

# GERMANY

|  |   |  |  |
|--|---|--|--|
| <p>HISTORY</p>   | <ul style="list-style-type: none"> <li>• 276-82AD: Emperor Probus believed to be the founder of viticulture in Germany.</li> <li>• <b>370: Ausonius, roman author, describes the steep vineyards of Mosel in the Mosella tract.</b></li> <li>• 4<sup>th</sup>-8<sup>th</sup> century: wine-growing concentrated west of the Rhine i.e. modern Pfalz &amp; Rheinhessen</li> <li>• Late 8<sup>th</sup>-9<sup>th</sup> century (Charlemagne era): extension of wine-growing to the Nahe valley, Mosel &amp; Ahr.</li> <li>• <b>11<sup>th</sup>-16<sup>th</sup>: rapid expansion of viticulture, via the Church, the aristocracy but individual merchants too</b>, is helped by the recovery in population, the rise of towns. Cologne &amp; Frankfurt dominated the trade.             <ul style="list-style-type: none"> <li>- 11<sup>th</sup>: foundation of the Johannisberg Benedictine abbey by Archbishop Ruthard that will become Schloss Johannisberg.</li> <li>- Late 13<sup>th</sup>: spread of wine-growing further from main towns into Rheingau, Baden, Wurttemberg &amp; Franken.</li> </ul> </li> <li>• 1500-1650: viticulture retreated from the cooler more remote valleys to focus on better sites &amp; grape varieties before the 30 years war (early 17<sup>th</sup>) ravaged most viticultural regions</li> <li>• 1650-1800: slow and painful recovery in most regions with a focus on quality via new sites with better-quality grapes and prevention of low potential new sites.</li> <li>• 19<sup>th</sup>: left bank of the Rhine ceded to France -&gt; administrative regions established &amp; change of ownership<br/>1815: Congress of Vienna sees Mosel becoming a province of Prussia and the wine regions changing hands and thence competing against each other.<br/>Devt of transport network (esp. railways) -&gt; rapid development of the better wines. Wurttemberg &amp; Franken massively down while other regions contributed to increase in quality and fruit ripeness.<br/><b>1830s: Oechsle</b> designs a scale of measuring grape sugars (-&gt; grape ripeness) based on the density of grape juice.<br/>1850s: creation of regional grower's associations + state authorities push for research in quality.<br/>1881: first appearance of Phylloxera in Ahr valley</li> <li>• <b>1900-45: area under vine halved</b> (90,000ha to 50,000ha) with wars causing damage to the trade, the vines &amp; the export</li> <li>• <b>1950-90: large increase in production due to mainly higher yields accompanied by a radical restructuring</b> (Flurbereinigung) with improvements to access, drainage &amp; workability of the high quality site vineyards.<br/>1971: German wine law introduces a quality system based on grape ripeness.</li> </ul> |  |  |
| <p>CLIMATE &amp; WEATHER</p>   | <ul style="list-style-type: none"> <li>• <b>Cool &amp; damp continental climate</b> w moderate rainfall (500-800mm) + long autumns both allowed by the protection of mountains &amp; rivers.</li> <li>• <b>Important vintage variation</b></li> </ul>   |  |  |
| <p>SOILS &amp; TOPOGRAPHY</p>  | <ul style="list-style-type: none"> <li>• Max altitude around 400m but <b>mountain ranges</b> (Black Forest in Baden, Haardt in Pfalz) &amp; <b>proximity to rivers</b> (Rhine, Mosel &amp; tributaries) <b>contribute to elongate the growing season</b></li> <li>• Most of the key regions are situated alongside river valleys (excl. Pfalz). Varied soils (slate in Mosel)</li> </ul>  |  |  |
| <p>GRAPE VARIETIES</p>   | <ul style="list-style-type: none"> <li>• Dominated by white varieties but black varieties have increased significantly to catch up w local demand for reds</li> </ul> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p><u>Reds</u> (36% of all plantings)</p> <ol style="list-style-type: none"> <li><b>1. Spatburgunder (11%)</b> <ul style="list-style-type: none"> <li>- 1/3 largest planting in the world w 11,000ha</li> <li>- Suited for Germany as it is early ripening &amp; retains more flavours in cooler climates</li> <li>- Mainly in Baden-Wurttemberg</li> </ul> </li> <li><b>2. Dornfelder (8%)</b> <ul style="list-style-type: none"> <li>- Crossing Helfensteiner x Heroldrebe</li> <li>- Good depth of colour, acidity &amp; oak affinity</li> <li>- Easier to grow vs. Spatburgunder &amp; better resistance to rot vs. Portugieser</li> <li>- Good examples in Rheinhessen &amp; Pfalz with velvety texture, slightly floral &amp; a hint of sweetness</li> </ul> </li> <li><b>3. Portugieser (4%)</b> <ul style="list-style-type: none"> <li>- Extremely prolific (up to 120hl/ha)</li> <li>- Low acidity for easy drinking light wines</li> <li>- Mainly found in Pfalz</li> </ul> </li> </ol> <p><b>Others: Trollinger, Regent, Merlot, Cab Sauv</b></p> </td> <td style="vertical-align: top; width: 50%;"> <p><u>Whites</u> (64%)</p> <ol style="list-style-type: none"> <li><b>1. Riesling (22% of all plantings)</b> <ul style="list-style-type: none"> <li>- 2/3 of the world Riesling plantings are in GER</li> <li>- Suitable in GER as has hard wood -&gt;more resistant to frost</li> <li>- Latest ripening German grape variety so needs good autumns &amp; best