

# Sparkling wines – production methods

Traditional	Transfer	Tank / Charmat	Asti	Carbonation
<p><b>1. Picking by hand (whole bunches)</b></p> <p><b>2. Whole bunch pressing</b> Gentle extraction with minimal phenolics &amp; colour from black grapes ✓ Tradi vertical press - 160kg grapes for 100l of juice ✓ whole bunch to help free run juice flow + avoid grape damage</p> <p><b>3. 1<sup>st</sup> Fermentation</b> ✓ Over winter following harvest ✓ 12-25C i.e. can be warm &amp; quick (25C) to avoid fruit &amp; fermentation esters ✓ Mostly stainless steel ✓ No MLF =&gt; fruitier &amp; simpler sparkling ✓ grape varieties fermented separately</p> <p><b>4. Blending &amp; cold stabilisation</b> ✓ Possibility to blend with base wine from previous vintages (up to 45% depending on houses) ✓ Bulk blending tanks ✓ cold stab to prevent tartrate crystals formation in bottle #1 influence on final wine</p> <p><b>5. Bottling &amp; tirage</b> ✓ Addition of liqueur de tirage (sugar, yeasts &amp; riddling agents) ✓ Liqueur de tirage: 24g/l sugar for abv +1.2-1.3% &amp; 4-6 atmospheres of CO2 pressure ✓ Strong, dark bottles+ crown cap</p>			<p>1. Muscat must chilled at 0C until needed</p> <p>2. Fermentation in pressure tanks to 6% abv</p> <p>3. Fermentation interrupted via chilling</p> <p>4. Filtration + removal of yeasts</p>	CO2 injected into a tank of wine + pressure bottling
<p><b>6. 2<sup>nd</sup> fermentation/prise de mousse in bottle</b> ✓ Slower (4-8 wks) ✓ Colder (12C) ✓ Use of yeast that flocculate &amp; leave deposit easy to remove afterwards</p> <p><b>7. Lees ageing</b> ✓ Length – key A. Most: 9mths min B. Ch. NV: 15mths ageing w 12 on lees C. Ch. Vintage: 36 mths min #2 influence on final wine ✓ Autolysis: actions of dead yeast cells after 2<sup>nd</sup> fermentation: 1. Improves mouthfeel via polysaccharides release, 2. reduces tartrate precipitation, 3. improves protein stability 4. creates acacia, biscuity, bready notes. Significant effect only after 18mths and real differences after 5/10 years.</p>		<p><b>6. 2<sup>nd</sup> fermentation in tank</b> ✓ in tank to retain CO2 under pressure ✓ Once 5 atmosphere pressure reached, fermentation stopped</p> <p><b>7. Cooling</b> (to -5C)</p> <p><b>8. Dosage</b></p> <p><b>9. Pressure bottling</b></p>		
<p><b>8. Riddling</b> ✓ Tradi: bottles inclined and manually turned by remueurs. 6wks+ ✓ Now: gyropallettes (1<sup>st</sup> for Cava in 70s) with 504 bottles stacked on metal racks that change orientation to precipitate yeast plug into the neck of the bottle. 3days+</p> <p><b>9. Disgorging</b> ✓ Bottle necks frozen in freezing solution ✓ Bottles up ended and frozen deposit flies out.</p> <p><b>10. Topping up dosage Bottling</b> ✓ Bottles topped up w/ liqueur de dosage (sugar syrup &amp; wine) ✓ Bottles corked up + wire muzzle 5-12g/l residual sugar for most sparkling wines ✓ The longer on lees, the less dosage required. ✓ Transversage used for smaller &amp; bigger sizes (tank + bottling)</p>	<p><b>8. Tank transfer</b> ✓ Bottles chilled &amp; transferred w/ dead yeast deposit into tank Clarification (filtered)</p>			
Crémant / Cava / Champagne	Likely to taste like sparkling version of still wine. NZ	Prosecco, Lambrusco SA's SB & Muscat	Asti	Not quality Usually large numerous bubbles with a mousse that fades quickly

## LEGAL REQUIREMENTS

- 3 atmospheres: minimum fizziness. Sweetness levels:
  1. <6g/l - Extra Brut / Brut Nature / Extra Herb
  2. 6-15g/l - Brut/Herb
  3. 12-20g/l - Extra Sec/Extra Trocken
  4. 17-35g/l - Sec/Trocken
  5. 33-50g/l - Demi-sec/Halbtrocken
  6. >50g/l - Doux/Mild

