AMORIM
bark to bottle
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ROSA SUCCEEDS WITH NATURAL CORK

Independent testing has verified that Amorim's new anti-TCA process, ROSA, is just as effective in treating natural cork stoppers and discs as it is with cork granules.

Tests undertaken by Dr Pascal Chatonnet at the Excell Laboratory in France, indicate that the ROSA steam distillation treatment removes on average 77 per cent of the releasable TCA in cork stoppers and 82 per cent in discs used for Twin Top® and champagne corks.

Presenting the results at the SITEVI fair in Montpellier, Dr Chatonnet said the ROSA process should significantly reduce the risk of cork-related taint in wine.

"Used in conjunction with measures to screen out contaminated raw material and to reduce contamination during processing, ROSA should result in a significant reduction in the risk of TCA contamination of bottled wine," Dr Chatonnet said.

Amorim plans to apply ROSA across its product range and the process is already used routinely to treat the granules used in Twin Top® and Neutrocork®.

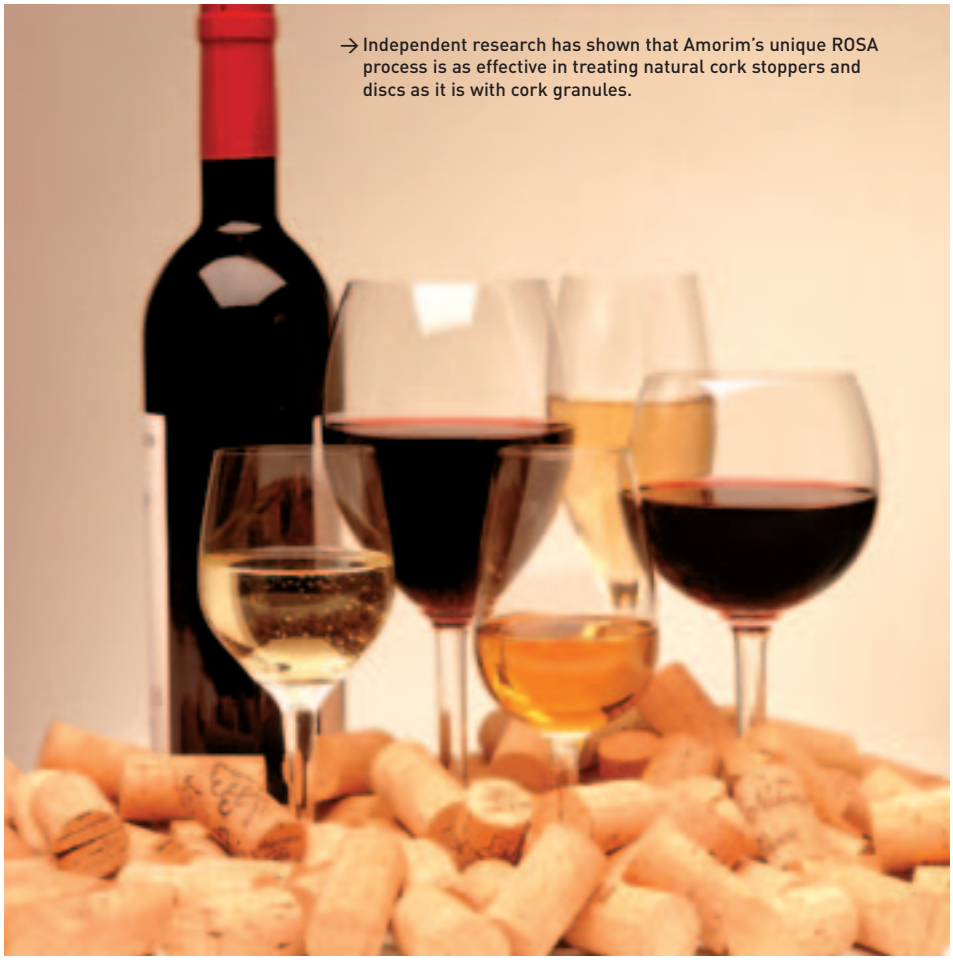
The Excell results follow the release last year of data from validation tests on ROSA-treated cork granules undertaken at the Australian Wine Research Institute (AWRI), the Campden & Chorleywood Food Research Association in the UK and the Geisenheim Research Institute in Germany.

In separate trials, these three laboratories undertook chemical analyses on cork samples before and after treatment with ROSA and found reductions of between 69 and 80 per cent in the average level of TCA in the cork granules. Excell analysis showed an average reduction of 76 per cent for cork granules.

