

COTE ϵ CNA \wedge

AGRICULTURE

TRUST FOR \wedge MOVING WORLD

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ABOUT COTECNA

COTECNA is a leading provider of testing, inspection, and certification services.

We offer solutions to facilitate trade and make supply chains safer and more efficient for our clients. Our trusted network of professionals and certified laboratories provide expertise across six key sectors: government & trade solutions, agriculture, feed and food safety, minerals and metals, consumer product services and pharmaceutical.

Founded in **Switzerland** in **1974**, Cotecna started off as a family business and has now grown to become a world-class international player with over **7,000 employees** in more than **100 offices** across approximately **50 countries**.



Global footprint:
+50 countries
+140 offices & laboratories



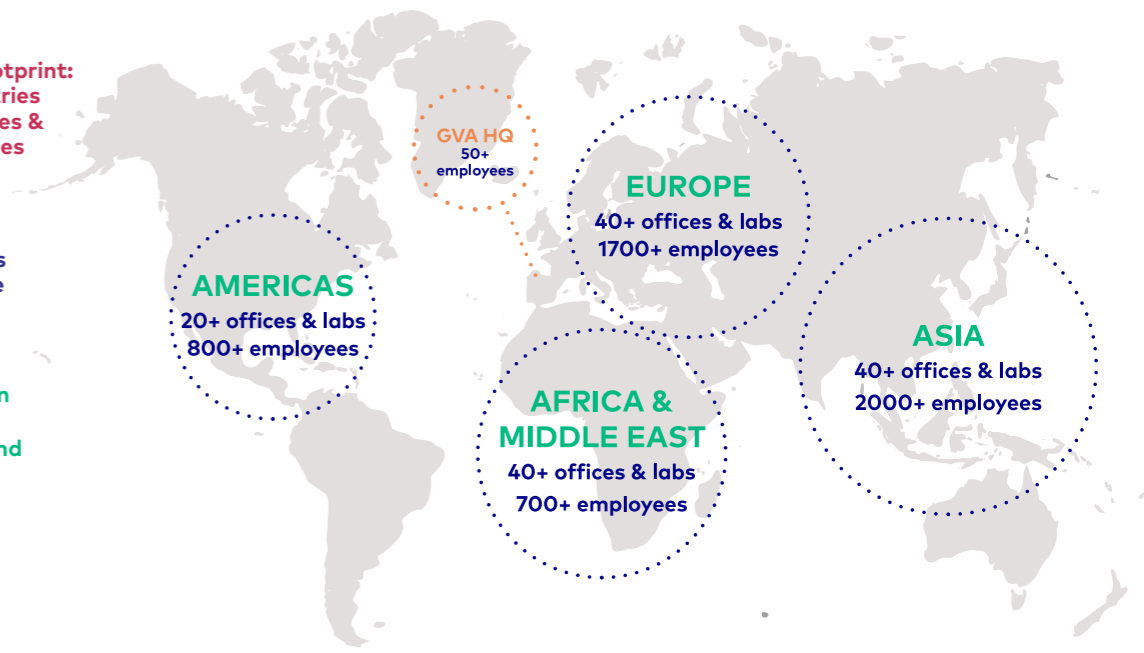
+7,000 employees worldwide



Founded in 1974 in Switzerland

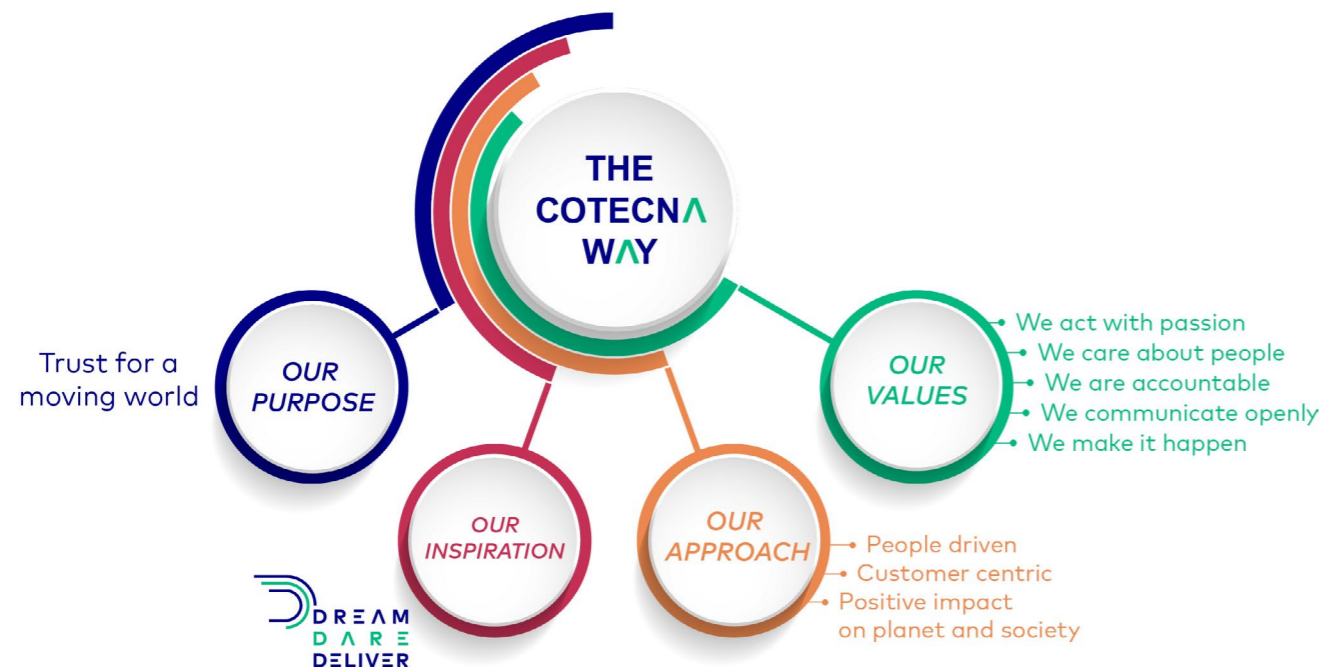


+ 40,000 clients



THE COTECNA WAY

The Cotecna Way is what drives us as a company and sets us apart. It's the common language that inspires and guides the way we operate for our customers, stakeholders, and employees.

