

# WINES & VINES

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UNIFIED  
WINE & GRAPE  
SYMPOSIUM  
ISSUE

Breeding Vines  
for Drought Tolerance

Manage Nitrogen  
Nutrition in Must

Stabilize Tartrates  
Without Chilling

Designs That Push  
the Envelope

VINTAGE 2015: QUALITY AND QUANTITY BY REGION

# Enhancing Wine Quality, Reducing Waste

## ITALIAN TRADE SHOW SIMEI NAMES WINNERS OF INNOVATION AND NEW TECHNOLOGY AWARDS

The innovation awards at the 2015 SIMEI conference and trade show put the spotlight on machines and other new technology designed to help winemakers improve their wines while reducing resource consumption or improving energy efficiency.

An expert panel of 27 judges comprised of 12 Italian researchers, 12 leaders in the Italian wine industry and three other European academic experts sorted through submissions by companies exhibiting at the show. As part of the 2015 SIMEI focus on sustainability, the judges sought to honor “innovations conceived with special care for economic, environmental and ethic-social sustainability, while achieving an improvement in the quality of enological products.”

Organized by the group Unione Italiana Vini (UIV), which is comprised of wineries, vineyards and winemaking equipment suppliers, SIMEI is held every two years at a sprawling exposition center outside of the city of Milan,

Italy. Thousands of attendees are drawn to the event, which includes a trade show featuring hundreds of suppliers that set up booths in four huge exhibition halls. The giant show also includes brewing and olive oil production, but SIMEI’s winemaking and viticulture area alone is easily two or three times the size of any similar show in North America.

According to the UIV, more than 31,000 people from 90 countries attended the 2015 show, which also drew more than 600 exhibitors.

Three of the four top innovation awards went to filtration companies, and the fourth was a nutrient-addition system designed to optimize fermentation. The following report, provided by the UIV’s journal *Il Corriere Vinicolo*, details the winners and the descriptions of their innovations as provided by the organizers and manufacturers.

—Andrew Adams



### Alfa Laval SPA and Juclas, Foodec Centrifuges

The new Foodec centrifuges by Alfa Laval were developed through a partnership with clarification specialist Juclas. The application of the Foodec technology optimizes the initial stages of grape processing, reducing the need for must clarification. This technology enables the output of clear musts while decreasing initial processing times, reducing

energy consumption linked to heat treatments and limiting the production of byproducts destined for subsequent filtration phases.



### Diemme Enologia, Spin Filter

The new Spin Filter by Diemme Enologia uses disc-shaped polymeric membranes in PVDF, mounted on stainless steel supports. An axle operates the central shaft, which moves a palette rotor that generates enough turbulence between one disc and another to maintain a satisfactory level of permeability—even with viscous products and those with high concentrations of suspended solids. The Spin Filter can filter particularly difficult products containing bentonite, gelatin and lees from fermentation. It carries out direct filtration without recirculation in the tank. The equipment is fitted with a temperature-control system and automatic management of the filtration and washing process.



### HTS Enologia, Bionica

Bionica is an inline dosing system for organic nutrients required by yeast during fermentation. The system tracks carbon dioxide correlated with a computerized “dynamic analysis of fermentation kinetics” to add just the right amount of nutrients at just the right time. Bionica automates the ideal quantity of specific nutrients for yeasts according to the progress of fermentation. Carbon dioxide sensors are complemented with the interpretative ability of computerization and the expertise of HTS Enologia to help manage the alcoholic fermentation process for white, red or rosé wines, as well as second fermentation in pressurized tanks. The system can work with any vessel normally used for fermentation and does not need special or purpose-built vessels.



### TMCI Padovan, Terminator

The Terminator is a dynamic rotary tangential filter designed to recover wine quality filtrate from lees captured by the company’s Dynamis filters. Designed as a “finisher filter,” the Terminator applies progressive pressure to process the already concentrated sediment of must and wine. The Terminator filtration system meets a common need in the winemaking sector in a completely original and innovative way, allowing the total recovery of a high-quality filtrate from already concentrated lees. In addition to retaining more wine, the new filter also does not require additives, consumes a limited amount of electricity and water and produces lees solids that can be used as a fertilizer in the vineyard. Filtration and rinsing stages are autonomous and do not require an operator.



SIMEI also honored 17 other companies debuting new technology at the show.

### Astro, Vega

The Vega anti-counterfeit closure is designed to ensure a wine bottle cannot be refilled or altered. Because of its simple design, the Vega closure can also be applied to normal bottling lines without needing to modify the machinery.