Amorim presented results of the independent validation trials at a number of technical seminars late last year.

Researchers have welcomed the consistency and 'robustness' of the results.

Commenting at a seminar in Adelaide, Dr Mark Sefton, principal research chemist with the AWRI, said: "It's a relief as much as a pleasure to get similar results to what everyone else is getting.



→ Independent research has shown that Amorim's unique ROSA process is as effective in treating natural cork stoppers and discs as it is with cork granules.

"The analyses were not done in the same way — Amorim's were analysed instantly, the AWRI's were flown half-way across the world in a depressurised cabin. The soaking solutions were different, the analytical methods were different and yet the percentage reduction that we saw in six out of the eight units was almost identical. That's very encouraging and suggests the results are indeed highly robust."

The feedback from winemakers has been overwhelmingly positive, with many follow-up enquiries about ROSA-treated product. Technical corks treated with ROSA have been commercially available since the first quarter of 2004.

Transcripts of the ROSA seminar are available on http://www.corkfacts.com/presentn.htm.


→ Richard Halstead.

CONSUMERS WANT CORK

Wine consumers continue to strongly associate cork with the traditional enjoyment of wine, despite massive efforts to convince them to favour alternative closures such as screw-caps.

That's the view of Richard Halstead, managing director of Wine Intelligence, a London-based marketing consultancy that is researching consumer attitudes to wine closures.

"The distinctive 'pop' of a wine cork is still a key element of the wine drinking ritual for consumers and it is not one they are keen to give up," Halstead told *Bark to Bottle.*

"People generally like what's familiar to them and they don't like it when it's taken away."

Wine Intelligence last year began an annual online survey of consumer attitudes to wine bottle closures.

The report of the first survey, 'Closures: The Consumer View', found that almost all (99 per cent) of the 1150 respondents were either positive or neutral about cork, while nearly 60 per cent said they did not like buying wine with screw-caps.

Halstead says that — while there is no room for complacency in the cork industry — attempts to force consumers to accept screw-caps were likely to fail at this time.

The survey, which is the largest independent survey of consumer attitudes to closures undertaken had "ruffled a few feathers" in the UK wine trade but its findings remain unchallenged, he said.

"It's a controversial report in that it goes against the conventional wisdom in the wine trade that alternative closures are the way to go and there's no future for cork. That's not the case — at least not for now."

Copies of 'Closures: The Consumer View' may be purchased online at www.wineintelligence.com

SEEKING INDUSTRIAL SOLUTIONS

The Campden tablet, familiar to home winemakers, and the Chorleywood commercial bread-making process, are just two products of the Campden & Chorleywood Food Research Association (CCFRA).

One of the world's leading membership-based food and drink research and development organisations, CCFRA traces its roots back to a government experimental station established in 1919 to exploit canning as a way of preserving home-grown produce.

Today CCFRA works in all sectors of the food and drinks industry and in every aspect of the food chain — from agrochemicals and raw materials to processing, packaging, shelf life and storage.

Its services range from research to technical analysis, advice and training.

What sets the association apart, according to director of food science, Martin Hall, is its ability to combine fundamental research with industrially relevant solutions.

Departments within CCFRA include agriculture, chemistry, microbiology, consumer and sensory sciences, process engineering, hygiene and computing — but it is very much a multi-disciplinary organisation.

CCFRA's work on flavour and taints dates back more than 40 years. Today, it combines state-of-the-art instrumental techniques that can identify organic molecules at extremely low levels with a highly trained sensory panel.

Mr Hall said that 2,4,6-trichloroanisole (TCA) is one of the most common off-flavours in food and drink. The compound's building blocks, chlorine and phenolics, are common in nature and with the right conditions TCA is produced.

"We see it in all sorts of products and materials — for example, cardboard that's got wet and musty. And coffee beans are very well known for what's called Rio taint, which is TCA. So it's in a whole range of foods.

"TCA is also very actively adsorbed onto surfaces of all types, such as plastics and glass, as well as cork. If you've got TCA in the atmosphere, it will find its way into products and packaging.

"People's ability to detect TCA varies from person to person and also with the style of wine. Some people can detect TCA at extremely low levels — less than 3ppt. But I've also had a white wine where nobody could detect the TCA even at 50ppt because of the character of the wine."

