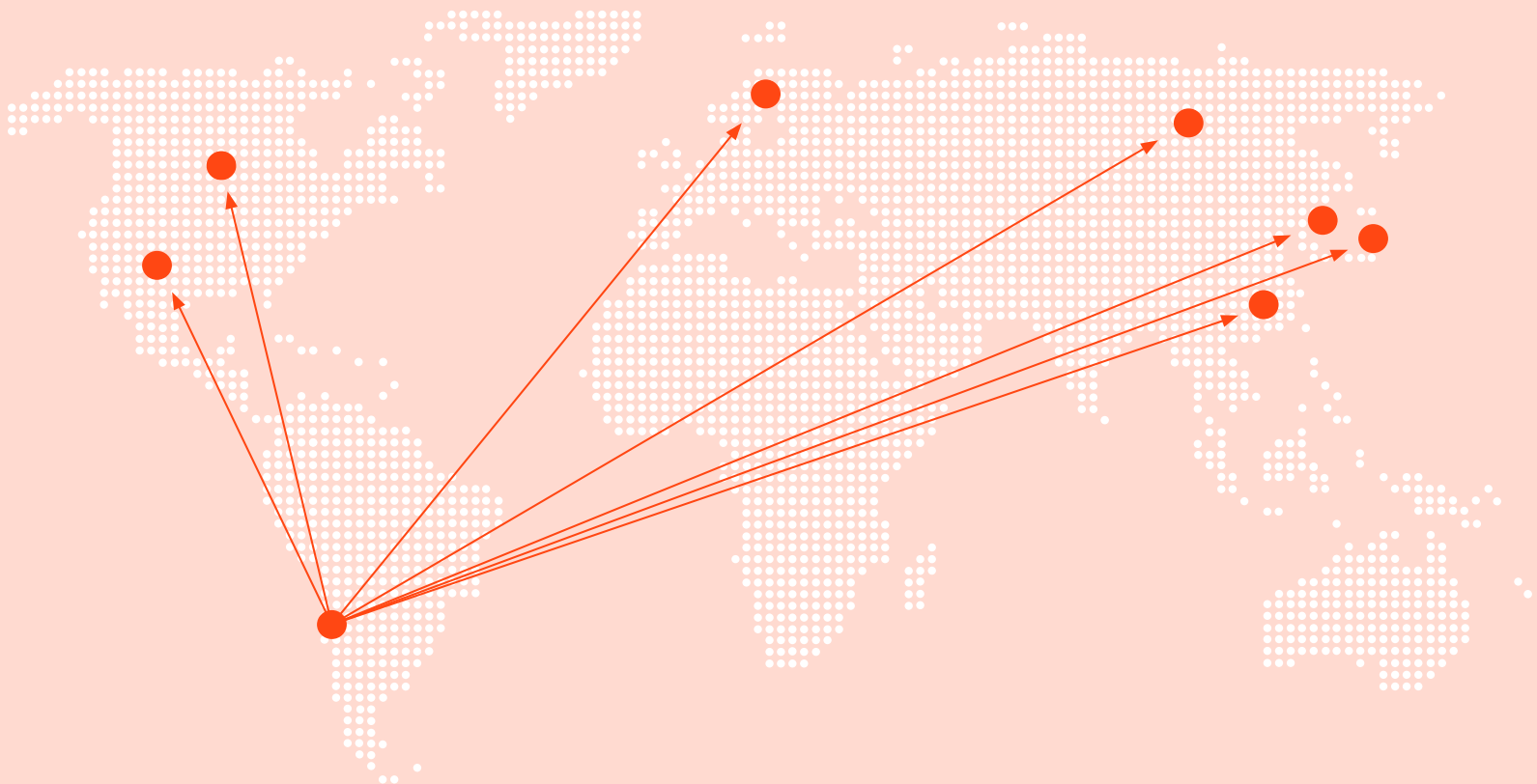
With this in mind, the work done by the industry to stay competitive in issues as relevant as food safety, animal welfare and the use of technologies both during production and the export process is noteworthy. This is what Francisco Lorenzo, head of ChileCarne's Foreign Trade Department, said. He also explained the different areas in which the association works.

On the one hand, ChileCarne is involved as a facilitator of the regular audits carried out by other countries, along with SAG, contributing in gathering all the information needed prior to the audits and the logistical coordination of the visits in order to preserve current ratings of slaughter and meat-packing plants. It also helps coordinate and host visits from foreign officials who come to Chile to learn about the country of origin of imported products and the actors involved, as part of the trade relationship. A clear example was the visit from the Chinese Minister of Customs, who visited Chile in late 2018 and informed local authorities the restrictions had been lifted that were affecting turkey exports as a result of the low pathogenic avian influenza outbreak of late 2017.

It also lends support in solving issues with cargo and holding of shipments, both in the plants of origin and the ports of destination of the goods.

In training, it gathers information on aspects where an update on food safety regulations of the destination markets is needed. One example of this was the training for quality officers of various companies who traveled to China in late 2017 along with SAG officials. Thus, the Chilean meat industry stays up-to-date on compliance with international regulations.

In terms of trade facilitation, the animal health e-certification implemented with China and Russia is a clear example of the sector's leadership and proactivity. Since its entry into force, companies have seen significant savings in time and cost of demurrage, along with positioning Chile among the select group of markets that use this tool. That is why one of the challenges for this year is finalizing the paperless certification with China and Russia, as well as expanding the use of ECert for countries such as Japan, South Korea, the U.S. and Mexico.



**There is an ongoing process to open markets in Southeast Asia, such as the Philippines, Thailand, Vietnam, and others like CARICOM. Although progress has been made in reviewing documentation and requirements for each market, particular domestic factors have delayed the process.**

**Francisco Lorenzo,  
ChileCarne's Foreign Trade  
Chief:**

**"The figures show a trend in which, as tariffs drop, technical barriers increase. Currently, Chile has trade agreements with 86% of the world's GDP, meaning most of our products enter with zero tariff but, at the same time, there has been an increase in domestic regulations that govern the entry of foreign products."**

**"We still have the challenge, firstly, to keep all current markets open by developing tools that facilitate trade, as is the case with electronic certification. And secondly, our main job is opening new markets that allow for the expansion of Chilean exports."**



Every year, DIRECON releases a "Registry of non-tariff barriers that affected Chilean exports" that compiles all the barriers applied by third markets. The 2018 edition is available at [www.direcon.gob.cl/catastro2018](http://www.direcon.gob.cl/catastro2018) (in Spanish).



# What about the modernization of the agreement with the EU, Brexit and the CPTPP?

Felipe Lopeandía, DIRECON's  
Director of Bilateral Economic Affairs  
de Direcon



## EU Modernization\_

The Association Agreement with the EU was one of the first third-generation agreements signed by Chile that includes three pillars: political, cooperation and trade (among other issues, it covers the trade of goods and services, investments, intellectual property, regulatory matters, animal welfare, commercial defense and public procurement). It should also be noted that the agreement incorporates three additional agreements: on sanitary and phytosanitary measures and animal welfare; on trade in wines; and on trade in spirit drinks and aromatized drinks.

After 15 years of implementation, Chile and the EU began to negotiate an update, which aims to achieve a modernized, high-standard agreement, renewing their strategic partnership and giving a new boost to the economic and commercial relationship between both parties.

In particular, although over 90% of bilateral trade is already liberalized, it is time to expand this and we also aim to achieve some improvements for the remaining portion.

The Chilean sectors involved agree on the main objective of this process, which is to achieve a balanced agreement where Chilean interests are properly represented.

**On November 18, 2002, the Association Agreement between the European Community and its member states and Chile was signed in Brussels, Belgium. It entered into force on February 1, 2003.**

## BREXIT\_

Currently, the trade relationship between Chile and the United Kingdom is governed by the Association Agreement with the EU signed in 2002 and in force since 2003. As we mentioned before, the relationship between both countries will continue to be regulated by said agreement until late 2020 if the implementation period enters into effect. From then on, the UK will no longer be part of that agreement.

If the implementation period does not enter into effect, the UK will cease to be part of that agreement on October 31, 2019. Once the UK is outside the EU, bilateral trade with Chile should follow WTO rules.

