

PETER MOLNAR: ...nice lunch and some good wines, I trust? So we're going to spend the next few hours, a little under two hours, talking with three winemakers. We're going to be tasting, I believe, seven of their wines... or six of their wines, rather. And without further ado I'm going to introduce Jim Gordon, who's the editor of Wines and Vines. He'll be moderating the panel. And we would also like you guys to jump in freely during this panel and ask questions, and Jim will be asking you to do so, so keep note of your burning thoughts on this topic. So without any delay, Jim Gordon.

JIM GORDON: Thank you, Peter. Thanks, everybody. We're... it's interesting that here we are, our panel is scheduled in between the viticulture and the marketing, which is pretty much where our winemaking is in the process of the wine industry, so that's appropriate. And I hope that the speakers will get into the nitty-gritty a little bit – of what grapes grown at elevation specifically do for the wines, and the methods that they use in the winery, and what they're looking for in a vineyard at elevation to give them the qualities they like. So... each of them has some comments to make and some have a presentation, but during their presentation they'll also be tasting with you their wine or wines. We want to be able to take questions during each or at the end of each presentation, maybe during the tasting part, and I'd really like them to talk about what are they tasting, and what about that sensory experience comes from the vineyard, and specifically the differences that may come from a vineyard at high altitude or elevation or slopes.

We have a great geographic diversity with speakers from Argentina, the Sierra Foothills of California, and Australia, the Orange Region, and interestingly, too, three brought Syrah or Shiraz, and as well as Malbec from Argentina – we have three of those.

I think one interesting thing to think about during this little series of presentations and tasting is to try and think about how much of what we think about mountain wines and elevation wines might be folklore, sort of marketing myth, and how much can you really taste in the wine, because that's what's at the heart of it. So maybe they will talk a little bit about their facts versus folklore, and I think the ultimate facts they're going to present

are what's in the glasses here, and those will speak for themselves to a great degree.

First of all, I'd like to introduce Philip Shaw, who's really in charge of two companies, his own Philip Shaw Wines in Orange – both are based in Orange, both mostly made from fairly high elevation grapes – and Cumulus Wines—right, Philip?—of which he's the CEO. He has the most depth and breadth and winemaking experience of the panel and probably challenges or rivals anybody in the room in that regard. He started as a winemaker in the business at age 15, and at age 24 he was the head winemaker for one of the Lindeman's wineries in Australia, and at the ripe age of—what?—34, the Rosemount Estate hired him to come lead Rosemount, and he stayed there roughly 20 years, has been on his own with the vineyard since 1989, he started developing, and totally on his own away from the Rosemount Penfolds Southcorp giant, since 2003, I believe. So we welcome Philip Shaw.

PHILIP SHAW: Thanks, Jim. First I'm allowed to say Peter Miller... sorry if I'm not saying it properly... said to me to show wines on PowerPoint, so I've done that... but really, I really would want to just talk about my region, which is Orange in New South Wales. Just to give you an idea where it is, it's due west of Sydney about 200 kilometers. And it's that same latitude as where you're from, and San Diego... and South America, so it gives you... in all those areas that are influenced by the sea, in the case of Chile or by the altitude, in the case of Argentina.

Somebody else asked an interesting... Greg, wherever you are... was explaining about the difference between coming away from the coast and the influence. That should only relate to this country because you've got a very cold current running along, as you all know. And in our country, say, McLaren Valley, which is right next to the ocean, they wouldn't have anywhere near the influence of that. And that's mainly because it's in a gulf, and the gulf itself is quite warm, so it doesn't have... you can be quite close to the sea and be quite warm. So in each case it's going to be different, I'd suggest.

What I want to talk about is really my experience of why I went to Orange, why I chose that region, and really what that region's about and what we're trying to achieve there. I think it's interesting to see one particular model of... somebody went out to actually go to a high area to actually pick a region.

Firstly, I did work for some big companies, and 20 years ago, or a lot longer than that, I guess every winemaker that's a winemaker, not a chemist, dreams of doing their own thing, and I did that from a pretty early age. Also, I appreciated that you had to have a bit of money behind you to do it properly. It certainly wasn't my plan to go out and do it in a half-hearted manner.

So... when I was working for Rosemount, we're buying fruit from most regions in Australia, and it gave me a wonderful opportunity to check most of the regions and where I'd like to plant that vineyard. So I initially was really looking at certainly cooler areas. For a long time I had a lot to do with Burgundy. I've had over 100 Burgundy winemakers work for me over the years, and I've worked there, so my model was really based on the Chardonnay and Pinot that's at that stage, even though that has changed a bit. So I was looking for an area which was running around 80-1/2 to 90 degrees average temperature for January, which was probably around about 12, 50... somebody better correct me on that... we don't use heat-degree days, so we use that thing that Smart developed, and it works, actually, very well. It's just average January temperature. For Burgundy it's around 80-1/2, 90, and that's what I was looking for in climatic conditions. And I was also looking for limestony soils and also something that [...unintelligible...], you know, I could build a base on.

Initially, I was looking on Tasmania. I gave up on Tasmania, not because it hasn't some ideal climates and that – just the practicality of being more than 1,000 miles away, and also just the fact it was an island and getting things there. And it has restricted the development there over the years, even though it's beginning to grow quite fast now.

To give you an idea of what Australia's about, everybody knows it's a very hot country. Well, it's also as big as America, so when you say a hot country, yeah, a lot of it is, but there's a lot of cold... a lot that is cold. The whole of Tasmania is very cool. [...unintelligible...], the most southern city in Australia, is the same latitude as Chicago, for instance, so people don't take into account. And it's also a very dry country. In fact, we've got lots of areas that get over 300 inches of rain. And so Australia is very variable, I think against what Australia's has pushed as the dry, great climate, in a way it's where it begins to... in fact, there is a lot of cool climate there.

Once I gave the Tasmania, was then [...unintelligible...] Valley and spent two years looking for land there. And there were some very good soils, the climate was pretty ideal, but in the end I couldn't get the combination I wanted right. And I was flying out... we had our own private plane... flying out of Orange. Before that I had two other adventures in the high country, and one was in an area above us in the Hunter. That was at 1,250 meters, about 4,000 feet, a bit more.... And I grew about five acres there. But it was in some lovely soil, it was already volcanic soil, but it was in some very rough country, and in the end we put electronic fences around, but that didn't stop the pigs, and the pigs destroyed my vineyard there, so that's too bad.

So I moved on. We then had a sparkling wine venture in a place called Tumbarumba, which is now the biggest apple growing region, and it's also growing quite a bit of grapes now, and it's doing very well. But that didn't really suit me, so I was looking elsewhere and basically it was the air at that stage, but after a length of time, I was coming back from the air one day and flew over Orange, and I thought, 'Oh, that's an apple-growing region. I must go and have a look at that,' because I knew where they grow apples it was probably fairly cool and altitude, so I had a fair idea of what to expect.

