

VARIETY OBSERVATION TRIAL

Liberty Gallo Vineyard
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This field trial was established in 1991 to evaluate several varieties “new” to San Joaquin County and the Lodi area in particular. It is a non-replicated trial and as such does not provide a strictly scientific comparison of the included selections. However, there is a lack of information available on some of these varieties in California, it may give a starting point for alternative choices to diversify current production for future needs.

This variety block has helped determine some of the merits and faults of several varieties that have potential for improving blends or to provide distinctive varietal wines of their own. General growth and production characteristics have been noted as observed each year. Yields and fruit characteristics have been collected for comparison. There has been some effort to evaluate small lot wines of the more interesting of these selections, but no single focused effort is presently in place to evaluate all the varieties. Varieties from several international regions include:

Rhône

Syrah (Shiraz) 1,6,7	Mourvedre 1,3,5	Cinsaut 3
Viognier	Clairette blanche 1	Mondeuse
Marsanne		

Italian

Aleatico 1,4	Aglianico	Arneis
Barbera 1	Corvina Veronese	Corbeau* 3,5,6,7
Dolcetto	Freisa	Forastera
Lagrein	Marzemino 1	Montepulciano
Nebbiolo 1	Nebbiolo Lampia	Picolit
Pigato	Pignolo	Primitivo 3
Sangiovese 1	Sangiovese 3	Schioppettino
Verduzzo	Cortese	Mammolo Toscano
Raboso Piave	Teroldego	

Spanish

Tempranillo 3 (Valdepeñas)	Morrastel 1(Graciano)	Grenache 1A, 3
Picpoul noir	Xarello	

Bordeaux

Cabernet Sauvignon 7	Cabernet franc 1	Carmenère
Merlot 6	Malbec 3,4,6,9	Petit Verdot 1, 2
Semillon 2,3,6,7	Tannat 1	

Portuguese

Alvarelhão	Trousseau (Bastardo) 8	Souzão 1
Touriga 01	Verdelho 2	Trincadeira
Tinta Cão		

Other

Zinfandel 2	Melon 5	Symphony
Petite Sirah 3	Muscat blanc 01	Pinot gris 1,146,152
Chardonnay 4,5,13,16	Plavac mali	Tinta Amarella
Pinotage	Cabernet Pfeffer	Negrette
Pinot noir		

*Corbeau : Charbono prior ID

Mondeuse : Refosco prior ID

All of the varieties at this site are on the same rootstock, which is Freedom. This rootstock was chosen, as it represented the most common rootstock used in the district at the time of planting. Also, its general vigor demonstrates the maximum production potential of these varieties. This has helped indicate a “worst case” scenario from the vintner’s perspective and to help growers be aware of potential overcropping by appropriate rootstock selection and vine management. The choice of Freedom has had the additional “benefit” of providing an excellent indicator for any latent viruses that may be present in any of the scion wood used.

A summary of the site information is included in the following:

Rootstock: Freedom
Soil: Tokay fine sandy loam
Spacing: 7 ft x 10 ft (2.1m x 3.1m)
Irrigation: drip, 2 x 0.5 gph emitters per vine
Trellis: 24 inch T-Trellis; Bilateral cordon
Planted: 1991-93, 1995, 1999, 2004

Sangiovese R Very good yields and moderate vigor. Moderately low potential for bunch rot; berries are tough skinned. Will need crop thinning and proper trellis system and/or canopy management for good color and high quality. Several clones are available, but clone differences appear to be subtle by current industry experience. Differences between FPS clones 2 & 3 appear slight. Clone 3 seems to have more variability in berry size; some winemakers prefer it currently for its flavors. This variety is for growers comfortable with growing Zinfandel for red programs.

Nebbiolo R Very lanky growth, suited to cane pruning, however spur pruned vines at Liberty trial have done as well with regard to yield. Clusters are loose, long and large. Berry color is light and easily affected by crop level. Budbreak is very early, but harvest is very late. Not prone to rot, but low potential here, without strong commitment to crop and canopy management. Lampia clone appears to have less crop and slightly less color, although slightly less rot than FPS 1.