## STYLES

1. Non-vintage: blend of several years
2. Vintage: single year base wine (Champagne), min 85% (other regions)
3. Rosé: addition of red wine or skin contact (rare)
4. Blanc de blancs: 100% white grapes (Chardonnay for Champagne). Meaningless for basic sparkling wines.
5. Blanc de Noirs: 100% black grapes (P. Noir & Meunier in Champ.). Calif: can have white grapes, just indicates slight copper tint

# CHAMPAGNE

HISTORY	<ul style="list-style-type: none"> <li>• Name from Campania meaning countryside in latin. 3 towns: Epernay, Ay, Reims.</li> <li>• 5<sup>th</sup> A.D.: 1<sup>st</sup> serious mention of wine making with St Rémi.</li> <li>• Vines planted since 9<sup>th</sup> century by local abbeys and nobles. Wine business prosperous thanks to closeness to Paris.</li> <li>• Wine = still and mainly made from Pinot Noir.</li> <li>• Champagne: 1<sup>st</sup> region to make sparkling wine</li> <li>• 17<sup>th</sup>: Dom Pérignon improved quality of (still) wine by promoting low yields, severe pruning &amp; careful harvesting. Wines used to stop fermenting in cold winters &amp; resume in spring so release of CO2 and slight sparkle. Marquis de St Evremont banished to Britain introduced English society to sparkling Champagne wines after stronger bottle making introduced.</li> <li>• 18<sup>th</sup>: sparkling wines would break even stronger bottles. Low production.</li> <li>• 19<sup>th</sup>: Veuve cliquot domain introduced the pupitres for the remuage process. Corks also got better. Scientist Chaptal understood 2<sup>nd</sup> fermentation better</li> <li>• 1838: death of André Francois who left his formulae for qty of sugar to be added for 2<sup>nd</sup> fermentation.</li> <li>• Mid 19<sup>th</sup>: young entrepreneurs Krug, Bollinger and Roederer set up business and the Champagne industry kicked off.</li> <li>• 1890: Phylloxera 1917: collapse of Russiant market 1890-1911: fraud pushed definition of area.</li> <li>• 1927: INAO definition of Champagne area</li> <li>• 1935: creation of Commission de Chalons headed by De Vogué, head of Moët; provided stability.</li> <li>• 1941: creation of CIVC to represent the interest of the region's growers vs. German weinfuhrers.</li> <li>• 1950-2000s: sales of Champagne x4. France: 2/3 of sales. Exports: UK, US, Be, Swtz.</li> </ul>
LOCATION	<ul style="list-style-type: none"> <li>• 5 main areas: <ol style="list-style-type: none"> <li>1. Montagne de Reims: 9 Grands Crus incl. Ambonnay, Ay-Champagne, Bouzy, Verzenay, Verzy.</li> <li>2. Vallée de la Marne: 2 Grans Crus incl. Mareuil-sur-Ay, plus Premiers Crus Dizy, Hautvilliers &amp; Cumieres.</li> <li>3. Cote des Blancs: 6 Grands Crus incl. Cramant, Avize, Le Mesnil-sur-Oger.</li> <li>4. Cotes de Sézanne: no Grands Crus</li> <li>5. Aube: no grands crus. More rustic pinot noir based blends.</li> </ol> </li> </ul>
CLIMATE & WEATHER	<ul style="list-style-type: none"> <li>• Cool continental, very dry . Mean July temp: 19C. Rainfall: 630mm/year</li> <li>• Key risks: harsh winters, spring frost (esp. Vallée de la Marne) &amp; fungal diseases</li> </ul>
SOILS & TOPOGRAPHY	<ul style="list-style-type: none"> <li>• Most of the Grand Cru villages on the slopes &amp; around east-facing Cotes des Blancs (south of Epernay) or Montagne de Reims (south of Reims).</li> <li>• Chalky soils so roots dig deep to aid draining and water retention. Soils very poor -&gt; fertilising w/ cendres noirs (natural local compost)</li> </ul>