In preparation for this, Chile and the UK set a bilateral trade instrument that will serve as protection for Chilean exporters that ship to this market, since it transfers the terms of the Association Agreement with the EU to a bilateral one with the UK.

Regarding the structure of the agreement, for trade in goods, the instrument maintains tariff preferences for Chilean products that enter the British market. In the same way, quotas for beef, poultry, pork, sheep and goat meat are kept.

Another relevant element is the evolutionary nature of the agreement, which contains a series of tools to expand and modernize its coverage, with an evolution clause for agricultural products that sets a 2-year period (and every two years thereafter) for the parties to examine the situation of tariff liberalization for agricultural products.

In turn, the general evolution clause was amended to ensure that two years after the entry into force of the agreement (and every two years thereafter) the parties would discuss how to improve their trade relationship.

**Our priority is to ensure that Chilean exporters to the UK continue to enjoy the preferences they currently benefit from. As such, we are certain we are fully prepared to face the various scenarios that may arise within the context of the UK's withdrawal from the EU.**





## CPTPP\_

CPTPP is a plurilateral economic integration treaty for the most dynamic region of the 21<sup>st</sup> century, Asia Pacific. Its objective is to facilitate economic growth and create new opportunities for companies, workers, farmers and consumers.

Additionally, from a systemic standpoint, signatory countries send a political signal to the world of their commitment to free trade and against protectionism.

In terms of the benefits of this agreement, they focus on better market access, advantages in areas such as services and investments, environment and labor, e-commerce, and public procurement.

It is a modern agreement that incorporates new subjects like SMEs, gender, anti-corruption, competitiveness, public companies, development, and regulatory coherence.

One of the concrete benefits in market access is the improvement of the situation for several products in Japan, Malaysia, Vietnam, and Canada.

Beyond tariff issues, the CPTPP will set a new standard for other regional economic integration agreements, and even for future negotiations in the WTO and APEC. From this point of view, it is interesting for Chile to be part of a body that will be the reference point for international trade rules in the coming years.

The biggest difference from the original TPP is that 20 provisions are suspended or not applied in order to safeguard the balance among the 11 countries. The suspended provisions refer to sensitive obligations mainly in intellectual property rights.

## CPTPP is one of the three largest agreements in the world and the largest for Chile.



On Saturday, January 19, 2019, the first commission meeting of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) was held in Tokyo, Japan. Japan's Prime Minister, Shinzo Abe, chaired the meeting. Senior officials from the 11 signatory countries of Peru, Australia, Brunei, Canada, Japan, Malaysia, Mexico, New Zealand, Singapore, Vietnam, and Chile attended the meeting.

Chile took part as an observer, since the treaty is at the initial legislative stage in Chilean Congress. It is expected to be approved in the first half of 2019.

NEW  
TECHNOLOGIES

---

# ONLINE FOOD SAFETY

High quality standards



A woman wearing a white lab coat and a white hairnet is looking down at a petri dish. The petri dish has a grid pattern and contains a yellowish substance. The background is a plain, light-colored wall.

**Farming is one of our economy's main activities. Although Chile has been able to evolve alongside new consumer trends and respond to a scenario with an increasingly high-quality offer, we are facing new challenges, from both a regulatory standpoint and regarding the ability to always respond properly to the sensitivity of consumers from different parts of the world.**

Nowadays, food and its effects on people's health and well-being has become a global issue, prompting both the public sector and the industry to mobilize to preserve and improve the quality and food safety of their products. Thus, various sectors have been progressively moving towards integrated models, promoting inter-sectorial synergies and opening up possibilities for new technologies.

Chile is not exempt from this vision of the future. True to the food vocation it has demonstrated for decades, it works to keep showing the world that it offers products with high levels of food safety and quality. Within this scenario, which requires prevention and protection measures, a significant project emerged, promoted by SAG and the pork industry and ChileCarne.

We are referring to the recently launched "IT platform for animal health and food safety management in livestock production," a tool that will facilitate the management of official control programs for drug

residues and environmental pollutants on livestock and microbiological verification products, from a technological standpoint. These products are one of the cornerstones of our agro-food export offer. The platform will not only benefit the meat sector but also products such as honey, dairy, supplies for animal feed, etc.

This innovation will facilitate SAG's work, allowing all users to access results and analyses of different samples in an efficient and timely manner to be able to take corrective actions if required.

The initiative, promoted by SAG and the pork industry, has been implemented with funding from the Chilean Economic Development Agency (CORFO), through its Innova Committee. It is aimed at the pork, beef, poultry, honey and other industries that use livestock. It is the first IT development that integrates multiple SAG solutions and tools such as the Livestock Information System.

The different sectors have progressively moved towards increasingly integrated models, fostering inter-sectorial synergies and opening up possibilities for new technologies.



**David Guerra, chief of SAG's Food Safety and Exports Department:**

"This project showcases public-private cooperation and it proves that we can work together and develop products that benefit the country as a whole. Although SAG did indeed have a platform for residues control, it was built in 2005 according to the needs of that time. Therefore, it needed an update according to the new situation and needs. There is no doubt that it was key to add the pathogen control program, which did not exist until now."



**Rodrigo Castañón,  
ChileCarne's  
Business  
Director:**

“One of the main benefits for producers is to have immediate access to the results of the analysis their products were subjected to as part of the programs we already mentioned (residues and microbiological) as soon as SAG releases them. This allows the different players throughout the chain (meat or dairy producers, honey exporters, etc.) to improve the food safety management of their products, which is a cornerstone of our sector's export offer.”

**Rafael Lecaros,  
general manager  
of the Chilean  
Association of  
Slaughterhouse  
and Meat-  
Packing  
Plants, one of  
the indirect  
beneficiaries of  
the project:**

“It is vital for Chilean exports. Today, access to this type of information, which is public, known, manageable and traceable over time, is what constitutes competitive advantages for countries. Tools like this allow us to move forward and outrun our competitors. Congratulations to those behind its development because it took time and professionalism and allowed us to have a vital element for our exports.”

## E-certification as a competitive advantage\_

Another area the industry is working on is e-certification. The implementation of this tool facilitates trade and access for various Chilean products abroad, since it prevents possible doubts regarding their origin. Certainly, it will represent a competitive advantage for those countries that move forward in this area before it becomes widespread.

Chile is a pioneer in the development and use of e-certification. Currently, it is used in trade with Russia (Chile was the first partner to apply it) and China (fourth). However, it is only used as double validation since printed certification is still used. Additionally, work is being done on expanding its use for exports to the U.S., South Korea, Japan, and Mexico.

Although SAG has made progress in e-certification with the U.S. and Mexico, it has done so on the plant health front, which has different specifications and requirements than the livestock area due to the nature of the products.

Rodrigo Castañón commented that: “Now we face several challenges, the most important one is to spread the use of the tool, i.e., to make electronic certification the official tool and not only a verification mechanism, thereby achieving 100% paperless certification. To get there, many issues must be addressed and improved, beginning with technology. We also want to spread its use to other countries and to a variety of products.”

