

October 5, 2006

That's it, we are done here at Iron Horse. Arguably, it all started on January 2 and as of today our harvest is over. We picked the last 23 tons of Pinot from Thomas Road in the rain. Between yesterday, Wednesday, October 4 and today we received well over half an inch of rain. I should have washed my car. Needless to say it was a tough decision early this morning, in the dark; do we pick or don't we? That the roof over my bedroom is metal and we don't have ceilings, so even the lightest rainfall sounds like the next deluge (which reminds me I need to get the gutter outside of the window by my side of the bed fixed) did not help.

To be safe we looked for help from all sorts.



But it continued to rain, smudging Daniel Moreno's picking cards.



That the rain started up again was partial validation that we chose right. We could have waited for better weather and see if the grapes would dry out, but chances are instead we would have seen a lot more bunch rot (botrytis = noble rot hah!). Some of us remember 1989 when the weather reports always seemed to get it wrong - sure a little rain today, but tomorrow will be okay, only it never was, okay that is - until bunch rot took out most of the county's Chardonnay crop. Instead we ran the sprayers (empty of course) to dry off the grapes as best we could and the guys, knowing there were burritos and sodas waiting for them at the end of the day, got wet for us. In the end we know that David Munksgard and his cutting-edge, all-weather wine making magic (see photo below) will do just fine (no pressure of course).



Last shot, a very wet Antonio. He was one of my first shots way back when harvest '06 started on August 30, so it is only fitting after about 570 tons of grapes, he be the finale.



October 3, 2006



We're still harvesting, and things are looking great, which is why I'm going to rely mainly on pictures, that, and until we are done, most likely by the end of the week, I don't want to tempt fate and comment on the size and quality of vintage 2006 – after all it's possible it may rain tomorrow and we still have about 35 tons of pinot on the vine to be picked. To be safe we've picked all Chardonnay that might have been at risk, we're seeding H (implying to the fickle rain gods rain could be a good thing) and I haven't washed my car in weeks. So, I'll spill – but only after knocking on one of David's favorite barrels: My guess is that we'll end up with between 35,000 and 36,000 cases (about 600 tons), of which about 16,500 will be Sparkling, 11,700 Chardonnay and only 3,000 Pinot Noir (the rest Rosato, Sauvignon Blanc, Viognier and Petit Verdot).

The guys seem to be happy and enthusiastic.



Which is good, because picking grapes is both hard and skilled work. We can only do so much through “Precision Winegrowing” (so precise in fact that we never had to pick on a Sunday). They need to be fast, as we want the grapes in as early as possible so that they’ll be as cool as possible (ask David Munksgard why, as I’m not quite so sure myself), and we also only want clean fruit, and that’s where the skill comes in.



Here are the guys waiting for the tractor because they've actually been picking "too" fast:



In the meantime the fashion parade never ends. I got to get me t-shirts like this:



Or even this more subdued number:



As mentioned above our goal this year was to make sure the fruit looks good, as can be seen from the following picture of Clone 4 Chardonnay from Thomas Rd. for Sparkling. Of course the key is flavor,

however a significant flavor factor comes from the skins, which is why we don't like sunburn and bunch rot and why we may decide to go ahead and pick for sparkling simply based on the state of the canopy (look at the numbers above and it was clear, in retrospect, this was a year to make more Sparkling and less Pinot Noir).



But the guys picking can only do so much, so, like it or not, we still need to sort in field or even pass through with a team before picking.



In theory, the decisions, still or sparkling and when to pick, are, David Munksgard's to make. Here's David in L Block (Old Wente and the source of our Corral Chardonnay) deciding when to pick. He hates prickly things in his socks, hence the gaiters, and is wary of too much sun, hence the hat. We don't comment on how goofy he looks because he's doing such a great job and as can be seen from the photo above is quite buff these days.



Apparently the key is, when out into the vineyard, taste the grapes and then spit the seeds out into one's palm and check if they are green or brown. No picking for until they are brown.



From great grapes great juice, Old Wente Clone Chardonnay free run from L Block, most likely 2006 Corral Vineyard Chardonnay (you saw it here first):



Lastly, Agustin, without whom harvest just wouldn't be the same.