GRAPE VARIETIES	<ul style="list-style-type: none"> <li>• 3 grape varieties: <ol style="list-style-type: none"> <li>1. Pinot Noir: 35% of plantings. Provides body and length on palate + biscuity flavours with age.</li> <li>2. Chardonnay: 25% of plantings. Provides acidity, austerity &amp; elegance + vanilla flavours with age. Usually grown in Cotes de Blanc &amp; Cotes de Sézanne. Buds early and susceptible to spring frosts. High yielding. Plantings in Fr nearly doubled 1980-00 thanks to Champagne's global success.</li> <li>3. Pinot Meunier: 40% of plantings early mutation of Pinot Noir provides attractive fruitiness in youth, mushroom complexity w age. Later budding so less risk of spring frost.</li> </ol> </li> </ul>
VITICULTURE	<ul style="list-style-type: none"> <li>• Hi density planting(6-10,000 vines/ha). Vines replanted every 25-30 years.</li> <li>• Relatively high yields (66hl/ha)</li> <li>• Taille Chablis (Chardonnay) &amp; Cordont (Pinot Noir &amp; Meunier) retain high levels of permanent wood, aiding frost resilience.</li> <li>• Harvest late September. Date set village by village + necessity to hit potential alcohol level set for each year's harvest.</li> </ul>
WINE-MAKING	<ul style="list-style-type: none"> <li>• Base wine: minimum level 8% abv but possibility to chaptalise to 9.5% abv. Final wines: 12-12.5% abv</li> <li>• Large &amp; small bottles disgorged and decanted into a tank and then bottled (transversage)</li> </ul>
TRADE	<ul style="list-style-type: none"> <li>• Champagne = 5 million hl/year. 1 in 12 bottles of sparkling wine in the world.</li> <li>• 301 Crus with scale price system according to location.</li> <li>• Strong presence of cooperatives and individual growers: only 10% of vines owned by merchants, rest owned by 20,000 growers.</li> <li>• CIVC: organises &amp; controls production, distribution and promotion of Champagne wines + research. Set price for the grapes until 90. Financed by levy on production &amp; tax on sales. Most importantly defends Ch. name and reputation.</li> <li>• Production dominated by Champagne House and cooperatives. 7 biggest houses= 70% of sales</li> <li>• Moët &amp; Chandon: founded in 1743 by Claude Moët. largest group after acquisition of Mercier (1970) &amp; Ruinart (1963). Merged in 1987 with Louis Vuitton Group who owned Veuve Cliquot, Canard-Duchene. 2005: LVMH owns 5 Champagne houses with also Krug. 1 in 4 bottles of Champagne exported is M&amp;C. Prestive cuvée: Dom Pérignon.</li> <li>• Krug: small but important, founded by Johann Krug in 1830, specialises in prestige cuvees; only barrel fermentation for base wine. Owned by LVMH since 99.</li> <li>• Louis Roederer: family owned; founded in 1776 by M Dubois. Roederer became owner in 1833. Known for links with Russiant court. Bought 60% of Deutz (1993) &amp; diversified into Bordeaux.</li> <li>• Bollinger: independent Champagne house producing top quality from pinot noir. Created in 1829. Use of partial barrel fermentation + tirage in bottles stoppered with corks (not crown caps).</li> <li>• Veuve Cliquot: Nicole Ponsardin, who is credited with invention of riddling and devising yellow label. Wine based on Pinot Noir grapes, mainly from Bouzy. Prestive cuvee: La Grande Dame.</li> <li>• Pol Roger: family owned, founded in 1849, top quality but small brand. Winston Churchill's favourite champagne.</li> </ul>
OTHER TERMS	<p>Cuvée: 1<sup>st</sup> &amp; best juice from press.  Prestive cuvée: highest quality wine from given Champagne house.</p>

