Spain is on a roll this year… first the World Cup, then Rafa takes Wimbledon and the icing on the cake is Alberto Contador’s victory in the Tour de France. If sport is a metaphor for life then we expected nothing less than exuberance from the people and wines we would discover in Spain, and we were not disappointed.

If you have worked in the wine industry for a long time it is inevitable to form impressions about wine regions around the world. To me, Spain could be defined as hot, dry and flat. It took a trip to Spain to realize just how wrong I was and that this old world wine region that has more acres under vine than any other country in the world is as modern as any new world wine region and as diverse as France, Italy or the U.S.

Like much of the old wine world, Spain has experienced a renaissance of sorts in its viticulture and wine making in the past 30 years, just as wine growing in the Mid-Atlantic was emerging. Now, Spain certainly ranks among the most vibrant, interesting and exciting wine producers in the world. My observations helped to verify once again that just as old world regions such as Tuscany and Burgundy have reinvented themselves in the age of modern viticulture and enology, the Mid-Atlantic has access to all the same knowledge and technology and can use these to close the quality gap. What we lack is the experience and tradition of these areas that blend with innovation to create truly artisan wines - that will come with time.

I went to Spain mostly because I wanted to understand the quality variables of Spanish wines but also to learn their philosophies and methods, new and old that has pushed Spain’s wines to the pinnacle of quality in a very competitive wine world. What I witnessed was an almost ideal blend of traditional and new ideas about how wine can be grown and made. At times, there seemed to be a tension between new and old but not nearly to the extent that it is discussed in Piemonte, where the word “barrique” can start a street fight in an otherwise quiet village. If blending creates harmony, then I came to appreciate the intermingling of tradition and new ideas in the Spanish wines. If nothing else, it keeps our work and wines intellectually stimulating, diverse and interesting. Spanish wine making is a simultaneously careful but bold, rational yet exuberant, sometimes old with a new twist and always approach to applying sound viticulture to terroir for the best outcome in the wine.
Spain has more acres of grapes than any wine growing country in the world. Yet, I did not know Airén is the most widely planted white wine grape variety in the world. Clearly, I had a lot to learn. I was traveling with a group that visited Bordeau in 2006 and knew that they could pry every last viticultural tidbit from our unsuspecting hosts. My travel mates were Jim Law from Linden Vineyards in Virginia, Rutger de Vink from RdV Vineyard also in Virginia, and Jeff Newton, founder of Coastal Vineyard Care Associates in Santa Barbara County. Besides being very fun travel companions, they are easily in the top ten of viticulture nerds. The conversation about every facet of grape and wine production started with a visit to RdV, continued on the plane and into remote parts of Spain, and didn’t end until exhaustion got the best of us on the plane ride home.

We had exceptional help in planning and executing this visit which I will acknowledge at the end of this article. Our guide for the first two days of our visit was Bibiana Guerra. She is a viticulturist who has done technical writing for UC-Davis and has written many articles for Wine Business Monthly and Practical Winery and Vineyard. She takes complicated peer-reviewed research articles and translates them into “grower language.” Bibiana has agreed to help me to translate and disseminate USDA-Viticulture Consortium research project reports into abstracts that I hope will illuminate the great research going on in our region and also provide growers with information they can use in the vineyard. She lives in Santiago de Compostella, which was the starting point of our visit. We calibrated our palates for the white wines of Galicia with a stop in at O Beiro, a delightful and cozy wine and cheese bar near the cathedral (Figure 1) where we tried six wines characteristic of the region, along with local cheeses and cold meats. The owner is an extremely friendly and passionate man, and he explained each wine to us as if they were his children. It was a great way to launch our exploration.

What happened next was almost as important as the wine lesson we just experienced. Bibiana took us to a restaurant for a mixed grill of local seafood. We could only describe one item as “that barnacle-looking thing.” But what was immediately obvious is how perfectly Albariño matches with the local cuisine; as if a co-evolution has occurred between wine and food. The freshness, bright fruit, and vibrant acidity all worked to balance the wine against the salty, briny ocean flavors. It is always a remarkable and enjoyable experience to see this kind of harmony between food and wine.

Our tour took us from Rias Baixas to Ribeira Sacra, Toro and finally Ribera del Duero in five days. That’s barely enough time for a snapshot of each place. While terroir was not a term the Spaniards seem to embrace as enthusiastically as the French, I’ll use its component parts – soil, climate, plants, viticulture and wine making to describe what we learned. The distinctive affects of terroir in Rias Baixas was a good way to begin our exploration in Spain. Different varieties, soils and meso-climates, combined with the pergola training system combine to creates unique wines. Gerald Asher (my favorite wine writer) describes Rias Baixas in his book, The Pleasures of Wine, “Vines in Sálñes are on fairly homogenous granitic sand, while those of Rosal and Condado also contend with crumbled schist, clay and rolled pebbles typical of any place where a flow of water has shifted. These differences in soil and prevailing weather do not make any one zone better than the others but they do impose distinct and varied characteristics on their wines. A Sálñes Albarino is bolder than one from either Rosal or Condado. It has good acidity, a pungent aroma and flavor (some say of pineapple or peach), and it gives a powerful, fleshy
impression. Its focus is intensely varietal. Rosal wines – and to an even greater degree those from Condado – are more graceful and supple. Their flavor steals across the palate and lingers there. If a Sálnes wine tends to express the varietal more than the site, a Rosal or Condado wine does the opposite”

Soil

Unfortunately, we didn’t get into a single soil pit during our trip but we were able to learn about various soils considered important to the quality of regional wines. Soil pHs varied dramatically from as low as 4.5 in O Rosal to 8.5 in the chalk in Ribeiro del Duero. On either side of this scale plant function can be affected but the growers seem to be comfortable working at low or high pH. At the low end aluminum toxicity can stunt vine growth and dolomitic lime is applied pre-plant and every third year. The most dramatic soil is the limestone on the south side of the valley in Ribera del Duero, which covers the ground like snow in some places. Xavier Ausás, the very serious, talented and energetic wine maker at Vega-Sicilia said the chalk “contributes soft tannins and complexity” to the wine (Figure 2). Farming in 8.5 soils has its viticultural challenges and rootstocks like 41B and Fercal are essential. Even so, we saw a lot of lime-induced iron deficiency, to the extent that complete sections of some vineyards were affected. Affected vines are not picked for high quality wines.

At Emilio Moro on the north side of the valley Daniel Martinez (Figure 3) has limestone blended with clay soils. The transition from one to the other can be seen dramatically in changes of soil color (Figure 4). Here the primary rootstock is 41 B and chlorotic vines are always harvested separately and never make it into the best wines.

Limestone is also an important part of the soil mix with clay and gravel in the famous wine village of La Horra, to the north of the river where Dominio de Pingus and Aalto source some of their best fruit. In the case of Pingus, vineyards are on gravelly alluvial fans much like those in Napa Valley that extend from the hills onto the valley floor. Peter Sisseck, proprietor at Dominio de Pingus says the purest wines come from limestone soils.

At Numanthia in Toro the flagship vineyard is called Termanthia (Figure 5), where old vines (Figure 6) thrive in a 1m layer of sand and gravel (Figure 7) over clay at 600m elevation. Enriqueta and Lola (Figure 8) preside over this great vineyard. In this warmer region that has some summer rain, the clay holds moisture to help the vine through the dry season and the sand and gravel allow for good drainage when it rains. Owned by LVMH, Numanthia has about 50 hectare of vineyards. Annual rainfall is from 300-400mm per year and roots will go deep on old vines. The only clone is Tinto de Toro which ripens mid-September. New vines are own-rooted and propagated from field selections. Vines are head trained and pruned to five-2 bud spurs. Spacing is traditional 3m x 3m at about 1100 vines/ha. Yields are very low at 1800 kg/ha (3/4 t/a). The old vines are very well balanced so very little crop thinning is needed (wings and secondaries), no hedging or leaf removal (except in late vintages some interior shoots or leaves may be removed). Summer diurnal temperature difference is 20C. The vineyard floor is clean cultivated and no herbicides are used. Downy mildew, powdery mildew and mites were mentioned as occasional problems but we saw none when we were there. The goal is to harvest
fully mature fruit with round tannins, ripe seeds, no green flavors and the oft mentioned “freshness” in the fruit.