So when I got home... I kept a pile of books about this high on climate and data on Australia and soils on Australia, and after looking at that I thought it was ideal. And then I drove back to Orange the next weekend, and within four hours, I guess I had so much experience looking after all these years, I found the property I wanted. It wasn't for sale. It was just... the basis I

used was that I needed slope to get away from frost, and so I made sure it had enough slope. I knew it had to be around 850 to 900 to get the temperature I wanted. And then the soil, how was I going to check the soil? Well, it just... we call them cuttings. I don't know what you call... where the roads go, where they actually chop away a hill, just look from where I was going from basalt [?] to... I didn't want to... basalt [?] soil is considered probably too fertile, so I was looking for where, in fact, it went into a shale soil. So there was a change, and that's how I chose where basically I was going to go, and then I just started walking around people's paddocks, which I didn't ask, but that didn't worry me.

Anyway, I found a property fairly quickly by just doing that. And I found... I initially started asking people what, you know, as far as frost and everything, and in the end trying to ask locals is a waste of time and they really weren't... even though they had farms and that, they didn't really know about whether it was suitable or not. Anyway, we approached, and it took over 12 months to buy all that property but we eventually did.

The elevation of that property is between... vineyard, anyway, 850 and 900 meters, and climatically it seemed to be perfect. I worried about global warming and all that, and I probably should have gone up another 100 meters. The other thing I decided to do that I'd sell my fruit for at least 12 years before I had anything to do with them. And at that stage, I was with Rosemount, I started with Rosemount, and then when I was running Southcorp I continued to sell to the Southcorp, and then when I left the contract run out anyway, so I started making wine in 2004.

Orange is... just to give you an idea... is a lovely city. It's about 40,000 people in the town, about 20,000 live around the city. It's a very well-developed area, very rich as far as agriculture—apples, cherries and broad acre crops are all very established. The region itself has got a lot other... the reason there's so many people there, it's got quite a mining industry, goldmines, and where do I go since we have those mines, which is a bit of a problem, but they're on the other side of Cumulus. Cumulus is a main... it's interesting, this region, in fact, was under water for a long time. There's 600 meters of limestone under a whole region, and volcanic came up through the

center of a limestone, and that's the main feature in the region, and that's at 1,400 meters. That's an old... in some ways you can see some of the soil is very similar to this, very red soil, it's a bit raw for growing grapes on, it's fine for apples, but I saw some... not this sort of soil, this is more aged, but driving around you can see some really bright, really purple soil. Generally, we find that's very high in toxicities of some minerals, it's just too high mineralization, and grapes don't grow very successful there.

We've got grapes growing in that region. To be in Orange region you've got to be above 600 meters. That's... I think only in Australia that altitude dependent, and the highest point is 1,400 meters, but the grapes are growing up to about 1,100 meters. In our region we find that... people were saying .6, and that's certainly the figure I've always heard, but we've got a lot of data around there, and it seems to be higher than that. It's more like one degree for every 100 meters you move in our region. We've got towns that are straight below us, and if you go west of us there's nothing, it's just desert once you get out. And the town below us... there's a few towns there... they always reflect about five or six degrees, and they are about 400 meters lower... no, more like 500. So it's around about a degree difference per 100 meters. And also I run a vineyard, a 500 hectare vineyard at 600 meters, my own vineyard is at 900 meters, and there's about three weeks to four weeks difference, and property at the same level. So it's about just a matter of inches, every hundred meters is about a week's difference in ripening in that region. So it's quite predictable.

The vineyard, when I did get it, I planted it on a 2.4-meter spacing and, well, one-and-a-half meter between the rows, some was on a meter, and it was a Smart Dawson [?] system and Scott Henry. Scott Henry is where you've got two cordons and growing one up and one down. That worked quite well for the first 12 years. But ... in 2003, when I knew I was taking that vineyard back, I chopped it all off and brought it all back to VSP. I wanted to run with a lower crop level, and also we had to do a lot more handwork. The handwork in Australia is extremely expensive. We don't have Mexicans south of us and we have to work with a fairly expensive and sometimes typical lazy laborer. So we've got to try and minimize it as much as possible, even though that particular vineyard is... a big vineyard of 500

hectares has got a... there's only a third the labor cost of the other one. We do a lot of mechanical work in that 500-hectare vineyard.

Just a matter of interest, quickly talking about that, when I took that vineyard over and... managing it, I had a look at what they were doing then, and it was a very complicated trust and very simple... a similar sort of rough Scott Henry, I guess. And I went through and just took all the wires out, took it out and made it into... what do you call when it just all hangs? Yeah, California sprawl. And I believe that was the best for quality, people might think that's crazy, but what we did do then was stop irrigating. It gets very little water. We brought a crop back to less than half and did as much by mechanical as we possibly could and the quality has nearly doubled, I reckon, by doing that. So really we're managing as a low input but low cropping vineyard and it works very well.

[...unintelligible...] vineyard, a bit different, we had to put a lot of limestone in the soil to get the pH up to a reasonable level because... for every 50 years you've got clover, you lose about one point of pH. So go down if you got clover for 100 years you lose two points of pH. So there being clover in that soil for a long time, and bringing it back, it's alarming. We're putting on five tons a hectare. It's quite a heavy crop, and also that helped a lot. But besides that the soil was fine. A bit of... we also put a bit of molybdenum on, because at that stage it was believed that it helped Merlot... the problem with Merlot, I think you've probably got the same problem, where you get bad set one year there's too much crop the next year. It's a matter of interest. In our area, with Merlot, we would get a perfect set every year. I don't know if that has to do with UV, but as we were very windy, you can see 100 kilometers from our vineyard. So I don't really know whether it's the UV or what. But that's where it stands to reason. For most of the areas in Australia, all of the areas I know, you get very bad set every alternate year. So Merlot it's not a problem for us, except for we got to pull a lot of crop off, which can be.

Another thing, with the Merlot we were getting zigzagging, which was meant to be classic boron deficiencies, so we have put boron on continuously since then, and we haven't had a problem with cropping at all.

It's only Merlots, with weakest-growing vines that we've got but besides... but they always crop well, sometimes too well.

Our area is very... it's interesting about humidity in that we've probably got about 30 to 40 percent humidity on an average day during the growing season. It's reasonably low. We were on about 35-inch or round about 850 [...unintelligible...] of rain a year, and that's relatively uniform, except for autumn. During our picking time it's our driest period for the rest of the year... in fact January, which is of course our summer, is our wettest month, and then the rest... the next wettest months are in winter. So it's a different climate than, say, here. Similar rainfall, as I believe is some of the regions here, but spread differently.