## CRÉMANT

(ALSACE, RHÔNE, BURGUNDY, LOIRE, PYRENEES, BORDEAUX, FRANCE)

DEFINITION	<ul style="list-style-type: none"> <li>Crémant: Dry sparkling wine made outside of Champagne using traditional method. NB: sparkling wine from Luxembourg also called Crémant.</li> <li>Mousseux: any French sparkling wine made by either traditional or Charmat method.</li> </ul>
LOCATION APPELLATION	<ol style="list-style-type: none"> <li>Alsace – 1980s</li> <li>Die (Rhône) - 1999</li> <li>Burgundy (esp. Cote Chalonnaise e.g. Rully &amp; Auxerre) - 1975</li> <li>Loire (Anjou-Saumur + Touraine) - 1975</li> <li>Limoux (south of France) - 1990</li> <li>Bordeaux</li> <li>Jura - 1995</li> </ol>
CLIMATE & WEATHER	<ul style="list-style-type: none"> <li>Varies but best Crémants come from cooler sites (Loire, Burgundy, Alsace &amp; Limoux).</li> </ul>
SOILS & TOPOGRAPHY	<ul style="list-style-type: none"> <li>Various but best Crémants made from grapes grown on calcareous soils e.g. Anjou-Saumur, Touraine, Burgundy, Limoux).</li> </ul>
GRAPE VARIETIES	<ul style="list-style-type: none"> <li>Non-aromatic varieties with high acidity.</li> <li>Crémant d'Alsace: Pinot Gris, Blanc, Noir, Riesling, Auxerrois &amp; Chardonnay</li> <li>Crémant de Die: 100% Clairette. (≠Clairette de Die).</li> <li>Crémant de Bourgogne: all grape varieties from region (Chardonnay, Pinot Noir, Gamay) but Gamay not more than 20% of blend.</li> <li>Crémant de Loire: most grapes (Chenin Blanc, Cabernet Franc, Grolleau) with Grolleau not more than 30% of any blend.</li> <li>Crémant du Limoux: Chenin Blanc (20-40%) + Chardonnay with the two needing to reach 90% of blend. Pinot Noir &amp; Mauzac (max 10%). Mauzac: relatively aromatic, hi acidity NB: Blanquette de Limoux = higher percentage of Mauzac but same traditional method. NB: Blanquette de Limoux Methode Ancestrale = undisgorged sparkling 100% Mauzac. Cloudy, sweet + less sparkling.</li> <li>Jura: min 50% Chardonnay. Savagnin, Pinot Noir.</li> </ul>
VITICULTURE	<ul style="list-style-type: none"> <li>Generally hi density planting with Max yields from 50hl/ha (Die, Loire, Limoux) to 80hl/ha (Alsace). Others: 65hl/ha.</li> </ul>
WINE MAKING	<ul style="list-style-type: none"> <li>Base wines: grapes must be whole-bunch pressed (thus hand harvested).</li> <li>Max yields: 100l per 150kg grapes (=Cava &gt; Champagne)</li> <li>Traditional method with min 9mths ageing on lees.</li> </ul>
PARTICULARITIES	<p><i>Limoux</i></p> <ul style="list-style-type: none"> <li>Claims to have developed sparkling wines before Champagne (1531 in St Hilaire Abbey)</li> <li>Higher cooler vineyards in eastern Pyrenean foothills.</li> <li>Key grapes: Mauzac, Chardonnay, Chenin Blanc and then Pinot Noir for sparkling</li> <li>Sparkling business dominated by cooperatives. Most famous estate: Domaine de l'Aigle.</li> </ul> <p>Clairette de Die</p> <ul style="list-style-type: none"> <li>Done since Roman times according to some</li> <li>Clairette de Die mainly Muscat blanc a petits grains +methode Dioise</li> <li>Methode dioise = wine fermented to 3%abv and bottled for 2<sup>nd</sup> fermentation to 7-8%abv with hi levels of unfermented sugar. Lees ageing for 4mths and disgorging as per transfer method. Similar to Asti.</li> </ul>

## LOIRE SPARKLING

(SAUMUR/VOUVRAY, FRANCE)

LOCATION	<ul style="list-style-type: none"> <li>Mainly Saumur &amp; Vouvray.</li> <li>Vouvray: birthplace of Chenin Blanc, very small town on the northern bank of Loire, viticulture developed by monks &amp; monasteries.</li> </ul>
CLIMATE	<ul style="list-style-type: none"> <li>Cool continental with some Atlantic maritime moderation.</li> </ul>
SOILS	<ul style="list-style-type: none"> <li>Chalky limestone (Tuffeau blanc)</li> </ul>
GRAPE VARIETIES	<ul style="list-style-type: none"> <li>Chenin blanc -&gt; Vouvray -&gt; wines with honeyed aromas and some weight. NB: Chenin blanc = Pineau de Loire; early budding, late ripener; hi in acidity</li> <li>Chenin Blanc &amp; Cabernet Franc -&gt; Saumur NB: Chenin Blanc most planted in Anjou-Saumur area</li> </ul>
VITICULTURE	<ul style="list-style-type: none"> <li>Hi density planting.</li> <li>Yields 50hl/ha</li> </ul>
WINE MAKING	<ul style="list-style-type: none"> <li>Base wine: cool years =&gt; grapes not ripe =&gt; issue</li> <li>Traditional method</li> </ul>