One of CCFRA's most significant studies on taints, the Quercus project, has led to many of the recent improvements in cork production, including the industry's code of practice.

Mr Hall commended companies such as Amorim for extending that research and developing new technologies.

As to the challenges facing cork manufacturers, Mr Hall nominated two: overcoming the legacy of history and tradition, and promoting understanding of the positive contribution the cork makes to wine in the bottle.

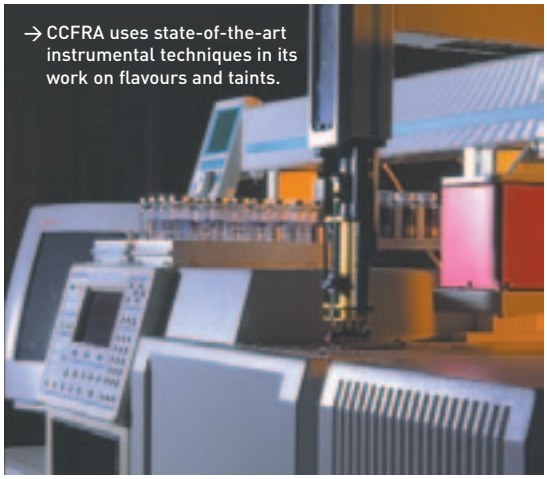
"Cork is the traditional product, but there's a general move towards new technologies whether or not they necessarily confer advantages," he said.

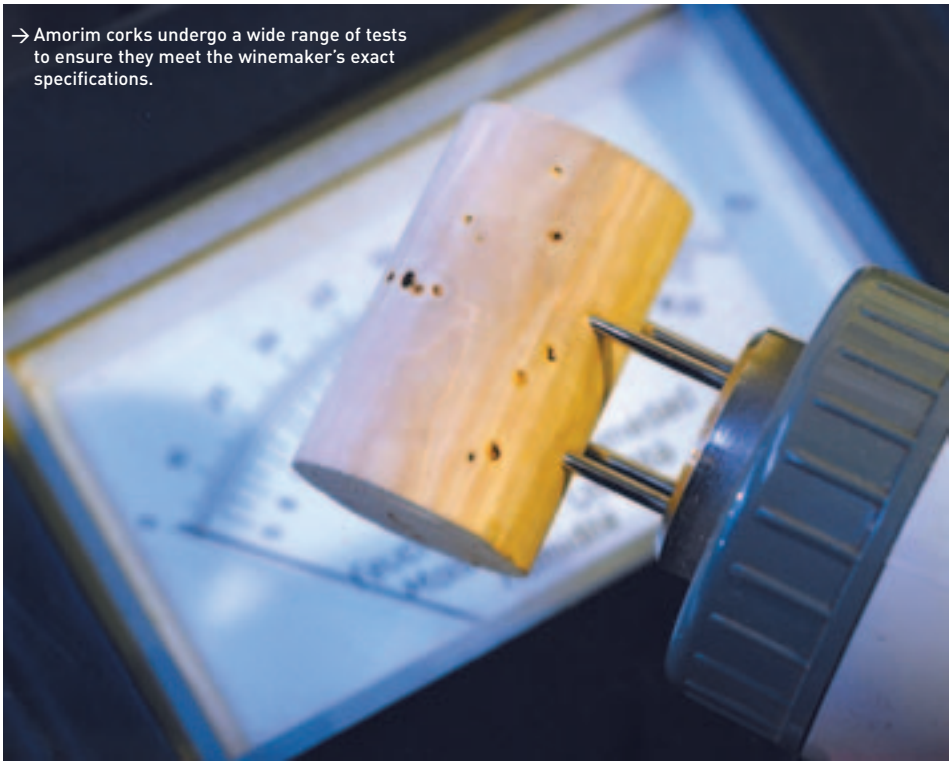
"Having initially put its head in the sand, the cork industry now has to demonstrate it has a reliable product that has advantages over alternative closures.

"It has to demonstrate that cork is an inherent part of the product that interacts beneficially with the wine in a complex way that we don't yet understand. It is very difficult to see an inert closure doing this.

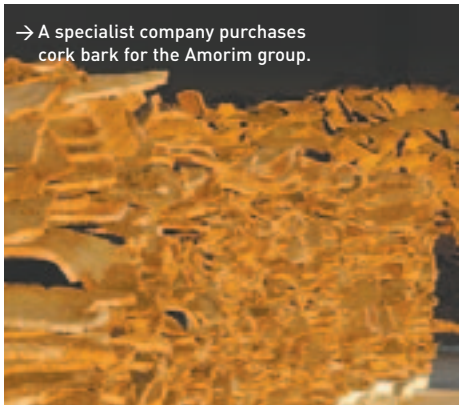
"Other closures can be acceptable but they're not going to be the same."


