



# CONTROLLING AROMATIC PROFILE

*“Cork is the noble bark of a unique tree. Bio-based, renewable and recyclable, it is subsequently coupled with another noble material, glass, to protect and accompany wine, allowing it to fully realise its potential.*

*For centuries, cork closures have gone hand in hand with wine, serving as its irreplaceable partners. Well before the person who tastes it, they will reveal whether the wine has been properly monitored and shown respect during its silent maturation phase.*

*Hence, as part of its unwavering commitment to excellence, Bourrassé relentlessly focuses on controlling the aromatic profile of cork in order to guarantee a harmonious, consistent sensory profile for all wines”.*

**JEAN-FRANCIS TROCCARD**  
Chief Executive Officer



**THE ULTIMATE NATURAL PRODUCT, CORK REVEALS ITS QUALITIES OVER TIME.**

Cork closure manufacturer Bourrassé shows respect for cork farming by placing particular emphasis on designing the finest closure for each wine. This provides winemakers with the certainty that they will be tasting their wines just as they imagined and created them.

**FROM ONE BOTTLE TO THE NEXT, PROMOTING THE AROMATIC PROFILE OF WINE BY ERASING THAT OF THE CORK.**

Bourrassé group is steadfastly committed to a significant research programme and does everything in its power to ensure controlled neutrality for cork whilst preserving its qualities.

**THE STRENGTH OF AN INTEGRATED INDUSTRY.**

Integration is ensured by monitoring and tracking the cork from the forest, then promoted via an industrial approach and guaranteed through a collective commitment at all levels of the manufacturing process, thereby controlling its aromatic profile.



Photo credits: S. Klein



# TASTE SAFETY

Improving the safety of its products through a systemic thought process that goes from the preparation of the cork planks through to the bottle-ready closure is totally in keeping with the Bourrassé Group's recognised policy.

This 'taste safety' plan revolves around the microbiological aspect and aims to control the development of microflora that can turn 2,4,6 TCP into 2,4,6 TCA, and can also generate other undesirable aromatic molecules.

Controlling aromatic profile warrants waging a constant battle at every stage of the totally integrated transformation process of the raw material, from the tree to the bottle-ready closure.

Relentless rigour is applied to this common theme which can be divided into two focuses:

- > **A preventative focus** involving control over the microbiology of the cork at every stage of its transformation;
- > **A remedial focus** involving the extraction of the aroma molecules.