# SEKT

(GERMANY)

DEFINITION	<ul style="list-style-type: none"><li>• Sekt: sparkling wine</li><li>• Deutscher Sekt: sparkling wine made from German grapes.</li></ul>
WINE MAKING	<ol style="list-style-type: none"><li>1. SEKT<ul style="list-style-type: none"><li>• Base wine: 90% Sekt made from French, Italian or non German still wines.</li><li>• Tank method</li><li>• Styles: mostly dry (Trocken) or medium dry (Halbtrocken). Usually inexpensive.</li></ul></li><li>2. Deutscher Sekt<ul style="list-style-type: none"><li>• Base wine: solely German wine mainly from Riesling, Chardonnay or Pinot Noir.</li><li>• Higher quality with wines carrying name and vineyard of origin + vintage + variety</li><li>• Made by Sekt manufacturers or by estate (if so, usually bottle fermented)</li></ul></li></ol>
TRADE	<ul style="list-style-type: none"><li>• 375million bottles/year</li><li>• 94% Sekt (85% white)</li></ul>

# CAVA

(CATALUNYA, RIOJA & VALENCIA, SPAIN)

DEFINITION & HISTORY	<ul style="list-style-type: none"><li>• Spanish sparkling wines using traditional method.</li><li>• 'Cava' means cellar; term adopted in 1970 instead of Champana. Denomination not limited geographically but production restricted to list of municipalities around Spain.</li><li>• 1872: Codorniu, founded by Raventos family, made first bottles in San Sadurni de Noya after visit in France.</li><li>• 1889: Freixenet founded by Pedro Ferrer</li></ul>
LOCATION	<ul style="list-style-type: none"><li>• Mainly Catalunya (95%), Rioja &amp; Valencia.</li></ul>
CLIMATE & SOILS	<ul style="list-style-type: none"><li>• Catalunya: moderate to cool Mediterranean with most vineyards in altitude (200-500m) or higher (best).</li><li>• Catalunya: limestone based</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Macabeo: neutral, ~50% of blend, vigorous &amp; late budding so suitable for Cat's cooler climates, vaguely floral, low acidity.</li><li>• Xarel lo: gives characteristic Cava flavours, slightly earthy, best planted in low altitude, very vigorous, productive and early budding (spring frost), mainly in Penedes area.</li><li>• Parellada: finest element, apple flavours and crispness, performs best &gt;300m. Least planted of 3, produces large bunches of large grapes with good rot resistance</li><li>• Chardonnay &amp; Pinot Noir used by some incl. Cordoniu in past.</li><li>• Monastrell &amp; Garnacha for Rosado Cavas.</li></ul>
VITICULTURE	<ul style="list-style-type: none"><li>• Lo-density. Bush vines (en vaso) common but often replaced by trained vines for mechanicals harvesting.</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Gentle pressing: 150kg grapes -&gt; 100l juice ⇔ 80hl/ha.</li><li>• Separate base wines blended before 2<sup>nd</sup> fermentation.</li><li>• Traditional method with min 9mths lees ageing (30months for Gran Reserva). Min 4 atmospheres + 10.8 to 12.8% abv required for DO qualification.</li><li>• Use of gyropalletes for remuage, invented in Spain</li></ul>
TRADE	<ul style="list-style-type: none"><li>• 1.2million hl/year (1/3 of Champagne).</li><li>• Codorniu: #1 producer of bottle-fermented sparkling wine in world. 65% of turnover is from Cava. Wines made from 3 traditional Cava grapes, with no wine 'imported' and 10% of blend reserve wine. Have made some Cava with Chardonnay since 1992's vintage Cava. Expanded in US and Duero.</li><li>• Freixenet: largest exporter of Cava, name comes from La Freixeneda, a plantation of ash trees originally owned by Pedro Ferrer's family. 150million bottles produced every year. Focused on exports. International expansion too.</li></ul>

## ASTI

(PIEMONTE, ITALY)