The temperature, our average temperature on our site for January, which was what I was after, is about 19 degrees, so it's very close to what we wanted. The last few years we've had drought, and I think a lot of you would have heard that in Australia, and we had extremely low rainfall last year. And because of the drought, the last few years of drought, has brought our season a lot forward. We're having bud bursts a lot earlier, and we also are having cropping a lot, which wasn't really my desire or aim. But it hasn't affected the crop level on my vineyard, but half of what we're doing on our 500 hectare vineyard, where they got three tons a hectare this year, where we're after, around five, five to six tons a hectare. So fairly large, still.

But what we're trying to do with our crop is, in quality, to be able to get a crop down low enough that we can pick early enough, so on my vineyard is aimed at five tons a hectare or two tons an acre, except Merlot and also Sauvignon Blanc, which we ran about... Merlot about seven tons. The reason Merlot is higher, I believe it should be lower, but our berry size are bigger with Merlot than any of our reds, and the average [...unintelligible...], sorting tables, take the average white of our Merlot, all of our reds, and above 1.1 we start taking a percentage off and make a rosé. After 15, we don't go above 15 percent, otherwise just tend to get chalky tannin characters coming through too much. So Merlot we have to crop higher, otherwise we end up with just too low a crop when we take it... when we run off a bit.

Pinot, we ran about four tons, we bring everything back to one, one bunch per shoot, and also with Pinot we take off the shoulder of the Pinot. We go through shoot thinning the same as probably most of you would. We go through and bunch them up to three times, once before color change, veraison, and then right at the end of color change anything that's lagging we'll take off, and then just at harvest go through quickly. Most of our vineyard is hand harvested, and it also goes over sorting tables before we start processing.

The varieties we decided then, when you're starting a new area... it's fairly new, this area, only a few people have been there just before us... you wonder which is the best varieties to plant, which is going to suit the area or when you've got an area you don't know, really. So we planted a lot of varieties, and in the end some of them we have to graft over, didn't think it was suiting the area. The Cabernet just ripened not every year, but we've got a crop right down on Cabernet or so we'll be too green. We're aiming to try and pick the fruit at a relatively low [...unintelligible...]. With Chardonnay we're picking around 21-1/2 brix, with our reds around 23-1/2, aiming, really, to try and get the fruit... we don't pick on tannin at all. We pick on fruit flavor. If there's still a bit of greenness there, I'll plan to handle that in the winery, picking more to try to get as bright a fruit flavor as possible, rather than pick on trying to get the tannins out. I found when I was running Southcorp we were picking far too late, and I was wondering whether Christmas was going to turn up before we finished picking. So I just try to change. I believe that there's enough room for everybody doing the same thing, and I'm finding everybody's heading down to please two people in the world and doing the same thing, and I believe wines like fashion will change. You can't get any riper than it is, and so it's going to be in some other direction, I believe.

My style is totally different, [...unintelligible...], but I think it's a good question to ask and to look at. And you've got one wine today. I brought Syrah because everybody thinks Syrah is a certain style in Australia and I wanted to show there are different options in Australia, and it's not just me. There's other wines that represent, you know, cooler areas in Australia. But

I guess the Barossa Valley and McLaren Valley [...unintelligible...] Australia at the moment, and everybody's following that direction, the bigger, very alcoholic wines. I mean, there's one wine in Australia got 99 points recently is 16-1/2 percent alcohol. And that's becoming what's known as Australian wine, which is not really, not the case. There's a lot of cooler areas in Australia and there's a lot of other stars in Australia.

The other thing that you might notice is that I'm using a screw cap. When I was at Southcorp we did a trials in the Rosemount with screw cap, compared with cork. I'm not wedded to screw cap at all. It's just that I think it's the most reliable closure at the moment. I'm quite willing to use cork if I can be guaranteed that it's not... it doesn't fail. More or less, all our trials show is around about 8% TCA per tank. And if you really line up, say, 100 bottles of wine being bottled a month, I think you'll find that if you do it worldwide or something like that, you'll find 40 or 50 percent or less than the wine that you put in there. So it's quite huge, the amount of problem you can have. I know the cork industry are working hard to try and fix these problems, but I think if you sat back and said that everything is fine [...unintelligible...] would just go back to the way they were, and I'm more than happy to use the screw cap. We did some trials on reds, and one was [...unintelligible...], which is a fairly well known [...unintelligible...] product, and we did it over 10 years, [...unintelligible...] stage and 56 chose the screw cap in this 10-year-old wine of high quality out of the 58. I didn't really think it was... I thought stylistically it was a main effect, and that was obviously not a cork wine. It was more of a... you had bright fruit characters and a slower development with a screw cap. The cork still is good wine. I don't doubt that, but, you know, it's just so much problems with it. And I've decided to go in that direction, so all our wines are in screw cap.

The styles that we're trying to do, I think we're crazy to go to a cool region, something that's quite different and unique, and then try and make wines the same as everybody else anyway. So I'll try... what we need to do is try and make wines that reflect the region, and, anyway, this is the wine we're going to try now.

The first wine, number one on our page, is the Syrah. It's got... it's 13.2 alcohol, and cropping is about... it would be less than five tons a hectare at this stage. The vines are being grafted out. A lot of the vines, in fact, I had got a lot of Pinot planted, and it was all the wrong clone, so I grafted it over to the correct clones, then I realized that I really wanted it on the south side. And we place importance on whether it was on the south side or the north side, just because the south side is cooler, so it would change the way our varieties, Chardonnay, Sauvignon Blanc and Pinot to the south side of our slopes, just because they're cooler slopes. So amounts about a half a degree, maybe up to a degree difference, whether you're on the south or north slope. It should be similar here. Anyway, it's something to think about. That certainly makes some difference.

This wine is all hand picked. Syrah can be fairly vigorous in our area, and had similar soils to here, probably [...unintelligible...]. A lot of the years we don't have to water at all, and if we do we have to irrigate, even last year, it's only a very limited amount of water we have to put on. But Syrah can be a problem of vigor and we've got to control it. We put, in that chicory we plant down the rows. We have permanent [...unintelligible...] through our vineyard.

We're doing trials on biodynamics. What we're doing is on our big vineyard doing trials on biodynamics versus organic, and in the end I don't think, in our region, anyway, because of the rainfall pattern, we'll be able to go that way, but what we're hoping to do is we have to pick out a lot of the practices in biodynamic, and we'll just come pragmatic biodynamic. So I think we're trying to pick out the best things in biodynamic without totally going there.

Anyway, this wine reflects pretty much the start. I think as the years go by this too young Syrah was grafted on the Pinot, some of, about half, and that's only the second year. So I believe over the years it will get more intensity, but I think it really reflects the style we're after, which is really pepper and spice characters. It doesn't have the plums or prunes as in a lot of [...unintelligible...]. And so it actually got quite soft tannins, even though... and got quite intense flavor, but it's tart flavor.