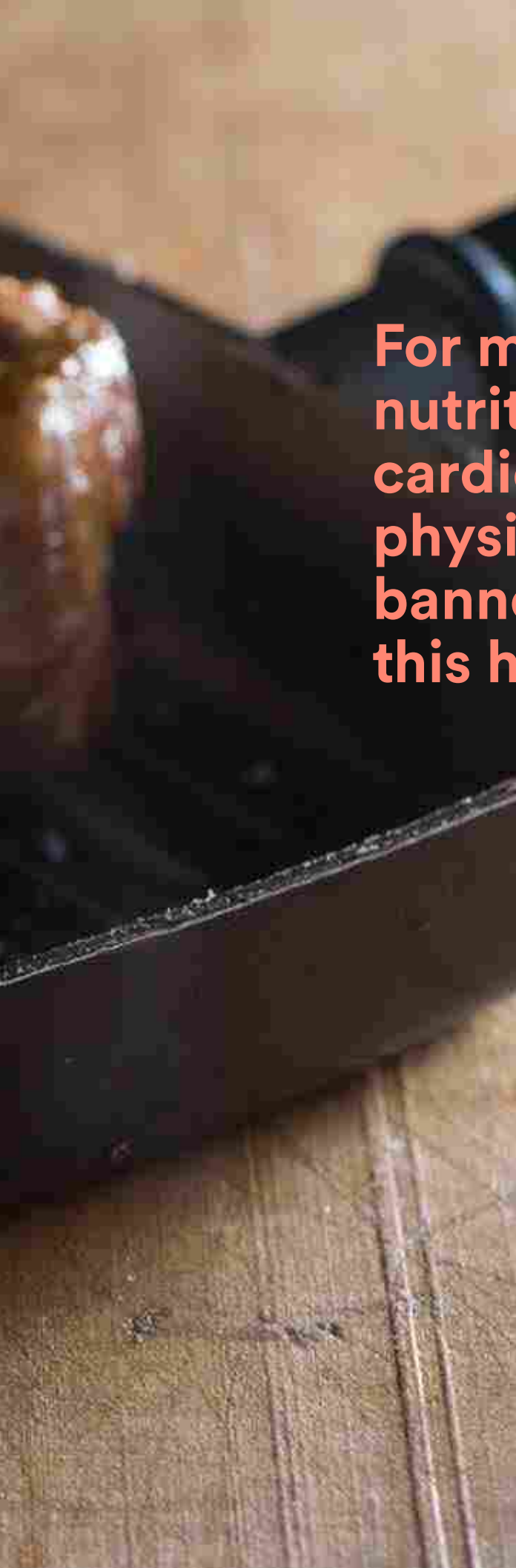
**NUTRITIONAL  
ANALYSIS**

---

**WHAT DO YOU  
KNOW ABOUT  
PORK?**

Discover its benefits





## For many years, nutritionists, cardiologists, and other physicians have wrongly banned pork. Why does this happen?

To this day, most health specialists use nutrition fact tables from 1992, which in turn were made with data gathered mostly in the 1940s, unaware of the change in pigs' genetics and nutrition that occurred three decades ago. Much has been said about this protein: that it is not healthy, it is high in calories, inadvisable as part of the diet. Unfortunately, these notions are deeply rooted in consumers and many countries need policies on this issue to educate the public.

Countries like Colombia, Mexico, Spain and Canada have implemented successful campaigns to debunk these myths. Some of the powerful phrases backed by science are: "Eat pork, eat healthy"; #ViveelOink (Live the oink); "Pork strengthens your teeth and bones"; "Just in case ("PORCI", in Spanish) you didn't know ... pork has double the amount of iron and ten times more vitamin A and vitamin B than most white meats"; Eat Mexican pork, it is delicious and nutritious."

# Main attributes that stand out throughout the world\_

**31%** less total fat, **14%** less calories, and **10%** less cholesterol than **10** year ago

**47%** less total fat than **10** year ago

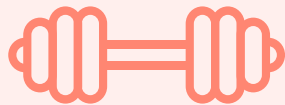
Harmless for health and helpful for preventing cardiovascular diseases

Moderate consumption of pork is not associated with weight gain or cardiovascular risk factors

Rich source of vitamins **B1, B2, B3, B6** and proteins

**B1** builds and repairs nerves and muscles

**B3** protects the nervous system and releases energy from food



## Juan Carlos Domínguez, ChileCarne's President:

“Chile is the fifth pork exporter worldwide, and we are well-known for the high quality of our products, which comply with the same standards for domestic and export markets. Therefore, it is very important to debunk some myths about the consumption of pork. This analysis shows that pork is a great source of protein, vitamin B, and also low in cholesterol.

For our ChilePork campaign in distant and demanding markets such as Japan or South Korea, this study is fundamental and allows us to guarantee that Chilean meat is healthy, safe, and high-quality. Around 11 million people in the world eat a ration of this Chilean protein per day. Thus, there is nothing better than enjoying a savory and healthy cut of Chilean pork guilt-free.”

## Summary of study findings\_

**High quality  
protein**

**Low caloric  
intake  
184 kcal**

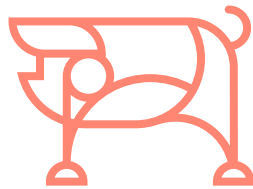
**Low cholesterol  
intake  
40 mg**

**Excellent source  
of protein  
30% DRI, 19 g on  
average**

**Variety and  
versatility of  
cuts**

**Great source  
of vitamins (B)  
30%  
DRI B3**

**Lean with  
healthy fats  
40% SFA:  
60% UFA**



DRI: Dietary Reference Intake

SFA: Saturated Fatty Acids

UFA: Unsaturated Fatty Acids

# Healthy and tasty!

Based on this data, and considering that today we are fifth among pork exporting countries according to the U.S. Department of Agriculture ranking, representatives from the Chilean industry decided to ask the Institute of Nutrition and Food Technology from the Universidad de Chile (INTA) to update Chilean pork nutritional information.

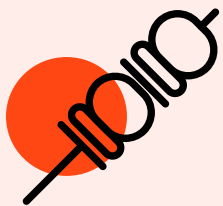
Nine different lean and extra lean cuts were analyzed for low-calorie diets: hock, shoulder and boneless leg, bone in loin portion, and tenderloin; as well as fatty cuts, typical for enjoying Chilean barbeque, such as spare ribs, collar and belly. Together they represent 93% of the volume produced in the country. The cuts were obtained from supermarkets, butchers and slaughter plants in the cities of Santiago, Rancagua, Talca and Marchigüe.

**Valentina Ojeda, nutritionist, Agrosuper's Super Sano (super healthy) program:**

"I advise my patients to eat lean pork as an alternative to cover their daily protein requirements, as it contains proteins with high biological value and is rich in B vitamins, which play an important role in muscle and nervous system functions.

In this vein, and according to individual nutrition needs, it is recommended to eat between 50 and 100 grams of pork per meal, preferably with healthy preparations in the oven, pan, or grilled.

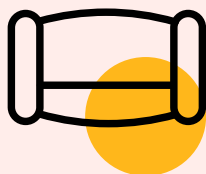
**Let's compare what we usually eat for our national holidays:**



**1 PORK LEG SKEWER**

**187 Kcal**

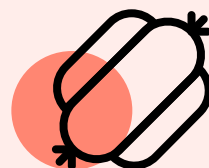
22.1 g of protein  
7.7 g of total fat  
60 mg of cholesterol



**1 MEAT TURNOVER**

**475 Kcal**

10.3 g of protein  
13.8 g of total fat  
90 mg of cholesterol



**1 SAUSAGE ON BREAD**

**400 Kcal**

27 g of protein  
37 g of total fat  
68 mg of cholesterol



The results were surprising. They revealed that on average, pork has only 184 calories per 100-g cut, confirming that it is not a hyper-caloric meat, and also that it constitutes a good source of protein and vitamin B with low cholesterol.

All the cuts analyzed comply with the Food Sanitary Regulation description of an “excellent source” of protein, with high biological value, and with all the essential amino acids. A 100-g cut satisfies 37% of the daily dietary reference intake while six of the nine cuts analyzed meet the description of “extra lean” and “lean,” i.e., they have very low levels of fat. Regarding cholesterol, it performed the same, showing low levels similar to or even lower than other meats.

Another relevant aspect of the study is the vitamin content of this protein. All cuts are an excellent source of vitamins of the B complex that help optimize the use of energy in the body, improve muscle tone, have a positive impact on the nervous system, and prevent various skin and mucous injuries. The presence of vitamin B3 stands out. This nutrient, also known as niacin, provides energy and regulates metabolism. One cut contains 40% of the recommended daily intake.