DEFINITION & HISTORY	<ul style="list-style-type: none"><li>• Asti DOCG: fully sparkling wine (3.5-4 atmospheres, 7-9.9%abv). Used to be called Asti Spumante. DOCG since 1993.</li><li>• Moscato d'Asti DOCG: less fizzy (max 1.7 atmosphere) and alcoholic (5.5% abv) frizzante dessert wine.</li><li>• Spumante: Italian sparkling wine</li><li>• Frizzante: semi-sparkling Italian wine. Usually from partial second fermentation in tank.</li></ul>
LOCATION	<ul style="list-style-type: none"><li>• Piemonte, Provinces of Asti, Cuneo and Alessandria.</li></ul>
CLIMATE, SOILS & TOPOGRAPHY	<ul style="list-style-type: none"><li>• Continental.</li><li>• Mountainous topography. Calcareous clay soils.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Moscato bianco: also called Moscato di Canelli, finest Muscat grape variety, ancient, versatile, low in alcohol, sweet.</li><li>• Best &amp; riper grapes used for Moscato d'Asti</li></ul>
VITICULTURE	<ul style="list-style-type: none"><li>• Small plots supplying Négociant houses which dominate production.</li><li>• Min potential alcohol for Asti 9% (Moscato d'Asti 10%)</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Muscat juice stored at 0C until needed. Asti method. Charmat for other Spumantes.</li></ul>
TRADE	<ul style="list-style-type: none"><li>• 80 million bottles every year of Asti (Spumante).</li></ul>

## PROSECCO

(VENETO, ITALY)

LOCATION	<ul style="list-style-type: none"><li>• DOCG: Conegliano-Valdobbiadene in Veneto</li><li>• DOC: wider Prosecco area including Treviso (cool region).</li><li>• Cartizze area held superior Prosecco as cooler area of the DOC zone.</li></ul>
CLIMATE, SOILS & TOPOGRAPHY	<ul style="list-style-type: none"><li>• Moderate continental (cold winters). Alpine influence.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Prosecco (Glera): native to Veneto, rather neutral. NB: Prosecco grape to be called Glera if outside delimited Prosecco region</li></ul>
VITICULTURE	<ul style="list-style-type: none"><li>• Hi yields. Often harvested late (end October/early November).</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Base wine fermented dry. Charmat method. Finished wine light and frothy.</li></ul>
TRADE	<ul style="list-style-type: none"><li>• 28 million bottles every year with 7 million frizzante and 20 million spumante.</li></ul>

## FRANCIACORTA

(LOMBARDY, ITALY)

LOCATION	<ul style="list-style-type: none"><li>• DOCG: delimited Franciacorta in Lombardy around province of Brescia.</li><li>• Upcoming wine region.</li><li>• 1<sup>st</sup> Spumante by Berlucchi house in 1960s.</li></ul>
CLIMATE & SOILS	<ul style="list-style-type: none"><li>• Cool continental, w warm days &amp; cool evenings. Mineral-rich gravelly/stony soils deposited by glaciers.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Chardonnay, Pinot Blanc &amp; Noir</li></ul>
VITICULTURE	<ul style="list-style-type: none"><li>• Hi density (4,000vines/ha), no 'big vines' (e.g. Tendone or GDC) authorised</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Gentle Fractional must pressing (to separate finest from coarsest wines) mandatory.</li><li>• Traditional method with 25 months lees ageing (37 for Riserva).</li></ul>
TRADE	<ul style="list-style-type: none"><li>• 30,000hl sparkling wine/year. Main houses: Ca del Bosco, Cavalleri &amp; Bellavista.</li><li>• Great self regulations amongst producers to replicate Champagne strict model and production zone.</li></ul>

## LAMBRUSCO

(EMILIA ROMAGNA, ITALY)

LOCATION	<ul style="list-style-type: none"><li>• 3 provinces of Emilia Romagna: 1. Modena 2. Parma 3. Reggio nell'Emilia.</li><li>• 4 DOCs: a. L. di Sorbara b. L. Grasparossa di Castelvetro c. L. Reggiano d. L. Salamino di Santa Croce</li><li>• Non-DOC Lambrusco = sweet, partially fermented grape must (alcohol too low to qualify as wine). Red/white/rosé.</li></ul>
CLIMATE & SOILS	<ul style="list-style-type: none"><li>• Warm Mediterranean climate w warm days &amp; cool evenings. Fertile alluvial soils.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Lambrusco red grape with 60 subvarieties</li></ul>
VITICULTURE	<ul style="list-style-type: none"><li>• Commonly hi yields.</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Mostly tank method and heavily processed.</li><li>• Small proportion of bottle-fermented Lambrusco. These are usually bone dry / medium sweet.</li></ul>
TRADE	<ul style="list-style-type: none"><li>• Principally produced in cooperatives. Lambrusco Reggiano most common of the DOC with 250,000hl/year.</li></ul>