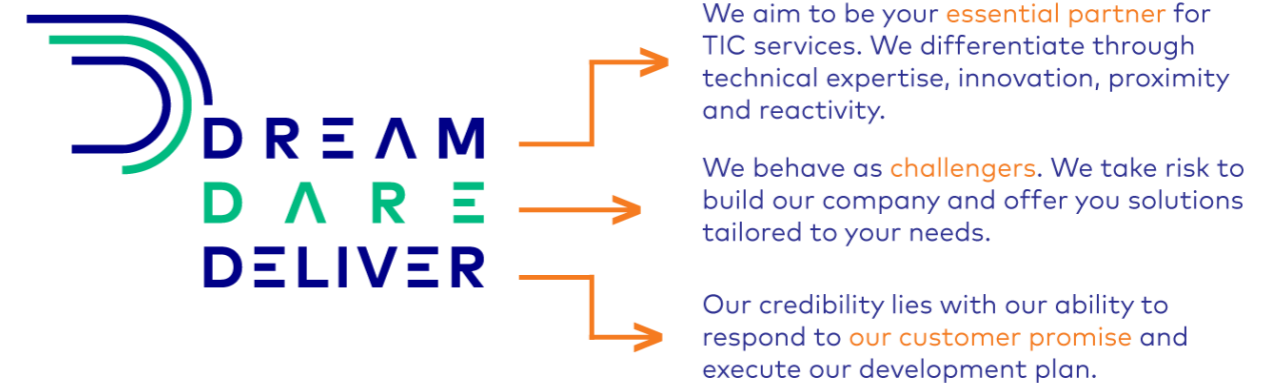


OUR PURPOSE

Every day, we help businesses around the world deliver compliant products to their customers. No matter what supply chain they operate in – inputs, production, logistics, industry, trade or food safety- they face a rapidly changing environment and disruptive technologies. We give them the expertise, agility, responsiveness, and confidence to thrive in such an environment.

OUR INSPIRATION

Our inspiration is what makes Cotecna special. We operate across 3 dimensions – Dream, to Dare, and to Deliver. – the 3Ds. These convey the dynamism and ambition of our company and the promise to all our clients.



OUR APPROACH

Our approach is the way in which we implement our purpose and inspiration into effective day-to-day action. It is the business framework and set of common goals that we all work towards.



OUR VALUES

Our values are the core beliefs that help us, as a team, work towards our common business goals. They are our foundation and moral compass and help us to make the right decisions in difficult situations.

BE > TRANSPARENT **We Communicate Openly**

We speak honestly. We listen and respect different opinions, and we bring issues into the open. We ask for feedback to help us improve and we give feedback with the genuine intention to help.

BE > AGILE **We Make It Happen**

We are pragmatic and simple. We do what it takes to fulfill our promises. We prioritise carefully and dare to say no when needed. We learn from successes and failures, and we do this together with our customers.

BE > INSPIRED **We Are Accountable**

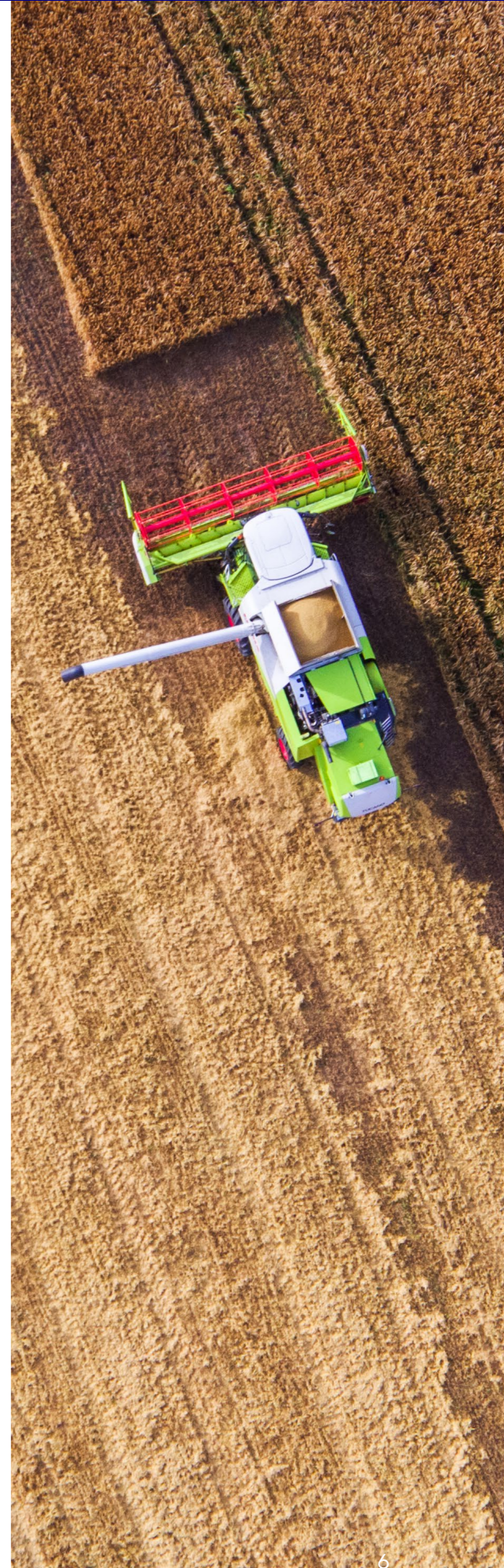
We take ownership to drive the business forward. We are not afraid to take risks. We make decisions and follow up on the execution. The way we act and behave according to our values defines good performance.

BE > AMBITIOUS **We Act With Passion**

We strive to understand our customers. We build trust and we help them improve their businesses. We help each other to reach our goals, and we celebrate successes together.

BE > YOURSELF **We Care About People**

We treat everyone with the highest level of respect and courtesy. We listen, we are responsive, available, and friendly. We create the right conditions for everyone to be engaged and take part in our journey.



OUR HISTORY

Since 1974, we have been innovating with a view to leading the inspection, testing and certification industry for businesses and governments.



1970' – Origins

1974 Mr. Elie Georges Massey founds COTECNA in Switzerland.

1980' – Positioning

COTECNA begins commercial relations with the United Nations.

1990' – Growth

COTECNA consolidates its position as TIC and helps to stop the evasion of foreign exchange control.

Expansion of the commercial division to increase coverage in Russia and Turkey.

2000' – Global Expansion

COTECNA expands its range of services, providing solutions in risk management, scanners, warranty management, certification and cargo tracking.