The reason we put the Viognier in... you hear a lot about color and that, and I think that's all bullshit. I think the reason that happened was that [...unintelligible...] where Syrah is growing and also where Viognier is growing together, I'm sure... it's happened to me many times... there was a mistake made and a guy one day put some Vinognier by accident in the Syrah and, 'Ooh, this does amazing things.' And what it does, and you only need a very small amount, it cuts that pepper. Syrah from a very cool region can be just too peppery, and just a little bit of the Viognier cuts it. So I'm not trying to show the Viognier. Personally, I don't like Viognier; I find it too apricot-y. Even the very fine ones, I still find it has just a hint of apricot, which I don't like.

Anyway, that's our wine, so anyway, that reflects something we're doing.

JIM: If anyone has questions for Philip we could take a couple right now, I think.

I had one. You said you're not too worried about the tannins being high or green. You're against extended ripening, it sounds like, and you just deal with it in a winery. Can you talk a little bit about how you deal with that in a winery?

PHILIP: Yeah. I don't mean that I don't want them to be green, but I think the most important thing is the fruit. I'm putting the emphasis on the fruit, not the... and I do everything to avoid it, and that's about cropping very low, but taking away some of the leaves, by bringing it back to one bunch a shoot. I'm trying to avoid the tannins as much as possible, and then if I do still have, and I think it's the right time to pick, and Chardonnay, for instance, we pick around 21, so it's all very light. And this is about 23.

Once it gets in the winery what we do, we'd even... if we thought it was too green we'd start oxidizing it straight away before we even started fermenting. And then through the process we would do egg [...unintelligible...]. We're finding, in fact, the powered egg is better than the... we used to crack eggs by the thousands when I was at Rosemount, but

since then it's a French product, it comes out and it's very good. And we'll use rice fairly high if we have to, but we'll try and... we'll certainly [...unintelligible...] if we have to, and, you know, or just oxidize and just aerate it.

And then blending, our team does amazing amounts to get things in context, just blending and... that would be what we'd do. Anyway, I don't think it shows, it's not that grain anyway.

BILL EASTON: And what do you tell your vegan customers about egg whites?

PHILIP: Don't have many. The number there are not big enough.

JIM: Any questions out there? Yeah, Wilfred.

WILFRED: [...unintelligible...].

PHILIP: It's an interesting question, Wilfred. [...unintelligible...], I've had a favor to do with making wines in America. I worked with a couple of joint ventures with Mondavi, and also I've been a consultant over here, and have seen a lot of fruit. I also was consulting in Chile, and the reason I mention that is I was dealing with fruit from down on Monterey and also in Chile, and they, to me, had exactly the same problem as the Chardonnay. They have lots of fruitcake but they also have a green tinge coming from... I think their wind as much as anything. So I'd probably avoid those really cool... I'd rather go north further, Mendocino, something around there. It's got this... as cool as possible. I've been... I don't really know enough about Oregon. I've been there. As far as Pinot goes, there are some good ones but some not so good. I actually like California Pinots. I think that some of them are really great. Maybe Russian River. I like Russian River, some of the wines. But anyway, certainly a bit towards the coast.

Here I don't know enough about it, to be honest. For what I'm looking for it's probably still a little bit warm, I'd say, to be frank, unless it's really hot.

JIM: Thank you, Philip. I'm going to introduce the second winemaker speaker, that's Ernesto Bajda from Mendoza, Argentina. Ernesto is probably the youngest panelist we've had so far, but he's got a lot of experience in only about four or five years since he left university, I believe. His degree is in agricultural engineering, and he worked in the vineyards, managing vineyards, for the first couple of years, and then he's been more in the winemaking in recent years. He has a great little tasting and some good research data to show about the differences in the qualities of the fruit based on elevation and fairly... a very rigorous experiment that he did, or survey. So, Ernesto.

ERNESTO BAJDA: Thank you, Jim. Well, first of all, thank all the organizations for inviting us to share our experience and attitudes, winemaking and grape growing.

Let me explain to you a little about Catena Zapata. The Catena family has been making wine for about 100 years, mainly in Argentina. Up to the 90's there were... the local market was basically with low quality wines. The local market didn't want high quality wine. Dr. Nicolas Catena, the founder of Catena Zapata, was studying here—he's an economist, he was a professor—and saw what you were doing here, so as soon as he came back to Mendoza he absolutely changed his way of producing wine. He sold the big wineries and started thinking on the project Bodega Catena Zapata, which was basically... tend to be the best quality wines in Argentina. And as he tried, or as he began making tests he found that Malbec, the varietal Malbec, which was generally used for blending the low quality wines or to increase the quality of the low quality wines, he started working hard on making a Malbec wine, specifically Malbec wine, and that's the result of about 20 or 25 years of work.

We also... the Malbec in Argentina came from France and we don't have clones selected there, so about 15 years ago Nicolas Catena has this idea of starting research on clone on Malbecs, which was selected from an old plantation, which is one of the single vineyards we are trying... we are tasting today. We took 150 vines... we selected the best ones, and after five or six years of experimentation we finally got to five clones. So the new

vineyards are planted basically with five clones of Malbec selected ... from our vineyards.

We have five senior vineyards, what we call the senior vineyards, which are basically...their difference is the latitude and the altitude, yes, mainly the altitude. I'm presenting you today the two extremes and the middle. Yes? So the idea is that I will be talking to you about our results, what our experimentation showed us while you try the wines. Yes? So if you want to stop me to ask me any questions don't... yes?

MALE: [...unintelligible...]

ERNESTO: Yes, yes. Well, the first one is the Lunlunta or Angelica's Vineyard, Malbec. Yes? It's... if we see the Winker [?] Index Classification it's 3, number 3 song [?]. It's similar to the Malbec's Origin's, it's the [...unintelligible...], and the other two we are going to taste, which is ENF, East Altamira Vineyard and [...unintelligible...] Vineyard, which is the number one region, quite cold, both of them. The difference between them is the latitude, and also Altamira is a bit lower. Altamira is 3,500, more or less, feet of altitude, and [...unintelligible...] is our 5,000 feet altitude vineyard.

FEMALE: [...unintelligible...]

ERNESTO: E.

Well, after I go four or five years of researching on the different altitude, the two manufactures we saw there was a big difference in the average temperature and a very marked difference in the sunlight intensity of the different regions. Basically, average temperature, we've talked about this this morning. The higher altitude, we have very marked slopes there, so we have the whole, in the whole day we have a breeze, like cold breeze, so as we go higher we have more breeze and more cold climate. And the sunlight intensity, basically our theory is that as we go higher we have less filtration of the radiation, so that's one of the theories we have.

