



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs FDEA
Federal Office for Professional Education and Technology OPET
Innovation Promotion Agency CTI

CTI Success Story

Innovative Utilisation of Swiss Oak Forests

Swiss wines of the highest quality, the revival of an traditional craft which has almost disappeared, and improved utilisation of the oak forests on the Swiss plateau and at the southern base of the Jura mountains: all this is made possible by two research projects, which are receiving significant support from Innovation Promotion Agency CTI. The cooperation between researchers and professionals from a wide range of industries has brought a valuable network into being.

Once used in varied ways for feeding swine, leather tanning, and construction, oak has scarcely any economic significance in Switzerland today. With a share of only two percent, it is considered a second-tier tree species in Switzerland. In the past years, considerably more oak has grown in Swiss forests than has been used commercially: only about three-quarters of the oak forests' potential have been tapped.

As the market for wines was opened up in the year 2000, Swiss consumers have increasingly begun to develop a taste for wines aged in oak barrels. To be sure, Swiss wine producers have often stored their wines in oak containers, however in barrels of 10,000 to 12,000 litres, which have been treated in such a way as to minimise the woody taste transferred to the wine. In contrast, French wine growers have for centuries aged quality wines in *barriques* – these are oak barrels of a clearly-defined size (225-228 litres) and which thus have an ideal volume-to-surface ratio in order to lend the wine a particular oak flavour, and not to excess. After being used for a maximum of five times, a *barrique* is then replaced, as it can no longer transfer enough flavour.

Many Swiss wine producers have now begun to age high quality wines in oak barrels; and have acquired their *barriques* from France. As part of a

four-year research project managed by Judith Auer, oenologist at the Engineering School of Changins, part of the University of the Applied Sciences of Western Switzerland, *barriques* have been developed from Swiss oak, with a guarantee of origin (region or local authority, respectively).



Cooperage is a traditional craft. The manufacture of Swiss *barriques* with guarantee of origin could lend it new life.

Not only the species and origin of the oak determine the flavour of the wine. The wine acquires various properties according to the toasting of the *barrique* when it is almost finished.

Photo: Agroscope Changins-Wädenswil (ACW)

Positive Results from the Research Project

The questions which had to be answered were manifold, and thus required close cooperation with professionals from a wide range of industries: participants included not only scientists from Swiss and French research institutes, but also cantonal forestry staff, a cooperage, and ten wine growers. The results of an initial research project, of which one third was financed by Innovation Promotion Agency CTI, are positive:

- The potential of the Swiss oak forests is more than enough to cover the barrique requirements of Swiss wine growers: each year 5,000 to 6,000 barriques are required, whereas on the long term, 8,000 could be produced annually.
- Barriques can be produced in Switzerland at marketable prices. A Swiss wine grower pays 850 CHF for a Swiss barrel; a French barrel costs 900 CHF including delivery.
- The location where a Swiss oak tree has grown influences the properties of fragrance and flavour which the wood lends a wine. This can be proven through chemical analyses of the aged wines, and is also confirmed upon tasting. The analysis results from the laboratory corresponded astonishingly well with the perceptions of wine tasters.
- For each barrique, the origin of the oak wood can be guaranteed by means of clear marking of each felled oak according to region or local authority, and the wood remains marked during all subsequent processing, from sawing, to drying, right through to completion. The species (e.g. sessile or common oak) is also indicated, as the different species also bring different properties of fragrance and flavour to the wine.
- It is possible to produce tailor-made barriques so that they are ideal for typical Swiss grapes: this occurs through “toasting”, i.e. when the barrique is almost finished, it is heated for several days in order to achieve additional flavour properties.

Wine growers, cooperages, oenologists, and also the Swiss forest, can all profit from the results achieved by this research.



“Terroir chêne” Wines – Available at the end of 2007

The registered trademark “Terroir chêne” has been in existence since November 2005. This trademark is burnt into the barrels. In this way, a certified controlling body ensures traceability throughout the entire production chain.

Since autumn 2006, some of the ten participating wine growers have begun to produce and sell their own cuvées with Swiss barriques. As a wine is aged in the barrique for at least half a year, and usually even for an entire year, the first wines of the “Terroir chêne” brand will be commercially available in winter 2007 at the earliest.

Further Information

Engineering School of Changins HES-SO

Judith Auer
Route de Duillier
CH-1260 Nyon
Telephone: +41 22 363 40 50
Email: judith.auer@eic.vd.ch
URL: www.eichangins.ch

Caves Rouvinez S.A.

Dominique Rouvinez
Colline de Géronde
CH-3960 Sierre
Telephone: +41 27 452 22 52
Email: info@rouvinez.com
URL: www.rouvinez.com

Innovation Promotion Agency CTI

Linda Sieber
Federal Office for Professional Education
and Technology OPET
Effingerstrasse 27
CH-3003 Bern
Telephone: +41 31 324 10 79
Email: linda.sieber@bbt.admin.ch
URL: www.kti-cti.ch

© KTI/CTI February 2007