Expansion of the commercial division worldwide, with a focus on Asia and Latin America.

2000' – Diversification

COTECNA becomes a key player in the minerals sector, thanks to an important contract in the inspection of coal in India and the commercial growth in the nickel market, as well as, in one of the four main companies in the agricultural sector.

2020' – Ambitious Transformation

Transition in leadership including a new CEO who has led Cotecna through a fast growth phase and overseen the completion of several successful global acquisitions.

COTECNA ACQUISITIONS

1974 – Founding of Cotecna

2014 – Philippines – Elite

Inspection company with expertise in various commodities including coal and mineral ores, petroleum products, steel and steel products, agricultural commodities, and chemicals.

2015 – South Africa – CoalLab

Leader in South Africa in the coal mining and export industry, offering sampling, analysis, certification and consulting services.

2017 – Romania – Timex Surveyors

One of the leading inspection and testing companies in Romania, specialised in providing agricultural, fumigation, fertiliser, mineral and metal services.

2017 – Netherlands – NofaGroup

Leading European laboratory for the testing of food and feed products, performing analyses on over 43,000 samples a year, including dioxins, PCBs, GMOs, heavy metals and pesticides.

2018 – India – Shiva Analyticals

One of India's leading analytical testing laboratories, providing a range of solutions across numerous sectors, including food and beverages, minerals and ores, fuels and oils, pharmaceuticals, and industrial hygiene.

2019 – Italy – Neutron

One of the largest analytical laboratories in Europe, offering chemical, biochemical, microbiological, physical and sensory analysis services.

2020 – China – Kaixin Certification

One of the preferred service partners by over 10,000 customers in multi-industry sectors, KCB issued over 16,000 certificates up to the end of 2019, covering a comprehensive range of system certification and product certification services.

2021 – Spain – Fitosoil

Laboratory providing its clients with a complete range of services from agronomy to chemical testing on a wide range of products with a focus on fruits and vegetables while upholding a leading position in the fertilizer sector.

2022 – Brazil – Agronômica

A leading Brazilian laboratory located in Porto Alegre and operating globally. Agronômica has more than 16 years of experience in specialized phytosanitary diagnostic analysis, the analysis of biological control products used in agronomics, and seeds testing.

COTECNA

Elite
Part of the Cotecna Group

CoalLab (Pty) Ltd
Part of the Cotecna Group

TIMEX
SURVEYORS SRL

NOFALAB
Part of the Cotecna Group

SHIVA
Part of the Cotecna Group

neutron
Part of the Cotecna Group

凯新认证(北京)有限公司
KAIXIN CERTIFICATION
Part of the Cotecna Group

FITOSOIL
Part of the Cotecna Group

AGRONOMICA
Part of the Cotecna Group

COTECNA

YOUR PARTNER IN AGRICULTURE

The agricultural industry is built upon the principles of integrity, safety and sustainability. The close monitoring of each principle is paramount to business compliance. Our solution for businesses lies in our ability to react swiftly across the entire supply chain. From primary production to final consumer, our highly experienced inspection and testing teams, backed by a global network of laboratories and internationally recognized accreditations and certifications, are set up to respond rapidly to your request.

We pursue excellence, and our dedication is shown in everything we do. Our timely actions help our clients minimize business disruptions. We are available 24/7, providing our clients with strong and reliable support, helping them protect their business interests and contributing to their success.



1 Capitalising on our worldwide network of specialists and laboratories, we offer our clients a complete set of quantitative and qualitative agricultural services tailored to their needs, including certification & training technical assistance. Each service is designed to reduce a business' exposure to risk and ensure contractual conformity and greater transparency.

2 We pursue excellence, and our dedication is shown in everything we do, with our timed actions helping to prevent an issue before it happens. Our 24/7 strong and reliable protection of our clients' interests contributes to the success of the business.

3 Cotecna is committed to operating sustainably, ensuring that we benefit our clients while bringing a positive impact on plants and society. Sustainability is at the heart of our value proposition, in all aspects of our testing, inspection and certification activities, providing trust to our clients and stakeholders. This commitment is embedded in the implementation of our Sustainability Framework, which we operate throughout our organisation. The Framework sets out our policies and governance for sustainability, focused on 6 key pillars:



Our commitment to integrity and ethical business practices, as set out in our Business Ethics & Compliance Code.



Our commitment to have a positive impact on the planet, by minimising our carbon footprint, managing waste and emissions, and conserving energy and water.



Our commitment to provide safe workplaces for our people and those who may be affected by our activities.



Our commitment to require our suppliers and subcontractors to meet and adopt our Sustainability goals.



Our commitment to empower and develop talents, promote diversity and inclusion, and implement fair labour practices.



Our commitment to engage with and support our local communities in the areas of health, education, and inclusion.



THE SERVICES WE OFFER

We offer our clients seamless access to a high-calibre and comprehensive suite of customised agricultural services. We cover monitoring, weighing and sampling, as well as testing, verification and certification of agricultural commodities and processes at every stage of production.

We offer our services across a wide range of industries, with clients that include:

- > Logistic companies
- > Financial institutions
- > Governmental organisations
- > Insurers
- > Agro-science companies
- > Fertilisers companies
- > Farmers
- > Food & Feed processors
- > Traders

INSPECTION SERVICES



- > Stock monitoring
- > Silos and warehouse in and outtake
- > Load compartment inspection
- > Weighing, tallying, measuring
- > Sampling, quality, and cargo condition
- > Sealing of holds, tanks, containers, wagons, trucks
- > Fumigation
- > Draft survey
- > Conformity assessment
- > Issuance of inspection certificates and applications for official certificates such as origin, phytosanitary and veterinary
- > Secured delivery of electronic certificates via our E-dox™

TESTING SERVICES



Cotecna's network of laboratories and partner laboratories are strategically positioned in proximity to the world's major trading centres to maximise our reach and provide a truly global service to our clients.

We have our own dedicated Agriculture Laboratories located in Argentina, Brazil, Ukraine and Romania amongst other countries.

Our testing services and accredited laboratories help our clients ensure that their products meet all necessary quality, safety, and sustainability standards.