Charbono(Corbeau) R California Charbono appears to be the Corbeau variety of southern France. Moderately vigorous vine, high yield and very late ripening. Clusters are medium and fairly compact. Can make a nice wine of distinctive character, as already proven commercially, but may still have low potential due to late harvest and lack of market recognition. Minor rot problems in very wet years. Will require cluster thinning for quality red program.

Marzemino R Vine is moderately high in vigor and trailing in growth. Very nice, dark color of fruit, with large and loose clusters. Berries are tough skinned. Good yield, with no rot. Lower acid levels like Morrastel, but very interesting fruit character. A good blending choice, with some potential as a varietal.

Primitivo 03 R Determined to be a clone of Zinfandel (genetically identical), until recently it was considered a distinct variety by ATT (formerly BATF). Clusters are smaller and looser. Berries are smaller with some shot berry, very little to no rot. Yields are very good and vigor is moderate to high moderate. Berry color more even and deeper than Zinfandel. Generally matures well ahead of Zinfandel, 7 to 10 days on average and as much as 30 days in cool years or light crops.

Barbera 01 R Good yield and moderately high vine vigor. Clusters are medium in size and moderately compact. Excellent acid levels. Some rot potential, but manageable by irrigation and canopy management. Small number of clones available, with slight difference in rot potential. An older variety making a “comeback”, it deserves much more attention locally. Can make a distinctive high quality red wine or good for blending with respect to acid level and flavor.

Viognier W Vines are of moderate to low moderate vigor, but sometimes variable with “bull canes”. Very good yields, little to no rot potential, unless rained on directly. Clusters are fairly loose, small to medium in size. There have been some wood sources with virus problems. Needs crop thinning to achieve high quality and late mid-season harvest for flavor development. Color is nice, but not particularly sensitive to sunburn. Very good potential viticultural choice with comparable wine quality.

Syrah 01 (Shiraz) **R** Very high vigor vine with very good yields, no rot. Clusters are loose, well colored and uniform in ripening. Some sensitivity to *Botrytis* shoot blight at bloom time, but little to no potential for bunch rot at harvest. Excellent variety for this area with very good potential with respect to marketing. No apparent difference in FPMS clones as they are all same source of mother vine from Australia with varying levels of heat treatment. Vine is extremely vigorous, making rootstock selection and vineyard design very critical. Berries can become slightly flaccid (wrinkled or dimpled) at 21 Brix and above, yield loss not significant. Very similar experience in Australia, but rarely (?) in the Rhône Valley. Irrigation management and crop load may mitigate dimpling normally seen in California. It can produce 12 to 15 tons per acre, but crop levels less than seven to eight per acre needed for maximum color and flavor.

Mourvedre 3 (Mataro) **R** Low vigor vine, very upright in growth. Moderate to high crop levels. Color of fruit is very good in most years (1998 somewhat less), but sensitive to crop level. Requires cluster thinning for high quality. Very good potential, especially as the variety can be found scattered in some old Zinfandel blocks as part of old tradition of “field blends” (accidental or otherwise). Some potential as a varietal wine, but better suited to quality blends.

Cinsaut 3 (Black Malvoisie) **R** Moderately high vigor growth. Late ripening with high yield. Tendency for large clusters and very large berries (3+ grams). Old vines or intensive crop/irrigation management needed for quality. Some rot potential, but not severe. Uneven ripening in cool year (1998) Australian interest is faded, under field and climate conditions similar to this area. It produces a wine of distinctive character, but more suitable to high quality blends. Origins actually are probably as a table grape (similar to Zinfandel). Can be found in old Zinfandel vineyards as Black Malvoisie, along with “good old” Mataro (Mourvedre).

Clairette blanche **W** Yield is very good to heavy and vigor of vines is fairly high. Large, loose clusters, berries also fairly large. Canopy can be shaded, with shot berries evident in most years, yet production very constant. Irrigation and crop management may be needed. Harvest is late mid-season. Very similar to Chenin blanc, without the rot. Somewhat attractive to grape leaf hoppers. May be a good potential alternative for areas that have historically produced distinctive Chenin blanc.