September 8, 2006

Harvest has begun, and if anything it is at harvest that the advantages of being Estate Bottled become readily apparent.



We started picking Pinot Noir for Sparkling in E, just picking the west facing, or for those without handy compasses, the afternoon side, fruit in the western and higher (hence more exposed and drier) half of the block, and all of the grapes on the eastern portion. The point being, pick to the winemaker's specifications.

At this point I always hesitate to comment on the amount and quality of the harvest (no jinxes allowed), but as David Munksgard recently noted we are picking at exactly the right flavors and numbers. Or as he put it, we're "nailing it." Here are numbers for the curious, just bear in mind first determination is flavor:

Block	Date Picked	Brix	TA	pH
E	8/30/06	18.90	1.07	2.92
B South	8/31/06	19.50	0.80	3.03
G	9/5/06	19.30	0.67	3.17
P2	9/6/06	19.00	0.97	3.00
P2	9/7/06	19.30	1.10	2.89
B North (20% P2)	9/7/06	20.80	0.79	3.11

Note how the TA's are lower and pH's from the blocks planted to Dijon Clones: G, B North & B South. Another positive is that we've been able to keep our weekends free, precision farming at its best.

A big change is that in the younger blocks, as well as those blocks where the vines are cane pruned, we are using clippers and not picking knives.



Using clippers slow the guys down so they cost us a bit more, but the fruit is less mangled (very important for sparkling) and more importantly the vine shoots aren't damaged - very good news for next year – although the sounds of harvest are quite different.

One final observation, some years ago the big fad for new wineries was gravity flow. Now it's sorting tables, where a portion of the winery crew literally sorts through the grapes before crushing or pressing so that only the grapes the winemaker wants are actually used. We have no sorting tables at Iron Horse because we don't need them. As mentioned above, we're "Estate Bottled". We've already passed through most of the Pinot Noir blocks to remove unwanted green fruit and any second crop in the primary fruit zone, as well as unwanted botrytis affected clusters among the Chardonnay blocks. Meanwhile our pickers are pretty good at only picking the good stuff, which is why I look upon them as skilled labor. I might add I'm also jealous of their t-shirts.



However, to further guarantee quality grapes, as can be seen in the photo below (the first real harvest in G) on each trailer we have two guys who's job is to sort through the fruit and if needed, cull out that which David doesn't want.



Notice also the new picking boxes, narrower and lighter; much better for the pickers' backs and they don't need to throw the grapes as far or as hard to get them into the macro-bins. Again leading to better fruit arriving at the press.

Here is a shot showing the fog as it burns off just in time for lunch.



August 25, 2006

First off, the Naked Ladies are out, and that is always a good sign.



And finally we've got some color, veraison, which means the crush is in the foreseeable future. Foreseeable, but not yet scheduled. Almost daily my Mother asks, "when will be picking?" and I respond, "when the grapes are ready," and then she says "when will that be?" and I say, "when we're picking."

What's great about veraison is that it is best time to decide what is going to be still and what screams out (or whispers) sparkling. Over two mornings, David Munksgard, me, and the YUV Machine (yellow utility vehicle) inspected the entire vineyard, including places we've never seen before up in Thomas Road. David was able to identify specific sections within the blocks that will be used for Pinot Noir and otherwise confirm what will be what this year. Look closely below and you can see the blue tape behind the guys. This side of the row will be for Pinot Noir (B North) the other side we'll pick for sparkling.



Armed with that knowledge we can then go and selectively drop those clusters we won't want to be picked. For example, below are some clusters from a vine in I block. Two look great, the third on the right though is just tad too green and short, eventually it will color up like the others, but it will always be behind in terms of physiological maturity, so we'll drop it.