Through the usage of the very latest equipment and methods, we are able to perform different types of tests such as:

- > **Physical**
- > **Chemical**
- > **Food and feed safety**
(mycotoxins, pesticides residues, dioxins/pcb, microbiology)
- > **GMO**
- > **Wheat flour specifications**

ADDITIONAL SERVICES



- > **Crop and Harvest monitoring**
- > **Traceability programs**
- > **Quality maps**

FITOSOIL is a private laboratory offering our clients the most advanced analytical technology applied to the agri-food, environmental, industrial and health sectors. Since 2021, it is a member of the Cotecna Group.

Fitsoil is located in Murcia, Spain, one of the most important countries in the world in the production and trade of agricultural commodities, as well as biofertilisers for organic production.

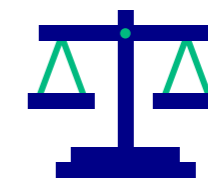
Fitsoil is based on four key pillars:



QUALITY



SPEED



IMPARTIALITY



CONFIDENTIALITY

Fitsoil offers innovative solutions by always implementing the latest techniques, as well as adopting new methods and standardized tests to produce the best outcomes. We are a team of professionals and specialists with a very clear objective, to make available to our customers the latest technology to address the stringent legislative controls, as well as research and development of new analytical techniques for the detection and quantification of chemical and biological agents.

In addition, Fitsoil is a world reference laboratory in fertilizers analysis, both in terms of diversity of techniques developed and the large number of accredited methods used. Over the last 20 years, Fitsoil has successfully expanded its analytical range and scope of accreditation, in harmony with the requirements and concerns of its customers and legislation.

FITOSOIL SERVICES PORTFOLIO

Some of our analysis and testing capabilities include the following:

- > Richness in raw materials and formulations
- > NPK, secondary nutrients and micronutrients
- > Free and total amino acids
- > Pesticides and complexes
- > Chelates and complexes
- > Humic and fulvic acids
- > Heavy metals, Salmonella and E. Coli
- > Algae and alginic acid
- > Solubility studies



A CASE STUDY DEVELOPMENT OF A METHOD FOR FURFURAL IN FERTILIZERS

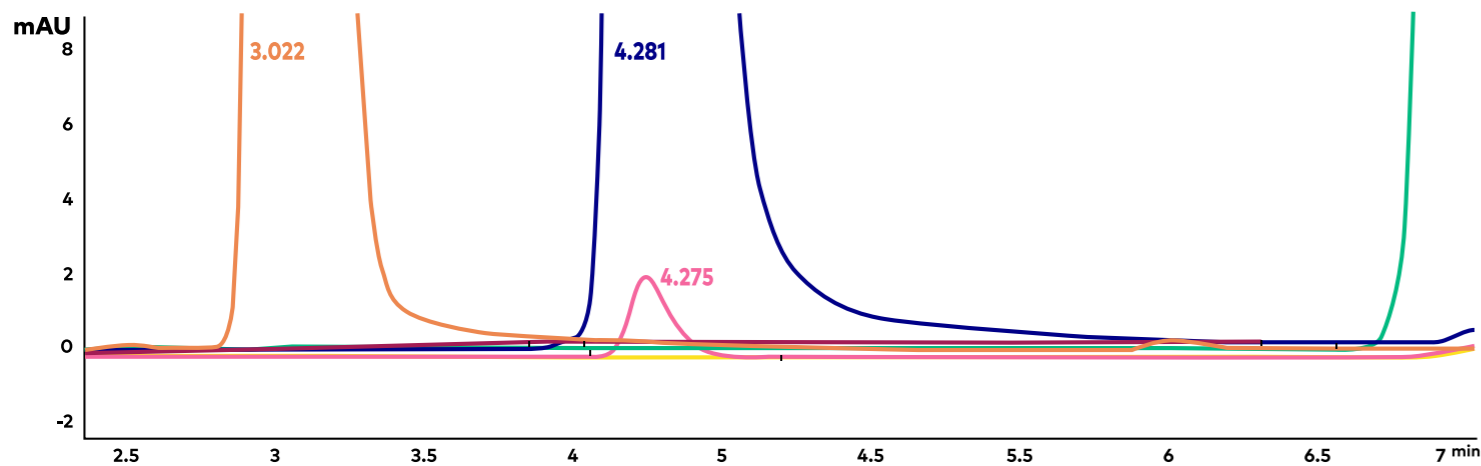
Furfural (2-furaldehyde) is an industrial aldehyde derived from various agricultural by-products, corn, oats, wheat, aleurone, sawdust. The name furfural is from the Latin word furfur, "bran", in reference to its common source. It is an aromatic aldehyde, with a ring structure. It is also known as: Furfural, Furan-2-Carbaldehyde, Furan-2-Carboxaldehyde, Fural, Furfuraldehyde, Pyromucic Aldehyde. Its chemical formula is $C_5H_4O_2$. In its pure state, it is a colorless oily liquid with an almond-like odor; on contact with air, it rapidly turns yellow.

Furfural is legislated in Spain through **Royal Decree 506/2013**, of June 28, on **fertilizer products**, where fertilizer products containing as raw material lignosulfonates, sludge from the paper industry or sugar processing, shall be credited that it does not exceed 0.05 % w/w as maximum limit of furfural (2-furaldehyde) content. There is no standardized method to determine furfural in fertilizers and the legislation recommends the OENO 18/2003 method of the International Oenological Codex.



Fitsoil decided to develop an internal methodology to have an accreditation that will certify the technical competence of the laboratory for the control of this toxicant in **fertilizers**, based on a standardized method for insulating oils by **HPLC-UV: UNE-EN 61198:1996**. Insulating mineral oils. Methods for the determination of 2-furfural and related compounds. The development of the method involved ensuring that the most common furanic derivatives that accompany furfural do not interfere in the chromatographic determination. The compounds studied were: 5-hydroxymethyl-2-furfural (5HMF), 2-furfuryl alcohol (2FOL), Furfural (2-furaldehyde) (2FAL), 2-acetylfuran (2ACF), 5-methyl-2-furfural (5MEF).