### Diemme Enologia, QC 620

The QC 620 is a continuous press of fermented pomace and grapes. The product is dropped through a hopper that leads to a vibrating drainer, which separates free-run juice and wine. A high-pressure, peristaltic pump then moves product along to the press. The hydraulic system of the press maintains a constant pressure inside the pressing chamber without any mechanical interference to help preserve quality. The press is fitted with an automatic system for expelling the residue at the end of the pressing process

without the need for manual intervention by an operator. An automatic rinsing system cleans the cage and all of the parts of the machine in contact with the product completely and efficiently.

The throughput rate is 20 to 30 tons per hour.



### Dal Cin, Light-No-Struck

Developed in collaboration with the University of Milan, Dal Cin’s Light-No-Struck products and recommended winemaking protocols limit the production of riboflavin, also known as vitamin B2.

When exposed to direct sunlight in clear bottles containing white or rosé wines, riboflavin causes the formation of volatile sulfur compounds (e.g. methyl mercaptan, dimethyl disulfide), which can give the wine overtones of cabbage, wet wool, onion and garlic.



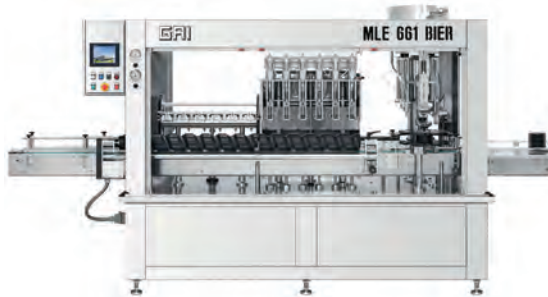
### DR Wine Tech, Ricamo

The Ricamo filling system is designed to prevent any wine frothing during the bottling process by employing a central filling tube that reaches from the neck of the bottle to the bottom and then maintains a constant minimum distance between the level of the wine and the end of the tube as the wine enters the bottle and the filling tube is removed. The system also employs a novel method to clean the bottles and purge any oxygen. The system is configurable for different wines and bottles.





**NEW  
TECHNOLOGY  
AWARD**



### GAI, MLE

GAI's new electro-pneumatic linear monoblock features electro-pneumatic rinsers, electro-pneumatic fillers and up to three types of single-turret corking machines. The machine is fitted with a new UNICA filling valve patented by GAI. The linear rinse-fill-cork single unit is suitable for bottling both still and sparkling products.



### Gruppo Bertolaso, Inspecta

A quality-control system for the final stage of a bottling line, the Inspecta system features optical sensors on a rotating carousel. Any foreign material in bottles is identified with special cameras, and other sensors ensure the correct application of the cork, verify product color and identify faults in the glass. The machine fits in perfectly at the end of traditional Bertolaso equipment, guaranteeing the client conformity and suitability for every bottle.

### Ghidi Metalli, Onda

The Onda is a multifunctional winemaking tank for fermentation and long-term aging. The tank is made of stainless steel and fitted with an automatic pumpover system that uses technical gas injectors (nitrogen, argon, carbon dioxide, air or gas mixes) positioned at specific points rather than pumps. It enables a winemaker to carry out different winemaking phases in an environment that is isolated from the outside and redox gas-regulated. With suitable accessories, the tank is ideal for vinification without the addition of sulfites.

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### Innotec, Nitrorinser

The Nitrorinser can be installed on any machine designed for washing or rinsing bottles. The unit produces a stream of filtered water with a high concentration of an inert gas that is mostly not dissolved into solution. The water brings the gas into close contact with any contaminating particles on the interior surface of the bottle, and the moment of contact generates micro explosions of gas bubbles, ensuring that attached particles and organic contaminants are detached.



### Maselli, UC-07

By using ATR technology (Attenuated Total Reflectance), the UC-07 unit measures the dissolved carbon dioxide concentration in wine directly on the production line. The carbon metric analyzer optically measures the CO<sub>2</sub> dissolved directly in line without resorting to bypasses and recirculation pumps. Without any moving parts, maintenance is virtually unnecessary. The UC-07 carries out a continuous and selective measurement (specifically of CO<sub>2</sub>, and therefore it is not influenced by the presence of other dissolved gases) that is not affected by variations in temperature, pressure or the presence of other substances in solution or dispersed.



### Nomacorc, Zest

The Zest is Nomacorc's first closure for sparkling wine. The closure ensures the absence of cork taint

and other sensory alterations while also avoiding the problem of disc detachment. The closure has a zero carbon footprint, as it is made of biopolymers of plant origin taken from 100% renewable sources and does not contain polyurethane. Zest allows a limited and controlled exchange of oxygen and CO<sub>2</sub>.