**Carmen Gloria Yáñez,  
manager of INTA's  
Technical Assistance  
Department:**

**“We conducted a nutritional categorization of different pork cuts. From these analyses, it is possible to conclude that this meat constitutes an excellent source of protein, an excellent source of B-complex vitamins, and that its protein has a high biological quality. Although it is not possible to generalize to all pork cuts, it was possible to differentiate between cuts, e.g., center loin and tenderloin are extra lean cuts, meaning they have less than 5 g of total fat, less than 2 g of saturated fat, and less than 40 mg of cholesterol. Clearly, these cuts can be eaten as part of a regular healthy diet.”**

## SUSTAINABILITY

---

# AN INDUSTRY LOOKING TOWARDS THE FUTURE



**In the meat sector, issues such as sustainability, animal welfare and antimicrobial resistance are becoming more relevant every day and are being analyzed from different standpoints.**

**What is Chile doing about this?**

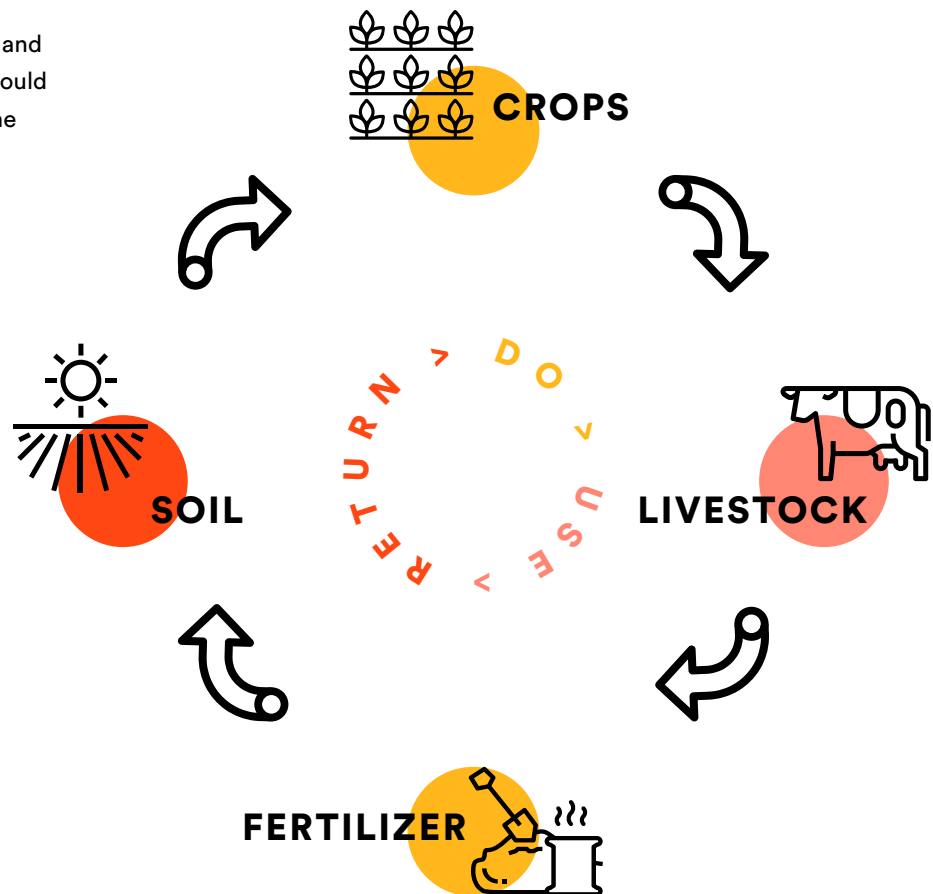


## Circular economy as an industry asset\_

Circular economy is the foundation of the fourth industrial revolution, a change in the way of thinking and doing business, which involves moving from a “take-use-discard” linear economy, where every product is used and then disposed, to a concept of zero loss, where waste and energy reenter the system, thereby optimizing yields, efficiency and preserving natural capital. The adoption of a circular economy is key for sustainability.

According to figures from the Chilean Ministry of the Environment, circular economy would allow reductions of 33% of greenhouse gas emissions at the nationwide level. Socially, it means multiple benefits thanks to the creation of new jobs related to recycling and new technologies, and economically it would represent savings of up to 3% or 4% of the country’s GDP.

The agricultural sector offers significant opportunities for circular economy, with continuous improvement of manure and slurry treatment oriented to the production of organomineral fertilizers for agriculture. This means that along with recycling nutrients such as nitrogen, phosphor and potassium, it contributes to the recovery of soil and water organic matter and to a balance of ecosystems. In addition, it generates renewable energy and mitigates greenhouse gas emissions considerably.





## What is the agricultural industry doing in circular economy?\_

There are numerous relevant initiatives led by poultry and pork producers that are promoted and financed by public and private actors.

### Case in point:

Since early 2017, the Agency for Sustainability and Climate Change and the Pork Producers Trade Association have been working on the technological, energy and environmental transformation of the pork industry SME segment. They promote the use of energy and green technologies to treat pig slurry in small and medium-sized companies, thereby facilitating sustainable production over the long term by reducing greenhouse gases and ammonia and harmonizing their activity with life in nearby communities.

After the program's completion in March 2019, 25 projects will have construction feasibility projects to be able to take this leap. At the current stage, they are being advised and supported on legal and financial matters and are seeking funding options, which is one of the most difficult stages due to the high costs of implementation.

### **Daniela Álvarez, ChileCarne's Sustainability Chief:**

**“The Chilean livestock sector is constantly innovating and detecting opportunities to transform its production methods and is making a positive shift towards circular economy. This is something that started spontaneously a few years ago with the first Clean Production Agreements and now it's gaining new momentum thanks to technology improvements and a new global awareness of the value and importance of nutrient recycling and the creation of new and virtuous productive cycles.”**

**“The program has enabled assessment of all pork SMEs and has made it possible to deliver a proposal for sustainability improvements. The vast majority of projects involve anaerobic digestion, and aim for a comprehensive use of slurry as energy or as fertilizer and improvement.”**

**“The pork SME program made it possible to assess the sector, territory and companies, providing them with technical, legal and financial feasibility studies for projects entailing a socio-environmental improvement from the traditional form of production.”**

## Industry by-products for fertilizers and animal feed\_

Another aspect of sustainable development we have been working on is the use of industry by-products, such as slurry, manure and sludge, in the manufacture of state-of-the-art fertilizers.

Daniela Álvarez explains: “We were looking for options to recover digestate when we detected the need for standardized and balanced formulas that permit the use of these fertilizers in all agricultural species produced in Chile. This was the initial research work that is now at the field testing stage to show its enormous potential thanks to its balanced liquid formulation that is suitable for intensive and sustainable agricultural production.

There is worldwide consensus that the use of this type of product must be encouraged. For example, the European Union approved significant directives to facilitate the sale of these new fertilizers. The aim of the project is to develop the Chilean market of crop- and environmentally-friendly products, which are also cheaper and offer improved yields for farmers.”

**Poultry and pork producers have made progress in different projects that use these resources. We will highlight some of them below.**





## Case No. 1 Agrosuper's stabilized bio-fertilizer

Agrosuper has been working on developing bio-stabilized fertilizers to get a higher recovery of its by-products. Daniela Alvarez states: “this is an effort that has been perfected over time, e.g. odor events associated with these processes used to be an issue, but thanks to improvements in technologies and practices, they are not anymore.”

“Bio-stabilized compost is the result of processed manure and sludge from our modern technology plants. Activated sludge treats the slurry generated at pig sheds. This allows us to remove over 97% of solid components (suspended solids,

organic matter, etc.) contained in slurry (water). Through this process, the company obtains high-quality water, which is later used for agricultural irrigation or in the shed, thereby reducing water consumption by 40% per head. Additionally, the solid fraction separated during the process goes to composting stabilization fields and becomes biostabilized compost after a controlled process. With this strategy, Agrosuper is able “to obtain a stabilized material with a dark brown color, an earthy aroma, no vector attraction, and chemically stable, which can be applied to all types of crops and contribute to improve soil properties favoring plant growth.”

Martín Landea adds: “It is then used by farmers as soil improver and it has also been used through Agrosuper's agreements with the Agricultural Research Institute (INIA) for their degraded soil recovery program.” The use of this by-product favors plant growth, nitrogen and nutrient concentration, as well as the chemical properties of the soil, which confirms that it has similar or superior characteristics than conventional fertilizers.