Basically, these two factors, the low temperatures and the high radiation or more light, make the plants to work more on their photosynthesis, so we have primary photosynthesis and increase it, secondary photosynthesis. That means more anthocyanins, more colors, aromas, flavors. And there's also a big difference in the day and night temperature, which makes the plants to breathe less, to have less respiration during night so they do not consume what they produce during the day, which finishes in bigger net accumulation.

This graphic is the photosynthesis graphic. In the X axis you have the temperatures—yes?—and the percentage of each one of the process. The green is photosynthesis, the red one is respiration, and the blue one is the net accumulation. So the average temperature in [...unintelligible...] vineyard, in the third glass, you have... sorry, the maximum temperature we have there is 34. We've experienced that above 32 Celsius the photosynthesis stops—yes?—and there is a very important thing to manage there for us, that is trying to, not to expose too much the bunches. and not to stress too much the grapes so that we have as much photosynthesis as we can.

If we move to the lower regions we may have maximum temperatures of 38 degrees, for example, so, basically, as we go higher, we have more photosynthesis, not only because of the temperatures, not only because of the less respiration during nights, but also for the more efficient photosynthesis because of this temperature.

This graphic is very interesting. This is the maximum temperature evolution measured in two different attitudes. Yes? The blue one is Lunlunta Vineyard, there and Angelica Vineyard, the first glass you have, the red one, the lower line is the [...unintelligible...] vineyard [...unintelligible...] vineyard. Yes? As you can see in the blue we have much more days above the 32 Celsius level... but what we consider the photosynthesis stopping, and the ideal the vineyard has just a few days on this area, which is one of the consistent theories of why we have more net accumulation in Adriana, because basically the plants photos make more photosynthesis than in the lower part.

This one is the lower. The minimum temperature evolution—the same, warmer as we go down, Lunlunta has... the minimum temperature is 8 degrees. This is measured in the morning, the lower temperatures. And the only... the other thing is that we have a big difference on the... that we have more differences in the low temperature... in low temperature days there is a bigger difference between the day and the night temperature. We have more extended difference.

This graphic shows us the total anthocyanins in Malbec. This is the average of three years' measures. Eight-hundred meters is the deglas [?], eglas [?] is the middle and [...unintelligible...] vineyard, or Adriana Vineyard is the third one.

Another interesting graphic we saw... another result we have there, which is the evolution of the [...unintelligible...] during... related to the altitude. The... there is a work, we saw the same result in Portugal, in the Douro Valley, which, as they go higher, not in this difference, the study they made was between 150 and 350 meters. We're talking about 700 meters of difference, but the results are the same and, in general... generally talking, we say that... or we see that in all the areas, in all the regions, that these ties are being held, the trend is the same. So it's consistent thing to work on, and I think that this is a very good first steps we are making here, but getting together and start to do something about the high altitude vineyards and study it.

JIM: Remind us non-chemists about the difference between the two types of tannin, the definition of the two types. Well, total tannin but what's monomeric?

ERNESTO: Monomeric is related to the bitterness, and the green tannins, monomeric tannins are more present on the seeds of the berries—yes?—so we are supposed to get rounder tannins and rounder feelings on the higher altitudes because of the lower monomeric tannins.

The evolution of total polyphenols during Malbec maturation, this is also very interesting because in the Lunlunta vineyard we have an increase on

them, and after a certain period they start decreasing. It's very normal to see these kinds of tendencies on the polyphenol maturation. But in the Adriana vineyard, every year we have the same. We see that if we would leave the bunches hanging they would just keep on increasing... or increasing the level of total polyphenols tannins after they lose their leaves. Obviously, we don't want to do this because there are many other factors to pick the bunches, and mainly we make... also, the picking decision is made by tasting, like it's similar to Philip's concept.

Well, the temperature effects on Malbec basically is over the anthocyanins and the tannins. As we saw first, this graphic is mainly based on the explanation for this trends in the anthocyanins, and tannins concentrations in Malbec are the temperature effect. And this is why we are moving now to the upper regions—yes?—and also we are trying to go to the southern regions of Mendoza, also moving to the colder temperature areas.

Well, like this is the sunlight intensity, the effect of sunlight intensity, which is the other factor. We have an equation. We try to manage our vineyards basing on the equation that the quality is directly affected by the temperature and the solar radiation. Yes? The radiation is something we can manage by leaf removal, for example, and the temperature is something we cannot manage so much as the radiation. So what you see here is the light intensity variation at different altitudes. The first graphic is for Lunlunta vineyard, for Angelica vineyard the first glass and the second is for the Adriana vineyard, the third glass. In this case this is measured in microEinsteins per square centimeter per second. Again, there's a big difference between just 700 meters. That is a consistent factor to think that the altitude affects strongly the wine quality.

So as we increase altitude we have an increasing sunlight intensity. This increase in sunlight intensity makes the plants to make more photosynthesis, more light, more photosynthesis. The increase in photosynthesis makes more, secondary metabolism, not only the plants to make sugar or the basic products, but also the secondary products as anthocyanins, aromas, flavors. And also the increased sunlight intensity is... affects directly to the [...unintelligible...]. You know, and that is something we are starting to

study, which is the aromatic main component of the Malbec. So basically what we want to work now on is on the solar radiation, on the light intensity on our grapes. But it's very hard. We don't have any experience and we have to study very well this, because we've been experiencing in Mendoza different problems because everybody thought that too much light would be better and we have sunburn, over-ripening.

There's something else about the Mendoza Malbec, and the effect of altitude that is concerning to the health, which is the [...unintelligible...]. That's also a result of the secondary photosynthesis. Yes? As the plants increase the secondary photosynthesis they produce more [...unintelligible...] which are the... for example, there is [...unintelligible...] that is very... it's been very named in the last time because of its health to the [...unintelligible...] diseases.

There is another studies we are carrying on there... I was just talking to Peter today, that we are trying to study... to focus on the ultraviolet effect on the UV radiation. We are making a study with the University of National [...unintelligible...], which is the state university in Mendoza, and we are trying to see a very deep level... we are trying to measure how do the plants react to the ultraviolet radiation in their hormone expression. Yes? So this hormone expression affects directly the level on which the plants are moving to the basic photosynthesis, of the primary photosynthesis, to the secondary photosynthesis. So we've started to devote a couple of years ago and we want to keep on doing this for two more years to get to a conclusion about this. But we are having up to now very good results, so there is a strong theory about the light intensity and the ultraviolet radiation affecting the secondary photosynthesis. Just it's not so complicated. As we have temperature stress or water stress, the plants also have light stress, ultraviolet stress as we have in our skin, for example. And we have an advantage. We can go to the [...unintelligible...] if we [...unintelligible...] they have to chemically react to this.

