

WINERY DESIGN

The village of Prémieux, in the heart of Burgundy, is home to Domaine de l'Arlet. Its formal gate entrance opens to a gravel courtyard. Within the gray stone building weathered by many years, a time-honored tradition of winemaking is complemented by a modern sense of innovation. Though many American vintners would love to have a winery with the character of an old Burgundian domaine, few would envy trying to make practical use of these venerable buildings.

General manager and winemaker Jean-Pierre de Smet has created a *cuvée* (fermenting room) that is a model of efficiency in a most unlikely space. His creative approach demonstrates a keen awareness of space planning, multi-tasking, and equipment redesign that maximizes productivity without compromising the art of winemaking.

An economy of space

The domaine (like most in Burgundy) is located on the valley floor. Without a sloped site, de Smet works within the confines of the existing structure and still manages to take full advantage of gravity in winemaking. The tank room measures 22-feet wide by 46-feet long. But a 24-foot high ceiling offers the height de Smet needs to make the space work.

A row of fermenters

lines each side of a nine-foot wide aisle. On one side, four 50-hectoliter* and two 35-hectoliter fermenters on tall legs allow the press to be loaded directly from bottom doors. On the opposite side, six 80-hectoliter fermenters are set lower to provide clearance for a destemmer mounted above the fermenters.

Overhead, a one-ton hoist on tracks extends the length of the room and serves a variety of functions. Grapes arrive in 500-kg. plastic totes through a door at one

* Ten hectoliters equal approximately one ton.

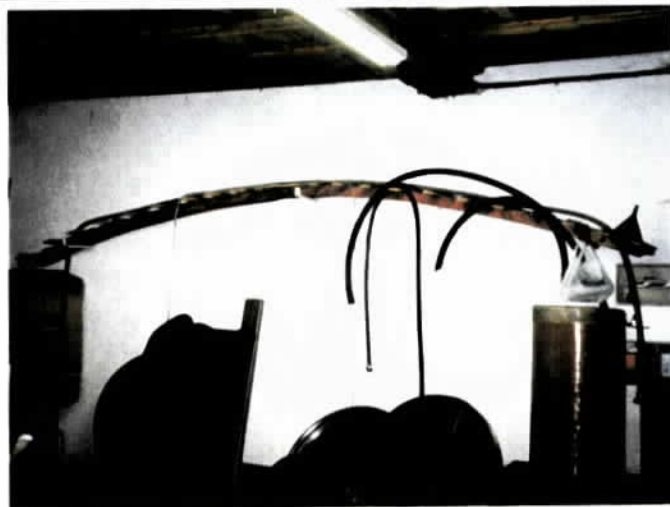
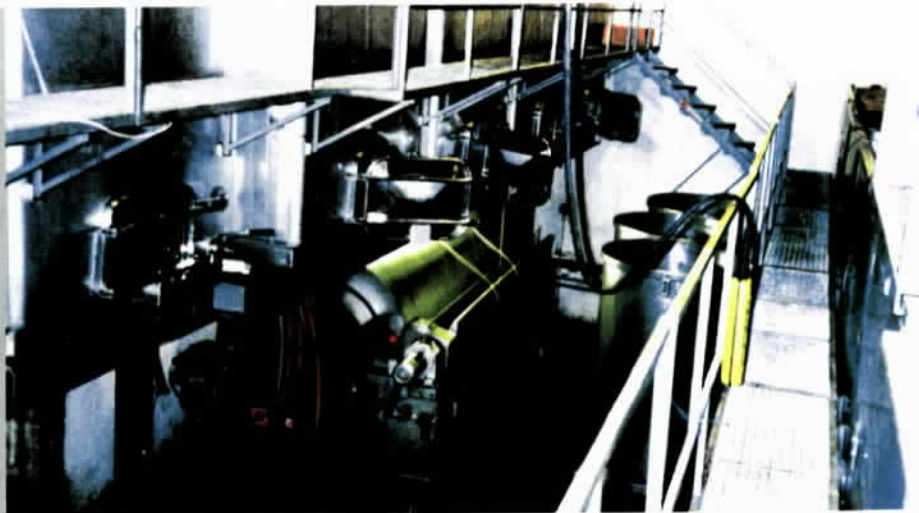
BLENDING efficiency with tradition in Burgundy

by Laurence Ferar

RIGHT:
Fermenters on
each side of
the aisle.

BELOW LEFT:
Totes in the
specially designed
harness are
lowered by hoist
onto Y-shaped
brackets that
gently tip grapes
into fermenters.

BELOW RIGHT:
Arched hose racks
provide better
drainage and
accessibility.



WINERY DESIGN

end of the room. The hoist-operator easily maneuvers each tote into a steel harness, and then the tote is lifted onto a pair of specially designed Y-shaped brackets, which gently tip its contents into the fermenter. As each fermenter is filled, the brackets are moved to the next fermenter and the process is repeated.