### **Martín Landea, Agrosuper's Environment Manager:**

**“This integrated treatment system (sludge plants and composting fields) has been part of Agrosuper's strategy for slurry mechanized treatment since 2005. Thus far, we have eight activated sludge plants and six composting fields. In addition, there are at least three projects in the pipeline that follow the same integrated strategy, which has allowed us to significantly contribute to circular economy.”**





## Case No. 2 MaxAgro's Biodigesters

One of the options for managing animal waste or slurry is the generation of clean, renewable and non-conventional energy. MaxAgro is already working on this through the installation of the first two biogas plants in Chile, which are fed with pig slurry. The company has implemented this biodigester system since 2007 with state-of-the-art waste management technology that has been successfully used in countries such as Germany, Denmark and the Netherlands, and which is committed to the principles of circular economy.

These farms use a groundbreaking animal waste treatment system called biodigestion, which turns the mixture of water, feces and urine (known as pig slurry) into electricity and biofertilizers (digestate). These biodigesters are capable of producing around 1 MW of energy per day (equal to the consumption of 2,500 families), which can be injected into the Central Interconnected System.

At present, MaxAgro has five biodigesters and all the projects under development use state-of-the-art biodigesters and technology in the sheds to further reduce any effect produced by pig farms.

Elizabeth Ellmen adds: "Companies must take the lead in these matters and systems that have been successfully tested in other countries as part of extended producer responsibility. In MaxAgro's case, the installation of state-of-the-art technology has produced a double benefit: reducing the effects associated with pig farming, as well as efficiently using waste by turning it into raw material or energy."



### **Elizabeth Ellmen, MaxAgro's Sustainability Manager:**

**"Biodigesters effectively resolve the industry's externalities but also become a link in a highly sustainable production process: slurry is transformed into biofertilizer and renewable energy. The results have been outstanding. Nearby communities recognize the giant improvement this new technology has brought."**



### Case No. 3 AASA's fertigation

For seven years, AASA has been developing a fertigation project with the purpose of using pig slurry in a sustainable manner. Nutritional properties (NPK) are extracted from the effluent (digestate) to then be used as fertilizer for crops.

Agrícola AASA has five fertigation systems (one at each farm) that cover over 700 hectares from neighbors and 80 from their own property, with over 28 km of pipes. Essentially, the system is a network of pipes that begins at a pump room located at the farm where an automatic irrigation program operates the pumps that move the mixture of digestate and irrigation water to the fields where fertigation valves are located.

This company has focused its efforts on building a good relationship with its neighboring community and its workers, so they all feel part of this circular economy improvement. "For our neighbors, it is vitally important for the company to buy their produce and for them to be able to use the digestate as a biofertilizer to improve yields and

save costs, so as to be able to make them part of this circular economy cycle," added Alejandro Gebauer.

At present, the company is installing a fertigation project in the O'Higgins Region and adding more hectares to irrigation from interested parties.

### Alejandro Gebauer, AASA's Management and Projects Manager:

"It is very important to develop projects where sustainability is one of the main objectives, to invest in applying technologies for using resources and make the company more efficient. It also becomes a social contribution, which positions the company in the area and minimizes the environmental impact an industry of these proportions could cause."



## Case No. 4 Chorombo's worm trickling system

The worm trickling system is a project promoted by Agrícola Chorombo in Pelarco. Since its implementation in 2014, it has positioned itself as an effective solution for treating pig slurry, as it is a sustainable and organic technology requiring low investment.

The project is developed in Pelarco and includes maintenance of pigs and their slurry, which is treated with worm trickling systems that produce LIW used for irrigation of forests, and solid manure for fertilization of cornfields.

After all these years of operation, the company realized the project needed stages prior to the worm trickling system: mechanical treatment with a press to remove large solids followed by a safe chemical treatment (polymers) and then the biological one, the worm trickling system. This study allowed them to add numerous foundations to perfect the process and currently they are improving the extension of the worm trickling system.

Nicolás Hiriarte also comments that: "As a company, we believe that meat producers must take care of all the externalities of the process, slurry in this particular case. We believe it has potential for other productive sectors and it is also essential to ensure the industry's sustainability. Even new pig farms should consider this technology and the application

of our waste in crops that we can later exploit as a company. Sustainability depends on this, we can no longer accumulate waste, we need to find a new use for it."

Other productive areas follow the same approach and obtain various by-products: animal oils and flours from rendering generated from animal mortality or waste seizure. These supplies are retransformed into proteins and energy that are useful for other productive processes, e.g., as feed for pets and other species.

### **Nicolás Hiriarte, Agrícola Chorombo's Chief of Quality Assurance and Environment:**

**"Corn is harvested and sent to our own feed-producing factories. Worm humus is also used in corn fields, a raw material that is also part of the pigs feed."**

**The goal of the industry is to keep answering the question, how do I reuse various by-products in a new productive cycle in the best possible way?**

## Sustainability program for the food industry\_

The fact is humankind will face various challenges in the coming decades, such as how to feed a growing population in the face of climate change, in an environment that has already reached some of its global limits.

The 2030 Agenda for Sustainable Development is a roadmap agreed to by all nations and a call for a joint, coordinated action to achieve the Sustainable Development Goals (SDGs) that involves all players: governments, companies and civil society in achieving the goals. In Chile, the Ministry of Agriculture and ODEPA are members of a network of 23 ministries collaborating with this goal.

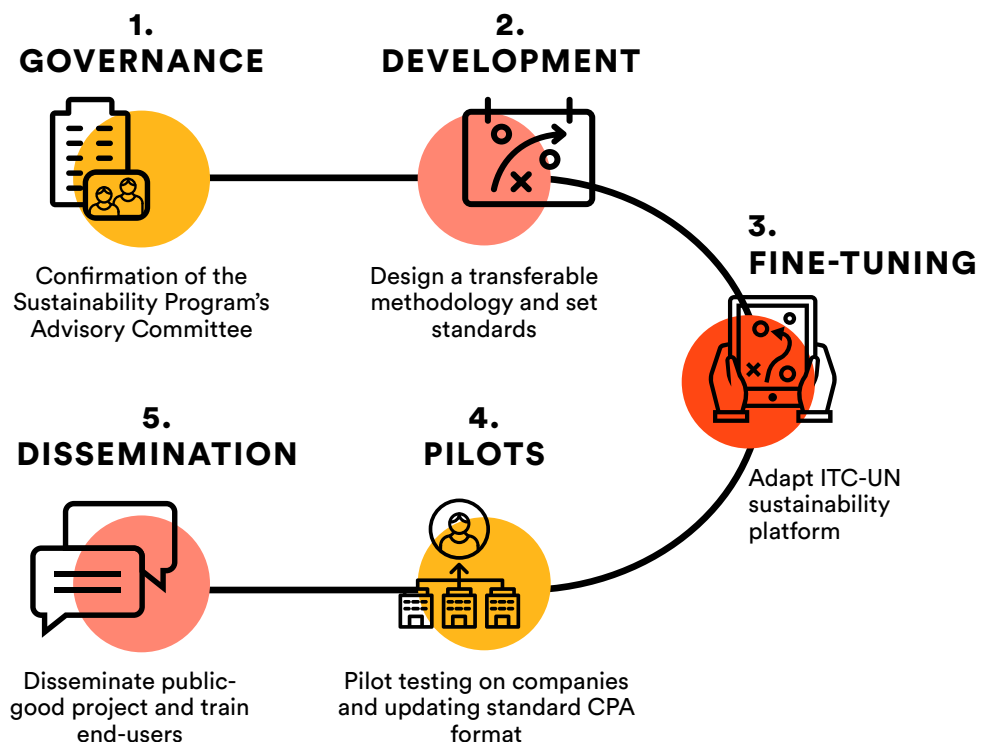
Chile, as a global agri-food power, has the additional challenge of retaining its leadership and the preference of domestic and international consumers looking for healthy, safe and high-quality products. Moreover, due to the growing global demand for sustainably produced foods, it must be transparent in communicating how

companies and production systems comply with the highest standards in this area. This is how the “Sustainability Program for the Chilean Agro-Food Sector” originated, led by the Ministry of Agriculture with the active involvement of ChileCarne, ASPROCER (Pork Producers Trade Association), and the Dairy Consortium.