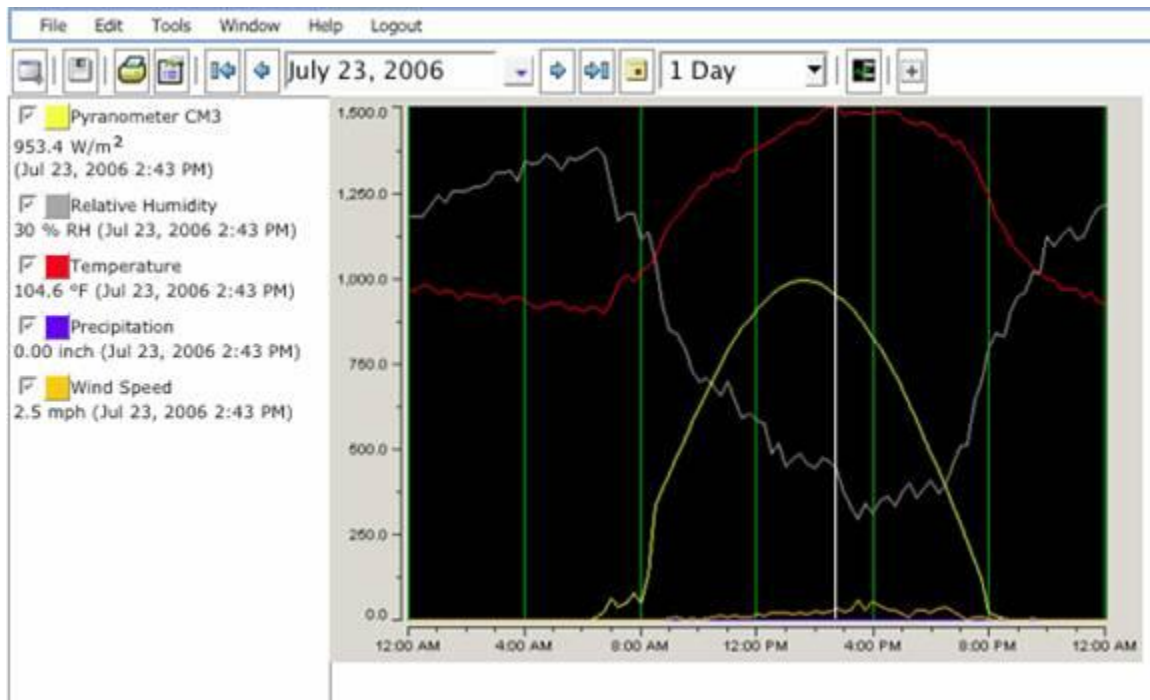
We may not get as many tons as we'd like, but that which we do get will be significantly improved.

Needless to say it is much easier to determine veraison with Pinot Noir than Chardonnay. You have to do it by touch. Still this Stony Hill cluster from P is looking



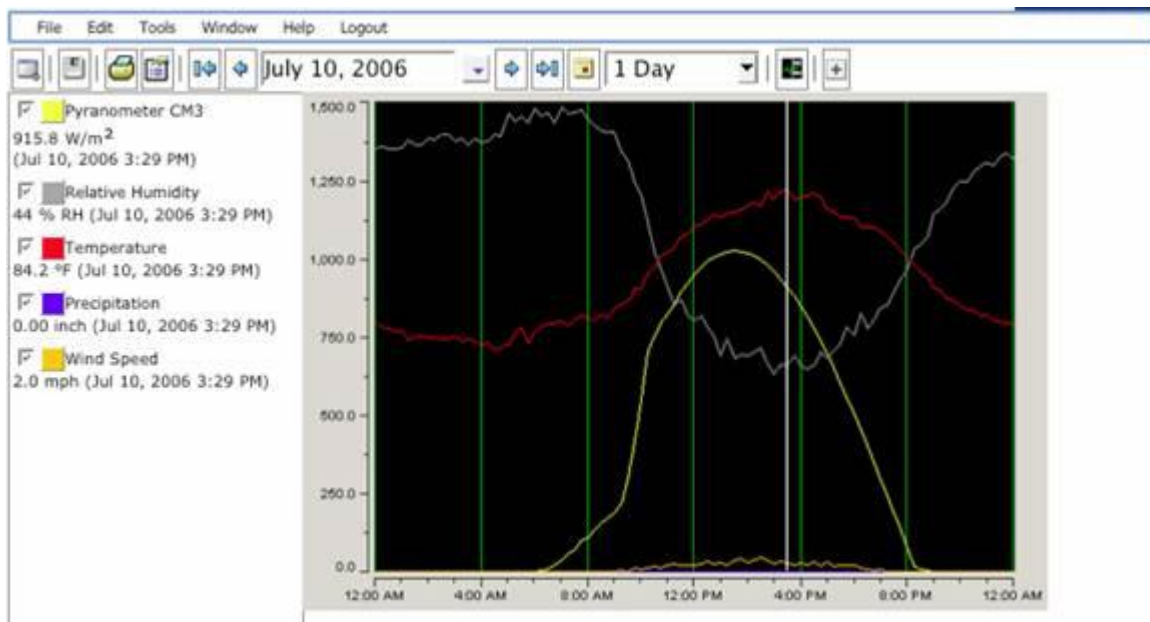
particularly good.