There was not a lot of evidence of manipulation of vineyard soils. In Galicia, vineyards were either cultivated or had cover crops. In the warmer areas all vineyards were clean cultivated to remove competition for water and nutrients. Little herbicide is used and most of the work is done with cultivators.

In Rias Baixas and Ribeira Sacra soils are a diverse mix of sand, clay, and shale. Heavy soils give too much vigor and are avoided. Albariño near the coast is very comfortable in sandy soils. At Terras Guada (Figure 9 and 10) we climbed high into the hills where soils are rich and stony on top with slate below, but retain their moisture well and roots find their way down through horizontal pattern of rocks. Soil pH is very low, sometimes below 5 but organic matter can be extremely high, near 7% at one vineyard we visited. The rootstock of choice in the area is 110R but there is also SO4 and 1103P, vigorous stocks that are well suited to the pergola training system that Albariño is almost exclusively trained to. On the steep terraces of the Ribeira Sacra (Figure 11 and 12) the soils ranged from rich to barely present. Oddly, some of the biggest vines we encountered during our trip were on steep terraces, to the point where there were canopy management issues. It may be that as the ancient terraces are repaired and renewed, the soils may be revitalized a bit too generously. In the best examples, such as Dominio do Bibei, the small vines are in perfect balance, but the outside rows tended to be more vigorous than the inner rows due to the terrace cutting.

Irrigation is a topic of constant conversation here, not so much in Galicia where summer rainfall sustains growth (and disease pressure) but in Toro and Ribera del Duero. It probably would be fair to say that Spanish winegrowers eschew irrigation and instead try to achieve old vines (i.e. deep roots) as a source of water. However, we saw drip irrigation on new vineyards trained to vertical shoot positioning to establish the vines or in vineyards of higher yields and lower wine quality goals. Toro and Ribera del Duero appear to be on the fringe of the hot and dry portions of Spain, with enough rain in an average year to sustain the vines. We had a lot of discussion among ourselves about the relative merits of supplemental water, root positioning (shallow vs. deep), terroir impact, etc. with no real conclusion other than great wines are grown with and without irrigation. At ITACyL, Dr. Jesús Yuste is doing research on the effects of irrigation since it was permitted by the government in D.O. regions in the 1990’s. His work provides a guide to irrigation scheduling practices for grape growers in Spain.

Climate

When we arrived in Galicia it was cool and overcast which was a welcome respite from the heat and humidity we left behind. For the next week the sky was blue and the temperature was in the 20s, perfect for humans and grapes alike. But climate doesn’t stay perfect.

I wanted to visit Galicia in northwest Spain because the climate would be somewhat similar to the Mid-Atlantic. Flying into Santiago de Compostella revealed green hills and fields that looked familiar. In Rias Baixas the average rain is about 1000mm per year (40” – very similar to SE PA) but it is distribution that matters the most in wine growing. In this region, diseases like
downy mildew and botrytis were of significant concern. In Toro to the east and inland, 400mm of rain is the average and worries about disease are less in evidence, but always a threat.

We learned that vintage variation extends to Ribera del Duero in the form of frost on both ends of the season and rainfall and cold temperatures, especially during the critical harvest months. 2004 and 2009 were great vintages and 2002 and 2007 were wet and cool resulting in lesser wines. Despite the risk of frost, we saw very few wind machines. This was surprising given the value of the crops in those vineyards. We saw photos of snowy vineyards and were told that it gets very cold in the winter but winter injury was never mentioned. As usual, winter injury is what sets us apart from other great wine regions, it isn’t until you reach central and Eastern Europe that the threat of winter injury becomes apparent. 2010 started out very wet with rains well into June. It has been dry for the summer but growers told us that weather in September will make or break the vintage. A severe frost in mid-May limited the crop. In Galicia climate effects can be even more dramatic and weather can often force picking decisions as well as exacerbate disease problems. One wine maker mentioned an Albariño vintage with 16 g/l of acid, as a point of reference.

Ribera del Duero was the most significant region we visited in size and reputation. Yet, it has not always been so recognized. Just 80 miles northwest of Madrid, this area of Castile has been a battleground for much of its history. Gerald Asher describes Ribera del Duero as both old and new. The Romans first planted vines here and after a long period of conflict between Christians and Moors, the Cistercians from France - yes, the same who helped to put Burgundy on the wine map and in our minds, came to Castile to plant vines. While much lower in latitude, the elevation helped to duplicate some of the environmental challenges they faced in Burgundy and over time, the wines prospered. Until recently, Old Castile has been a harsh environment for the vine in many ways. Asher writes this description:

Nowhere in Spain, nowhere in Europe that I can immediately think of, is quite as bleak. Wind-whipped and frozen in the winter and mercilessly sun-baked in summer, it is virtually without trees, totally without charm, and austere indifferent to any human presence. The small towns and hamlets seem isolated and forlornly colorless. Forget smiling wine villages, real and imaginary, those of Old Castile appear to have been pulled together, stone by stone, as raw evidence of survival against all odds.

I’ll admit this sentiment is contrary to our few days of experience in the area, during which the sun shined but temperatures were moderate and the villages were alive and food and wine delighted the senses.

We were told that grapes and wine in Spain fell on hard times in the mid-20th century, being replaced by more profitable crops with many vineyards plowed under or left untended, and that only in the past 30 years have vineyards and the wine industry been resurrected. This is a remarkable story to consider when contemplating the scale and quality of today’s Spanish wine industry.

Inland, sunlight intensity has a big impact on canopy management practices. Regardless of training system we saw efforts to protect the fruit from overexposure. Whereas we remove
leaves and laterals early, they often wait until after veraison to carefully expose fruit as the days begin to cool.

Elevation, both absolute and local, can dramatically affect viticulture and grape quality. Spain is known for its high altitude vineyards. In Toro and Ribera del Duero, vineyards sit at 600 to 800 meters. This translates to warm to hot days balanced by cool nights and very cold winters. The cool nights preserve acidity help to preserve freshness in the wine, a descriptor that was repeated throughout our visits. Many vineyards in the hills had dramatic differences in elevation and, as here, lower vineyards were, in general, less prized and more frost prone. At Terras Gauda fog and up to 4C punctuated the difference between their lower and upper vineyards. Local elevation and topography also affects incidence of frost.

Dominio do Bibei (Figure 13) on the southeastern end of Ribeira Sacra may have been the most stark climate relief we encountered. The terraces top out at 700 meters and summer daytime temperatures fluctuate between 40C and 15C. The wind blows vigorously and incessantly and winters are extremely cold. These conditions are translated into wines of power, character and complexity.

Aspect and slope are important site characteristics. In the steeper areas of Galicia, planted by the Romans 2000 years ago, the south exposures along the rivers and in the hills are always preferred. In warmer areas inland such as the gentle slopes of Vega-Sicilia, winemaker Xavier Ausás says a north slope can help to protect the acid and pH levels in the wines. In The Great Wine Book, Jancis Robinson says this about wine growing at Vega-Sicilia, “Lack of sunshine, despite the late spring, is no problem in the ripening period, and indeed the vineyard slopes are north-facing, so careless are they about this commodity which is so treasured further north. Mariano Garcia thinks this angle is a factor in determining the aroma and flavor in the grapes that he has brought in every autumn.” In warmer areas such as the flat fields of Toro, old vines can produce great wines. Areas of frost and winter injury danger prefer slopes for air and water drainage, from the gentle slopes on either side of the valley in Ribera del Duero to steep, terraced hillsides of Ribeira Sacra.

Plants

This is a completely fascinating part of old world viticulture that we in the new world cannot enjoy. It’s about hundreds of indigenous grape varieties whose origins may or may not be known but they characterize a region and evolve with a cuisine. The names are unfamiliar but once they are tasted, especially with local foods, it forces a person to wonder about a world stuck in a rut of Cabernet Sauvignon and Chardonnay.