This is the purpose of this program, allowing companies to share best practices used in their operations, the progress they have made, and their contribution to the fulfillment of the SDGs. It will have a management platform to make information available and transparent for every player. This inter-sectorial effort will boost Chile’s agro-export image worldwide and will help companies stay competitive in different markets.

**Renzo Boccanegra,**  
REP Law Officer,  
ChileCarne’s  
Sustainability  
Department:

“It is easy to say you are sustainable, that you do things right and care for the environment but, how can you prove it?”



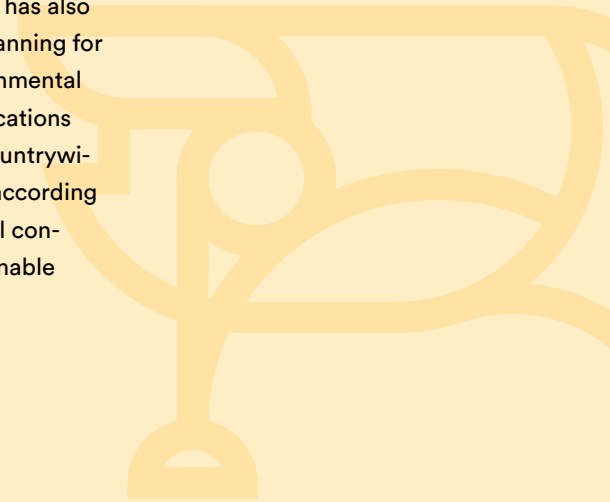
## REP Law: The main environmental reform in recent years\_

How are we as a trade  
association preparing for its  
entry into force?

The numbers are clear. A study from the Ministry of the Environment concludes that Chile produces 1.7 million tons of waste each year and most of it ends up in landfills. Hence the urgency in passing the Law on Extended Producer Responsibility, known as the “REP Law,” which seeks to force manufacturers of certain products into organizing and financing their own waste management, thus creating a virtuous circle that involves all actors of a product’s life cycle, all to the benefit of the environment.

The commitment of different industries has also been clear. Many of them have been planning for months how to comply with this environmental reform, which involves a series of implications and demands for different industries countrywide. It is a considerable challenge that, according to various public and private actors, will contribute to Chile’s positioning as a sustainable country, if properly addressed.

**It is highly ambitious, but absolutely necessary. In a country like ours, with continuous economic growth, more waste is also being produced.**





**Renzo Boccanegra,  
REP Law Officer, ChileCarne's  
Sustainability Department:**

He states the work is focused on two areas: regulatory and technical. To start on the right foot, the association is part of a working group coordinated by the Chilean Federation of Industry (SOFOFA) that brings together 13 different trade associations to address all issues involved in the implementation of the law, in addition to gathering information on the view of the private sector to present it to the authorities as an input for the future Containers and Packaging Regulations, to help set realistic and applicable goals.

The Law will allow the Ministry of the Environment to demand for companies to comply with collection and recovery goals of the packaging they put out on the market. Many aspects must be taken into consideration such as defining the right baseline, the installed capacity for collecting and recovering waste nationwide, the recycling of the materials involved in the process, etc.

**“The meat sector is affected by this law because it uses cardboard and plastic to package its products. Around 75% of cardboard is recovered; however, the country’s technical capacity to manage plastic adds up to barely 20%, not to mention the challenge posed by collecting and separating the different materials and the lack of a market for recycled products.”**

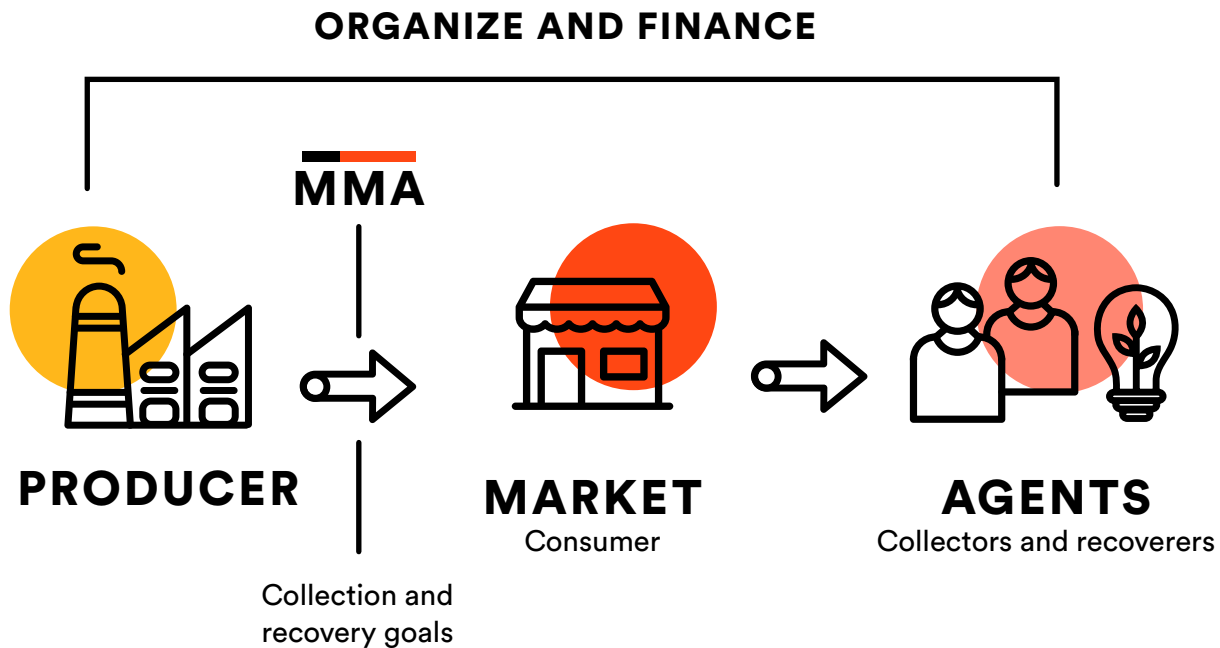
This is why we are very interested in having an active dialogue with the Ministry of the Environment, to have complete clarity about the amount of products that are put on the market, and Chile’s existing capabilities to collect and manage waste. Only by doing so will we be able to set realistic goals that will increase progressively, as more players enter the market, the recycling market gets consolidated, and companies are able to better comply with the goals proposed by the authority.

### Recycling route\_

The materials collected can go to different destinations such as recycling (to be reused after undergoing certain processes), energy recovery (for generating electric power), etc. For this to happen, a market capable of managing these materials needs to be developed, which is why the gradual change principle set by the Environmental Framework Law is key.

To achieve the goals the Ministry of the Environment will set, the regulation considers management systems as one of the actors involved in the recycling chain.

**One of the key aspects in the implementation of the Law are these “management systems,” which will be comprised of companies and they will be in charge of carrying out all the necessary actions to achieve waste collection and recovery goals, as well as certifying compliance with the provisions set by the Ministry of the Environment (MMA for its acronym in Spanish).**



## Communication is the key to good implementation\_

The various companies involved in this gigantic environmental reform are in a state of suspense, with no certainty about the next steps the regulation will take or what the compliance goals will be. This is why, in order to clearly define the necessary actions, ChileCarne maintains ongoing communication with the producers to inform them about any progress. "It is very important that both companies and the end consumer know the scope of this law that will undoubtedly be the most important environmental reform in recent years."

## **More than a trend, a reality\_**

On its 2018 reports, the Organization for Economic Cooperation and Development (OECD) recommended working in line with sustainability. Chile faces great challenges in waste management, which is recovered by less than 5%. This is why sustainability practices are no longer a trend but a need. It is a true race against time that not only seeks to make Chile a more competitive country worldwide, but also to actively help our environment.

Another area on which ChileCarne is working to implement the issues addressed by the law is continuous research and communication with domestic and international experts to learn about examples from other countries and to propose a wider use of recyclable or recoverable materials.

To carry out this effort, companies must be aligned. “As a Technical Sustainability Committee, we set the goal of executing such a project in 2019 by surveying existing materials as well as critical issues to move forward,” says Daniela Álvarez.