Grenache **R** Very large and vigorous vine, with very heavy crop potential. Needs sandy or poor soil to control late season growth and for quality red wine program. Large clusters, very little to no rot. Well suited to a white program under most conditions, but deep color of fruit is possible even on Freedom (or other vigorous rootstocks). However, the site, clone, and rootstock selection will be very important. Few clones are currently available. Best suited to white program or quality red blend in the proper site. Deserving of more attention, for rose or red.

Tempranillo 3 (Valdepeñas, Tinta Roriz) **R** Another historical variety of the Northern San Joaquin Valley (Lodi) area that can be found mixed in old Zinfandel vineyards. Very similar to Zinfandel in vine appearance, slightly more vigorous vine. Fruit is very good and uniform color. Clusters are looser, berries have tougher skin, little to no rot, when compared to Zinfandel. Cluster thinning needed and rootstock selection important. Can make a distinctive and elegant wine of high quality. It's local potential is very high for quality blends or as varietal.

Morrastel (Graciano) **R** Yield is good and vigor moderate to high. Large loose clusters, with excellent color fruit. Low acid fruit, pH tends to be high. Good potential for California version of Rioja style wine, as a variety, but more likely as a quality blend. “Grower friendly” grape in the manner of Tempranillo or Syrah. Cluster thinning important as is irrigation and nitrogen application. Still a niche market potential or for complexity in blends..

Verdelho **W**. Vines are of moderate to high vigor. Very good yields, with no rot. Clusters are loose and medium in size. Good acid levels in juice. Slight powdery mildew sensitivity, but manageable. Early harvest and nice flavors. Adapted to machine harvested. It deserves much more attention as a blend or varietal, table or desert wine. Australians of Hunter Valley have produced quality wines under more difficult climate conditions.

Melon 5 **W** Vine vigor moderate to low. Very early ripening, with moderate yields. Small clusters and very compact. Berries weak skinned with tendency for bunch rot. Irrigation management important in most years. Older variety of the area that may have merit for sparkling wine blends or low alcohol wines. However, most likely very limited in potential due to viticultural disadvantages. Previously known as Pinot blanc.

Zinfandel 02 R/W Well known historical variety of local importance. Vine of moderate vigor and high productivity. Clone differences are subtle, but apparent in wines. Site effects may be more important. At clone trial site typical problems with tight clusters and uneven ripening occur, but well controlled by management (except in 1998). Significant and consistent clone differences are between Primitivo clones as a group and all other Zinfandel clones, of which there are many “field selection” clones. Beyond the real and perceived advantages to Old Vine Zinfandel sites; water, nitrogen and crop load are critical keys to quality “Red Zin” in Lodi.

Chardonnay 4,5,6 & 13 W Standard variety that previously “couldn’t be grown in San Joaquin county”. Some variation in yield of the various FPS clones 4 through 16, but slight, except for very low yielding 16. Moderate vigor and moderate yields. Quality of juice and small wine lots shows no difference among these FPMS clones, economic advantage to higher yielding clones 4 and 5. Newer Chardonnay clones becoming available through FPS, especially Dijon clones 95, 76, 75 and 96; these show significant fruit character differences and lower yields.

Symphony W A moderately vigorous hybrid developed by H.P. Olmo (Muscat of Alexandria x Grenache gris). Very good yields, good acid levels with strong Muscat character. Some tendency for fall cold damage where vigor is high or crop load is excessively heavy, such as sites with deep, fertile sandy loams or with high level irrigation. Where very heavy crop level is allowed Muscat flavor still is evident, but maturity is greatly delayed. Highly sensitive to *Botrytis* shoot blight in early spring, but very little incidence of rot at harvest.

Bastardo 8 (Trousseau) R Moderately vigorous Portuguese Port variety. Early ripening, with tight clusters and uneven maturity of clusters, resulting in some raisins. Berry color is only moderately dark. Rot can be a severe problem. May be difficult to grow for the benefits of blending, but does sugar early and birds are attracted to it. In 1998 very little rot compared to previous years! It adds interesting flavors, but may be worth the risk of limited use..