This is another interesting result what we measured. This is interesting. We found it not studying the altitude effect, but making other studies. Just before the harvesting we wanted to know how to treat or how to manage the

grapes on the winery, basically the maceration time, how would they react. And we measured this and we actually measured the three vineyards we are tasting now. Here I put the two extremes, but when we saw the results we saw that there was... and there was a trend. The Altamira vineyard was slightly in the middle. It was more similar to an 840 meters level, but we saw a trend. So we think that this can also be an effect of the altitude, that the plants also reacting to the radiation have to make bigger skins. Yes?

So we all know that the increase, the anthocyanins on the tannins, on the polymerized tannins, which are the good tannins we try to find, are on the skins, on the grape skins, and if you see that moving higher, it's thicker, it's giving you thicker skins, that would be a good thing to do to go there, to go to the higher levels, to get more anthocyanins and polymerized tannins.

On the technical sheets you can see that there's also a trend on these values. For each wine there is a trend in anthocyanins, and the relation between tannins and anthocyanins.

Well, let's make a review on the effect of sunlight intensity. Basically, sunlight intensity, as we go higher, makes the plants work more. They have more light, they make more photosynthesis and they can make secondary photosynthesis. The secondary photosynthesis is the base for the anthocyanins and tannins, aromas and [...unintelligible...] or respiratory concentrations. This is basically what we found in our vineyards studying the difference, or the different altitudes we were having there.

So I think, again, that this is a very good step we are giving. We are getting together. We have to study and get... keep in contact and share as much information as we can. I thank again Peter and all the crew for inviting us here, and, well, thank you very much, and enjoy your wines.

JIM: If anyone has questions let me know. I have one, at least. Ernesto, based on all of these... this research and these findings, what modifications if any are you making in the vineyards at Catena Zapata or in the winemaking? What is it telling you that you might need to react to?

ERNESTO: Well, first, we base on the theory that the best wines comes from the best vineyards, so we try to work, first, on the vineyard, and based on this, then on the winery we make what we can. But we try to make first the work on the vineyard.

Talking about the altitude effect, we've experienced that because of the radiation, the radiation is the main factor that we can manage. So as we go higher we are supposed to have more right... more photosynthesis. Yes? And basically there are two words that we try to focus on, which is leaf removal and fruit thinning. Yes? In the lower, in the lower vineyards, the Angelica vineyard, for example, we make a more intense fruit thinning—yes?—because we consider that we have less light so less photosynthesis, and less leaf removal—yes?—because we don't have too much temperature on the bunches, which affects also the aromas, mostly the aromas. And in the case of Adriana vineyard, for example, we leave more loaded plants. The main idea is not to make too much fruit thinning there, because there is enough light to feed the bunches, and we make... we may make some more leaf removal there, but without having any concern about the temperature because the temperature there is much lower, as you saw in the graphics. I don't know if I answered your question.

JIM: That helps, yeah. Anybody? Here's a question.

MALE: Ernesto, you made some comments about photosynthesis. I was wondering did you actually measure photosynthesis in those vineyards, or are you making those comments based on literature of what we know about how temperature affects photosynthesis? Do we have actual data confirming what you're saying or is it all based on...?

ERNESTO: Yeah, we have the... you mean about the effect of the temperature on the photosynthesis?

MALE: The effect of elevation.

ERNESTO: Ah, the effect of elevation. No. Yes, we have... we've been working on the altitude effect for about four or five years, and also we have

information from other studies which were carried on this vineyard, so we can also have the altitude factor study on this.

JIM: Okay. Thank you.

ERNESTO: Thank you again.

JIM: I can't mess up the order again because there's only one presenter left. So I'll introduce Bill Easton, who appropriately enough for an elevation of wine seminar, he's somebody who's really helped elevated the status of his region, which is Amador County Sierra Foothills. He began his adult life studying English literature and political science—was that it?—and became a wine retailer for many years before he became a winegrower and winemaker, so he's got a unique perspective. And I met with him a few months ago and tasted a couple of his Syrahs with him, and we were talking a lot about elevation at the time, and I just thought this would make a really great comparison, sort of paralleling his experience with Shiraz with Ernesto's experience with Malbec. So I'd like to introduce Bill Easton.

MALE: Bill's really run two wine operations, one is Domaine de la Terre Rouge, and that's the Syrah [...unintelligible...], and Easton Wines, which is [...unintelligible...].

BILL EASTON: Thanks, Peter. Thanks, Jim. I'm going to come at this from kind of a different point of view. I'm not really a scientist. I'm kind of a seat of the pants winemaker. My, you know, experience in wine: I've been in the wine business for over 30 years. I hate to admit it but I'm like been in it since 1975, and probably when a lot of you guys all got into the business, women and guys out there. And I'm a native Californian and wine was an integral part of my family's life. You know, wine was on the table every night. We used to go to wine tasting rooms and taste.... And it was something that just got in my blood. When I was about 15 years old I decided, you know, this is the thing I wanted to do. So even though I have a liberal arts background, I knew at some point in my life I was going to get into the wine business. The road that it took me was out of school. I became a cellar rat and worked in the Russian River Valley in the early years

with Pinot Noir, Zinfandel, Sauvignon Blanc, Chardonnay, basically a lot of different varieties. Back then wineries really didn't specialize, necessarily, in a particular variety and a region, like the Russian River Valley was just starting to develop its notability for the variety like Pinot Noir. But, anyway, the path then led me to the reality wine business and I opened a store that was kind of a pioneering shop in the East Bay called Solano Cellars, and we ended up selling and introducing a lot of the small boutique wineries that you all, you know, take for granted now, wineries that... like Ravenswood, that originally the first vintage I think was 200 cases of three different cuvees that Joel made over at Martini and Pratti when he was still working and helping Joe Swan out.

And when I was a kid I got to taste a lot of those wines. My dad was a wine aficionado, so aside from having good table wine every day on the table that we got to drink when we were kids, on weekends he'd go to the cellar and pull out like a '68 Swan or an early Hansell [?] Chardonnay or something, and that were real turn-ons to get somebody hooked into the business. And I still love those wines.

What took me to the Sierra Foothills was... I grew up in Sacramento before moving to the Bay Area and starting a wine shop, and I was pretty conversant with ... both the climate and the geology of the region. And when I owned the wine shop I was doing a lot of importing for my own store of some wines from the Rhone Valley and different parts of France and Italy. And I started... my interests naturally weren't just tasting wines in the cellar, but I spent a lot of time in the vineyards with the people that owned these wineries in France, and I started to see a lot of parallels to other regions in California in particular because I was interested in Rhone varieties, the Sierra Nevada, this region I knew. And I wanted to make wine in a place in California that... where wines tasted like they came from a particular place. And I think that was always the key to European wine for me, that there... you know, there are wines there made in somewhat of an international style, but there's a lot of wines that I like from there, say, a Cheigny or a particular wine from Chinon, or I can think of some wines from the Jura, all over the place, these small appellations. You know, somebody gives you a glass of that wine, you know where it comes from and what the taste is.

