



PRESS FILE

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FROM CRAFTSMAN'S WORKSHOP TO INTERNATIONAL ENTERPRISE

In 1947, Robert Radoux opened his workshop in the heart of the Cognac vineyard to repair barrels and casks. His son Christian succeeded him in 1977 and began manufacturing barrels for the wine industry.

Christian Radoux, Master cooper and Compagnon du Devoir, developed the business of producing barrels and large capacity containers in France and overseas over more than 30 years.

To meet the demands of the global market, Christian Radoux opened 4 subsidiaries in South Africa, Australia, USA and Spain.

In 1998, this success opened the doors of the Stock Exchange and Tonnellerie Radoux became the first cooperage to be listed.

In 2012, Radoux joined the TFF Group, undisputed world leader both in the barrel industry for aging wines and spirits and for alternative oak oenological products.

Present all over the globe, Radoux is today the privileged partner of the greatest wineries in France and worldwide.



WOOD EXPERTISE

Nearly two centuries have to pass before oak is ready to be used in barrel making.

Tonnellerie Radoux is one of the rare cooperages to have its own team of wood purchasers and to integrate its sourcing from the forest.

The expert purchasers from the cooperage can identify a fine oak tree straight away by its shape, the straightness of its trunk, its height (between 25 to 30 meters) and its origin.

Its origin is a determining factor in the quality of the wood selected by Tonnellerie Radoux. The cooperage takes it supplies from the most prestigious forests in France, in Europe and in the USA.

With the TFF Group, Radoux is now the number one worldwide producer of French oak cask wood.



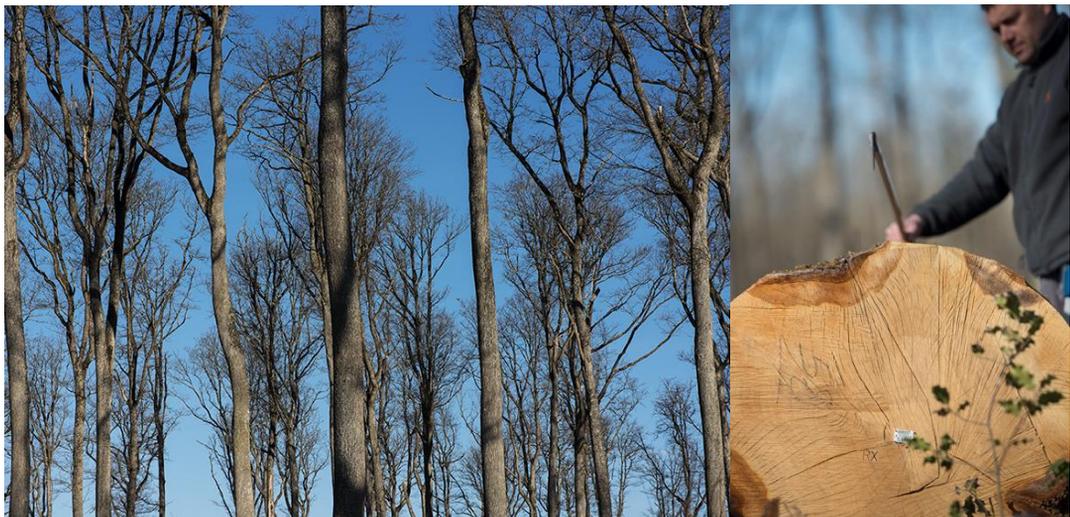
FROM THE FOREST TO THE STAVE: THE BIRTH OF A BARREL

Tonnellerie Radoux uses only oak in the manufacture of its barrels and large capacity containers. Of the 465 existing species, only three are used for making barrels.

The sessile or robur oak tree (quercus sessilis) grows more slowly and its tight grain is particularly suited to the aging of wines

The peduncle oak tree (quercus pedunculata) grows more rapidly and produces a wider grain which is generally used in the aging of spirits.

The American oak tree referred to as « white oak » (quercus alba) grows more rapidly than French oak trees and has more aromatic qualities than tannic qualities.





A STAVE MILL IN THE HEART OF A PROTECTED SITE

The trees are cut down between November and February, when the oak is at rest, then cut into pieces of rough rimber (the trunk of the tree from which the top and the branches have been removed).

Each piece of rough timber is identified and delivered to the stave mill which is situated in Mézières-en-Brenne, in the heart of the natural park of Brenne.

The site, which is classified Natura 2000, enjoys exceptional environmental conditions for maturing cask wood.

The fact that it is also close to the area where the trees are cut down means that we are able to **limit the carbon impact** involved in transporting them.

Thanks to its integrated stave mill, which was fully modernized in 2009, Radoux is able to control its supplies with total traceability (Véritas certification).





