Pinot Noir Clonal Research

In 1974, shortly after constructing Carneros Creek Winery, Francis Mahoney began the first phase of Pinot Noir clonal trials that continue to the present day. Working with University of California, Davis viticulture specialist Curtis Alley, Mahoney planted 1.5 acres to 20 different Pinot clones – 11 from FPMS (Foundation Plant Materials Service) and nine non-certified industry selections – all on AxR1 rootstock.

About 55 single-vine replications of each clone were scattered throughout the block, and both UC Davis and Carneros Creek made wine concurrently from the trial. “The big surprise for me was that we agreed with the UC Davis tasting results almost yearly,” Mahoney recalls.

The clones that scored highest in the tastings were A, P, L, N and E, in that order. Clone A came from Paul Masson/Martin Ray sources via Joe Swan. “It was the most carefree clone, easy to keep in balance,” Mahoney says. It had dark red brick color, strawberry jam flavor with a hint of pepper spice compound.”

Clone P came from a vineyard near Chambertin, France via the Chalone Vineyard. “It was one of our favorites,” Mahoney reports, “always rich with tremendous strawberry jammy flavors and mouth-filling texture. The downside was it produced almost nothing, from 2-1/2 to 8 pounds per vine, depending on the vintage.”

Clone L was FPMS 13, a heat treatment of Martini 58 (V), one of three Martini selections – along with 44 (H) and 54 (M) – collected by Louis Martini and Dr. Harold Olmo, professor of viticulture at UC Davis. Many of the selections came from the Niebaum estate in Rutherford. “L did better than V, but those were close,” Mahoney notes. “The wine had varietally clean cherry and fresh strawberry flavors, but not complex undertones.”

Clone N was FPMS 18, a Gamay Beaujolais type. Clone E reportedly came from the Gustav Neibaum/John Daniel/Inglenook estate originally, then to the Oakville Viticultural Field Station, next to the Stelling Vineyard across the street, and finally to the Hanzell Vineyard in Sonoma, Mahoney’s source.

Mahoney concluded that there was no single “best” clone and that he should not plant just one clone in his vineyards. In phase two, the five best clones from phase one plus clone R (FPMS 12, Pommard selection 804 heat-treated for 89 days) were planted on AxR1 and St. George rootstocks in 1989. The site was the Mahoney Ranch vineyard, a 40-acre hillside vineyard located 3,000 feet from the original study.

A few years ago, Mahoney donated the best five industry clones (A, E, M, P and V) from the trial to FPMS for the public collection. The new FPMS virus-negative selections qualifying for registration and certification (R & C) are A (FPMS 97), M (FPMS 75), P (FPMS 90, 96) and V (FPMS 66). Phase three began in 2002. Mahoney planted some original clones along with new FPMS selections on several different rootstocks to explore the relationship between virus disease and wine quality. Now a decade later, the vineyard experimentation continues in Mahoney’s two vineyards.

In addition to the ongoing virus/disease experimentation, Mahoney is studying a large number of cover crops. These valuable plantings can benefit a vineyard’s soil nutrition and erosion prevention, but as in all of his research, wine quality is still the number one driving force behind Mahoney’s decades-long devotion to his vineyards.