Meanwhile, in H & J, great progress. The blocks have been smoothed out, and we're ready to lay out the vineyard with flags, plant straws, then pencil rods, highway posts and end posts, put in the irrigation and wait till next spring to actually put the vines in the ground. Below is the almost final plan, I'd attach the final plan but it is too big, this one has got the sub blocks right and only has two errors, both in H3, the spacing (because it is going to be Chardonnay will be 7x4, and the row direction (because it's Chardonnay) will be 30 degrees.



Basically we're off the chart. That's 104.6 in the shade.

Here's a relatively normal summer day in Green Valley:



Don't just look at the red lines (how hot). Look at the gray lines, humidity and the yellow, the pyranometer ("a sensor that is designed to measure the solar radiation flux density in watts per meter square," i.e. how much sunlight). On the 10th we had some early morning fog, while not even a wisp on the 23rd. The problem is not only am I cranky, so are the vines. The plants actually shut down all unnecessary activities – like making grapes – in a selfish effort to stay alive. We are hoping for a return to normalcy soon.

In the meantime the key is water. An oft-heard buzz phrase is deficit irrigation. But is it really “deficit” irrigation, such as dry farming or simply controlling the timing and amounts of water applications. To quote Daniel Roberts’ 2006 Bloom Petiole Report for Iron Horse Vineyards, “work in apples indicated that translocation of photosynthate was more influenced by water stress than photosynthesis.” In short (and with, mostly, shorter words), vines with less water ripen with greater uniformity, which is good. On the other hand no water and the leaves shrivel up, the shoots are stunted (which means fruit has to be dropped), the grapes look like raisins, and that’s bad. So whenever the temperature is going to go over 95F we turn the water on, and if needed, add potassium, which helps the roots take in the water.

Last month I mentioned veraison. It’s not happening yet so we’ll have to leave that for next month. Even so, it has been a busy time. Mainly leaf pulling and shoot positioning. Leaf pulling is harder than it sounds. Here are the rules that were handed out to the guys:

En la seccion AXR y Thomas Rd:

Quitando Ojas.

La meta es para dar mayor movimiento del aire al mismo tiempo manteniendo la sombra.

Las Reglas:

1. Quite solamente en la zona de frutas – no mas que un boton arriba de los racimos de uvas.
2. En la seccion del norte a sur trabaje solamente el lado este y adentro de donde se separa las ramas, en la seccion este a oeste trabaje solamente el lado norte y adentro de donde se separa las ramas.
3. Quite laterales y socas no necesarias (una soca se puede ser necesaria si da sombra) y solamente quite las ojas si la planta esta muy enredada.
4. Si la planta no tiene buen tamano o no es muy vigarosa, quite solamente las socas, laterales y ojas en, o cerca de la separacion de las ramas.

and for those who don’t speak Spanish:

On AXR blocks & Thomas Rd: Leaf Pulling. The goal is to allow for better air-flow and also to preserve shade

The Rules:

1. Remove only in the fruit zone - no more than one node above the clusters
2. In North/South blocks work only the **east** side and inside the split cordon, in East/West blocks only **north** side and inside the split cordon.
3. Remove laterals and unnecessary suckers (a sucker may be necessary if it is providing shade) and **only remove internal, shaded, leaves** if the vine is too crowded.
4. If the vine has a low canopy (low vigor) remove only suckers, laterals & leaves on or near the cordon

As with everything else the key is balance, we want enough light to get veraison and improve flavors, but not too much light, which could result in sunburn and bad flavors, while getting enough air-flow to be able to avoid bunch rot and other such issues, like the first hints of botrytis seen in the cluster below.