### Nomacorc, NomaSense CO<sub>2</sub> P2000

A handheld analyzer for dissolved carbon dioxide, the NomaSense CO<sub>2</sub> P2000 delivers real-time results in the cellar. The device uses selected wavelengths of infrared technology to perform an accurate measurement of CO<sub>2</sub> in 10 seconds on a range of CO<sub>2</sub> between 50 and 2,500 parts per million. It includes six algorithms covering six different temperature ranges from 0° to 25° C.



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## Nomacorc, NomaSense Polyscan B200

Employing a portable potentiostat for electrochemical analysis and disposable miniaturized electrodes, the NomaSense B200 provides polyphenol analysis of grapes and wine in real time in the vineyard and cellar. Samples do not need preliminary treatments of filtration, centrifugation or dilution. The analysis requires about 30 seconds and gives a fingerprint of the polyphenolic fraction of the sample. This fingerprint is then treated through a web interface to obtain values representing the content of total polyphenols, easily oxidized polyphenols and tannins in the sample.

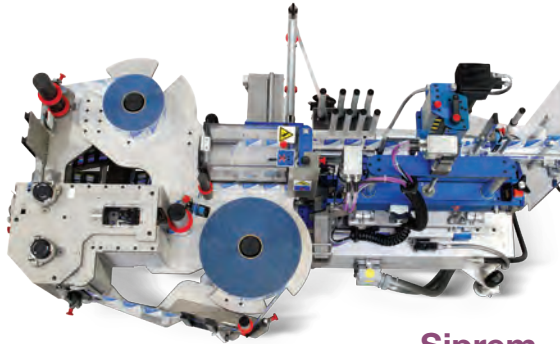


## SIMEI will travel to Germany in 2017

Officials with SIMEI and the German events firm Messe Munchen announced that the 2017 SIMEI show will take place as part of the Drinktec exhibition Sept. 11-15 in Munich, Germany. The change is intended to give SIMEI a wider audience while also adding more wine content to Drinktec, which had previously been geared toward beer, soft drinks and other packaged beverages aside from wine. SIMEI will return to Milan, Italy, in 2019, but with a much wider focus than wine as part of the Drinktec merger.

## P.E. Labellers, Self-adhesive group

P.E. Labellers' new machine for its self-adhesive line features an automatic joining device for self-adhesive labels and self regulates for reels with different label spacing. The automatic joiner allows another label reel to be added while the machine is operating, eliminating machine downtime and improving production continuity. Software records the position of the label with respect to the position on the removing blade and calculates the exact position. This ensures that every label read by the optical reader is treated individually and positioned on the removing blade without using the spacing of the previous labels.



## Siprem International, Hybrid Extract System

This hybrid machine was designed to conduct pre-fermentation extraction of color or to cool the must. The grapes are fed in line with carbon dioxide or nitrogen and subjected to a decrease in temperature. Another section of the system is used for cellular explosion to extract color.



## Parsec, TopTube

The TopTube employs a compensation chamber with a pre-set volume and control system to ensure a tank, vat or barrel is completely filled without any headspace. The compensation chamber is simply an empty tube in stainless steel or other inert material. This product is also available in a sensorless version and with a removable cover.



## Velo Acciai, TLS 2-4-6-8

The TLS cross-flow filters for lees are available with two, four, six or eight stainless steel tubular membranes in automatic or semi-automatic version. TLS filters allow the filtration of products with high concentrations of suspended solids like clarification lees of wine and must without using filtration aids. The presence of filtration aids like sand-free bentonite and gelatin in the product doesn't compromise the membrane's integrity. An automatic pre-filter works as a sieve to remove stems, skins and others' gross solids. The lees pass through the stainless steel membranes for the filtration. Using the membranes allows the elimination of yeasts and bacteria, ensuring a perfectly clear product that can be added to the product previously filtered with cross-flow filters with capillary membranes.

## Tecme International, Inertized Vibrating Cart

The vibrating harvest trailer can be filled with inert gas to protect grapes after picking. The adjustable-height framework and the vibrating drawer fitted with a door enable grapes to be unloaded gently and precisely, directly into the destemmer or press.



## ARTICLE FROM IL CORRIERE VINICOLO

### IL CORRIERE VINICOLO

**Editor's note:** This article is published as part of Wines & Vines' cooperative editorial effort with Il Corriere Vinicolo, the leading Italian wine industry publication ([corrierevinicolo.com](http://corrierevinicolo.com)). Il Corriere Vinicolo is edited by Unione Italiana Vini, the largest Italian wine trade association. On a regular basis, our two publications will share key articles in order to give readers a broader view of important wine industry topics in Italy and North America.