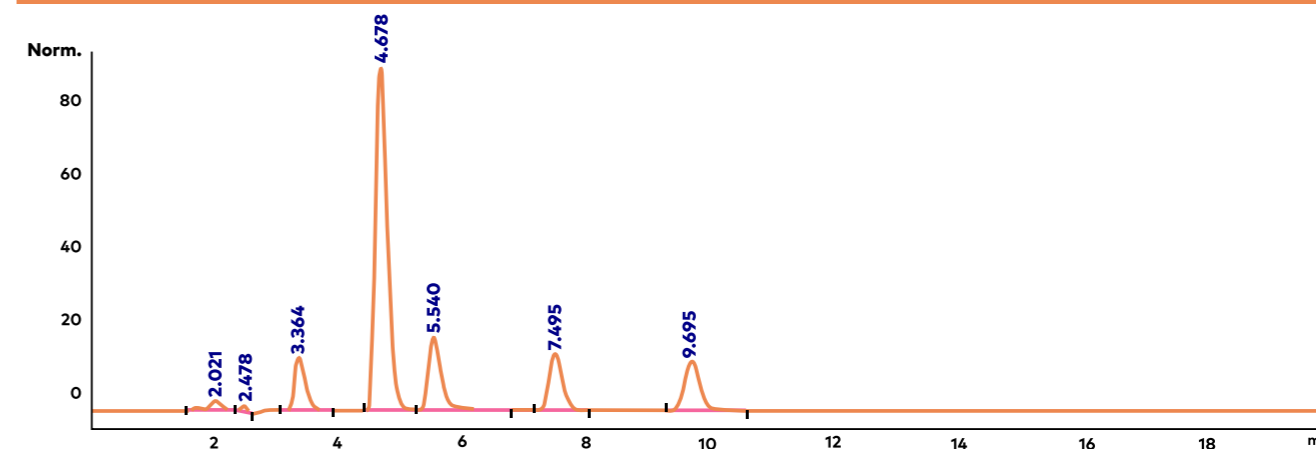
All compounds were determined at 280nm except 2-furfuryl alcohol (2FOL) at 215nm and after the first tests of application of the **UNE-EN 61198:1996** standard it was determined that for the column type of the standard the compound 2-furfuryl alcohol (2FOL) co-eluted with furfural. This showed that the chromatographic determination of furfural presented an interference by 2-furfuryl alcohol (2FOL) that absorbed at a different length, but in the presence of high concentrations of this could present interferences by the presence of false positives and even quantification errors.



Fitsoil developed a study to obtain a phase profile to solve the chromatographic interference by playing with different proportions of aqueous phase, acetonitrile, and methanol, finally reaching the resolution of the chromatographic interference between 2-furfuryl alcohol and furfural. This allowed demonstrating the technical competence of the method and finally obtaining recognition as an accredited laboratory in the determination of this toxicant in fertilizers.

Chromatogram a 215 nm

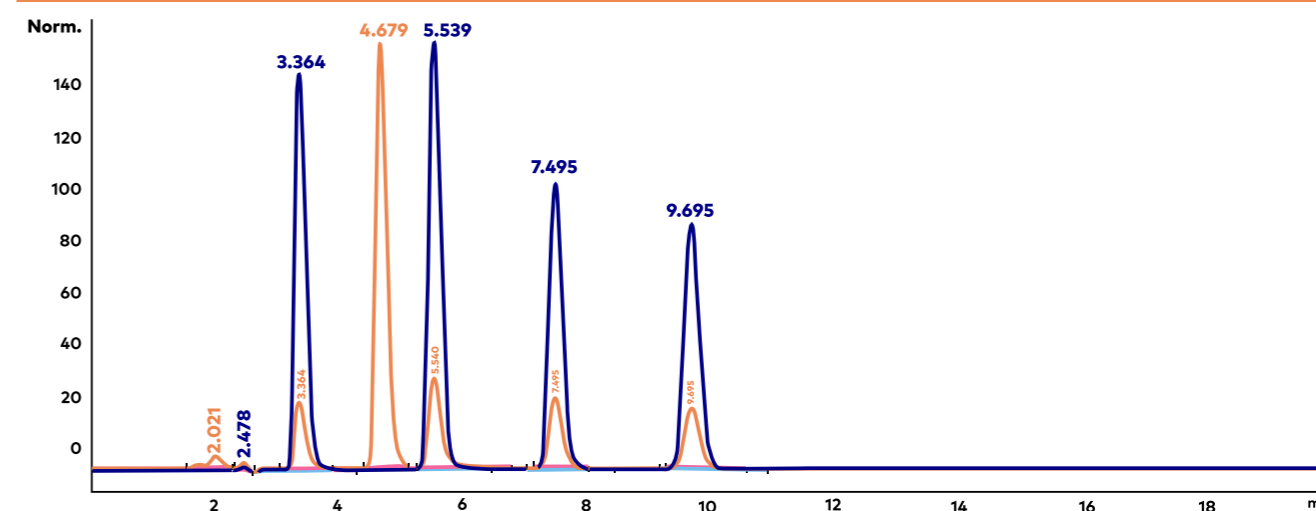
DAD1 B, Sig=215.4 Ref=off (Furfural y....s 2019-07-04 15-44-10\001-P1-A2-Multipatrón furfural y derivad.D)



Overlapping chromatogram 215 y 280 nm

DAD1 B, Sig=280.4 Ref=off (Furfural y....s 2019-07-04 15-44-10\001-P1-A2-Multipatrón furfural y derivad.D)

DAD1 B, Sig=215.4 Ref=off (Furfural y....s 2019-07-04 15-44-10\001-P1-A2-Multipatrón furfural y derivad.D)



Component	Retention time (min)	Wavelength (nm)
5-hydroxymethyl-2-furfural (5HMF)	3.5	280
2-furfuryl alcohol (2FOL)	4.8	215
Furfural (2-furaldehyde) (2FAL)	5.6	280
2-acetylfuran (2ACF)	7.5	280
5-methyl-2-furfural (5MEF)	9.6	280

CASE STUDY:

Who are the main soybean villains?

Agronômica tells you.