In C we've seen some real progress, all of the benchgrafts have been trimmed to a single shoot, which is then loosely tied to the pencil rod. First, lift the carton, then select the shoot (based on thickness, height and position), tie, then cut and finally replace the carton. Here's Benjamin Briano at work:



The shoots should reach the fruit wire at 30” in the next few weeks, and if all goes well next spring we may start some short canes and even get some fruit.

Next month: Laying out H, veraison (I hope) and waiting for harvest.



June 25, 2006

We actually made it through bloom pretty much intact. We are now out of the woods, not at the Emerald City yet, but out of the woods. Just to let my heart skip a few beats David Munksgard went out and found a few vines with some shatter in 1 block, most likely due to the swings from cold to warm to cold again, and then back to warm, but other than making me climb up one of the steeper hills at Iron Horse, walk many rows – and check out our neighbor goats at Redwood Hill – things went quite well. The set looks good and now we need carefully to watch the vines for veraison (changing color).

Below is our latest NDVI, which looks impressive except that I have no idea what I’m supposed to be looking for. Luckily, Daniel Roberts is around.



Shoot thinning is progressing very well. Next we move on to shoot positioning and, where appropriate and only where appropriate, removing laterals and leaves. It always strikes me that when driving around the county, except during harvest and pruning it doesn't seem as if much is going on, and yet, each of our 96,000 or so producing vines (in C alone we planted about 36,000 or more vines) each of which will be visited at least four times in a season; pruning, shoot thinning, shoot positioning and harvest.

The other activities are pest control, fertilizing and irrigation. Pest control is much like sausage making, there are things you just don't want to know. However, like it or not there are pests out there that need to be controlled. Take as an example a portion of the regular report we get from our advisor, Kevin Skene:

CH 1 27-May

No bloom seen yet Vines growing well with good color and good vigor However, vines lower leaves deeply lobed (all blocks on this Ranch) and some leaves somewhat deformed New growth seems to be growing more normal It may be possible that this is a nutritional issue brought on by spring fever Otherwise OK

Phomopsis in these blocks light, on shoots and occasionally on rachis.

This block: No bloom. 40% incidence with predator mites. No other mites seen. Dead vines in the SW corner next to blackberries may be PD or possible oak root fungus. We will be able to tell for sure at veraison. Note: At this point, trapping or treating for BGSS if it is PD would almost not be worth the money or effort due to vine growth.

It is apparent that eutypa is/has been a major issue in these blocks. Each block has a few dead spurs here and there where eutypa was pruned out. At this point, it seems there are 2 vines per row with obvious eutypa shoots that can be pruned out.

PD means Pierce's Disease. Curiously Kevin takes as his motto the advice featured on the cover of the Hitchhiker's Guide to the Galaxy – "Don't Panic."

Our first 'issues' are with various funguses or fungi such as phomopsis, mentioned above, botrytis and powdery mildew, the former two we can control using "organic" fungicides such as sulfur, copper and stylet oil (paraffin). To control phomopsis we need to use a product called Abound. It's a strobilurin fungicide and while not "organic" I think it is pretty neat. Strobilurin fungicides are actually fungus based and although they cost more (this year alone using Abound cost an additional \$1,100) they are more effective and dramatically less invasive than dithiocarbamate fungicides which can be quite nasty and may leave residues etc. and one really doesn't want to know what they are made of let alone raise your children close by. We also use Flint, a sterol inhibitor, also relatively benign yet effective (the only issue being resistance, i.e. don't use more than three or four times per year).

The best practice is close observation, then we can either choose what works or, if we are lucky, do nothing. Take as an example powdery mildew: PW needs six days with at least six hours when the temperature is between 70 and 85 degrees F. Too hot or too cold and we start the countdown or 'pressure' count all over again. Last year we were in PW heaven. This year it is no problem, so no need to spray (so far and that can change) after our first prophylactic applications described above. Shoot thinning also helps by allowing airflow and we welcome the good bugs like predator mites and ladybugs.