And that was always the impression I got from wines from the Sierra Nevada and the Sierra Foothill, and, in particular, Zinfandel which was, I think, my first love when I was a kid. I was a guy who always, at a high school party everybody else was drinking beer or something, I'd always bring a bottle of Zinfandel to the party, you know, so... unfortunately, sometimes I always didn't go that far with the girls because they wanted something sweeter, you know, so I'd throw a tablespoon of sugar in or something in, you know.

But anyway, as the path went on, serendipitously, several of us got interested in Rhone varieties about the same time. This is kind of the mid 80's. So about eight or nine, ten different people started a small group called the Rhone Rangers. And there were different guys doing it down on the south coast, Gary Everly, one of the longtime guys down there, but Bob Lindquist and some of the folks at Zaca Mesa. Up in Mendocino your neighbors here, we had the folks from McDowell Valley, we had the Kleins from down near Oakley. Of course, Joseph Phelps was an early Napa person involved in it. And we were all interested in European wines and we were all interested in these Rhone varieties, which was a new thing, so we started planting vineyards, experimenting. We started searching around, searching through the grape crush report to find old abandoned, what I called antique vineyards that had been planted earlier that were going to maybe a Gallo table wine or somebody's \$3 red somewhere. We'd find these vineyards, talk to the person, tell them we wanted to bottle it as a varietal, pay them three or four times as much money as they'd been paid by somebody else, and we were off and running.

Anyway, after those early experiments, I decided this was the path I wanted to go on, so in '94 I sold my store and became a fulltime winemaker at Terre Rouge in Easton. And as Jim mentioned earlier, Terre Rouge is about half my production. I work with most of the red Rhone varieties, and I work with three of the whites—I work with Marsanne, Roussane and Viognier, and I also make a little Muscat in a Baumes de Venise style. But a large part of our production, I'd say 60% of our production, is Syrah, and we make five different Syrahs, as you see, on the screen here.

Our base Syrah, Cotes de l'Ouest, is made from about 75% from an excellent vineyard site. It's a 50-acre Syrah site near Clements, which is a new appellation, actually; it's one of the new sub-appellations of the Lodi area. And I've got a picture of that I'll show you later, but it looks pretty much like the Languedoc. We have our own block in that vineyard, we have our own 10-acre block that we organically farm, and we crop at about three to three-and-a-half tons to the acre, and it's become a very popular wine. We can sell about 3,500 cases of it a year. And it's Syrah Noir clone, which I find to be a very attractive Syrah clone for a couple of reasons, foremost, I think, are the flavor components. It has a nice kind of smoky, meaty gaminess that you normally don't find in some of the other clonal material.

We make another couple of other tiers as well, but what I brought to show you today was a contrast that fits in with this high elevation discussion. And your glasses are mixed up. They're not the same as they are on your list there. So Glass B is the Sentinel Oak Syrah and Glass C is the High Slopes. And Glass B is from a vineyard, which I've got a picture of here in a minute... this shows we get snow up where we are. This is my own home in Syrah vineyard. That was in March of 2006. This is a vine at Sentinel Oak vineyard. This vineyard is at 1,400 feet. It's planted all on its own roots, no rootstock, and it's clone 1, which is considered the original mother clone. It was brought here from Australia, actually, and supposedly originated at the Chapoutier property at Hermitage.

This vineyard's at 1,400 feet, south-facing slope, all decomposed granite soil. We crop it at about two-and-a-half tons to the acre. It's all cane pruned. At this elevation it ripens about a month earlier than the next wine in your glass, which is the High Slopes cuvee, which I make from... in this vintage I made from two different vineyard sites, both right near 3000 feet.

MALE: [...unintelligible...].

BILL: These are both 2003.

This shows some of the granite that is not decomposed. My neighbor was replanting part of his Zinfandel vineyard this year and pulled out these big rocks here. So, basically, we have this decomposed granite sitting on a big granite slab. In many places the soil's about 30 feet deep. Some places towards the top of the hill, it's about three feet deep.

So the third glass is High Slopes, and it's a blend of 50% from Oso Loco vineyard, Crazy Bear, and it's two different clones of Syrah, it's Clone 99, which is the Tabla selection and Syrah Noir is the other selection. It's on a beautiful steep slope, and we basically have cover crop and mow that for erosion. This year we did a little discing as well. It's quadrilateral cordon in a kind of a lyre setup.

So one of the reasons we've gone higher, and I think what I wanted to show between the two glasses you have there is I find that... even though it's older vines, I find the first glass, Glass B, the 1400-foot elevation, I find more richness in the wine, but I find it's a more powerful wine. The high slopes and why we're planting a lot of our vineyards now of all varieties at higher elevations, we get more delicacy in the wines. At the temperature of the wine in the glass, unfortunately, it's difficult on a day like this, but what I notice when these are served at about 60 degrees, is I get more white pepper and violet and dried herbs, and maybe some coffee tones in the High Slopes, and the Sentinel Oak has more meat but bigger fruit, more fruit-oriented wine.

This vintage, too, 2003 for us was an interesting vintage. It was what I call a riper vintage. We had several heat spikes in 2003, and it was an earlier harvest. But, typically, we harvest the 1400-foot site about a month before we harvest these other two sites, which I think jibes with some of the things that were mentioned earlier.

MALE: [...unintelligible...].

BILL: Age of the vines? Sentinel Oak vineyard was planted in 1983, and Oso Loco was planted in 1995, and the next vineyard, which is coming up,

which is called Wind Dance, which is the other component in this, was planted around 1999.

So Wind Dance is about 20 miles as a crow flies from Oso Loco, further north. It's at about the same elevation. Oso Loco is kind of a combination of granitic and volcanic, and Wind Dance is more granitic. And it's a wider spacing, more of a traditional setup. It's 8 by 12.

So the wines are made identically. We basically ferment in five-ton lots. We hand punch down twice a day. This is after a three or four-day cold soak. We inoculate with a Rhone culture. Usually... we usually use a combination of yeast to go for more complexity. We're usually on, in the vat for about 10 to 12 days, and then we grab and we drain to press, and both of these wines were in about one-third new wood, all French, and the High Slopes is in barrel for about 18 to 20 months and the Sentinel Oak is in barrel for about 23 months. And quite often we egg white fine, usually three eggs per barrel.

Question?

MALE: [...unintelligible...].

BILL: Two-tenths of a percent, yeah. The Sentinel Oak is about 14.9, 14.8, and the High Slope is 14.7, yeah.

Anyway, I think this is a dramatic area. I think the Sierra Foothills is one of the most misunderstood areas in California, I think, along with, say, Mendocino and Lake Counties. There's a lot of wonderful spots for vineyards in all three of these areas, and probably many of the other counties in California. So I think some of the best sites out there have yet to be discovered. I know that in my areas I see places all the time I'd like to plant a vineyard, but if I planted a vineyard everywhere I thought would be a great spot I'd be broke, so...