Improbably Albariño has been discovered far away from Galicia. This is surely as much a marketing phenomenon as it is a viticultural success story because it makes no sense to grow a grape if you can’t sell the wine. Whether Albariño is able to find a viticultural home elsewhere has yet to be determined, but for now it continues as a remarkable success story among international white wines. In the Salnes district, any wine labeled Albarino is 100% of that variety. Conditions are not well suited for the Loureiro and Caiño Blanco. But in O Rosal a
small amount of Loureiro is required to enhance the natural fragrance of the wine. The structure and finesse of a wine labeled Condado do Tea is likely the contribution of some Treixadura.

Dr. Mari Carmen Martinez Rodriguez (Figure 14) is the viticulturist at Mision Biológicia de Galicia, a beautiful walled compound that contains the provincial agricultural research station. She and her colleagues are characterizing and preserving the unique cultivar biodiversity in Galicia, a region that has been historically isolated and has become a refuge for vinifera varieties (Am. J. Enol. Vitic. 60:3. 2009). She is also an ampelographer who uses representations of baroque altar pieces and other art to trace and date the origin of grape varieties. In the case of Albariño there is artistic evidence that date the variety to the 17th century. Before photographic imagery, scientific art was highly respected and practiced by no less a painter than Leonardo de Vinci. Artists strived for accuracy in their depictions of the natural world (Figures 33 and 34).

Dr. Rodriguez is also very involved with clonal selection for Albariño and other varieties, work that has spanned 23 years. It is a luxury to be able to select from vineyards with vines as old as 200 years. She collects field selections from around the region and uses key morphological characteristics to identify and catalog the vines. This work has resulted in ten Albariño clones that will be available for commercial use via Viveros Provedo S.A. the national nursery of Spain (like ENTAV in France). Some of the clones have passed the strict European Union requirements and will even be available to plant in France. She works closely with industry to develop new clonal selections, such as collaboration with Terras Guada in O Rosal and Martin Codax in Val de Sálnés.

Mari Carmen told us that Mencía is probably not a native Spanish grape variety since it does not appear to have been present before the arrival of phylloxera in the early 1900s. It is thought to be a cross between Garnacha de Rioja and another variety. It is also thought to be mixed up with a local strain of Cabernet Franc that arrived in the area in the mid-19th century.

We talked a lot about clones in different regions and their importance to wine quality varied among wine growers. When it comes to Tempranillo clone can be very important and vineyards often perform their own field selections and propagation. Of course, Tinta de Toro is the Tempranillo clone of the D.O. Toro (much as Brunello de Montalcino is the Sangiovese clone for that area of Chianti) and Tinto Fino is the Tempranillo clone for Ribera del Duero. Dr. Jesús Yuste at ITACyL is experimenting with Tempranillo clones and has written a definitive textbook on clones. At Aalto, Javier Zaccagnini told us that villages around Ribera de Duero became their own clonal enclaves as they propagated vines within their own best vineyards, which explains why some villages have elevated status above others.

The use of clones varies as much as opinion of their relative importance. At Vega-Sicilia clones are considered an important contributor to wine quality. Only local clones are used and preferably selected from within the estate’s vineyards. At least one host said no “outside” clones should be used (such as Dijon clones in the U.S.). They are kept separate or planted as selection massale in the vineyard and blended in winemaking. One of the key criteria for Tempranillo field selections is small berry size.
Along with clone, vine age is a very major quality factor in every region we visited, almost to the point of being a mantra. In the French sense of “vielles vignes,” it is almost as much a marketing tool as a quality contributor. That said, we saw a lot of amazing old vines, up to 120-years old and claims of pre-phylloxera origin. Some are own-rooted where sand part of the soil and phylloxera pressure is low. These gnarled old vines remind me of the Zinfandel vines in the Dry Creek Valley or Sierra foothills. At this age, each vine becomes a self-sustaining ecosystem with its own character. They have endured the elements for so long – war, heat, cold, disease, etc. they highly revered and respected. As for the wine quality, it seems that old vines find a natural balance that is part of their sustainability and this just happens to make great wine. Balance, uniformity, harmony, sustainability are positive attributes that apply to old vines and vineyards. Peter Sisseck explained that no one really knows when this tipping point is reached. An old vine does not by right or privilege produce better fruit than a younger vine. The threshold for “old” is undefined. It could be 40, 60, 80 or more years but after the tipping point is reached the fruit quality will not get better, it’s just what it is. The claim that the fruit from a 120-year old vine is necessarily better than a 40-year old vine cannot be proven. Nevertheless, there is a strong correlation between old vine fruit and reserve wine quality at every winery we visited. Old vines (Figures 15 and 16) reach their own balance and this harmony is in the fruit. This is what the winemakers prize above all else.

Jancis Robinson describes the thoughts of Jesus Anadon, one of the great winemakers at Vega-Sicilia and his protégé, Mariano Garcia, about the virtues of old vines, “All the mature vines look incredibly ancient, even though they are grubbed up every 50 years. Like tough, gnarled old peasants, they are planted in widely-spaced traditional low bushes on the gently undulating vineyards that skirt little pine-clad hillocks. Much against what you fees is his better judgment, he has planted an experimental vineyard with vines trained on wires but he is not hopeful of the results. The uncharitable climate, the difficult terrain…he likes the vines low enough to benefit from radiated daytime heat during the night. One of the factors must be the tiny yield of usually less than 20 hl/ha which results from leaving only 3-4 buds on each vine after pruning. The lack of rain and prohibition of irrigation also play a part in concentrating the flavor to its amazing density.”

There are many minor varieties in each region that play varying roles in wine quality. In Rias Baixas Loureira can impart a scent of laurel to the wine, and Treixadura, Caiño Blanco and Torrontés offer more blending options with Albariño.

In Ribeira Sacra Merenzao and Brancellao can blend with Mencia, and Torrontés with Godello. The skill is in the blending of these varieties to make a traditional style of wine.

Tempranillo is at its apogee in Spain but it is interesting to note that Jancis Robinson is decidedly ambivalent about the grape in her variety tome Vines, Grapes and Wines, perhaps her opinion has changed since the book since 1986 when it was published. About the best thing she has to say for Tempranillo is that it ripens two weeks ahead of Garnacha. Its home is clearly in Spain where it thrives in Rioja, Penedes, Ribera del Duero (as Tinto Fino or Tinta del País) and Toro (as Tinto de Toro). It is a match of a grape and a terroir that compels the curious viticulturist to ask why and what is so unique in this relationship and why the variety cannot produce the same excellent results elsewhere? Sangiovese and Nebbiolo are two other varieties that are completely...
region specific. Even Pinot noir and Riesling, two great terroir varieties, seem to adapt better than these varieties. While some Bordeaux red varieties have infiltrated the region, there is stubbornness to preserve Tempranillo as the representative grape of the region. In *World Atlas of Wine*, Ms. Robinson and Mr. Johnson offers this description of Ribera del Duero: *At 800m the nights are remarkably cool – in late August it can be 95°F (35°C) at noon and 43°F (6°C) at night. Spring frosts are all too common. Grapes are routinely picked in November. The light and air here have a high-altitude dryness and brightness about them, as do the wines. They are concentrated reds of remarkably intense colour, fruit and savour - quite different in style from those of Rioja, less than 60 miles away to the northeast.*

Phylloxera arrived in Spain in the early 1900s. It’s the gift from America, like powdery mildew and downy mildew) that keeps on giving. While own-rooted vines are highly prized, along with old vines, the current reality is that everything must be planted on rootstocks. At Numanthia we were shown 120 year old, own-rooted vines that form the core of their highest quality wine. These precious plants are their fail-safe for quality. Rootstocks are an important part of Spanish viticulture but we learned of no rootstock trials and it was only mentioned in relationship to high pH soils. I got the impression that rootstocks choices were largely the result of tradition rather than for specific viticultural reasons. In Galicia, Albariño is usually planted on 110R or SO4, perhaps because the pergola-trained vines require considerable vigor to cover more area. Only on the shallow, terraced soils at Dominio do Bibei did 3309 appear to be the prudent choice, even though Suso said it was very difficult to get new vines established. But once they were balance was soon achieved. Other rootstocks included 41-B, Fercal,196-17C, 1103P, 161-49C and 99R. Interestingly, we did not encounter either 420A or any Riperia Gloire de Montpellier or its clones during this visit despite the fact that vine vigor was an issue in some vineyards. Unfortunately, we did not discuss vine certification or the commercial grapevine nursery system in Spain.