→ Martin Hall.

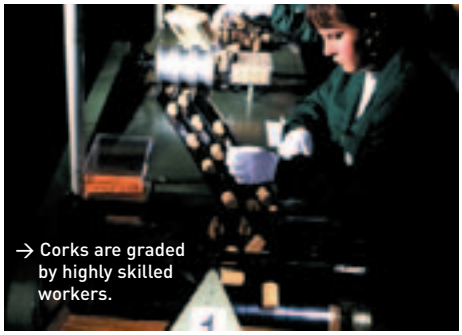

→ CCFRA uses state-of-the-art instrumental techniques in its work on flavours and taints.



→ Amorim corks undergo a wide range of tests to ensure they meet the winemaker's exact specifications.



→ A specialist company purchases cork bark for the Amorim group.



→ Corks are graded by highly skilled workers.

BARK TO BOTTLE: QUALITY CONTROL

Strict control over the quality of the product supplied to the global wine industry is integral to Amorim's business strategy.

Quality control at Amorim begins and ends with the customer. Amorim sales teams help winemakers select the most appropriate cork for their specific requirements and follow-up with advice on handling and storage to ensure optimal performance from the corks in the bottle.

In between, Amorim has measures at each stage of purchasing and production to minimise the risk of faults and deliver a cork product that will fully meet the winemaker's specifications.

Strict quality regime

To improve raw material selection, a specialist company, Amorim Florestal, is solely responsible for purchasing cork bark.

The company's experienced buyers build close relationships with cork growers and use records going back decades to help identify and select the best quality cork.

GC-MS (gas chromatography-mass spectrometry) analysis is used to detect and reject TCA-contaminated lots.

To minimise risk along the production chain Hazard Analysis and Critical Control Point (HACCP) systems are being introduced (Stage 2 has already been achieved), advanced cork processing facilities built — which include new technologies such as CONVEX, INOS II and ROSA — and stringent quality control procedures applied over all processes.

For research and testing, Amorim has a central laboratory in Porto, while each plant also has its own dedicated laboratory.

Amorim's distribution companies around the world also have laboratories that test corks before final despatch to customers.

Quality control tests

After processing, Amorim corks undergo a wide range of tests to ensure they meet the winemaker's exact specifications and comply with the strictest requirements for food contact materials.

Corks are visually assessed and graded against a reference product. They are sorted by electronic machines and undergo a final grading by highly skilled and specialised workers.

Other tests are done to measure the cork's physical properties, dimensions, humidity, the presence of off flavours, residual oxidants, surface treatments, sealing ability, extraction, insertion and long term storage capacity.

Packaging materials are tested in order to provide maximum protection for the corks during transit.

A quantitative difference

Increasingly, quantitative analysis is replacing sensory analysis for quality control purposes and this has dramatically reduced customer complaints about Amorim corks.

Amorim now uses GC-MS to detect and quantify compounds that can cause off flavours in wine.

In Amorim's central laboratory, five GC-MS machines conduct over 7000 tests a month with a high degree of accuracy.

The machines can detect and measure off flavours at or below two parts per trillion and are playing a key role in Amorim's campaign to defeat 2,4,6-trichloroanisole (TCA).

Because the machines measure the amount of TCA present — not just an indication of whether it is present — they provide Amorim with a strict and intensive quality control tool.

The quality control methodology is itself strictly managed. Amorim uses control charts to accept or reject the results for any one day. It also participates in inter-laboratory ring tests to calibrate its own results against those of other laboratories.

Dr Miguel Cabral, head of Amorim's Research and Development Department, says the units have greatly extended the scope and efficiency of Amorim's quality control procedures.

AMORIM

DROP US A LINE
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IN BRIEF

SERVING UP A TASTE FOR CORK

Two tutorials that presented the ROSA cork treatment process to 100 top UK sommeliers have been so successful that Amorim is now planning a third.

Amorim's marketing director Carlos de Jesus led the tutorials together with executive vice president Antonio de Barros.

The audiences heard about the latest developments at Amorim including those relating to quality control and the revolutionary ROSA process.