MATURATION, A KEY PHASE

The rough timber is split along the grain to guarantee solidity and watertightness. The rough stave – a straight plank situated between the heart of the wood and the sapwood - is then cut from the timber. The resulting piece of wood is what is used to make the barrel staves.

These rough staves are stacked according to **Radoux's own special method**, allowing air and water to circulate freely to obtain optimum maturation over a minimum of 24 months.

The aim of the maturation is to eliminate the harsher tannins and to obtain a level of moisture content of between 15 and 18 %.

By respecting the maturation time, we allow the aromatic and phenolic compounds to transform gently, and through a controlled toasting process, give a typicality essential to the quality of the wine.





A RIGOROUS SELECTION BY GRAIN

Research carried out since the 1990s has revealed that the criteria of origin is not a sufficient guarantee of quality, nor of reproducibility year after year.

Tonnellerie Radoux has therefore decided to concentrate more on the rigorous selection by grain.

The grain corresponds to the annual growth rings of the tree : the tighter the ring, the finer the grain.

Each piece of timber is therefore selected according to its grain and is allotted a specific quality which corresponds to a product within the range.

To manufacture its top quality barrels BLEND and X-BLEND, Radoux has gone to extreme lengths to ensure that only the extra tight grain is selected (less than 1.5mm).



However, within the various categories of grain, **their chemical composition can vary.** This is why, in addition to its method of selecting by origin and grain, **Radoux has developed a unique process of control called Oakscan® which helps guarantee the homogeneity of their barrels.**



THE BARREL, AN OENOLOGICAL TOOL

Tannins have a major impact on the organoleptic properties of the wines or spirits they enrich.

Until now, only chemical analysis in the laboratory could help us measure the ellagitannins to have a better knowledge of the wood. These measurements could only be made by taking random samples from batches of rough staves and the process was very time consuming.

Along with researchers from INRA and SEMERGREFF, Tonnellerie Radoux has developed a unique process of instantaneous measurement of the polyphenols contained in the wood: Oakscan©.

Radoux Innovation: analysis of wood tannins by Oakscan©

Thanks to Oakscan©, we can determine the tannic potential of each barrel depending on customers' requests, the demands of the varietal or the characteristics of a vintage.

Each piece of wood is placed in front of a beam of light (near infra red) which analyzes the level of tannin content in each rough stave. It sends back an index which helps classify the following selection. Each stave is then marked with a barcode and a letter which corresponds to its class of content level of tannins.

Oakscan was awarded the Trophée d'Or Vinitech 2010.

With Oakscan, Radoux is building up the largest database of chemical composition of oak wood.



THE CONTROL OF THE TOASTING PROCESS

The control of the toasting process is a fundamental parameter in the control of quality. Toasting is the major contributor in generating the main aromas that can be transmitted to the wine; it can also significantly modify the quantity of extractable ellagitannins and their quality.

Tonnellerie Radoux has perfected the organization of the toasting processes which enables them to control how the temperatures evolve inside the barrel.

It can thus offer four types of qualified and reproducible toasts which can satisfy precise oenological objectives.



Classique toast, adapted to wines which are to undergo long aging periods, it strengthens the aromatic complexity and the structure.

Evolution toast, enhancing balance and roundness, it is suitable for wines which are aged for shorter periods, to be drunk while still young.

Révélation toast, fine tuned by the R&D team, helps reveal the fruit whilst limiting the contribution of aromas and favoring structure and fat.

Intégration toast, is particularly adapted to fine and delicate varieties. Discreet oak contribution but very good integration of tannins.



A FULL RANGE

CUSTOM MADE BARRELS

Tonnellerie Radoux offers a wide range of barrels of varying sizes, with several thicknesses for the staves, four grain selections, eight toasting options and several criteria for customizing your products.

EXCEPTIONAL BARRELS

With the development in the 1990s of its BLEND and X-BLEND line, Tonnellerie Radoux has introduced the barrel into the world of luxury.

Blend : the most widely distributed top-of-the-range barrel throughout the world

The BLEND range is a subtle combination of the origin of the wood, the tightness of the grain, the quality of the toast. Each barrel meets the highest possible standards for winemaking.

Only perfect staves, originating from the finest French oak trees, with extremely tight grain (less than 1.5 mm) are used in the manufacture of these barrels. Each barrel is closely examined at each stage of the process so as to reject any visual imperfection and to attain an incomparable level of quality.

Thanks to the extreme tightness of its grain, the BLEND barrel confers a maximum aromatic complexity to the wine, which is gradually released during aging, giving a delicate structure, with fine and smooth tannins. It is recommended for use with wines requiring long periods of aging.