After primary fermentation, the press is rolled in front of each tall fermenter after it has been drained. The pomace is shoveled into the press and press wine is then gravity-fed into barrels in the cellar below. For the low fermenters, the process is slightly more involved. The support brackets used to load them are suspended over the center aisle. The fermenters are emptied manually into totes. The totes are hoisted, and the pomace gently transferred into the press.

Having all fermenters the same height might simplify the process, but two height levels allow greater flexibility to destem when necessary due to variations in the grapes. In normal years, the winemaker uses 100% whole clusters from mature vines and destems grapes only

from young vines. For problem years, such as 1991 and 1994, even grapes from mature vines are 50% destemmed.

Multi-task equipment, smart designs

A square fermenter made of steel or concrete, though rarely used in American wineries, is employed by several winemakers in Burgundy. Without question, this is a more efficient design for limited space. De Smet designed the fermenters with cubic proportions — 2x2x2 meters. He maintains they more closely approximate traditional Burgundian wood fermenters in terms of oxygen contact and the proportion of cap-to-fermenter capacity.

Rather than have the tanks sit idle for 10 months, de Smet employs some of the large ones as bottling tanks. These are fitted with clamped gasketed tops, and nitrogen at low pressure is used to blanket the wine.

The large tanks are also put to good use to refrigerate smaller tanks — by acting like a *bain marie* or double boiler in

reverse. Small, round tanks are lowered by hoist into large fermenters filled with chilled water. This ingenious system was devised to accommodate small lots of Romanee St. Vivant from vineyards purchased after the winery was constructed.

The small tanks can also be hoisted for gravity-assisted blending. The hoist comes in handy for cleaning of equipment as well. Once it lifts a destemmer, for example, the underside can be easily pressure-washed.

The winemaker even rethought hose racks for more practical use. A line with a double hook on the end runs through a ceiling-mounted pulley. The double hook fits over the coupler on the end of each hose section, so it can be hoisted easily for drying and storage. Alternately, the middle of the hose can simply be laid over the hook and hoisted. Another hose rack is arch-shaped for better drainage and to keep hose ends accessible.

De Smet credits many of these original concepts to friendly collaboration with Jacques Seysses, owner/wine-

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maker at Domaine Dujac. (In fact, the two wineries share bottling equipment.) But de Smet is justly proud of his refinements for Domaine de l'Arlot.

The Y-shaped brackets, which simplify loading fermenters, enable him to single-handedly perform tasks that would normally require two or more people. Currently, he employs just one other full-time worker in the winery during harvest.

Annual production at Domaine de l'Arlot is about 4,500 cases. Production includes: Grand Cru Romanee Saint Vivant; Nuits Saint Georges 1er Cru (monopoles — Clos des Forets St. Georges, Clos de l'Arlot-rouge, and Clos de l'Arlot-blanc); Vosne Romanee 1er Cru Les Suchots; and Cote de Nuits Villages Clos du Chapeau.

The barrel cellar currently holds about 400 barrels (equivalent to two vintages) and can accommodate up to 800 barrels. The previous owner was a negotiant — buying grapes and wines outside the winery for blending, and ageing them in this large cellar.

De Smet can either heat or cool the fermenters — though not at the same time since they share a common circuit. He typically uses cooling to limit temperature during the middle stages of fermentation. As the rate of fermentation slows, de Smet spreads chapitalization over a five to seven day period. The wine can be heated (to insure fermentation doesn't stop) if the temperature falls below 20°C. Heating is controlled automatically by sensors but cooling is manually controlled to anticipate and allow for fine adjustments.

Domaine de l'Arlot demonstrates that design ingenuity and adaptation can be successfully employed in traditional winemaking. By taking a close look at space planning and equipment capabilities, de Smet has developed a very efficient operation, allowing him more time to concentrate on the art and business of viticulture.

His creative, problem-solving approach to classic winemaking make the tight quarters work year-round without compromising tradition. ■

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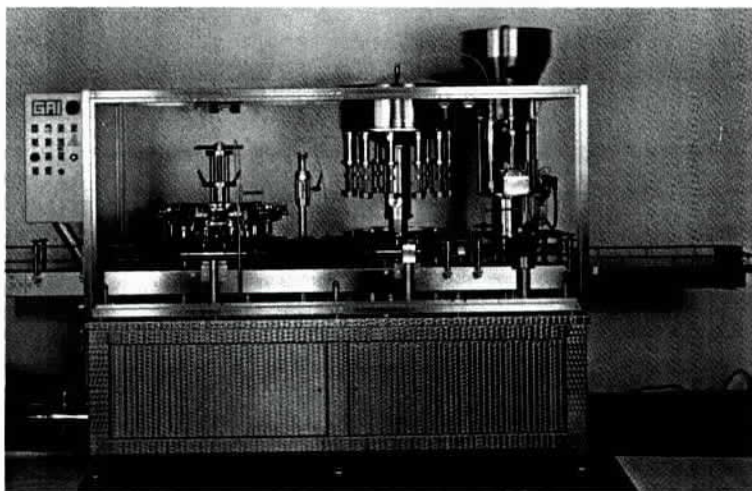
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