1 - 2,4,6 TCP: 2,4,6 Trichlorophenol

2 - 2,4,6 TCA: 2,4,6 Trichloroanisole

**AROMATIC PROFILE:**  
ALL THE AROMAS  
THAT FORM AND  
DEFINE A PRODUCT

**83%**

**OF FRENCH WINE  
CONSUMERS FAVOUR  
CORK CLOSURES**

Source: Opinion Way Institute, May 2017

Photo credits: AdobeStock / New Africa

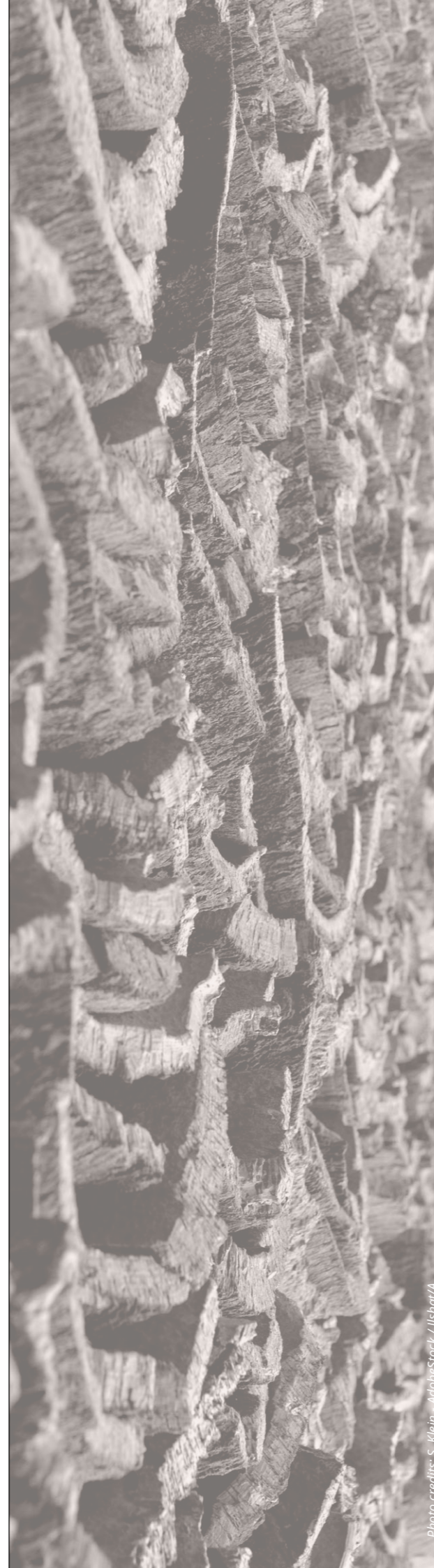
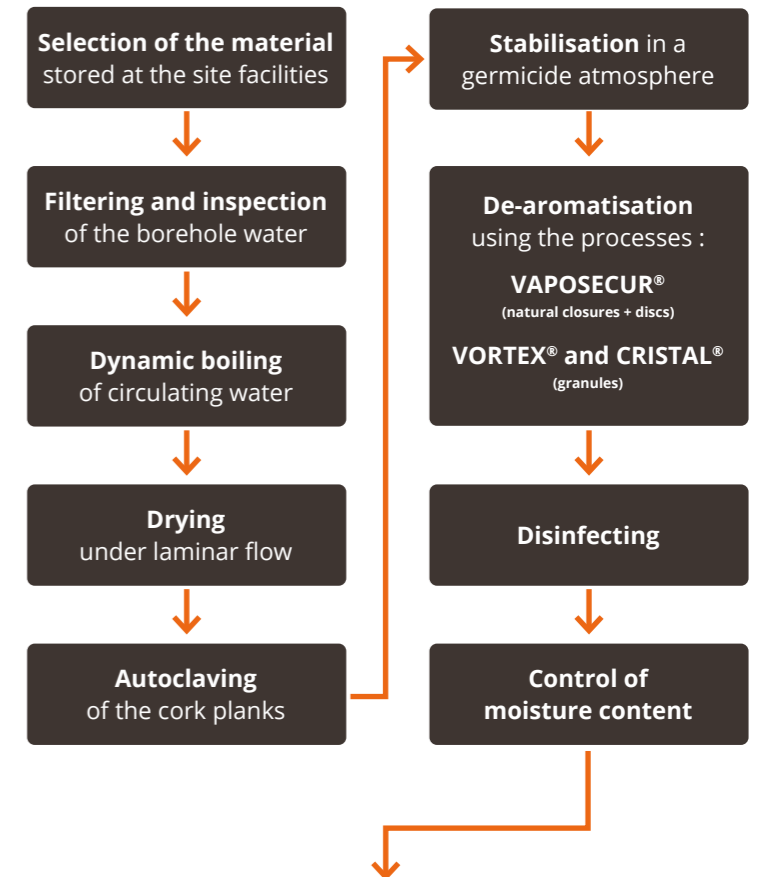


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**TOTAL INTEGRATION OF  
THE CORK INDUSTRY,  
THROUGH THE  
COMPLEMENTARY  
RESOURCES USED,  
IS THE ONLY WAY OF  
CONTROLLING AROMATIC  
PROFILE.**



**THE WINE TASTES EXACTLY  
AS IT WAS DESIGNED  
AND DESIRED  
BY ITS MAKER**



# INTEGRATION, PREVENTION

## OVER 30 YEARS' EXPERIENCE IN BUYING CORK FROM THE FOREST

Over 30 years of experience now allows Bourrassé to rank as one of the leading cork buyers from the forest.