A quick aside: Recently I've been reading a fascinating book, *The Botanist and the Vintner* by Christy Campbell. While the main story is that of the original phylloxera outbreak, before that, by accident, Downy Mildew arrived in France from America in the 1850's with almost the same dire effect as the earlier Irish Potato Famine. Wine production declined by about two-thirds in France alone. Mainly a new pest had arrived which they called *Oïdium* and no one knew what to do. As Christy Campbell noted:

Crackpot remedies abounded, herbal bonfire smoke, douching the roots in brine, washing foliage with soapy water, distempering with bizarre chemical cocktails, planting potatoes among the vines to somehow draw away the poison...

Water from the holy source of Lourdes also failed to turn back the infestation (it also didn't work against Phylloxera 15 plus years later). Only one thing worked, sulfur, which was a lot more expensive and a lot harder to apply than it is today, and yet today because it is "natural" or an element is deemed to be organic. Also people believed what they wanted to believe. I saw the same reaction in the early 90's when Phylloxera began to show up in Napa and Sonoma Counties. Instead of doing anything (like stop planting AXR rootstock) growers on

the hillsides were absolutely convinced that the aphid wouldn't attack their vineyards. When it did the response was that the aphid had mutated, it took awhile when we all had to admit the AXR (a vitis vinifera hybrid) simply wasn't resistant and that Phylloxera is remarkably adaptive.

The lesson to be learnt from both Phylloxera and Oïdium is that we have to use the best that science has to offer, after all fungi are just some of the problems we have to deal with (to get a fuller picture just go to the U.C. Davis IPM - integrated pest management - site for grapes <http://www.ipm.ucdavis.edu/PMG/C302/m302yi01.html>) but never take anything for granted.

Meanwhile it's been exciting in H. We've actually starting ripping.

I'm going to let the pictures say it all.





Next month, veraison and baby vines in C....

May 25, 2006

On my way up the hill from the corral I pass a vine that has “gone native.” It probably started as a seed from a grape that fell out of a picking bin from the Thomas Road vineyard (making it either Pinot Noir or Chardonnay or a hybrid of both). Somehow it has managed to stay alive and is an excellent example of what grape vines really want to do: live and grow. I think we have a mistaken concept that living things first desire is to reproduce. Looking at the feral vine it is clear that its priorities are growing its trunk, shoots and leaves. While not a parasite it has used the nearby shrubs and trees to lift itself off of the ground and into the light. The actual fruiting “zone” is quite small by comparison to our cultivated vines and seems to be where the light is maximized and competition from other plants is minimized. Our feral vine is a reminder that what we are really trying to do is trick the vines into reproductive growth (i.e. grapes) and only just enough vegetative growth (shoots and leaves) to support the grapes.

Consistent with the above, now the main tasks in vineyard, once we finished pruning and hopefully before bloom, are suckering, shoot thinning and shoot positioning. When we were pruning we were mainly getting rid of old growth. Suckering and thinning is getting rid of unwanted growth, extra shoots (or doubles – a real problem with Pinot Noir), shoots growing out of the trunk or inside and/or under the cordon as well as barren shoots.



The two relative young blocks G & K, which are cane pruned pose an even more complex task, as we have to decide not just this year's shoots but also pick next year's canes. Here are some of my notes:

Go to the vine, then:

- Sucker the trunk - everything lower than 8" below the fruit wire
- Start from the two outsides and move in:
 - Remove doubles (no more than one shoot per bud), the weakest one or the one with no fruit
 - Remove shoots going down – sideways is okay
 - Try to keep inter bud spacing at about a wrist (about 5")
- Select replacement canes
 - If two canes, select two replacements on each side – one each for insurance
 - Replacements should be between 6" and 4" below the fruit wire
 - Replacements should be from the canes if possible, otherwise if there is a spur that is high enough use the spur – Note okay if one replacement is on the cane the other is on the spur
 - If both replacements are from the cane and there is a spur remove the spur
 - Finish suckering the trunk
- Tipping: Only if an end shoot is 2x the size of the other shoots on the cane.
- If no canes: Try to select three strong shoots (preferably with fruit) between 6" and 4" below the fruit wire

Move on to the next vine and repeat...