**Viticulture**

This is the component of terroir that makes the biggest impression because it is the part of terroir that can be exported and adapted for use in our vineyards.

I was unprepared for the domination of the pergola or “parral” system of trellis and training (Figure 17 and 18) of Albariño in Rias Baixas. To the modern wine grower, this system seems completely antiquated and impractical. As far as I could tell, it is grown on 3m x 3m raised squares with overhead wires at 2m. A vine at each corner is trained to the top and two short cordons extend into the space above. Shoots are then splayed out over the horizontal plane and varying amounts of shoot positioning is done to create an even mat of leaves and shoots. The clusters hang down and, in the vineyards we saw nary a speck of light is shed on any of them. Hmmm. How does this work? We gnashed our teeth about this then finally decided it was the perfect system for this grape variety and who were we to argue with a modern-day white wine success story just because it grows on an old-style system? Rias Baixas consists of many small vineyards. As we drove around O Rosal and Sálñes we would see small patches of vines everywhere. At that scale, parral almost seems practical.

We were not the only viticulturists scratching our chins about parral. Miguel Tubio (Figure 19) is the research viticulturist at Martin Códax S.L, the largest winery in Rias Baixas. Founded in
1986 by a group of small growers who believed they could make better wine together than separately, it has grown to prodigious scale by any standard. Martin Codax is not the name of a grower but a 13th century Galician poet and troubadour who drank a lot of wine. It’s a complex organization of over 200 partners owning over 200 hectare of vineyard divided into nearly 1200 separate blocks. In Galicia, as all over Europe, vineyards get smaller as inheritance divides them up. Miguel took us to see his trellis trial. In replicated plots, Martin is comparing parral to espaldera (VSP), pendelbogen training, Scott Henry, Geneva Double Curtain and lyre with fascinating results. All of the alternative systems were very well executed and he is busy collecting data from them. Parral is about 3x more expensive to develop than espaldera (Figure 20) – it requires large granite posts on each corner with support members. The objective of the trial was to find a system that increases quality but is less expensive to develop and maintain (sounds like a viticultural utopia). Parral typically yields 11,000 kg of fruit vs. 6,000 on espaldera so there is a clear yield advantage to being horizontal and high. The pruning target is 7000 buds per hectare so Miguel’s challenge is to see how far he can push bud numbers on a vertical system. He is pushing rows closer together and using an arched cane to increase buds per meter. Why is he so anxious to switch from a horizontal to a vertical trellis system? Because almost all vineyard operations are more expensive and difficult to perform on the parral, from pruning and shoot positioning to spraying and harvest, it is almost impossible to mechanize any part of the parral. The system is very expensive to prune at 2000€/ha. He says he can farm espaldera at half the cost of parral.

Disease can be a problem on parral but we noted during our time by the coast the constant wind that blows from offshore. This must have a drying effect on the tops of the canopies. Martin said they have problems mainly with downy mildew and have to spray up to 1000 l/ha to control diseases.

Martin told us that 99% of the Albariño is grown on parral and that it would be very difficult to get growers, especially the old timers, to switch to another system. He hoped that the economic benefits of changing systems would encourage a few to do so.

The risk is the possibility of changing the wine, which has been a big hit in the international marketplace. The climate in Rias Baixas is cool and humid, along with the sandy soils and shade of the parral give the wines an incredible freshness and liveliness. It would be silly to upset this formula for success.

The parral and Albariño is a lesson in viticultural evolution – a grape that over time not only adapted perfectly to its environment but a training system that suited its character.

Another viticulture training tradition that we encountered further west in Toro and Ribera del Duero is the vaso (glass or vase) system which we know as head trained-spur pruned or as the French gobelet. It is an ancient and traditional system but used with dogged determination in old and new vineyards alike where Tempranillo is grown. As the world of high quality wine production rushes to adopt vertical shoot positioning (espaldera) as its trellis system of choice, traditional modernists like Xavier Ausás at Vega-Sicilia argue that Tempranillo can only be grown well on vaso. On the other hand, we saw Tempranillo very comfortably trained to espaldera at ITACyL and all along the valley floor in Ribera del Duero, notably at Tinto
Pesquera (Figure 21). The arguments for using espaldera are not unexpected – it can be easily mechanized and the grower has more control over its cultivation. Emilio Moro was an excellent example of the push-pull between vaso and espaldera. Their vineyard manager Daniel Martinez showed us Tempranillo on both systems (Figure 22) and was quite frank in saying that costs figure into the decision of which system to use; for example a picker can harvest 1000-1200 kg/day on espaldera and only half that amount on vaso. The old vines, without question, remain trained to vaso. New vineyards, however, will be trained to espaldera and even drip irrigated if necessary. Daniel didn’t hesitate to say that he would prefer vaso but used espaldera because he had more control over the vine, especially when it comes to controlling diseases and insects. But with proper management of espaldera, especially yields, he could achieve the quality targets of the wine maker. Vaso has problems with powdery mildew. Some growers use wires to tie up shoots to improve the microclimate in the canopy. On espaldera cordon royat is the training system of choice due to Tempranillo’s very fertile buds.

At Numanthia’s Termanthia vineyard the old vines are on vaso, own-rooted and dry-farmed and this will never change, even with their new and replacement plantings. The vines here appear to be in perfect balance and each one has its own space and character.

Other strong proponents of vaso include Peter Sisseck at Pingus and Javier Zaccagnini at Aalto. They are unyielding in their devotion to the traditional system for their Tinto Fino. In contrast, a very traditional winery such as Tinto Pesquera is very comfortable with espaldera and irrigation. Spacing is 3m x 1.2m and trellis is a short 3.2 m but managed like classic VSP. Javier said they experimented with espaldera but have gone back to vaso.

The sun at high elevation can be very intense and growers live in fear of sunburn on fruit, similar to light intense conditions in other arid wine regions. Exposure to the sun is highly regulated and the vaso offers a natural umbrella and shading effect for the fruit. On espaldera leaf and lateral removal and hedging are done very carefully as to not burn the berries. Any adjustments to exposure of the fruit zone tend to occur late in the season according to growing conditions.

The traditional vaso system is well suited to the low yield expectations of old vines. However, for the economics of most wineries, espaldera is more practical and can offer high quality fruit. There is a marketing angle to this viticulture as well. Every winery promotes their old vine-vaso trained wines as their best. This relationship may be real but it also helps to sell wine.

Yields at the best estates are generally very low and even more crucial for red wines than whites. Albariño yields at Terras Guada are 3 t/a. In the cool Rias Baixas, yields can vary dramatically and at one vineyard we were told the range was between 7,000 and 28,000 kg/ha depending on the quality of fruit set. At Dominio de Pingus, old vine Tinto Fino in La Horra yields are 10-12 hl/ha (<1 t/a). Dominio do Bibei yields on small vines grown on very steep terraces at high elevation are about 1 kg/vine. It is safe to say that yields are low on old vine vaso and higher on parral and espaldera but the viticulture is adjusted for the style and price point of the wine. According to Jesús Yuste the average yield for Tinto Fino in Ribera del Duero is 6000 kg/ha.

Vine spacing and density varied everywhere we visited but we saw no high density vineyards that are typical of other high quality wine regions. It might be fair to say that in the warmer
regions vines are spaced further apart, partly for practical reason because vaso trained vines need more room to spread out but also for access to water and nutrients. Vineyards in Toro and Ribera del Duero are clean cultivated which eliminates competition for resources. The typical spacing for Tempranillo on vaso is about 3m x 3m and 1100 vines/ha. In Ribeira Sacra, on the steep terraces, spacing is limited by the width of terraces but generally about 1.5-2m between rows. Espaldera was the main training system although canopy height was short at 1.2-1.5m.