50
FTE

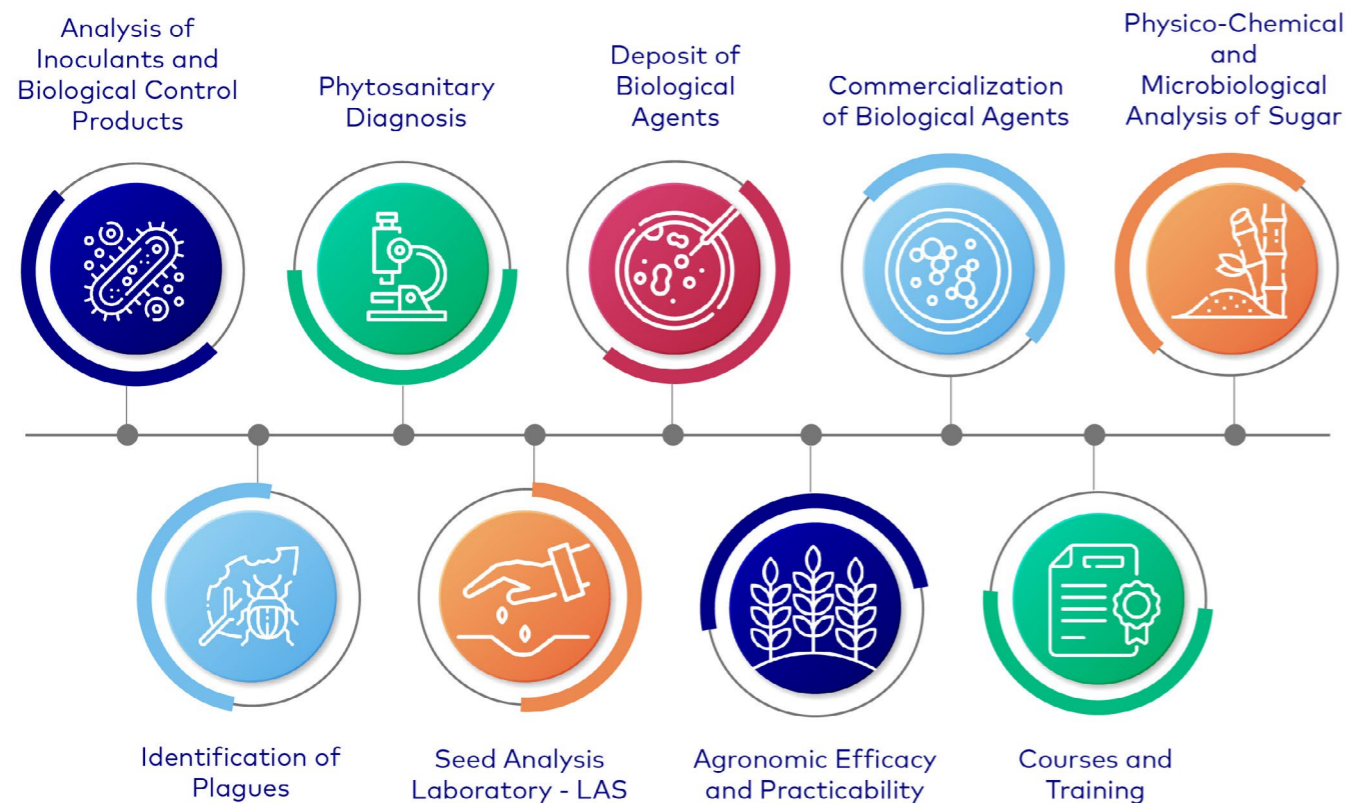
16
years of
experience

LOCATION
Porto Alegre, Brazil

Agronômica is a private laboratory founded in Porto Alegre, Brazil, in 2006. Part of the Cotecna Group since 2022 and operating throughout Brazil and abroad, Agronômica is specialised in phytosanitary diagnosis analysis, analysis of biological control products for agronomic use, and seeds testing.

With more than 16 years of experience in the market and 50 full-time employees, Agronômica is accredited by MAPA (Ministry of Agriculture) in the area of Phytosanitary Diagnosis. Agronômica detects and identifies pests within the national and international transit of agricultural products through innovative techniques, and carries out effectiveness tests of chemical and biological products, under controlled conditions and in situ.

Agronômica has a comprehensive and solid service portfolio that delivers sustainable solutions for plant health and the entire ecosystem.



Brazil leads the ranking of the world's largest soybean producers. There were 156 million tons of grain in the 2022/2023 harvest - 42% of all soybeans produced worldwide. The country also stands out as the world's largest oilseed exporter, expected to export a record 98.5 million tons of soybeans in 2023.

Despite leading soybean production, the country's tropical location means that the presence of various diseases, especially fungal ones, are common. Agronômica, a member of the Cotecna Group, is a leading Brazilian laboratory located in Porto Alegre, State of Rio Grande do Sul, Brazil, specialized in phytosanitary diagnosis.

In more than 1,000 soybean samples (plants or seeds) from different locations in Brazil analysed in Agronômica between 2020 and March of 2023, the Diaporthe genus was the most frequent, detected on average in 31% of the analyses. This genus is responsible for the diseases called Stem Canker, Stem and Pod Blight, and Seed decay.

The second most common genus of phytopathogenic fungi was Fusarium sp., present in 30% of the samples analysed. This genus results in symptoms of Seedling Rot and/or Root Rot. Colletotrichum sp., which causes Anthracnose, was observed in 19% of the samples, followed by Macrophopmina sp (Charcoal Rot) 12%, Corynespora sp. (Target Spot) 4% and Cercospora sp. 4% (Cercospora Blight).

Identifying which pathogens are most common in soybean crops helps in the adoption of effective management measures to help maintain Brazil as a leader in soybean production.

In addition to ensuring more efficient management, early and assertive diagnosis can contribute to the principles of **sustainability**, as it can promote the reduction of the application of chemical products, having less impact on the environment in terms of waste, diversity, and to man.

Agronômica is part of this process, helping producers to diagnose the main problems of crops, making disease management more assertive in the field and the production more sustainable.