MALE: [...unintelligible...]:

BILL: I think if you read like old texts that have been around for years, you know, Hugh Johnson, I think people assume that it's a very hot area, but I think what makes it distinctive... and I should go into more details on some of the growing conditions... our soils are very slow to warm up in the spring. Our coolest Syrah site is at my house, which is in Fiddletown. It's down in the canyon, so it's actually cooler than some of these 3,000-foot sites. And I may even have a picture over here. Yeah, right here. And basically this picture was taken middle of May, so you can see the vines were just starting to grow. This year we did get a touch of frost and we do generally prune late to delay, to delay bug [...unintelligible...], both for frost reasons and because I want to push the ripening curve further towards the fall. And the reason I want to do that is we have the same issue that we have in the spring with cool weather in the fall, where we have very... you know, we can have a warm day, we can have an 85-degree day, but at night it'll drop down sometimes to 50, 48. And then it takes the fruit a long time to warm up during the day. The days are shorter. If you're down in the canyon it stretches out, so I get more hang time. So as an example, last year we picked this vineyard with a crop of about two-and-a-half tons to the acre on the 24th of October.

MALE: [...unintelligible...]:

BILL: Some of these vineyards are wide spacing. This one here is pretty typical of what we're doing now, which for us is tighter spacing, and we're planting eight-by-five and nine-by-five, so five foot in the rows, which isn't particularly tight, it's about 900 vines per acre as compared to, you know, I think Philip was saying... weren't you twice that? 1,800 vines per acre?

So we were concerned about having things... creating a lot of problems by having too many vines per acre, because Syrah is such a vigorous variety. So, you know, maybe we'll try that further along down the road, but we seem to have hit a pretty good balance for the amount of fruit we can put on each vine and get an adequate yield.

MALE: [...unintelligible...]:

BILL: Sure. Sentinel Oak block is kind of a sloppy VSP and it's cane-pruned, but we weren't getting an adequate crop out of it so we do a double cane on each side and we twist it. And because the vines have been there so long we usually only do one irrigation, just right before veraison, and we'll probably give them at that point maybe about, oh, probably about 12 gallons a vine, 10 to 12 gallons a vine, once. This year we might hit them another time.

At the other sites we're doing more frequent irrigation and we've tried different strategies. The latest one is more kind of an every other week, about three or four gallons.

MALE: [...unintelligible...]:

BILL: You know, in Zinfandel I haven't made that comparison because all of our Zinfandel is pretty much at the same elevation. The one difference, we do make Zinfandel from a very old vineyard in Fiddletown, which is about 600 feet higher than the vineyards around the winery where we have Zinfandel, and the vines do have a little more nuance and a little less extraction, but I don't know if that was attributable to site, clonal, whatever, because the vines are so old and... but as a general rule, other vines I taste in the foothill from other wineries, it seems to me that vines reach maturity with a little more finesse and lower potential alcohols at higher elevations.

MALE: [...unintelligible...].

BILL: That's all over the board. It really depends on, you know, consistency of nutrients in the vineyard and I would say cluster size, you know, we're working with different clones, different places. At my vineyard, I've got four different clones, so definitely the cluster morphology like in this clone one is a bigger cluster than Syrah Noir is. It seems to be a little bit smaller cluster for us, particularly at the higher elevations.

MALE: [...unintelligible...].

ERNESTO: As we go higher we experience lighter, not too compact bunches in the case of Malbec, for example. And Adriana vineyards is extremely particular because the rakis [?] of the branches get extremely red when we are close to harvest. That's... because of the anthocyanins accumulation, but the morphology of the branches is different as we move to the higher parts, not the fruit setting. Fruit setting in Malbec is affected by other factors, mainly... nutrition and the weather conditions at the time of flower setting, but the morphology of the branches, the same... we may have the same number of berries but longer bunches.

MALE: Is the wind right on time?

BILL: Sam?

MALE: [...unintelligible...].

BILL: Our least expensive Syrah, the one we're making from this vineyard, [...unintelligible...] vineyard, which is a wine that we have in barrel for about 14 months and it's a vine that's sold at a much younger age. We actually ferment this with tank irrigation in like 11, 10 fermenters, closed tops, outside, and then we try to do like one delestage on each tank and all of the other Syrahs we do inside in open top fermenters, five tons, and they're all hand punched down, and we usually bring in a French intern for that. And we call it a punch, you know?

MALE: [...unintelligible...]:

ERNESTO: Previous question, yes. We see a trend on the bunch longitude, yes, the length, but it's not statistically strong—yes?—it's not consistent.

BILL: Anyway, going back to rootstock, your rootstock question, we've been using 3309, some 101-14, some 1103-P, own-rooted vines, and I think that's it on Syrah. But we're having some serious Syrah decline problems. I mentioned that to you earlier at lunch, so we're trying to figure that out right now. We don't know if it's bad nurturing material, but we had all of our... a 173 clone basically fail on us, and now the 877 is starting to fail. And we're

getting this squeezing in the trunks. And, you know, if anybody knows more about GLC-1 or has this problem, I'd like to talk to them about it, because it's a real pain in the ass.

MALE: [...unintelligible...]:

BILL: It's variable, but I'd say four-to-seven-year-old vines. And they start out, what happens is like you come to my vineyard now and like... you know, because we cane-pruned half of the vine. They looked perfect, and the other half the shoots are all stunted, and next year the vine will be dead. And then... it's pretty bizarre. We start to see it sometimes in the fall, too, you know, it looks like phosphorous deficiency, you see red leaves, but there's definitely some issues. And it's definitely some sort of graft [...unintelligible...] incompatibility, or there's some contamination somewhere along the line. And they have it in France, too. [...unintelligible...] recognizes it. If you go to their website, they've got a picture of a vine in the Languedoc that looks just like these vines.

MALE: [...unintelligible...]:

BILL: [...unintelligible...].

MALE: [...unintelligible...].

ERNESTO: No, no, no, Malbec, generally, does not have a problem like you were talking before. The only root planting is very helpful... very helpful for Malbec. We see problems for Malbec only when they are in rootstock, basically, with micro-nutrients.

BILL: And what percentage of your vines are on their own roots?

ERNESTO: Our Malbecs are all on own roots.

BILL: Oh, okay. And, see, all my vines that... where the Syrahs are on its own root, no problem. So...

MALE: What rootstock are you having problems with?

BILL: 3309.

MALE: [...unintelligible...].

BILL: I just read an article that was in Dawn's magazine in 2004, but I haven't talked to her, yeah.

MALE: [...unintelligible...]:

BILL: Okay. I'll give her a call. Any other questions? Thanks a lot.

JIM: Thank the speakers.