It’s no surprise that disease and pests were more of an issue closer to the ocean, the cooler and wetter climate lends itself to fungal diseases. While white wine varieties are a bit more forgiving than reds, the growers in Rias Baixas and Ribeira Sacra clearly had the health of their vines and fruit foremost in their minds. Downy mildew seems to be the worst of the diseases, followed by botrytis and powdery mildew. As in the mid-Atlantic, applications are made every 7-14 days depending on conditions, or 10-15 apps per year. I mentioned the difficulty spraying the parral system and the terraces of Ribeira Sacra offer their own challenges. A small spray tank is fitted with a poly-hose on a reel and vines are hand-sprayed by a person walking by the vines (Figures 23 and 24). It is a labor intensive process but the only way to get access to the vines.

We saw some leafroll virus (Figure 25) and esca (Figure 26). Armallaria was mentioned at one vineyard. At one vineyard we were told that threshold tolerance for esca was 5%. A constant process of replacing vines allows vineyards to remain sustainable. There is a certain resignation about esca; growers clean shears between vines but that is about all they can do. It is a widespread problem in vineyards across Europe.

We also were told that European Grape Berry moth, a recent arrival in California and very similar to our own grape berry moth can be a problem and mites can also flare up.

We are in Spain just before veraison. We were surprised the fruit was not more advanced but this is still a good time to look at canopies and crop loads. Berry size is very important with Tempranillo and timing of green harvest, irrigation use, and clone are all important contributors to achieving small berries. At Dominio do Bibei, the soils, dry conditions and balance of the vines yielded resulted in very small berries (Figure 27) on Mencía vines trained with a single guyot + 1 bud spur on 0.8m to 1.0m spacing. They change the direction of the cane each year and the 30-40 percent slope helps to keep the soils dry.

In general we saw higher vine vigor than expected with active shoot tips and laterals and leaves with a deeper shade of green at pre-veraison than we might consider ideal. Leaf size was often larger than expected. This may be due to the very wet spring and soils with plenty of moisture. Even vines in the hot Toro region still appeared lush. But if August and September are dry many of these vineyards will achieve the necessary balance for fine wines. In the cooler areas near the coast well-timed leaf removal and crop thinning are considered vital to wine quality.

Research

Viticulture research is alive and well in Spain. We were able to meet with two of the best viticulturists. Dr. Mari Carmen Martinez Rodriguez at Mision Biologica de Galicia in Pontevedra (Galicia) is doing outstanding work with clones in cooperation with the wine
industry and improving disease control and resistance in grapes. She works for the Spanish equivalent of our USDA Agricultural Research Service. MBG (Figure 28) is one of the oldest federal agricultural research stations in the country yet the remodeled facilities were very contemporary and clearly well-funded.

The same can be said for Dr. Jesús Yuste (Figures 29) at the Instituto Tecnológico Agrario de Castilla y Leon, a provincial agricultural research station north of Valladolid. There are nine Denominacion de Origen (D.O) in Castilla y Leon, which is the largest province in Spain. The campus of ITACyL was very impressive with new buildings and lots of land for research plots. Dr. Yuste has a wide array of research projects including clonal, trellis and irrigation trials (Figure 30). He began his trellis work in 1991 and since that time over half of the vineyards in Castilla y Leon have adopted the espaldera, which he says is easier and less expensive to manage. He emphasizes that espaldera needs to be carefully managed according to local conditions and the canopy should be adjusted for the proper proportion of shade and light.

His recent research has resulted in three excellent publications:

- **Certified Clones of the Main Traditional Grape Varieties in Castilla y Leon** is a text documenting the clonal characteristics of nine significant Spanish wine varieties including Garnacha, Verdejo, Mencía and 13 clones of Tempranillo.
- **Description and Agronomic Characterization of 28 Red Varieties of Vines in Castilla y Leon** provides the origin, synonyms, ampelography, phonological characterization, growth and fertility description, vegetative growth habit and grape quality for each of the varieties.
- **Pruning of Verdejo: Fundamental and Applications** is a book devoted entirely to the correct pruning of Verdejo, the white variety of Rueda. It includes his own pruning method, sistema Yuste, which alternates long and short spurs on a cordon system.

Dr. Yuste joined us for winery visits in Ribera del Duero and was heartily greeted by the proprietors (Figure 31). It is clear that there is a very good synergy between the researchers and the wine industry. There was not agreement on all points of viticulture, such as the use of irrigation or training systems, but there is a healthy dialogue that will ultimately generate more knowledge and technology and, in the final analysis, better wines.

There are the unexpected gems in each travel adventure. For me on this trip it was Dominio do Bibei in the Ribeira Sacra region, partly because of how we arrived. It was the end of a very long day of being lost driving around Ribeira Sacra. We found ourselves once again on a lonely, narrow, winding road seemingly going to nowhere. Finally I saw the winery on the top of a hill but a river and steep mountainside were between it and us. We reached a dam and a small dirt road going off into the woods. Rutger said try it. So we did and we drove up just about the steepest road I have ever been on (think Mt Washington, NH) and finally ended up on the top of the most magnificent vineyards I have ever seen. Our visit with Suso (Figure 32) to the vineyards and the wines he poured for us made all the effort very worthwhile.

We enjoyed a visit to Dominio de Pingus with Peter Sisseck, Pablo Rubio and Patricia Benitez (Figure 33). The great wines from this cellar are well documented and it was a privilege and pleasure for us to taste them from barrel. The winery reminds me of a domaine on a quiet street in a village in Burgundy (Figure 34) with an enclosed courtyard and a combination of rustic...
surroundings yet every necessary wine making tool and technology inside. It was an interesting vinous juxtaposition to talk at length with Peter about Rudolph Steiner’s biodynamic principles and then walk into his totally space-age laboratory (Figure 35) that had a real-time PCR smart-cycler. I appreciated Peter’s approach to viticulture that, in the end, it’s about what is best for the wine and leaving the dogma for others to worry about. I find when dealing with nature and natural systems, it’s both prudent and practical to be flexible.

Wine making

“A great wine is made in the vineyard” has reached the point of almost being a cliché although the savvy practitioner in this business accepts it as a core truth. But a great grape is still just that, a grape. In cool regions in particular, that grape still has a long and perilous path to wine. Knowing how to get there while preserving the essential goodness of the vineyard is a significant challenge. Jim and Rutger are growers and wine makers and were just as anxious to learn about cellar practices as I was to dissect the vineyard.

In Rias Baixas, the white wines are almost embarrassing in their simplicity… pick, ferment, preserve the fruit, bottle and sell - Albariño is ready for the market by December. It’s the ultimate cash flow wine, not by design but because the wine needs to be released early when freshness and fruit are still at their peak. Some skin contact and dejuicing may be used to add complexity but otherwise it’s a cold and inert life for the wine until it’s poured into a glass. Acidity may be the biggest challenge - one example cited was Albariño at 16 g/l at harvest. There are variations on the light and fresh theme, but this is the style that dominates. Verdejo, the wine of Rueda, receives pretty much the same treatment. Godello wanders into oak a little bit, and the style is more Burgundian. We tasted a few exceptions to this formula such as a full, ripe and rich Godello at Dominio do Bibei and a similar style Verdejo from Javier Zaccanini’s own label. The white wines were very pleasing across the board.

We visited some amazing cellars from the super high tech to the traditional. In every example, the common elements were a great passion for the wine, a knowledgeable wine maker or consultant at the helm, high quality equipment and supplies and a squeaky clean cellar. Even the cellar at Finca Millara which is under construction has modern stainless steel tanks and new French oak barrels. Dominio do Bibei was a multi-level and multi-building gravity flow arrangement like none other I have seen. Dominio de Pingus was traditional in the Burgundian-style with an understated building with a large working courtyard and the most modern equipment available in the cellar. At Vega-Sicilia, a great icon of Spanish wine, a fantastic new winery is being constructed next to the old winery that has every possible winemaking tool in it. Its cousin, Alion, is a model of modern form and function in a winery where the destemmer rides on overhead tracks to positions over the open-top fermenters. The one thing no one seemed to lack was the capital necessary to make great wine.