The group boasts the ability to choose its cork based on its own quality criteria by selecting properties.

## OPTIMISED STORAGE OF THE RAW MATERIAL

The following aspects are fundamental:

- > 100% of the planks are stored in an integrated cork yard to avoid prolonged contact of the cork with the forest floor.
- > Systematic elimination of the base cork and stained cork.
- > Storage in piles off the ground, with covering and natural ventilation.
- > The raw material is tracked right from the harvest.

## CONTROLLING STORAGE CONDITIONS FOR THE RAW MATERIAL IS CRUCIAL

Why? Storing cork in monitored, controlled conditions guarantees the hygiene and prophylaxis of the planks during the entire stabilisation process of the material before it is used.

**OUR CORK YARD  
COVERING OVER  
80,000 M<sup>2</sup>**

All the piles of cork are covered and arranged in such a way that rainwater runs off easily and air constantly flows between the cork planks in order to ensure they are continually ventilated and dried.

Photo credits: S. Klein / Bourrassé

# PREPARATION

## DYNAMIC BOILING OF CIRCULATING WATER

The injection of steam into the boiling water creates a dynamic movement leading to constant circulation and renewal with clean water.

The water used throughout the process is filtered, analysed spring water.

Why is it essential to control this process?

Because dynamic boiling of circulating water that constantly renews the water leads to:

- > Active, thorough cleaning of the planks, elimination of dust, dirt etc
- > More effective extraction of the water-soluble substances and tannins
- > Nutritive depletion of the substrate thus limiting the development of microflora.



## THE DYNAMIC BOILING OF CIRCULATING WATER PROCESS

*Plank cleaning remains superficial and insufficient – it can even contaminate the planks if the boiling water is not sufficiently renewed.  
Sound cork before boiling can be contaminated if improperly cleaned and consequently undermine the organoleptic profile.*

## POST-BOILING STABILISATION:

At this stage of the manufacturing process, the cork needs to be allowed to stabilise before punching without deteriorating it from an organoleptic and microbiological perspective.

The cork planks thus undergo a series of complementary stages:

- > A drying phase aimed at limiting the development of micro-organisms on the planks as they exit the boiling phase.
- > An autoclaving sterilisation phase – the technique preserves the integrity of the mechanical properties of the cork and also extracts volatile odorous compounds.
- > A seasoning phase in a germicide atmosphere to maintain the sterility of the planks through to tubing.



## THE ESSENTIAL STAGE – POST-BOILING STABILISATION

*It is essential to incorporate and control post-boiling stabilisation because most of the risks of deterioration of the cork from a microbiological perspective occur during this phase.*

# SAFETY AND NEUTRALITY

## THE EXCLUSIVE PROCESSES VAPOSECUR®, VORTEX® AND CRISTAL® OFFER **GREATER SAFETY AND NEUTRALITY**

Steam extraction is a natural process of extraction using low-pressure steam which acts as a solvent of haloanisoles and other odorous molecules without using any chemical co-agents.

The process extracts these odorous volatile compounds without deteriorating the mechanical properties of the cork, preserving the integrity of the material's resilience and therefore its functionality.

### THE VAPOSECUR® STEAM EXTRACTION PROCESS

This is a major development which is part of Bourrassé's overall policy of incremental progress. This exclusive de-aromatisation system using steam extraction is applied to all natural closures and discs and is conducted in low pressure conditions to preserve the functionality of the cork material.

### THE VORTEX® STEAM EXTRACTION PROCESS FOR GRANULES

This exclusive system is applied to granules that are circulated using a low-pressure steam vortex, optimising their de-aromatisation.