## AUSTRALIAN SPARKLING WINES

(YARRA, TASMANIA, VICTORIA, AUS)

LOCATION	<ul style="list-style-type: none"><li>• Top: Mainly cool climates e.g. Yarra Valley, Great western (Victoria) or Tasmania.</li><li>• Basic: Big Rivers Zone.</li><li>• Sparkling Shiraz: McLarenVale, Clare Valley, Great Western or big rivers zone (for basic).</li></ul>
CLIMATE & SOILS	<ul style="list-style-type: none"><li>• Big rivers zone: hot</li><li>• Tasmania: cool due latitude + cold oceanic influences</li><li>• Great western: cool due to altitude</li><li>• Yarra Valley: cool due to altitude + ocean influence.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Basic: various incl. Thompson seedless</li><li>• Premium: Chardonnay &amp; Pinot Noir</li><li>• Reds: mainly Shiraz</li></ul>
VITICULTURE	<ul style="list-style-type: none"><li>• Hot sites: early harvest to avoid loss of acidity + excessive must weights</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Premium: prepared same way as Champagne with less need to blend different vintages thanks to limited weather variations.</li><li>• Most: Transfer method</li><li>• Premium: traditional method</li><li>• Some basic Shiraz: tank method</li></ul>

## NEW ZEALAND SPARKLING WINES

(MARLBOROUGH, NZ)

LOCATION	<ul style="list-style-type: none"><li>• Mostly in Marlborough.</li><li>• Marlborough: biggest NZ wine region. Pinot Noir 2<sup>nd</sup> most planted in general. Chardonnay 3<sup>rd</sup>.</li></ul>
CLIMATE & SOILS	<ul style="list-style-type: none"><li>• Cool, maritime, dry and very sunny.</li><li>• Free draining soils, which allows hydric stress to be controlled by irrigation.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Mostly: Chardonnay &amp; Pinot Noir</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Base wine production as per Champagne. Less inter-vintage blend required.</li><li>• Transfer method most common. Premium: traditional method.</li></ul>

## CALIFORNIAN SPARKLING WINES

(CARNEROS, ANDERSON VALLEY, USA)

LOCATION	<ul style="list-style-type: none"><li>• Basic: Central valley.</li><li>• Premium: Carneros (Sonoma/Napa) and Anderson Valley (Mendocino) and also Oregon.</li></ul>
CLIMATE & SOILS	<ul style="list-style-type: none"><li>• Carneros &amp; Anderson valley: cool Mediterranean, cooled by ocean breezes.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Premium: Chardonnay &amp; Pinot Noir      Medium sweet: Zinfandel</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Premium: base wine heavily influenced by Champagne + traditional method</li></ul>

## SOUTH AFRICAN SPARKLING WINES

(ROBERTSON, SA)

LOCATION	<ul style="list-style-type: none"><li>• Cooler sites or canopy-shaded warmer sites such as Robertson.</li></ul>
CLIMATE & SOILS	<ul style="list-style-type: none"><li>• Warm Mediterranean. Various soils with some rich in calcium.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Chardonnay &amp; Pinot Noir but also Chenin Blanc &amp; others.</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Premium: Champagne influenced.</li><li>• Cap classique: traditional method.      Usually tank method for aromatic varieties such as Sauvignon blanc or Muscat.</li></ul>

## SOUTH AMERICAN SPARKLING WINES

(MENDOZA, ARG / BRAZIL)

LOCATION	<ul style="list-style-type: none"><li>• Mendoza (Arg)      Brazil: Asti-like sweet sparkling Muscats for local market.</li></ul>
CLIMATE & SOILS	<ul style="list-style-type: none"><li>• Mendoza: warm continental moderated by hi altitude; very dry with irrigation from Andes.</li></ul>
GRAPE VARIETIES	<ul style="list-style-type: none"><li>• Mendoza: Chardonnay &amp; Pinot Noir</li></ul>
WINE MAKING	<ul style="list-style-type: none"><li>• Tank method most common. Premium: traditional method.</li></ul>