Cabernet Sauvignon R Well adapted to most areas, well suited to Lodi. Very vigorous and upright growth, moderately productive. Rot potential almost nonexistent, but has occurred with high amounts of water and nitrogen. Differences of early FPS clone selections almost entirely in yields, with clone 06 lowest yield, clones 7, 8 and 21 the highest and clones 2 and 4 moderate yields. Recent releases show more wine differences, especially French clones 15 and 337 (but many sources with Leaf Roll virus). Promising clones include 169 (similar to FPS 8), 412 an early ripening clone and a very interesting clone 338. Irrigation management and crop load are critical for quality, more so than available clones.

Merlot 6 R Moderate vigor, with very trailing growth. Does well in the local area with moderate to good yields, but very sensitive with respect to conditions that affect flower set. Poor set can result from excess nitrogen and excess water, low potassium or zinc deficient soils. Somewhat susceptible to poor set during wet, cool bloom weather as in 1998. Some indications in 1999 of berry shrivel problems in extremes of too much water early, or not enough water late in season and/or crop level, all interacting with soil texture and soil depth (affecting water availability). Some clone variation, but not consistent for FPMS clones 1, 3 and 6. Clone 3 is the most widely planted. Winemakers vary between preference of 3 or 6. Clone 8 most often with less consistent set and slightly less yield, with equal or lesser quality fruit. Clones 9 (from Italy) and clones 181 or 314 (from France) show promise for more quality from vintner’s view. Limited data locally suggests their yields and wines are similar to FPS clones. As with Zinfandel and Sangiovese, Merlot will respond dramatically to management and site.

Cabernet franc R Very similar to Cabernet Sauvignon in growth, but less upright. Production potential slightly higher and slightly earlier in maturity. Can be very productive and adds different flavors for vintners needs. A underutilized variety with more potential. With Sauvignon blanc appears to be parent of Cabernet Sauvignon by from a cross of unknown origin in a Bordeaux vineyard sometime prior to the 1700s.

Malbec 3, 4, 6 R Very high vigor with low yields. Clusters are small and tend to be loose due to poor set. Very good color and quality. This Bordeaux variety has very good potential for wines of distinction, but consistently demonstrates low production from available clones, especially clone 4. Low vigor rootstock absolutely necessary, with minimal nitrogen or water. Newly available clone FPS 09 may seem to have better production potential and may provide impetus for increase. Variety is extremely sensitive to vine vigor and fruit set factors such as rootstock, irrigation, nitrogen and zinc. Shoot tipping at onset of bloom makes a big difference in set and yield. Malbec (Cot) is the dominant workhorse (and premium) variety of Argentina. Best set ever in 2005 after four years of no nitrogen and only 24 gallons of water applied per vine in 2002.

Petit Verdot 2 R Moderately high vigor vine with very light yields for FPMS 1, almost an “ornamental”, except in high crop years such as 1997. Even then very low yields, less than two tons per acre. FPMS 2 has more acceptable yields, but still moderately low in productivity (five tons per acre). Very small berries and clusters; tends to have two to three clusters per shoot. Excellent color, very late ripening, but not unduly delayed in warm or moderate climate areas. Somewhat sensitive to powdery mildew, but manageable. May have limited demand as a varietal, but need for color and flavor enhancement in blends of all price ranges, may make it very worthwhile consideration.

Tannat R Vine is of moderate to high in vigor. Consistently productive with very good yield and great color. Clusters medium in size, moderately compact, but with little to no rot potential. Berries have tough skin and very intense deep color development. Variety from the Cahors near Bordeaux. Appears to be nice selection for varietal wine or color and flavor enhancement in blends, as well as a grower friendly grape. Cluster thinning to limit yields below seven to eight tons per acre, will be needed for higher quality. Some sensitivity apparent to recent drought conditions.

Semillon W Medium vine vigor and productive in yield. Clusters large and fairly compact, while berries are medium to large. Reputation for rot problems holds for FPS 6 and 7, but FPMS 1 and 3 consistently have less rot in this non-replicated trail. A traditional Bordeaux variety that has been overlooked (to the point of negligence), especially for blends, such as Chardonnay or Sauvignon blanc.