We found fewer of the wineries adhering to the traditional Spanish method of crianza (mature), reserva and gran reserva although price and time in barrel still run parallel to each other. Wine makers like to have more flexibility. American oak has long been the wood of choice for red wine makers in the region but that is now being balanced with oak from other regions. Red wines often go through ML in large stainless steel tanks before being moved to barrel.
At Alion Xavier Ausás describes the wine as modern while preserving elegance. Alion and Vega-Sicilia (Figures 36-38) were magnificent to behold, the new and traditional but both symbols of excellence in their design and function. Average yields are 22 hl/ha and grapes are all handpicked into 8 kg boxes, sorted and destemmed to whole berries into the large open-top oak fermenters which are preferred for their temperature stability. In difficult years like 2007 the sorting is a very important part of winemaking but in a great vintage like ’09 the belt is moving so fast you can hardly see the grapes whiz by. The average vendage is 30 days but in a warm year like 2005 everything was picked in five days while in 1999 the harvest lasted 45 days. According to Xavier, after initial vinification 80% of the wine is made, so there can’t be any mistakes. In 1999 the winery switched from ss tanks to oak fermenters for the preservation of heat and stability. It is typical to have October temperatures outside of 2-3C. The wood helps with tannin and temperature. They change out 20% of tanks each year which is a huge cost. Each tank is used for five years – oak tannins fade after this period. The thermal stability of the oak is very important to wine making. Only native yeasts are used and fermentation and maceration period is about 12-15 days. Acidity is important to preserve the freshness of the wines. Grapes are allowed to reach 25-26 brix. Conditions: good color, respect for acidity and fresh fruit in the must, always balancing pH and acidity. Wine rests on the skins for 15 days, peak temperature is 33C. Maximum desirable finished wine pH is 3.8. Each year different 25 coopers are used and barrel variation is a concern, so they examine quality every year with a 40,000 liter experiment in a separate room to track the progress and wine quality of each cooper. 3000 new barrels are purchased each year. The testing informs barrel purchases for the following year.

There is a saying in the wine industry (Parker quotes this in his wine estates book) that a wine “cannot be over-oaked, it can only be under-fruited (or wined).” I couldn’t disagree with this more. Xavier spoke eloquently and sensibly about the role of oak in the raising of Tinto Fino. The wine making process involves the education of the wine and during certain parts the wine is actively learning, acquiring character and at other times it is at rest.

Gerald Asher is in complete agreement about this relationship between wood and wine. Oak barrels are not used – or shouldn’t be – to introduce a flavor of oak. They are used – or should be- for an effect that becomes fully apparent only when the wine has been aged for a while in bottle. A wine held in barrel changes in ways that are both subtle and complex. Many explanations could be true, even when apparently in conflict. Wine aged in wood is less angular (it tastes “rounder”); its components are better integrated (the acidity, tannin, alcohol, and so on are bound together more harmoniously); and both aroma and flavor are richer and deeper. Alonso de Herrera, whose treatise on agriculture, first published in 1513, remained in everyday use in Spain until the late nineteenth century, recognized the connection between the aging of wine in wood and its subsequent bouquet. “Wine from barrels,” he said, “is more fragrant than wine from jars.” … sometimes a wine will indeed also benefit from oak flavor, but, as with garlic in the kitchen, when the oak is obvious, it’s obviously excessive. No matter how palatable, a wine that smells of nothing but oak and tastes of little else, too, is the equivalent of an ordinary cotton t-shirt sporting a designer’s logo. They are both marketing gambits.
Malo-lactic is done in large tanks before moving wines to barrel. Fining trials use egg whites or dehydrated eggs in a blind tasting trial. After blending the wine is fined. It takes 25 days to do all the treatments. Wine should taste fresh with no dryness and very supple, opulent and velvety. Wines are fined to 1.2 microns for rough cleaning.

As in most successful wine regions, the presence of talented consultants has helped to raise quality. We met Julio Ponce who works for a number of wineries in Ribeira Sacra. There was much respect paid to Mariano Garcia, the former wine maker at Vega-Sicilia who is involved with numerous projects in Spain including Aalto. Vega-Sicilia works with Pascal Santenay from Bordeaux to bring a fresh perspective to its wines.

I got the clear impression from the winemakers we met and the wine we tasted that the fruit was giving its all to the wine. Knowledge, care, respect and passion are evident in the wines.

**Wines tasted:**

I apologize for not taking adequate notes on the many wines we tasted during this trip suffice to say we tasted many wines during this trip and I can honestly say that I did not encounter a single flawed wine, in fact, most were outstanding. Preferences were based more on style than correctness. The Albariño is a simple wine but in the most positive way, its freshness, forward fruit (peach and citrus), great acidity and zest make it the perfect match for the coastal cuisine. We talked a lot about how wine style can be pushed around from the standard definition and Albariño is a good example. Of course there is someone out there who is going to try to make a barrel fermented, fat, buttery version of the grape. Is this really where it wants to go? We tasted one version that was tank aged for four years that was richer and more complex, and also wines that were blends with Loureira and Caíño blanco that definitely altered the style of wine, mostly by adding additional flavor components but making them no less attractive, just different from the varietal Albariño profile.

Mencía is a grape that reminds me of Pinot noir in my tasting experience but in Bierzo and Ribeira Sacra it can have many guises. From the steep slopes of the Ria Sil we tasted the very fresh and bright fruit version that is expressive, fresh, delicate tannins and good structure. I preferred this style of the region over more weighty, oak-infused versions that seemed to mask the terroir of the terraces with the veil of the forest. At Finca Millara, we tasted a very international style of Mencía, grown on steep slopes to full maturity and given the full extraction treatment in the winery. It makes a big and bold wine but lacking the character of the variety. Dominio do Bibei was able to achieve the fine balance of concentration and structure and preserving the unique character of the fruit. I found their Lalama to be my favorite representation of this grape with some Garnacha in the background. I believe this is a grape that can perform well in cooler areas of the Mid-Atlantic.

The Godello had more depth and complexity than Albariño but with the same lively acidity that helps to lift and brighten the citrus, green apple sometimes nutty flavors. Like Mencía, it is often a winemaking style that dictates the direction of the wine. At Adega Cachin, more vigorous vines on their terraces yielded very different fruit characteristics than the smaller vines at Dominio do Bibei yet both wines are excellent representation of the grape. In our tasting at the
wine bar in Santiago, the Albariño and Godello stood across from each other, one bright and fresh, the other darker and more complex but both completely charming and refreshing (and perfect compliments to the local cheeses).

We were fortunate to taste a number of different Tempranillos, too numerous to name individually but the impressions they left are vivid and delicious. Probably the biggest one was at Numanthia, their 2004 Termanthia received a RMP 100 and was a #1 WS Top 100 wine (The 2004 Pingus is the other RMP 100 wine from a winery we visited). So we kinda knew what to expect and were not disappointed. Ultra low yields, very old vines and extractive winemaking yields wines with weight and density that contain the Toro sun. It is a thoroughly modern wine. On the other end of the spectrum are the wines of Pesquera Riserva and Vega-Sicilia (notably the Unico) that hold the line on ripeness and sway more towards elegance and restraint. These wines had more of the dusty, earth flavors with lots of layers of dark fruit, leather, spice and pepper. The variety is noted for its low acidity but I detected no lack of freshness in any of the wines we tasted. Freshness was emphasized by many winemakers as a quality they wanted to preserve in their wines, both red and white. Other memorable Tempranillos include:

- 2006 Alion at dinner at Posada Fuente de la Aceña that seemed to define the elegance of the grape.
- 2008 Emilio Moro, their middle wine that was a fruitier, simpler, livelier version of Tempranillo
- 2002 Aalto PS had great depth and complexity, a big, full and rich wine
- 2005 Aalto was just a little lighter, with great fruit and balance and perhaps my preferred style of Tempranillo
- Vega-Sicilia Valbuena has superbly balanced weight, acidity, tannin and fruit with good structure and lots of charm.
- Vega-Sicilia Pintia from Toro, like the Numanthia, contains the sunshine of the region represented by fruit concentration and extraction.
- Emilio Moro Malleous is very well balanced, fresh, good acidity, ripe fruit, rich with soft tannins.