### THE EXCLUSIVE CRISTAL® SUPERCRITICAL CO<sub>2</sub> PROCESS

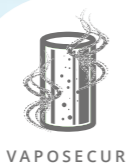
Based on the extraction capacity of CO<sub>2</sub> in the supercritical phase, this is a new-generation technique for taking extraction of VOCs<sup>3</sup> a stage further, whilst preserving the functionalities and qualities of cork.

The process is applied to the micro-cork CRISTAL range (still wines) to guarantee zero taste per unit.

All products are treated using either steam extraction or supercritical CO<sub>2</sub>, depending on whether they are cork closures, discs or granules.

These processes are exclusive to Bourrassé and provide a unique profile that constantly aims for greater neutrality and consistency.

*3-Volatile Organic Compounds*



**SEVERAL THOUSANDS OF ANALYSES OF 2,4,6 RELEASABLE TCA ARE CONDUCTED BY AN INDEPENDENT LABORATORY EVERY YEAR**

*Photo credits: AdobeStock / Photocreo, Behnarek*

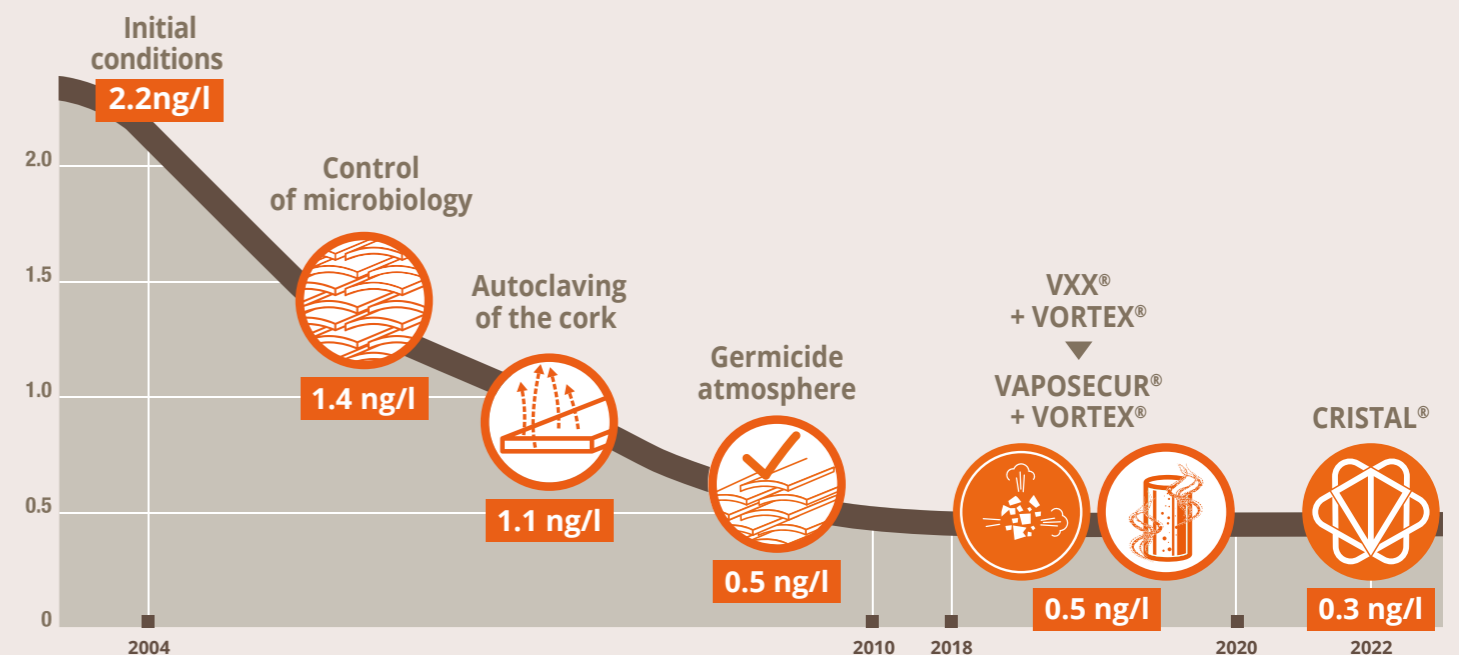
# TRIED AND TESTED RESULTS

## UNPRECEDENTED RESULTS FOR THE AROMATIC PROFILE OF THE CLOSURES

Controlling the microflora of the cork during the transformation phases, along with treatment using steam extraction, produce closures that reveal an unprecedented aromatic profile:

- > Diminished aromatic intensity
- > Very high consistency from closure to closure
- > A significant reduction in flavours linked to the moss, mould and chemical groups