Pinot gris W Moderate to low vigor vine. Yield is moderately high, with numerous clusters that are small and very compact. Berry attachment to rachis is strong, possible problem to machine harvest? Color of fruit is distinctly “gray” or red. Harvest is early with some rot potential. A cool climate grape that can do reasonably well and has good potential for the area. The clones 146, 152 and FPS 01 are very similar in fruit appearance and composition. Some difference in yield with FPMS 01 slightly more productive, slightly less rot and slightly more color.

Schioppetino R Moderate vigor vine with moderate production. Clusters medium and loose, berries are medium to large with relatively tough skin. Color of fruit is very good and uniform, but later ripening. The unique flavor of fruit and its lack of obvious field problems suggests potential for Italian variety or blend? It deserves a serious look by those interested in Italian varieties. Not many virus tested sources yet. Fruit set sensitive to winter cold (2007) and to recent drought.

Dolcetto R Moderate vigor vine, tends to have many secondary shoots push. Moderately productive variety. Medium size, loose clusters and berries with tough skins. Color of fruit very good, but not intense, no rot. Will require some cluster thinning to avoid overcropping. Fruit has excellent flavor. Another very interesting Italian selection from grower and vintner perspective, with high potential. Limited clone sources and selection.

Freisa R Moderate vigor variety and very productive. Similar to Dolcetto at first glance. Most shoots have tendency to develop three clusters, which may require thinning as a normal practice to avoid overcropping. Medium to large cluster which is loose, but has slight potential for some bunch rot. Fruit color is very good to excellent with good flavor. Should be considered, but maybe more of a niche market compared to other Italian varieties?

Arneis W Moderate to moderately high vigor vine and moderately productive. Clusters are very compact and small, with uneven development of cluster maturity. Berries are thin skinned and split or damaged easily. There appears to be a severe sensitivity to Bunch rot infection. Fruit flavors are nice, but viticultural problems may limit the interest and potential.

Picolit W A low vigor variety, which appears to be very sensitive to cool and wet weather. Clusters are small and berries are small, with little to no weight.. All clusters have less than 50% set of flowers in some years, less than 10% set in 1998, less than one ton per acre! Good weather spring of 1999 resulted in best crop yet seen at Liberty site in last four years. Similar yield increase in 2009; the third year of drought.

Picpoul noir R A vine of moderate vigor and low production, with small compact clusters. Early ripening with good color, but a tendency to raisin quickly. Good potential, but may be somewhat limited. Not many virus tested sources available.

Pigato **W** Variety of moderate vigor, semi-upright shoots and medium to good production. Medium clusters with large berries. Mid season harvest and uniform ripening of clusters, but tendency for individual berries or portions of clusters to shrivel from water stress. Sensitive to both Summer Bunch (sour) rot and to *Botrytis* rot infections. Interesting variety, excelled wines (both varietal and for blending), but needs extra attention by grower.

Petite Sirah **R** Moderate to high vigor growth. Moderate to high production, but very low cluster count in 1998. Clusters are medium and very compact. Bunch rot can be severe and requires irrigation, nitrogen and cluster thinning to minimize problems. Fruit color very intense, flavors intense, but needs low vigor rootstock to obtain quality of which it is capable. Excellent potential for wine, but a difficult grape to grow, especially on fertile or deep or soil. Also called Durif and more recently being labeled Petit Syrah. It is identified as a natural hybrid of the varieties Syrah and Peloursin found in the Rhône Valley.

Verduzzo **W** Moderate vigor vine, with recumbent shoots and highly productive. Clusters medium in size and loose. Berries are small and fairly tough skinned. Similar in physical appearance to Merlot (no genetic relation). Harvest is fairly early. No rot, apparently due to loose structure and tough skins. Berries loosely attached to rachis, may easily machine harvest? Potential is a question, as no outstanding characteristics in the field and easy to grow.

Souzão **R** Moderately vigorous vine, semi-upright, with very good production. Medium clusters of loose structure. Berries medium to small with tough skin. No rot in 1998 after several rains, but harvested late (in good condition). Berries detach easily, may be good for machine harvest. Fruit color very intense, evident even in the juice. Good flavors, acid levels are average at best. Very high potential for quality table and port style production blends.

