

Fish Eggs and Sparkling Wine

by *Burton McClelland* January 2008

Although Champagne and caviar are a traditional pairing, with the crisp acidity of the wine providing an excellent match for the caviar's delicate flavour, the fish eggs in the article's title does not refer to caviar. It is something a little more prosaic, but perhaps equally interesting for the home winemaker, yeast encapsulated in calcium alginate for use in making sparkling wines. The calcium alginate casing allows the wine sugars to come in contact with the enclosed yeast but doesn't allow the yeast cells out into the wine.

Scott Labs actually offers four different encapsulated wines, all designed for different winemaking purposes. These yeasts were developed by ProEnol in collaboration with Lallemand:

- ⤴ ProRestart 43 is designed for restarting stuck or very sluggish fermentations. Uvaferm 43 is encapsulated within the calcium alginate to allow for easy removal from the must when fermentation is finished. Uvaferm 43 is a very strong fermenter, even in high alcohol and high SO₂ levels. It outperforms such strong fermenters as EC1118, K1-V1116 and DV10. It is primarily recommended for restarting stuck fermentations in red wines.
- ⤴ ProRestart DV10 is designed for restarting stuck or very sluggish fermentations in white wines. DV10 is known for being able to ferment well in low pH and high SO₂ environments. It has also been known to ferment up to 18% alcohol. It is a very clean fermenter maintaining varietal characteristics.
- ⤴ ProDessert BA11 is designed for the production of dessert wines by stopping fermentation at the desired residual sugar level by removing the yeast completely at that time. This method avoids the need for high SO₂ levels, cooling the must to arrest yeast action and then sterile filtration. BA11 was chosen for its ability to release fruity character in late harvest and ice wine must.
- ⤴ ProElif DV10 is designed for secondary fermentation in the bottle to produce sparkling wines. This eliminates the need for riddling to be able to disgorge the spent yeast completely. Simply turn the bottles upside down, freeze the neck with the yeast capsules and disgorge. DV10 was chosen for its ability to produce clean sparkling wines with good varietal character.

A number of Peterborough area winemakers had the opportunity to experiment with ProElif DV10 last year when Larry Paterson bought a kilogram from Scott Labs. Larry tried it on a number of white base wines with very good results. Larry has an article about his ProElif trials on his website. I tried it on a couple of small batches of Riesling and one of Vidal.

It is very simple to use - just add about 1.5 grams of ProElif DV10 to a bottle of base wine that has had enough sugar added to provide carbonation from between four to six atmospheres (approximately 60-90 lbs\sq. in.). I prepared a sugar solution using table sugar and distilled water. This had two advantages - it ensured that the sugar would be completely and evenly dissolved in the

base wine and it allowed me to reduce the alcohol level in the base wine to about 11% so that the finished sparkling wine was about 12.5%. I found it easiest to mix up a gallon of the base wine with the sugar syrup before putting it in clean sterilized bottles and adding the encapsulated yeast. Although ProElif DV10 was originally developed to help make riddling easier for commercial wineries, the real advantage for home winemakers is that you can do away with the riddling process completely if you don't mind leaving the last centimetre or so of wine that contains the yeast capsules in the bottle, much as you would do with homebrew beer that is carbonated in the bottle..

One thing that you should be careful with is the free SO₂ level. Both of the Riesling blends were at about 20 ppm SO₂ and I didn't have any problem getting them to ferment within a couple of months. The Vidal was a finished wine that had about 35 ppm SO₂ and I couldn't get it to ferment at all.

The Riesling blends were very clean with very little of the yeasty, bready character normally associated with Champagne when they were first tasted at the three month mark. A half-bottle that we opened recently had more of that toasty, yeasty characteristic.

Since then, I have used ProElif DV10 on a number of different base wines. As long as the SO₂ level was below 20 ppm, I got good carbonation and, with time, some of the bready, yeasty character normally associated with method Champagnoise sparkling wines. The one problem I found is that if you started with a really acidic base wine, because you are allowing the the wine to ferment to complete dryness, the finished sparkling wine was a little too tart. This of course could be solved by disgorging and adding a little sugar syrup to the finished wine, but I was trying to avoid having to disgorge.

Although I have also used the club carbonation unit to produce very drinkable sparkling wines, I think that ProElif DV10 has a few advantages that you don't get with the carbonation unit:

- ✧ you can do smaller batches, a gallon or less if you want, making it easier to experiment with different blends of base wines;
- ✧ you can produce more of the yeasty character the longer you leave the yeast in the bottle; and,
- ✧ I found the process to be less messy if you don't bother disgorging the encapsulated yeast.

Since this article was first written, I have also experimented with using a little ProElif to ferment a strawberry-rhubarb wine that I wanted to leave a little off-dry. I put the encapsulated yeast in a muslin bag (normally used to hold hops during the boil when making beer). When the wine had reached the residual sugar level that I wanted, I removed the bag with the yeast and the fermentation stopped. I added sulphite and filtered and the wine has remained still and clear for over three months now. Being a bit of a skeptic, I'm going to wait a little while yet before bottling, but it certainly looks like this technique could be used on a dessert-style wine.