### **Daniela Álvarez, ChileCarne’s Sustainability Chief:**


**“We are currently exposed as exporters, as a country, as an agri-food power. We need to be aware of this if we want to keep our position in international markets. Although it still is not an official requirement, in 5 years from now, unsustainable products will be inadmissible.”**

## Antimicrobial resistance: a global challenge\_

Antimicrobials are essential medicines to ensure the health and well-being of both people and animals, as they allow us to fight diseases caused by microorganisms such as bacteria, viruses, fungi and protozoa. Given their use in animals destined for food production, antimicrobials are also essential to ensure food safety and global food supply.

These microorganisms have the natural ability to become resistant to the action of antimicrobials in order to adapt to changes in the environment, a phenomenon known as Antimicrobial Resistance (AMR).

However, in recent years AMR has been accelerated by inadequate and excessive use of antimicrobials in humans, animals and plants, causing these drugs to lose their effectiveness against certain diseases and constituting one of the greatest threats to human and animal health, food safety and development.



**Good practice handbooks developed by the Universidad de Chile in conjunction with the white meat industry seek to promote the proper use of these medicines in poultry and pigs.**

**Simón Araya,  
veterinarian, ChileCarne's  
Antimicrobial Resistance  
Officer:**

“As a sector, the main contribution we can make to stop the spread of AMR is using antibiotics correctly. Thanks to the handbooks, we can help producers learn about this matter and apply the guidelines.”

This is happening all over the world and it has been addressed as an inter-sectorial problem. Even the World Health Organization (WHO), the World Organization for Animal Health (OIE), the Food and Agriculture Organization of the United Nations (FAO) and the Codex Alimentarius Commission have already asked countries to take measures to battle AMR.



**Dr. Betty San Martín,  
veterinarian, PhD in  
Veterinary Medicine and  
director of the Laboratory  
of Veterinary Pharmacology  
of the Universidad de Chile:**

“Chile is ranked at an international level. Currently, there is a nationwide plan against antimicrobial resistance, a program for residues control, and more awareness about AMR among veterinarians working at production sites. These are all indications that we comply with the guidelines being requested worldwide.”





In Chile, the white meat industry is addressing AMR with various actions such as raising awareness and training sectorial professionals, monitoring the use of antimicrobials and promoting a responsible use of these medicines by developing two best practice handbooks on antibiotics for poultry and pork production. Both projects were developed jointly with the School of Veterinary and Animal Sciences of the Universidad de Chile and they consider the most important points to be practice guides for the correct use of these essential medicines. The criteria included in both manuals are the same ones proposed by the WHO, OIE and FAO that apply to the production of poultry and pork.

One of the key recommendations for the livestock sector included in the handbooks is the significance of preventing infectious diseases in birds and pigs through biosecurity, hygiene best practices, vaccination programs, animal welfare, etc. in order to reduce the need for antibiotics.

**The challenge is to continue controlling antimicrobial resistance using the minimum amount of antibiotics with maximum efficiency.**


## Animal welfare: a priority area for the industry\_



Rather than an alternative that follows European trends, it is considered an obligation, a commitment to the animals that provide daily nourishment to millions of people in Chile and around the world. Animal welfare in Chile gained momentum in the 1980s as a determining factor for optimizing results in meat production. It has been a significant part of the Chilean livestock industry for a few years now. As a result, in 2014, Chile ranked first in the Americas on the animal protection index released by World Animal Protection (WAP), an NGO focused on animal welfare, laying the foundations for what came to be an increasingly significant area for the sector.

The Chilean livestock industry also took on this pursuit of animal welfare by taking different actions to include it throughout the production chain. Its representatives not only attend forums and conferences to promote its significance and share what is being done in animal welfare, but they also follow European regulations, one of Chile's main export markets.





**According to scientific studies, an animal in good welfare conditions must be healthy, well-fed, safe and comfortable. To preserve this state, a number of measures must be implemented by the livestock industry.**

**Ricardo Mora, WAP's  
Farming Team International  
Manager:**

“It is extremely positive that they did not just enact laws about it, but they are also working on procedures to learn how to apply and oversee the regulations. I believe Chile will be very successful in this effort, since the industry will soon realize it plays to its own favor as it becomes more productive. This way, change will happen faster.”

**Pedro Guerrero,  
veterinarian, ChileCarne's  
Technical Manager:**

“This is one of the priority areas for the association, which is why they continuously help producers fully comply with international and domestic regulations. Chile is even recognized as one of the most regulated countries and it is ranked first in category B, according to the scope of the existing regulation on animal welfare.”



WAP has been part of various activities as a technical expert to provide consulting on current practices, with the aim for them to be included in the document.



**These measures are already being implemented in Chile, thereby positioning the country as one of the leading players in this field throughout the Americas. A best practice handbook will be released in late 2019.**

## Miguel Adasme, ChileCarne's Food Safety and Animal Welfare Officer:

They evaluate compliance with domestic and European regulations, as well as OIE's recommendations, which has over 180 member countries. "Chile decided to follow the advice and incorporate them in SAG's decrees in this field. As a result, new guidelines for pig farms were prepared together with SAG, which will soon be released by the OIE. In addition, we facilitate training for those in charge of animal welfare in farms, slaughterhouses and transportation, and a specific technical committee was created."

Another major effort carried out in this area aims to minimize certain practices on piglets such as teeth-clipping, which is in line with calls from animal welfare organizations. It is expected to be eradicated by late January. In addition, alternatives to piglet surgical castration are being assessed. One is immunocastration of male pigs through a vaccine that inhibits testosterone secretion, helping to avoid surgical castration,

which causes pain. "About five companies in Chile use immunocastration, but unfortunately it is not widespread due to customer requirements, in particular the rejection of this practice in parts of the Asian market. This is why another option is to consider the use of anesthesia and/or analgesia during the castration process."

Additionally, within the framework of the new animal welfare initiative of the pork industry, it was agreed that all new pig-breeding projects submitted for approval as of 2018 would use a system that guarantees at least two thirds of total gestation time spent in collective pens. Although this implies a number of changes in terms of feeding systems, handling, staff training, etc., it eventually improves efficiency, becoming at least as competitive as individual gestation systems.

"Markets will soon demand these practices focused on animal welfare; we must prepare and follow world trends."

## Practical and clear document\_

Direct support for producers in developing procedures or handbooks is another approach in this field. For years, ChileCarne has contributed with guidelines for emergency slaughtering on farms after serious injuries or contingency plans to preserve animal welfare in case of fire, accident or earthquake.

Initiatives like these inspired the idea of editing a best practice handbook, which is being developed with SAG, and the contribution of NGOs and universities. "It is a guide that seeks to be a practical support document for the industry," explains Pedro Guerrero, ChileCarne's Technical Manager. Hence, the pork industry would become the second to launch a best practice handbook in Chile after laying hens; a guide to better explain how to comply with domestic regulations based on the assessment of direct animal welfare parameters.

**CHILEPORK**

---

**CHILEAN  
PORK OUT TO  
WIN OVER ASIAN  
MARKETS**



**ChilePork**



**According to figures from SOFOFA's Food Exporting Council, over 11 million people around the world eat one serving of Chilean pork per day, placing this product second in the ranking of the country's food exporting offer.**

How did we achieve it?\_

20 years ago, the meat industry focused on exports and decided to adapt its processes to comply with the world's highest health and food safety standards. This, along with the commercial opening policy adopted by Chile, has allowed the industry to be able to export to over 64 countries.



Source: Food Export Council.

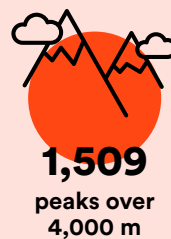
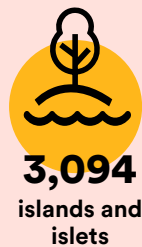
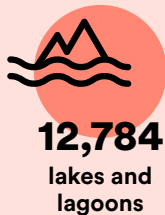
11 years ago, the pork industry decided to set out to win over the Asian market under the ChilePork brand, joining the international advertising efforts of Chilean pork exporting companies. Thus, in 2006, the ChilePork campaign began in South Korea, a country where Chile was third in the ranking of pork exporters and the rest of the competition already had advertising campaigns (the U.S., Canada, Denmark, France, Mexico, etc.). In 2007, we expanded our positioning campaign to Japan, and in 2012 to China.