It's a lot of work and it all has to be done by hand, and yet I'm pleased to say the vineyards have never looked better. That said we are now moving into the scariest time in the vineyard. Flowering. What looks like clusters are actually called inflorescences,



or “flowers-to-be.” Once they start to open they are at risk. Most of all we watch the weather, it can't be too hot, or too cold, and rain is definitely no fun. As I explained to Joy we are entering the woods, we are not out of the woods and the woods are dark lonely and full of lions, tigers and bears.

Meanwhile all the vines, be they bench grafts or rootings are in the ground in C and all the old vines are out of H.



Update April 25, 2006

Pruning is over. We started on January 3 in N block (Pinot Noir on AXR most likely for sparkling). And finished in B, a young Pinot Block at the end of March. Our pruning order was determined by weighing various factors, such as frost risk, Pinot or Chardonnay, still or sparkling assigning each a numerical value (for example high frost risk is 3, sparkling is 1, etc.) based upon which should be pruned the latest. We then add up the scores, adjust for proximity etc. and we have a program. The program is more than the block order. Last December we walked the entire vineyard with Daniel Roberts – before he fell into a gopher hole and broke his foot. For each block we pre-determined how the block was to be pruned and our goals. Here are some of my notes:

F& E: If weak vine, cut back to an S if possible, if very weak cut back to 2 2-bud spurs.

LMNOP & Q: Same as last year, no extensions, 2 buds for each spur in Q

B & I: Training: Need to achieve uniformity. If less than a pencil thickness then down to 2 buds, thick enough but weak 2 2-bud spurs, never lay down only one cordon, never lay down only one extension. Also if concerned about tying leave a spur (but remove spur if tie works). V's not bends, balance cordons and extensions, no spur if extension. If necessary, such as internodes are too big, better to start over with new spurs.

Thomas Rd.: Same as last year, where possible chose lower buds.

The key word is “uniformity,” The goal is to convince the vines to grow grapes (reproductive growth) and not just shoots and leaves (vegetative growth). Like almost all tree fruits (the only exception I know is olive trees), fruit only grows on new wood, hence why we prune back as severely as we do, to get as much bearing wood as possible. That gets us grapes, but the next issue is how to make sure they are great, and that is why “Uniformity” is key. We want the shoots to be the same diameter and height, only leaving two buds if the vine is strong, otherwise just one.

Mainly we survived the rains, got done all the miscellaneous projects that had to be done and we’ve finally started in earnest to plant the vines in C block.



Replanting H Block: What we had was a 22-acre block of very old most likely Gamay Clone Pinot Noir roughly running North/South. 11' by 6' spacing. What we'll end up with is about 13 acres of Pinot Noir divided into 5 blocks with four different clones running true North/South with 7' by 3' spacing and a two acre Chardonnay block running Northeast/Southwest (30'- 210) 7' by 4' spacing. We took the results of about 60 plus soil pits, CAD (computer assisted design) and the best engineer in the field to digitally design a new vineyard allowing for maximal natural drainage as well as retain native habitat and, most important, plant exactly where we should plant to have the greatest possible Pinot Noir and Chardonnay. We then can take what was in the computer, move all that info to a hand held computer and then lay out to the vine in the actual vineyard using laser guided surveyor's equipment. The end goal is the right varieties, on the right rootstock, with the best clones, in exactly the right place, ripped to right depth, in the right soil, with minimal disturbance of the natural strengths of the site. Then we take a step back in time. All the vines will be cane pruned (Pinot single Guyot, Chardonnay double Guyot and the vines no more that 30 inches high). It is going to be a great vineyard, but it is a lot of work. For example to be sure we get what we want in terms of clones and rootstock we are taking certain risks (low vigor vines are susceptible to many diseases and no one has certified clean bud wood) so we have to first plant the rootings in March and then hopefully find and graft the bud wood in the fall right after harvest.