Touriga **R** Vine is moderately vigorous, but slightly less productive than Souzão. Clusters are medium small with some shot berries, no rot as in Souzão. Fruit flavorful and of very deep color. A variety with high potential for table wine or port production, as with Alvarelhão and Souzão. Some indication that this is Francesca selection of Touriga. Nacional selection of Touriga believed to be different, but debate over which is better. In either case an excellent variety for local interest as a table or port style wine of quality.

Muscat blanc **W** Moderate to low vigor vine, with low to moderate production. Medium clusters, moderately compact. Berry size medium to large, with tendency of individual berries to amber or brown and raisin with maturity. Very slight rot potential. Mild, but very distinctive flavor. A very early harvest, the earliest variety ripening, except for white Zinfandel. Not a variety suited to problem soils, due to lower vigor and fruit sensitivity during ripening to sun and heat exposure. Although dessert and sweet wine market is somewhat limited, this variety, along with the other Muscat selections and the Port varieties will be more important part of the area production. Interest in premium Port, dessert and aperitif wines continues to grow.

Lagrein **R** Moderately vigorous vine and moderate producer. Clusters large and slightly compact with medium berries. No rot even in wet years, but very late ripening. Very dark color and interesting flavors.

Carmenere **R** Moderate vigor vine of moderate crop. Late mid season ripening. Clusters are small and very loose with small berries and tough skin. Very good color, nice flavors and very good potential as its history in Chile indicates. Originally thought to be a Merlot clone found in of commercial vineyards of Chile.

Plavac mali **R** Moderately vigorous and very productive. Medium size clusters are loose with tough skinned berries that are crisp in texture. Late ripening and tolerates wet conditions well. Zinfandel like, but not bunch rot susceptible. It is a considered to be one result of a cross of Dobricic by Crljenak Kasteljanski (Primitivo).

Teroldego **R** Moderately low vigor vines, but very productive. Non certified sources can be virus infected. Small medium clusters somewhat loose. Berries medium small very good color. Very late season ripening, with very interesting favors that produce excellent wines.

Tinta Amarella R Moderate high vigor and productive, ripens late mid season. Medium large clusters, somewhat compact, with large berries. Some tendency for bunch rot. Color and flavor development is very good. Usually used in port blends. Possibly a selection of Trincadeira.

Vernaccia W Common name which confuses several different varieties red and white. Moderate to low vigor vines and low crop production. Mid to late season ripening. Clusters somewhat loose, with medium small berries. Some bunch rot.

Cabernet Pfeffer R Member of the Cabernet family, very productive, but less vigorous than other Cabernets. Late season ripening. Clusters are medium and compact, but no bunch rot. Non-certified sources may be infected with strains of Grape Leaf Roll associated Virus (GLRaV).

Xarello W Moderate vigor and very productive, late mid-season ripening. Clusters are medium large and somewhat compact. Berries are large and round with a fairly tough skin. Little to no tendency for bunch rot. Good juice yield and used in northern Spain mostly for sparkling wine, may be of limited use for table wine.

Marsanne W Rhône variety of moderate low vigor, moderate to low productivity and late ripening. Non-certified sources probably infected with leaf roll virus (GLRaV) strains. Clusters are medium small somewhat compact, minor bunch rot. Berries are small medium can tend to amber and may tend to be low acid. Wines may be similar to Clairette blanche.

Raboso Piave R Low vigor moderate yields, ripens late season. Clusters are small medium and compact, with no bunch rot. Berries are small dark colored good acid and flavors. Non-certified sources can have severe infections of leaf roll virus strains. (GLRaV)

Negrette (Pinot St. George) R High vigor vine, moderate to low productivity. Clusters are very compact and small with strong tendency to bunch rot, even with well managed irrigation. Good color development, but may be average in flavor components. Sometimes found in Old Vine Zin vineyards.

Cortese W Moderate vigor vines with moderate crop. Clusters are medium small and loose. Berries are medium in size. Late ripening, with minor rot problems.