**Natalia Sepúlveda, ChileCarne's Communications and Marketing Chief:**

“The opening of the Chinese market was a great opportunity for ChilePork, as it is a market that consumes non-traditional cuts. This allowed us to expand the exportable offer and to position different products in each market, showcasing the versatility of Chilean pork for various preparations.”

## What we have learned\_

Chile is renowned for its diverse landscapes and for being a green and sustainable country. It is undeniable that Chile is synonymous with natural quality.



## Pía Barros, ChileCarne's Communications, Marketing and Research Manager:

“After more than 10 years of intense work to position the country brand in the Asian market, we have learned significant lessons. The first one was realizing Asia is not just another continent. Each of its countries is unique, with its own customs and tastes. This is why each campaign has been prepared individually, taking into consideration each country's culture. Chile's ability to adapt to each market, both as a country and as an industry, has been a competitive advantage to reach each consumer with a product that fully meets their needs.”

“We have realized that we must highlight the origin of the product at all times because that is the only thing that sets us apart from our competition. Chile is a plant and animal health island with natural geographical barriers that are also protected by the Agricultural and Livestock Service, an institution with international renown.”



**ChilePork Seminar in Tokyo, Japan**  
May 21

**Pía Barros, ChileCarne’s Communications, Marketing and Research Manager:**

“We would love to enter a restaurant in Tokyo one day and read ‘Tonkatsu made with Chilean pork’ on the menu, or ‘Korean barbecue with pork from Chile’ in Seoul, or ‘Chilean pork chop suey’ in Shanghai.”

**Jorge O’Ryan Schütz, ProChile’s Director:**

“These campaigns have allowed us to showcase Chile as an origin, helping not only to increase exports but also the awareness of our country brand and the international reputation of our exporters, which has opened doors for new entrepreneurs and products.

The collaborative work between ChileCarne and ProChile has been relevant to winning over new markets. The challenge now is to reach the final consumer and become part of their consumption options.”

**Another lesson learned has to do with our target audience. Initially, our campaign was focused on meat importers and distributors.**





## ChilePork in Seoul, South Korea

May 23



### SEMINARS

## ChilePork's positioning in Asia\_

Currently, the U.S. Department of Agriculture (USDA) positions Chile fifth among pork exporting countries, and 71% of our exports go to Japan, South Korea and China. These figures have been achieved thanks to the determination and hard work of pork export companies, and ProChile's continuous support to conduct ChilePork campaigns in each and every market.

We are a vertically integrated industry, where each ChilePork member company monitors its entire production chain, from feed-producing plants, animal production areas, slaughterhouses and all its related processes, logistics and marketing of each and every one of the products, to finally reach our customers and consumers with a healthy, safe food with unique quality standard.



### GOLF TOURNAMENTS

Now our customers recognize the ChilePork brand and associate it with attributes such as food safety, taste, quality assurance, reliable partner, sustainability and health status, which the industry has consolidated thanks to its unique production model.

Given the above, it is essential to be present in every market each year in order to preserve and build a close relationship based on trust with our existing and prospective customers. Therefore, advertising campaigns allow us to set ourselves apart from the competition and position our ChilePork brand in both Chile and the world as a product and service of the highest quality.



### COOKING SHOWS

ChilePork's challenges for the coming years are twofold: to reach more importers, particularly from cities other than the capitals of Japan, South Korea and China, and to position ourselves in the HORECA channel with products with higher value.

# 2018 ACTIVITIES

---

## 01. Expocarnes International Seminar

January 11

Present and future of Chilean meat in the global market, with experts from the U.S. and Brazil.



## 02. Formula E

February 1

ChilePork was part of the first edition of Formula E in Chile.



## 03. Presidential Tour to Japan

February 22

ChileCarne's president took part in President Michelle Bachelet's last tour to Japan.



## 04. Bird Inspection Professional Certificate Ceremony

March 17

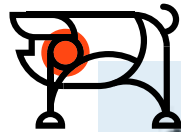
Graduation ceremony of the Bird Inspection Professional Certificate for slaughtering plant technicians.



Participation at the International Poultry Council (IPC) in the new version of its First Semester Conference 2018.

## 05. IPC Netherlands

April 24



## 06. First Animal Welfare Committee

May 2

First committee bringing together various actors from the meat industry and SAG.

**07. ChilePork Japan, South Korea, and China**

May 8 to 16

Promotion of Chilean pork through our ChilePork brand.



**08. Antimicrobial Resistance Workshop**

May 29

“Present and future of antibiotic use in the poultry and pork industry” workshop, with renowned researcher Dr. Randall Singer.

**09. IFAT Recycling Fair**

May 14

ChileCarne was present at the environmental technology fair in Germany.



ChileCarne was one of the main speakers at the International Pork Producers Conference (CIPORC) held in Lima, Peru.

## 10. CIPORC's Pig Farming International Conference

July 12

Presentation at Porkamericas 2018 held in Cali, Colombia.

## 11. Porkamericas International Conference

July 16



## 12. Traditional Chanco Muerto Fair

August 11

Promotion of ChilePork at the traditional Chanco Muerto (Dead Pig) fair celebrated in Talca.



### 13. Avian Influenza Workshop

August 16

Attendance of the “Response to an avian influenza health emergency” workshop held in Guayaquil, Ecuador, invited by USDA-APHIS.



### 14. Poultry Farming Central American-Caribbean Conference

August 21

ChileCarne was part of the 25<sup>th</sup> Poultry Farming Central American-Caribbean Conference held in San Pedro Sula, Honduras.

### 15. ECert Mission Trip to Russia and China

August 7



Mission to Russia and China to move forward in e-certification (“ECert”) and other relevant export issues.

### 16. Mission Trip Mexico - USA

October 23



Mission to Mexico and the U.S. to move forward in e-certification (“ECert”) and other relevant export issues.



**18.**  
**ChileWeek  
China 201**  
November 1

Participation in  
ChileWeek China in  
Beijing and Shanghai.

**17.**  
**OIE Global  
Conference**  
October 29

Participation in  
the conference on  
antimicrobial resistance  
held in Marrakech,  
Morocco.



**19.**  
**CIIE  
Fair**  
November 5

Participation in the  
China International  
Import Export Fair  
(CIIE) held in Shanghai.



Participation in Chile  
Food, Wine & Travel  
in Tokyo, Japan.

**20.**  
**Chile Food  
Wine Travel**  
November 8



### 21. MICROB – R FAO

November 14

Participation in Millennium Nucleus for Collaborative Research on Bacterial Resistance in Santiago, Chile.



### 22. South Korean Importer Trip

November 19

Ki Moon Chang, MaxAgro's client, visited Chile as part of a recognition from ChilePork.



Juan Carlos Domínguez talked about the experience and challenges of the 'ChilePork' brand at a networking event organized by ProChile.

### 23. Presentation at Sectorial Networking Event

November 29



### 24. Lunch for the Chinese Minister of Customs

December 1

ChileCarne organized a lunch as part of the visit from the Minister of Customs of the People's Republic of China.







## 25. Backyard Health and Biosecurity Handbook

December 4

Attendance at the launch of the handbook in Arica, Chile.



## 26. Animal Welfare Conference

December 4

Presentation at the fourth International Meeting of Researchers on Animal Welfare held in Valdivia, Chile.

## 27. Platform Launch

December 7

Launch of the "IT platform for health and food safety management for livestock production" in Santiago, Chile.



Fu Zhang, one of Agrosuper's clients, visited Chile as part of a recognition from ChilePork.

## 28. Chinese Importer Trip

December 11



## 29. Chinese Journalists Visit

December 11

Yin Jun, Miao Qi and Zhang Yu, journalists from renowned Chinese media, visited Chile to learn more about the production of different foods: olive oil, wine, cherries, blueberries, walnuts, dried plums, and pork.