- > An overall profile that leans towards the vanilla, brioche and toast groups

## A CONTINUAL DECLINE IN THE AVERAGE LEVEL OF RELEASABLE 2,4,6 TCA SINCE 2004



**INDIVIDUAL SENSORY MONITORING**

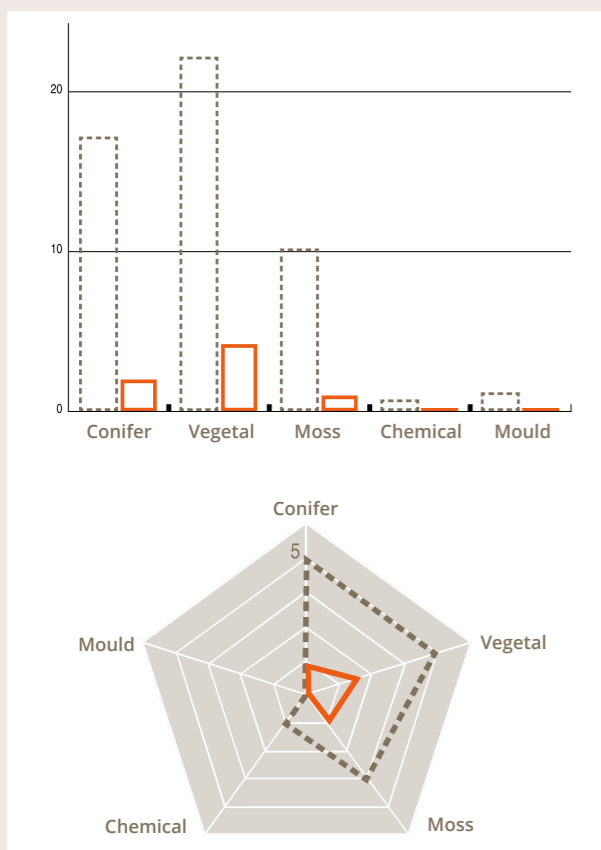
**INDIVIDUAL SENSORY MONITORING IS CONDUCTED ON EACH BATCH OF CLOSURES AND DISCS MADE OF NATURAL CORK IN ORDER TO CONFIRM THE NATURE, CONSISTENCY AND INTENSITY OF THE AROMATIC PROFILE OF THE CORK.**

## CONCLUSIVE COMPARATIVE RESULTS

In comparative tastings between the BOURRASSÉ process and standard processes for natural corks, BOURRASSÉ closures display:

- > An overall reduction in the typicity of the 'cork' aromatic profile promoting neutrality
- > A reduction and improved consistency in individual intensities within the same batch
- > Similarity of the sensory profiles from one closure to another in the same batch

These compelling results, both for the typicity and consistency of aromatic profiles, confirm that control over the total integration of the cork industry through the complementary resources used, represents the essential prelude to controlling the aromatic profile of cork closures.



Comparative individual aromatic profiles on 50 closures between the Bourrassé process — and various standard procedures - - -



Photo credits: AdobeStock / DGC

# Bourrassé

Creator of cork solutions

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