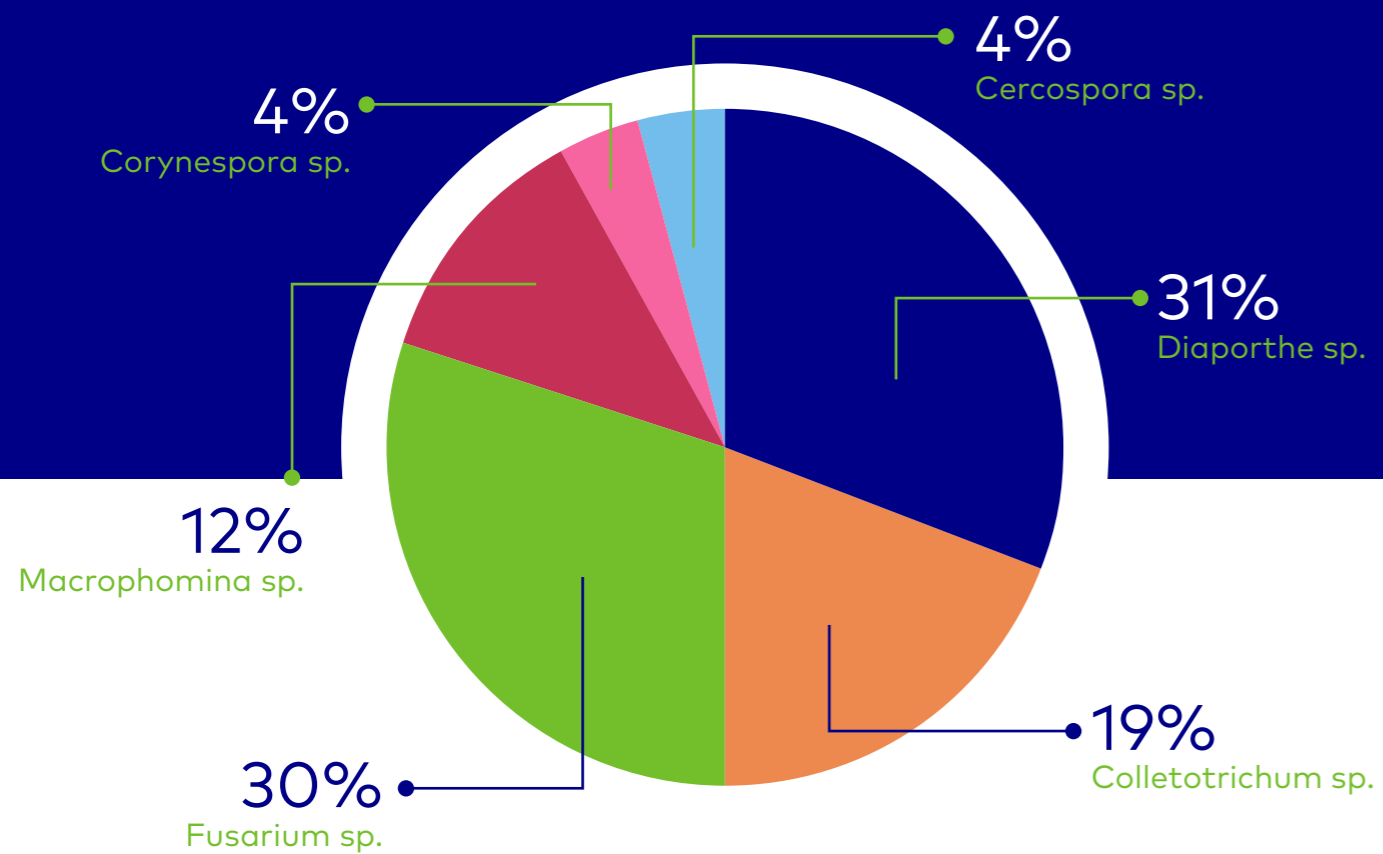


Figure 1. Most frequent phytopathogenic fungi genera in soybean samples received at Agronômica's Lab between 2020 and 2023. n=1055.



NOFALAB

Part of the Cotecna Group

Founded in 2004, **NofaLab** is a sampling and testing laboratory specialized in the field of food, feed and environmental safety.

We offer an extensive range of analytical methods for food and feed with one of the fastest turnaround times in the world (8 to 24h and weekend).

As a market leader, we analyse approximately **10,000 dioxin samples per year**, including PCBs.

TESTING SERVICES

Microbiological

From raw materials and ingredients to finished products, our analysis affords you the confidence of knowing with certainty the chemical, physical, and qualitative value of your commodity.

Chemical & Analytical

We evaluate the safety and quality of your goods through the entire production cycle.

Allergens

We help clients ensure food safety and avoid issues caused by undeclared allergens on a food label by providing cost-effective solutions to test for the presence of allergens.

This includes a wide range of products: Peanut, Nuts, Milk, Egg, Wheat, Soy, Seafood.

OUR PEOPLE & NETWORK



Highly experienced chemists



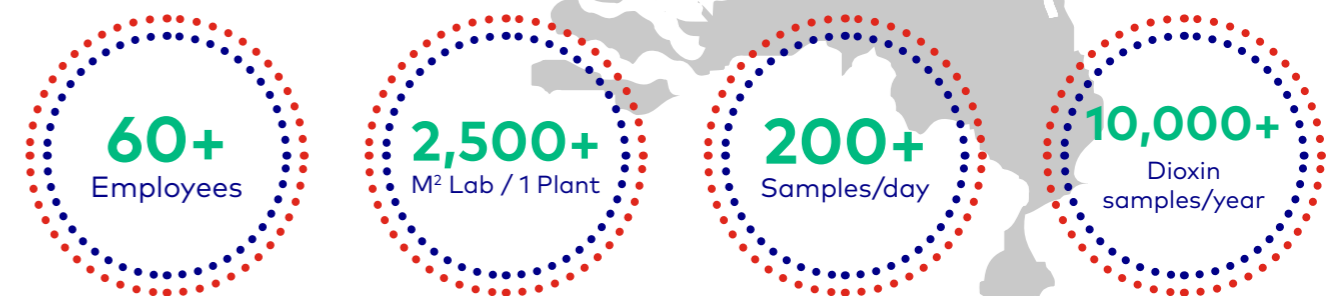
Broad portfolio of customers from around the world

OUR LABORATORY

- > Wide portfolio of reliable analytical methods
- > Excellent turnaround time
- > Complete spectrum of research techniques in-house and in one location
- > High sample throughput
- > Renowned reputation
- > Ideally located at Schiedam in the port of Rotterdam to serve our customers at the principal gateway to Europe

OUR INNOVATIVE METHODS

- > **Complete traceability of the analytical data**: digital photos of the samples, barcode scanning system to track the samples at each following step
- > **e-LIMS**: online user friendly portal to place orders, get your results, keep historical samples data, etc.



Founded in 1975, **Neotron** is a global player in analysis and consulting services on food products, supplements, materials in contact with food (FCM), cosmetics and pharmaceutical products.

Neotron **provides a high-level technical support** and boasts a strong experience in the field of chemical, biochemical, microbiological and sensory tests.

Neotron has been a reference chemical laboratory for the most important European and global multinational food players for many years: from production and distribution companies to trade associations and public & private institutions.