DATAMONITOR (2009)	<ul style="list-style-type: none"> <li>Sparkling wines (incl. Champagne): 8.7% of the £9.9m value sales of wines (fortified, sparkling &amp; still) in the UK.</li> </ul>
EUROMONITOR (2010)	<ul style="list-style-type: none"> <li>2010: sparkling wines represent £1.6m (+8% since 2005).</li> <li>Sparkling wine value sales increasing by 3% and volumes by 7% in 2009-10.</li> </ul> <p><b>CHAMPAGNE</b></p> <ul style="list-style-type: none"> <li>Although champagne sales improved during the latter part of 2009 and early 2010, through heavy promotions driving volume growth, consumers continue to chose cheaper but high-quality alternatives of sparkling wine, such as Cava and Prosecco.</li> <li>2010 Top 5 Champagne brands in volume: Moët &amp; Chandon (12%), Lanson (8.8%), Veuve Cliquot (6.6%), Heidsieck Monopole (5.1%), Bollinger (2.9%). Combined OL brands: 14%</li> </ul> <p><b>OTHER SPARKLING</b></p> <ul style="list-style-type: none"> <li>Other sparkling wines vs. Champagne have grown by +41% between 2005 &amp; 2010.</li> <li>Cava's strong performance came from Codorníu sparkling wine, which saw strong volume growth of almost 13%.</li> <li>2010 Top brands are: Freixenet Cordon Negro (6.5%), Codorníu (6.2%), Jacob's Creek (4.8%), Martini Asti (4.1%)</li> </ul>
KEYNOTE (2011)	<ul style="list-style-type: none"> <li>Sparkling wines = 11.5% of wine UK market (excl. Fortified wines) with £1.4m sales</li> <li>LVMH main Champagne advertiser with £800K spent on Moët &amp; Chandon and Dom Perignon brands.</li> </ul>
DIPLOMA UNIT 1 (2009 – BASED ON IWSR UK DATA)	<ul style="list-style-type: none"> <li>Sparkling wine is dominated by sparklers produced in the Old World. The Old World share (excluding the UK) accounts for 80 per cent of all sparkling wine, excluding Champagne, consumed in the UK.</li> <li>Spanish sparkling, i.e. Cava, is the big leader here, accounting for 47 per cent of all sparkling wines (excluding Champagne) consumed in the UK.</li> <li>The top three account for 84 per cent share of the market.</li> <li>UK: Heidsieck Monopole Champagne sales trebles between 2011 and 2009.</li> </ul>
DIPLOMA UNIT 1 GLOBAL	<ul style="list-style-type: none"> <li>Sparkling forecast to hit 2,500m bottles in 2014 (Source: IWSR 2011)</li> <li>Top 3 sparkling consuming countries: Ger (500m btls/yr), France, Russia. UK: 6<sup>th</sup> with 100millions bottles/year</li> <li>UK second Champagne market behind France with 40m btls/year</li> </ul>

**Owners of the top sparkling wine brands selling in the UK market, by each country of origin**

Country	Brand	Owner
Spain	Codorniu	Codorníu
Spain	Marques de Monistrol Sparkling Wine	Arco Bodegas Unidas
Spain	Freixenet Sparkling Wine	Freixenet
Spain	Cristalino Sparkling Wine	Grupo Garcia Carrion
Spain	Campo Viejo Cava	Pernod Ricard
Spain	Castellblanch	Freixenet
Italy	Martini Sparkling Wine	Bacardi – Martini
Italy	La Gioiosa Sparkling Wine	La Gioiosa
Italy	Tosti	Giovanni Bosca Tosti
Italy	Gancia Sparkling	Gancia
Italy	Canei Sparkling Wine	Baarsma
Italy	Cinzano Sparkling	Campari
Australia	Jacob's Creek Sparkling	Pernod Ricard
Australia	Hardy's Sparkling Wine	Constellation Brands
Australia	Wynns Seaview Sparkling	Fosters Group
Australia	Seppelt Sparkling	Fosters Group
Australia	Angas Brut	S. Smith & Son
Australia	Foster's Pink Sparkling Wine	Fosters Group
France	Veuve du Vernay	Groupe Patriarche
France	Champteloup Sparkling Wine	Grands Chais De France
France	Gratien & Meyer	Henkell
France	Blanquette de Limoux	Sieur D'Arques
France	Kriter	Groupe Patriarche
France	Ackerman Laurance	Ackerman Remy Pannier
New Zealand	Lindauer	Pernod Ricard
New Zealand	Pelorus Sparkling Wine	LVMH
US	Beringer Sparkling Wine	Fosters Group

*Source: IWSR UK Domestic Market 2009 courtesy Moët Hennessy 2011*