Jancis Robinson wrote about Vega-Sicilia in *The Great Wine Book* and noted 1948, 1959, 1961, 1964 and 1970 as great vintages for this historic estate. I’m giving away the age of my wine library but her description of the wines of Vega-Sicilia still hold – “every vintage is marked by great richness, being almost gamey and with a slightly sweet concentration of flavor. A colour so deep it is almost black is backed by lots of alcohol (usually 13 percent) and a dry, very intense finish.”

We had a chance to taste many wines from barrel, including a fascinating comparison of wines from different villages at Aalto. At Dominio de Pingus, we tasted to Flor and the 2008 Pingus. These were deep, complex, full-bodied wines with great structure but also with elegance and balance.

Besides Albariño and Godello, we tasted some Verdejos from Rueda that amazed us for their freshness and vivacity - these are methoxypyrazine wines in the Sauvignon blanc tradition only with even more zest. Vega-Sicilia owns a winery in Hungary called Oremus and the Mandolas
Furmint and late harvest Tokaji we tasted were both delicious. There are 300,000 ha (about the same as all of California’s grapes combined) of Airén grown in Spain, much of it in La Mancha and we tasted the Pesquera Airén which was almost reminiscent of a young sherry with its nutty, rich, flavors and deep color. This was a very interesting wine.

All of the wines we tasted were extremely well crafted and in balance. We were cherry picking from the top of the quality heap so please keep that in mind. Nevertheless, my limited experience with Spanish wines is that you are very likely not to be disappointed when you open one. The general level of winemaking and viticulture competence is very high right now.

Viticultural Travel

Viticultural travel is very intentional and it takes a lot preparation, organization and hard work before and during an educational trip to make this kind of travel worthwhile. The goal of our group was to learn as much about Spanish viticulture and wine making as can be squeezed from the poor individuals who had to suffer all of our questions. The key is to find the right people to ask! First of all, prepare good questions. Just as you don’t want anyone wasting your time at your vineyard, don’t waste the time of others. Australia, South Africa and English speaking countries are great but if you don’t speak the native language you must travel with someone who does, and not just rudimentary ability but someone who has the skill to capture the exchange of information in both directions. In Spain, even younger people shy away from English, even though they probably had years training in school. But it is their prerogative whether or not to use it. Planning begins by mining for names of those people who have the knowledge you are seeking. When most wineries receive a request for a visit it goes straight to the marketing department. You do not want to talk with a marketing person for 2-3 hours (unless, of course, you are interested in marketing!). They know just enough about the technical stuff to be dangerous. Instead, emphasize in every communication, multiple times, that you wish to speak with a technical person who is familiar with the vineyard and-or winery and explain your purpose. Make sure you tell them who you are and that you are actively involved in the wine industry. Always be polite, never demanding. When you actually arrive at the winery you may still get stuck with a marketing person but that’s a risk you’ll have to take. I start by reading the best materials I can find on the web, books, research journals, trade and wine consumer magazines. For example, Robert Parker, Jr. knows who is making the best wines in most places. His World’s Greatest Wine Estates lists three wineries in Ribera del Duero – Vega-Sicilia, Pesquera and Pingus so they were clearly on the target list. Scan documents for key names that are mentioned repeatedly. You’ll have to read between the lines to make sure they are technical people. The winery owner may not necessarily be the best person to talk to about the details of viticulture, he/she over time may be more removed from the actual work in the vineyard.. If you can meet with the vineyard manager or wine maker you can almost be assured of a valuable experience.

Late July-early August is an excellent time to visit vineyards in the northern hemisphere - around veraison the vineyard reveals itself the best. You can really see the work that has been done; canopy configuration, crop load, diseases and pests, vineyard floor management, etc. The problem in Europe is that August is holiday month and they take this part of their culture very seriously so you’ll need to work around this obstacle.
The logistical part of travel is almost as important as the informational. In unfamiliar territory it is difficult to plan and organize your itinerary. Time, distance and places all seem to be in another dimension. It is important to stay on time, if for no other reason as a courtesy to your hosts (sorry Xavier and Patricia!). You can Googlemap just about anywhere in the world to plan your route. For a comfortable pace plan a maximum of two visits per day, three if all locations are bunched in the same area. Find out the cultural and work habits of the place you are going. Spain starts work around 8 or 9 a.m., breaks at 1 or 2 p.m. and then starts up again at 4 and goes until 7 or 8 p.m. We had lunches that lasted anywhere from 30 minutes and 3 hours. If you are being hosted make sure you understand the time frame. Dinnertime is much later than here than at home, usually around 9 to 10 p.m. Viticulture travel is not just about vines and equipment. Try to find interesting and unique regional hotels and restaurants. If you do they will greatly enhance your experience.

Choose your travelling companions very carefully. I am a nerdy viticultural explorer and I mostly prefer to travel on my own so I can stick to my agenda and get my questions answered. In this case, Jim Law, Jeff Newton and Rutger de Vink are like-minded viticulture nerds who can talk about the fine details of wine growing until the cows give up and go home. Yet, each day is a bit of a grueling marathon so you need to have travel mates who are patient and have a sense of humor, because things will go wrong.

Bring wines and gifts to share. Get a sturdy vehicle with plenty of room. We had two teams of driver and navigator. Get a GPS that will work in the place you are going. Get a cell phone that will work in the country you are visiting. Summer travel is brutal. Leave lots of extra time at airports and other travel pinch points (borders, customs, etc.). Bring business cards, your host will expect you to have them.

Closing Thoughts

We visited four of the 77 D.O. regions in Spain in a week and that number continues to grow (two new D.O.s are proposed for Rias Baixas). Spain deserves a lifetime of study and exploration. A week in Spain is like having a cup of coffee with a stranger, you can only learn so much in that amount of time. But I think we experienced the essence of Spanish wine and culture. It is a vast and diverse place but there were common threads between the four districts we visited. These are qualities shared in most places where passionate people are trying to make great wines. I was impressed by the growth and revitalization of the wine industry in all the places we visited. It is one being done stone by stone in Ribeira Sacra and with the most modern ideas and technologies in cellars everywhere with the support of a vibrant provincial and federal research system. Each of these areas has a very long history of growing wine. Over that time they have found grape varieties that compliment the land and climate. They have resisted the temptation to combine or replace their indigenous varieties with international wines. There was experimentation on the fringes but no one seemed to take it too seriously. Instead, there was a laser-like focus on doing the best with what they know and have. I love the amazing synergy between the land and the grape. In Rias Baixas, hard by the Atlantic, you simply could not find a better flavor and texture than the Albariño that accents the local seafood. In Ribeira Sacra, the Mencia and Godello strain to hold onto the steep hills and make vibrant wines that delight the
palate. Toro and Ribera del Duero are about sunshine and power but also elegance and balance found in traditional wine making practices and the need to respect the vintage. The diversity of the land is striking and how it affects the vines and viticulture. To arrive in the flat, brown and warm Toro from the steep, green terraces of Ribeira Sacra was almost too much of a change for the senses to bear. In the rocky soils, the vines eek out an existence and the amount of effort to grow a bottle of wine is enormous. We wondered how they can justify the expense. In Toro, old vines manage themselves and a few handfuls of sulfur dust are about all that is needed. Great wines pop out of either place. The common denominator for great wine is a great vineyard, passionate, smart, respectful, patient and creative professionals to grow the grapes and make the wines, enough capital to acquire the necessary tools to take full advantage of the grapes and wine, and ten thousand other intangibles that contribute to any great wine. We got a buzz in each of these places. It was easy to feel the excitement. These folks know they have a chance to make great wines and they are thrilled to have the opportunity and are doing everything they can to take advantage of it and enjoy it.