ANALYTICAL PORTFOLIO

PESTICIDES	MYCOTOXINS	VETERINARY DRUGS	HEAVY METALS & ELEMENTS
Insecticides, Acaricides, Fungicides, Herbicides, Growth Regulators and Harvest Aids, Rodenticides, etc.	Aflatoxins, Fumonisin, Alternaria Toxins, Trichothecenes, Zearalenones, etc.	Antibiotics, Anabolizing agents, Beta agonists	Contaminants
POPS	OTHER CONTAMINANTS	MACRONUTRIENTS	MICRONUTRIENTS
Dioxins, Dioxins like PCBs, PBDEs, etc.	PAHs, Solvents, Process Contaminants, Alkaloids, MOSH&MOAH, etc.	Antibiotics, Anabolizing agents, Beta agonists	Contaminants
ADDITIVES	MICROBIOLOGICAL TESTS	MICROSCOPY	PHYSICAL TESTING
Preservatives, Colourings, Flavours, Antioxidants	ISO methods, USDA methods, Ph. Eur. methods and genetic identification	Filth test, foreign body identification, microplastics	Radioactivity, Radiation Test (PSL)
FOOD CONTACT MATERIALS	GMOs	ALLERGENS	R&D
Overall & Specific Migration Tests, NIAS Screening (untargeted test), MOSH&MOAH, Determination of Purity Requirements	GMOs Qualitative & Quantitative Analysis	ELISA, PCR, Digital PCR and LC/MS assay for regulated allergens	R&D activity for new analytical tests and "om-demand" analytical method development for specific customer needs

OUR PEOPLE & NETWORK



Highly experienced chemists



You will have your own referee with a solid technical background



Global coverage, supported by Cotecna worldwide presence

OUR LABORATORY

> **10 000m² of state-of-the-art laboratories in one single site:** guarantees the application of harmonized procedures, a strict control of operations and complete traceability throughout the entire analytical process.

> **Quality assurance programme** covering all the analytical activities to guarantee reliable results (including inter-laboratories proficiency tests, such as GAFTA)

550+
Employees

10,000+
M² Lab / 1 Plant

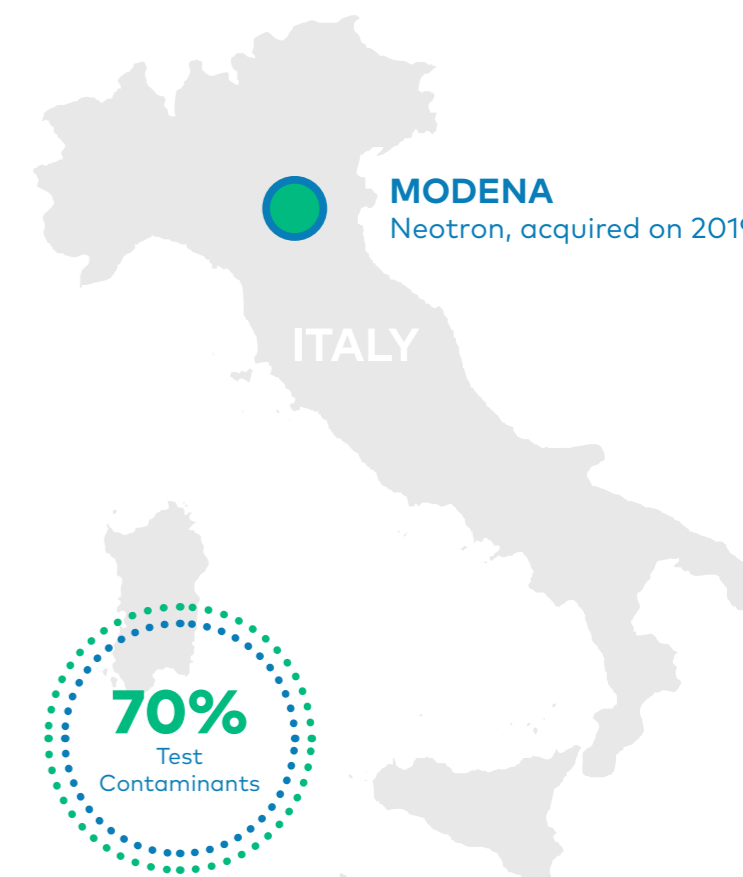
1,000+
Samples/day

800+
Methods

4,500+
Accredited Tests

>99%
P-tests target

70%
Test Contaminants



WHY CHOOSE COTECNA



We strive to be recognized as the most reliable and customer-focused provider of testing, inspection, and certification services in our markets. We measure ourselves by the value we add, and by our ability and willingness to go the extra mile in delivering solutions for our customers.

The proximity of our team, together with the personal nature of our service, and the fact that we are certified by the industry's recognized bodies, mean we can act quickly and proactively to any request.

We guide our clients through local market inspection procedures, acting as a partner in trade and not just a service provider. We communicate regularly and with complete transparency, allowing a client to operate with full assurance over the verification of their shipment.

We know a fast turnaround time is critical for our clients. Not just once, but continually. Each of our laboratories are equipped with the latest technology and are staffed by expert analysts, allowing samples to be tested at speed but without sacrificing quality and accuracy.

Cotecna is a place where people find, create, and capture opportunities. This is how we develop our business.

CONTACT US

To learn more about our agricultural inspection services for businesses and how they can benefit your operations, please do not hesitate to contact us:

HEAD OFFICE COTECNA INSPECTION SA

Avenue Peschier 41
CH – 1206 Genève
P.O. Box 6155, 1211 Geneva

+41 22 8496900
cotecna.geneva@cotecna.com

Send a request online/on our website to the country you are looking for or contact the applicable region below:

NORTH AMERICA

Cotecna Inspection Inc.

+1 504 464 6000
commercial@cotecnausa.com

SOUTH AMERICA

Argentina

+54 11 52398888
cotecna@cotecna.com.ar

Brazil

+55 11 3040 2420
brazil@cotecna.com.br

EUROPE

+41 22 8496900
cotecna.geneva@cotecna.com

MIDDLE EAST

+971 4 3455002
cotecna.dubai@cotecna.co.ae

AFRICA

Senegal

+221 77 633 07 40

Ivory Coast/Cote d'Ivoire

+225 20001383
infovoc@cotecna.ci

INDIA

+91 22 42188000
cotecna.mumbai@cotecna.co.in

THAILAND

+66 2 7143310
cotecna.bangkok@cotecna.co.th

NORTH ASIA

International:
+86 21 5058 9719
+86 21 6867 2300
Domestic: +400-600-5105
services@cotecna.com.cn

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AGRICULTURE

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TRUST FOR A MOVING WORLD