Canaiolo nero R Moderate to low vigor, but non-certified wood with severe virus problems. Clusters medium small. And later ripening. No strong reason to be considered.

Montepulciano R Very vigorous vine with moderate to good yield. Clusters are medium and very loose. Berries are oval and medium in size and easily detach from pedicel. Color very intense and flavors very interesting. Poor set in 2005 from excessive growth of high rainfall year, possibly. Also poor set in 2008; spring frost year. Care should be taken about nitrogen and water applied. Color and flavor of fruit very interesting. Vines removed in 2009.

Mondeuse 01 R Vigorous vine growth and very productive, mid season maturity. Clusters are medium large and fairly loose, with no apparent bunch rot problem in recent vintages (2002 to 2004). Berries are medium and of good depth of color. It has been misidentified as Refosco FPS 02 until recently (2005). Vines removed in 2009 (for new trellis trial).

Corvina Veronese R Moderate to high vigor and good production. Clusters are medium large with medium large berries, slightly compact. Lots of second crop from lateral growth. Good color, but lighter. Mid to Late season ripening. May have some interesting flavor. Vines removed in 2009.

Aglianico R Moderate to high vigor with moderate to good production. Clusters medium and berries medium large, slightly compact. Good color and some good flavor. Late ripening, but no rot. Vines removed in 2009.

Forastera W Low vigor and good to heavy production. Cluster medium large and long, rather loose. Berries medium small attains deep golden color. Early mid season ripening.

Tinta Cão **R** Moderate to low vigor and moderate productivity. Late mid-season maturity. Small clusters somewhat loose, with small berries round and of good color. Good acid level.

Aleatico 1, 4 **R** Moderate vigor vines, but productive. Mid to Late mid-season ripening. Clusters medium and compact, but variable. Medium to large medium berry size, with uneven set. Good color and excellent failovers. It appears FPS 4 matures ahead of FPS 1, with more intense flavors?

Pinotage **R** South African cross of Pinot noir and Cinsaut. Very productive vines of moderate vigor. Small medium clusters and compact. Small oval berry of deep color. Mid-season ripening. No rot. Good flavors and of very good potential for local wines.

Pinot noir **R** An early ripening variety used for both sparkling wine and red wine production. Small compact clusters, with some tendency to bunch rot. Berries are medium small. Color often develops very well in Lodi area. Vines are moderately vigorous with moderate to very good yields. Vines are sensitive to heat and drought, but can do well with attention for good red wine quality. There are many clones because of its long record of use as a wine variety. Most often FPS 23, 13, 16 and 2A have been used, but many Dijon clones becoming available, including 777.

Sauvignon blanc **W** Not included in this trial, but a standard variety for the area which maintains a stable level of acres in production. Until recently only one clone was available in the state of California. New clones are becoming available such as the Musqué clone with more floral character.

Although, this trial is non-replicated, it provides a first look and an continuing opportunity to evaluate how these “new“ varieties grow in the Lodi district. It is a dynamic trial, as varieties are added or removed over time. Some varieties may already have strong supporters or definite winery commitments and there are more than 250 commercially available wine varieties, with several thousand in existence worldwide. Therefore, this trial will not be comprehensive, but it’s a beginning.

Among the varieties observed, there are some more suited than others to this area. Ultimately grower and winery commitment will determine the future variety composition of the local commercial industry. To complicate the issue of variety selection, clones are now of interest and will be very important in the future. Many times site limitations and grower practices will affect quality and yield more than clone selection. However, the use of clones both on an individual basis and as an industry will be critical to give the winemaker more to flavors to work with, much as a chef might use spices. Management of these varieties and their clones will be increasingly important to individual growers and to the local industry.

Some interesting varieties needed for this trial site and more evaluation throughout thte stae are:

Mammolo Toscano
Refosco
Nero d’Avola
Piedrossa
Alicante Bouschet
Negroamaro
Sagrantino
Lemberger
Dornfelder
Torrantes (Listan Prieto x Muscat of Alesandria)
Arinroa (Merlot x Petit Verdot)

Others from Greece, Hungary, Romania, Sicily, Croatia and?