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20
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13. Friends and colleagues

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These are almost too numerous to list but I must because so many people contributed to the success of this trip. I met Jose Moro Espinosa (Emilio Moro) and Aygline Pechdo (Numanthia) at the Wine Spectator Grand Tasting in New York and they graciously helped me with arrangements to visit their wineries. Katrin Naelapaa and Jose Guerra at Wines from Spain in New York were very generous and accurate with their recommendations and contacts. Steve Metzler and Mary Carmen Garcia at Classic Wines in Seattle provided three appointments for us. We really wanted to meet Raul Perez, a respected consultant in the Bierzo and Ribeira Sacra regions and Patrick Mata at Ole Imports in Connecticut set up a meeting with his assistant Pedro. I was able to make appointments through direct contacts with the wineries. We are very grateful to each of our winery hosts: Rosetta Miguez (Terras Guada), Miguel Tubio (Martin Codax), Sergio Millan and Naza (Eidos), Cesar Enriquez and Julio (Cachín), Suso Prieto Perez (Dominio do Bibe), Enriqueeta Celemín Amaro (Numanthia), Lucia Fernandez (Tinto Pesquera), Xavier Ausás (Alion y Vega-Sicilia), Peter Sisseck, Patricia Benitez and Pablo Rubio (Dominio de Pingus), Daniel Martinez (Emilio Moro) and Javier Zaccagnini (Aalto). I am grateful to colleagues Jim Wolpert and Glenn McGourty in UC Extension for their introductions to Dr. Mari Carmen Martinez Rodriguez and Dr. Jesús Yuste. Jesús arranged visits to Pingus, Aalto and Emilio Moro which we otherwise would have seen from the street. Bibiana Guerra provided outstanding planning and logistical support, translating and companionship during our first two days in Spain. Thanks to Jil, our GPS, who never lost faith despite our doubts, and always got us near to our destination. Finally, my personal gratitude to my travel companions, Jim, Rutger and Jeff for their company, dedication to learning, patience, sense of direction, and good humor. Jeff was additionally indispensable for his translation services. I couldn’t do this without Judi, who graciously allows me to wander off on these trips while she holds down the fort at home and takes care of the cat. And, finally my thanks to Bill Kleiner and Leon Ressler, Penn State and my advisory committee for supporting me in this professional development opportunity.

Travel information (almost all of these places have web sites)

Having a local contact can be really helpful in finding the best places to visit, sleep and eat. Bibiana Guerra and Jesús Yuste were our guardian angels on this tour.

Be prepared for a little different schedule than you are used to. There was no typical day for us but normally we would be up at 06h00 and on the road by 8. The hotel may or may not provide breakfast. We would schedule one or two visits in the morning. If we had lunch, it could extend for 1-3 hours, sometimes starting at 14h00 or 15h00. A visit in the afternoon and dinner would finally arrive at 21-22h00 (way past my bedtime).
The Madrid airport is miserable. Get in and out asap.

We rented our car from AutoEurope in Portland, Maine, which is associated with Eurocar in Spain. Our VW Routan minibus was the perfect size for four (five with Bibiana) and lots of wine and luggage. It has plenty of go power and performed unexpectedly well off-road.

In Rais Baixas you won’t find a hotel with a better view or more cordial owners than Juan and Randi at Rectoral des Cobres, a restored monastery in Vilaboa, south of Pontevedra. Between the pool and terrace you won’t know what to do with your evening.

O Beiro is a small wine and cheese bar near the cathedral in Santiago de Compostella. The owner has a passion for his local wines, cheeses and meats that is off the meter. This is a great place to stop to calibrate your palate to the local fare.

Sexto II, a small family restaurant also near the cathedral, has amazingly fresh and diverse seafood that matched perfectly with the local Albariño wines. Here is where the little bell goes “ding a ling” about Albariño.

We got lucky in Ponferrada and stayed at Hotel El Castillo, which you may guess is right across the street from the magnificent fortress that occupies the high ground above the city. We found a wonderful local restaurant called Casa Noval right next to the castle wall and with a long list of wines from Bierzo.

Just east of Valladolid on N-122 is the village of Quintanilla de Onesimo. On opposite sides of the bridge is Dominio de Pingus and our hotel, Posada Fuente de la Aceña, an old mill right on the river restored to a modern hotel. It is very conveniently located to the great wine estates of Ribera del Duero. We had lunch and dinner at the restaurant and both meals were creative and superbly executed. An outstanding wine list is available.

We relied on our hosts for restaurant recommendations and were not disappointed (wine people always know where to find good food).

We had a wonderful lunch in the historic city of Toro at La Viuda Rica. Amazing tapas and the most tender meats you’ll ever try. A very modern kitchen behind a non-descript storefront.

The classic dish of Ribera del Duero is Codero Lechal Al Horno, a suckling lamb that is baked in a wood-fired oven. It is as tender as meat can be and the skin is crispy. It reminded me of my mom’s Peking duck. We were lucky to get to try it twice on our trip.

The very gracious and generous Xavier Ausás hosted a lunch for us at Zurita in Tudela del Duero, a village just east of Valladolid. In addition to superb wines from Vega-Sicilia and Oremus, we enjoyed white asparagus and artichokes and the tender cut of lamb. The service staff, here and across Spain are amazing for their ability to flawlessly navigate platters between an army of glasses on the table.
Javier Zaccagnini treated us to lunch at Posada Fuente de la Aceña and his Aalto and personal wines. It may have been the longest lunch I have ever had and what a great experience. I will always be grateful for his exceptional generosity and hospitality.

The coffee and espresso in Spain is delicious. My colleagues inform me ditto for the beers out of the tap. Sausages, local cheeses and breads are served often and should not be missed.

A copy of my complete and unedited notes from Spain is available upon request.

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Figure 1: O Beiro in Santiago de Compostella

Figure 2: Chalk at Vega Sicilia

Figure 3: Daniel Martinez at Emilio Moro

Figure 4: Soil color change at Emilio Moro

Figures 5, 6, 7, 8: Termanthia Vineyard; old vine, sand and gravel over clay, Enri and Lola
Figure 9: Hills above Terras Guada in O Rosal

Figure 10: Rosetta, vineyard manager at Terras Guada

Figure 11: Steep terraces at Adega Cachin in Ribeira Sacra

Figure 12: Cesar y Julio at Adega Cachin

Figure 13: Steep terraces at Dominio do Bibei in Ribeira Sacra

Figure 14: Dr. Rodriguez at Mision Biologica de Galica
Figure 15: Old vine in chalk at Vega-Sicilia

Figure 16: Old vines on top of the hill at Emilio Moro

Figure 17: Parral at Martin Codax in Val de Salnes

Figure 18: Sergio under the parral at Adea Eidos

Figure 19: The very passionate and talented Miguel Tubio, viticulturist at Martin Codax

Figure 20: Well executed espaldera (VSP) at Martin Codax
Figure 21: Widely spaced espaldera on the valley floor at Tinto Pesquera

Figure 22: Looking at espaldera with Daniel Martinez at Emilio Moro

Figure 23: Terrace sprayer with hose reel at Adega Cachin

Figure 24: Spraying terrace vines with a hand wand

Figure 25: Leafroll virus in Mencia

Figure 26: Example of esca in an old vine
Figure 27: Small clusters and berries on Godello at Dominio do Bibei

Figure 28: Mision Biologica de Galicia in Pontevedra

Figure 29: Rutger and Dr. Jesus Yuste at ITACyL in Vallodolid

Figure 30: Tempranillo clones on espaldera with drip irrigation at ITACyL

Figure 31: Javier Zaccagnini, the energetic and visionary leader at Bodegas Aalto with Jesus Yuste

Figure 32: Jeff and Suso Prieto Perez, the vineyard manager at Dominio do Bibei
Figure 33: Mari Carmen with old ampelography paintings of local grape varieties

Figure 34: Exquisite renderings of vine and flower parts in an old ampelography book