X- Blend : limited production of a few hundred barrels a year

X-BLEND, the pride of Tonnellerie Radoux, is the symbol of harmony between the wine and the wood.

This ultra-premium barrel is **made exclusively by hand** by our **Meilleurs Ouvriers de France**, and reaches the highest level of excellence ever achieved.

Each stave is inspected with infinite precision before being selected. Only a few hundred of these exceptional barrels which are each numbered and signed, are produced every year. They go on to reveal their richness, complexity and finesse over very long aging periods.



WOOD FOR OENOLOGY

Through its **Pronektar**[®] brand, Radoux can offer a selection of wood for oenology which comes from oak trees selected for barrel making.

These fully fledged oenological products offer technical and economic solutions perfectly adapted to the profile the winemaker is seeking for his wine.

The products in the **Pronektar**[®] range benefit from the know-how of the Cooperage with regard to selecting the timber, seasoning of the wood, and control

of the toasting process. The wood is dried naturally for 18 to 36 months according to an **exclusive thermal process** and a know-how developed by **Pronektar**[®].



Thanks to its ultra modern production site based in Mézières-en-Brenne, **Pronektar**[®] can adapt its range to the changing requirements of the market whilst guaranteeing optimum reproducibility and quality.

New : the Extrême range, resulting from the **Oakscan**[©] technology, completes the current offer and meets the demands of the professionals.



VATS AND CASKS

From the onset, Tonnellerie Radoux has been specialized in the custom manufacture of vats and casks.

This ancestral know-how, which takes its techniques from cabinetmaking and carpentry, is part of the great French tradition of craftsmanship.

Radoux is one of the few coopers today who still creates large capacity containers (from 10 to 300 hl).

Selection of the wood

The wood used in the manufacture of vats (large capacity upright containers with a truncated cone shape) and casks (large capacity containers with round or oval shape, which lie horizontally) undergoes the same strict selection as the wood used for barrels.

Each plank (trunk of the tree which is sawn into logs) comes from batches of trees which are perfectly straight, and only enters production after a period of maturation in the open air of at least 36 months.



Traditional craftsmanship

Every cask or vat is a unique architectural masterpiece, which meets the specific requirements of each and every customer.

They are created by Radoux's design team and built in a specialized workshop by a team of craftsmen who continue to use the traditional ancestral techniques.

Every operation involved in the preparation and assembly of the pieces is carried out by hand.

The toasting process is done the traditional way over a brazier fed with oak off cuts. It lasts several hours and varies according to the size and future use of the container.

A unique service

Truncated cone shaped vats, round or oval casks can be delivered already assembled or assembled on site. A specialized team of coopers assemble and set up Radoux vats and casks all over the world.



Radoux vats and casks are particularly adapted for vinification, aging or blending wines and spirits, and adorn many prestigious cellars throughout the globe.



KEY DATES

- 1947** : Robert Radoux opens a workshop in Jonzac repairing barrels and vats.
- 1977** : His son Christian, Master Cooper and Compagnon du Devoir, takes over and develops the workshop.
- 1982**: Christian Radoux creates Tonnellerie Radoux S.A
- 1987** : Opening of the stave mill Sciage du Berry SAS
- 1991** : Subsidiary set up in Stellenbosch, South Africa, to produce and sell barrels
- 1994** : Two new subsidiaries opened: Toneleria Victoria in Spain (Rioja-Haro) and Tonnellerie Radoux Inc in California (Santa-Rosa).
- 1995** : First French cooperage to be certified ISO 9002. Obtains a mention in the French National Quality Award .
- 1998** : Radoux International is introduced on the Nouveau Marché of the Paris Stock market. It is the first cooperage to be quoted.
- 2006-2007** : Modernization of the stave mill Sciage du Berry and the production site in Jonzac.
- 2010** : The capacity of the stave mill is doubled to satisfy international development.
- 2012** : Tonnellerie Radoux joins the TFF Group.
- 2014** : Romain Liagre appointed Managing Director of the Radoux Group.

RADOUX IN A FEW FIGURES

Sites in France : Jonzac (production site), Bordeaux (commercial office), Mézières-en-Brenne (stave mill Sciage du Berry)

Overseas sites and subsidiaries : Radoux USA Inc (production site - USA), Radoux RSA (production site – South Africa), Radoux Australia (subsidiary- Australia), Victoria (subsidiary - Spain)

Number of employees: 130

Total Production : 50 000 barrels

4 Commercial brands : Radoux, Blend, Pronektar, Victoria.

Leader in terms of market share in South Africa and Spain, Radoux is present in over **40 countries** and earns **80% of its turnover overseas** , the USA being its number one market.

The first Cooperage to be certified **ISO 9002**, Radoux is also certified **Véritas** for French oak and **PEFC** for sustainable forest management.