Special guest, Richard Halstead of Wine Intelligence, also outlined recent findings on attitudes to wine closures with particular emphasis on the on-trade sector.

Many of the sommeliers admitted that their customers wanted the reassurance and 'theatre' of cork, particularly with wines at the higher end of restaurant lists. → 01

NEUTROCORK® FOR AUSTRALIA

Amorim Cork Australia is extending its product range for Australia and New Zealand with the release of Neutrocork®.

A competitively priced stopper designed for early drinking wines, Neutrocork® displays very consistent physical performance and excellent retention of free sulfur dioxide for over 12 months. It is 100 per cent ROSA-treated, minimising the risk of off-flavours.

Global sales of the product have reached 100 million in just two years and are expected to exceed 500 million in the next couple of years.

Neutrocork® complements Amorim's natural corks and technical corks (Twin Top® and SPARK®).

INDUSTRY EXPLORES ISSUES IN SPAIN

Earlier this year Amorim sponsored two day-long seminars in Madrid under the auspices of the Spanish Foundation for Wine Culture titled *Anisoles and brettanomyces — causes, effects and control mechanisms.*

Several topics were explored by a distinguished line-up of speakers.

A presentation titled *Chloroanisoles and bromoanisoles in the wine industry* was delivered by Dr Pascal Chatonnet of Excell Laboratory, while Dr Juan José Rubio, University of León, spoke about the *Origin and biosynthesis of TCA in cork*.

Dr Chatonnet also looked at the O*rigin, control and prevention of brettanomyces contamination*, while his colleague Dr Dominique Labadie discussed *Quality control and industrial applications for defence against anisoles*.

Amorim's head of research and development, Dr Miguel Cabral, delivered a paper on Amorim's ROSA process.

Over 300 winemakers, quality control personnel and management from the Spanish wine industry attended the two seminars.

CORK WORKSHOP AT AWITC

The latest developments in cork processing will be the subject of a workshop at the 12th Australian Wine Industry Technical Conference, to be held in Melbourne from 25–29 July.

The half-day workshop, convened by Dr Miguel Cabral, Amorim's head of research and development, will outline different approaches to defeating TCA in cork and describe the latest technologies introduced by cork producers.

These include steam distillation, supercritical carbon dioxide and enzyme treatments as well as the use of chemical analysis in quality control. The workshop will also discuss emerging issues such as the role of cork in wine development.

Dr Mark Sefton of the Australian Wine Research Institute will chair the workshop. Further information is available at www.corkfacts.com. → 02

GRAND PRIX PRIZE AWARDED

The Amorim Academy awarded its 2003 Grand Prix prize to Dominique Roujou de Boubée for his work on the thesis titled *2-methoxy-3-isobutylpyrazine in grapes and wine. Analytical, biological and agronomical approach.*

A student at University Bordeaux II, Roujou de Boubée was presented with the Academy's major award and 5000 euros at a ceremony at the Château d'Ampuis in the Côtes du Rhône.

The Academy also presented Gérard Liger-Belair with the 'Coup de cœur' prize for his analysis of the physics of champagne bubbles and gave Laurence Fabbri a special mention for her work titled *Quality dynamics of wine growing regions.*

Founded in 1992, the Amorim Academy encourages research that enhances our understanding of wine and its environment. Each year a jury representing the wine industry and scientific community presents a series of awards including the Grand Prix.

In his work, Roujou de Boubée explored how 2-methoxy-3-isobutylpyrazine, a chemical compound, brings out vegetable aromas in certain types of grape varieties when they are not sufficiently matured. Roujou de Boubée studied the 'green pepper' character of certain red wines, notably cabernet sauvignon.

'Coup de cœur' winner Liger-Belair explored the universe of the champagne bubble. His works illustrate three major aspects of the lifespan of a bubble — its nucleation (birth), its ascension and its bursting at the surface.

Within this charming subject, Liger-Belair demonstrates the important role of bubbles in champagne and the extent to which they influence the perception of aroma.

Through her thesis, Fabbri undertakes to show how the quality of a wine develops throughout a region.

Further information is available at www.academie-amorim.com. → 03

→ Amorim's marketing director Carlos de Jesus (centre), accepts a toast to cork from London sommeliers following an Amorim tutorial.

→ Dr Miguel Cabral will convene the workshop on cork at the Australian Wine Industry Technical Conference.

→ Dominique Roujou de Boubée (front left) and Gérard Liger-Belair (front right) with members of the Amorim Academy.