exposed sites</li> </ul> </li> <li><b>2. Muller-Thurgau (13%)</b> <ul style="list-style-type: none"> <li>- Crossing Madeleine Royale x Riesling developed by Dr Muller from Thurgau in 1882</li> <li>- Earlier ripening vs. Riesling (safer), can be grown anywhere and produce high yields but softer wood vs. Riesling (winter damage) &amp; susceptible to rot</li> <li>- Lo yields -&gt; elderflower aromas Hi y. -&gt; damp cardboard aromas</li> <li>- 1<sup>st</sup> German grape from early 70s to 90s</li> <li>- Often blended into Liebfraumlich</li> </ul> </li> <li><b>3. Silvaner (5%)</b> <ul style="list-style-type: none"> <li>- Early ripener</li> <li>- Medium acidity and rather neutral wines</li> </ul> </li> <li><b>4. Grauburgunder (5%)</b></li> <li><b>5. Weissburgunder (4%)</b></li> </ol> <p><b>Others: Kerner</b> (early ripener hi sugar), <b>Chardonnay, Sauv blc</b></p> </td> </tr> </table>   | <p><u>Reds</u> (36% of all plantings)</p> <ol style="list-style-type: none"> <li><b>1. Spatburgunder (11%)</b> <ul style="list-style-type: none"> <li>- 1/3 largest planting in the world w 11,000ha</li> <li>- Suited for Germany as it is early ripening &amp; retains more flavours in cooler climates</li> <li>- Mainly in Baden-Wurttemberg</li> </ul> </li> <li><b>2. Dornfelder (8%)</b> <ul style="list-style-type: none"> <li>- Crossing Helfensteiner x Heroldrebe</li> <li>- Good depth of colour, acidity &amp; oak affinity</li> <li>- Easier to grow vs. Spatburgunder &amp; better resistance to rot vs. Portugieser</li> <li>- Good examples in Rheinhessen &amp; Pfalz with velvety texture, slightly floral &amp; a hint of sweetness</li> </ul> </li> <li><b>3. Portugieser (4%)</b> <ul style="list-style-type: none"> <li>- Extremely prolific (up to 120hl/ha)</li> <li>- Low acidity for easy drinking light wines</li> <li>- Mainly found in Pfalz</li> </ul> </li> </ol> <p><b>Others: Trollinger, Regent, Merlot, Cab Sauv</b></p> | <p><u>Whites</u> (64%)</p> <ol style="list-style-type: none"> <li><b>1. Riesling (22% of all plantings)</b> <ul style="list-style-type: none"> <li>- 2/3 of the world Riesling plantings are in GER</li> <li>- Suitable in GER as has hard wood -&gt;more resistant to frost</li> <li>- Latest ripening German grape variety so needs good autumns &amp; best exposed sites</li> </ul> </li> <li><b>2. Muller-Thurgau (13%)</b> <ul style="list-style-type: none"> <li>- Crossing Madeleine Royale x Riesling developed by Dr Muller from Thurgau in 1882</li> <li>- Earlier ripening vs. Riesling (safer), can be grown anywhere and produce high yields but softer wood vs. Riesling (winter damage) &amp; susceptible to rot</li> <li>- Lo yields -&gt; elderflower aromas Hi y. -&gt; damp cardboard aromas</li> <li>- 1<sup>st</sup> German grape from early 70s to 90s</li> <li>- Often blended into Liebfraumlich</li> </ul> </li> <li><b>3. Silvaner (5%)</b> <ul style="list-style-type: none"> <li>- Early ripener</li> <li>- Medium acidity and rather neutral wines</li> </ul> </li> <li><b>4. Grauburgunder (5%)</b></li> <li><b>5. Weissburgunder (4%)</b></li> </ol> <p><b>Others: Kerner</b> (early ripener hi sugar), <b>Chardonnay, Sauv blc</b></p> |
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| <p>VITICULTURE</p>   | <ul style="list-style-type: none"> <li>• <b>102,000ha</b> of vines (&lt;Bordeaux); Viticulture mainly depends on location of sites:             <ul style="list-style-type: none"> <li>- Steep slopes: high cost of cultivation w mecanisation limited due to the small avg holding (~2.1ha) &amp; steepness of the slopes (esp. Mosel); lo yields for higher quality (best sites)</li> <li>- Valley bottoms &amp; plains: wire trained, rows up to 3m apart to allow mechanisation; hi yields</li> </ul> </li> <li>• Irrigation allowed since 2003</li> <li>• Harvest date announced by local trade organisation. Viticulturists can choose to leave grapes longer on vine to achieve higher potential alcohol i.e. Pradikatswein.</li> <li>• Growers are paid based on weight, sugar level and variety of grapes.</li> </ul>  |  |  |
| <p>WINEMAKING</p>  | <ul style="list-style-type: none"> <li>• Fermentation in stainless steel or traditional large wood casks (<i>Stuck</i> in Rheingau, <i>Fuder</i> in Mosel)</li> <li>• <b>Chaptalisation &amp; must enrichment allowed for all wines up to (but not) Pradikatswein level.</b> Max +4.5% in bad years<br/>De-acidification by addition of calcium carbonate common too but permit required</li> <li>• Most wines fermented to dryness to make them stable.</li> <li>• <b>Sussreserve</b>: unfermented grape juice added before bottling to sweeten/soften acidity. Allowed for all wines incl. Pradikatswein. Juice must be from the same site, variety and quality of wine. Less common as producers prefer to stop fermentation with addition of SO2 to retain sugar level.</li> </ul>  |  |  |

• **Wine classifications:**

1. **Deutscher Wein – 2% of production**

- Lowest classification; must state region of production on label

2. **Landwein**

- Equivalent to French VdP; 17 areas specified that must be displayed on the label; trocken or halbtrocken.

3. **Qualitätswein bestimmter Anbaugebiete (QbA) – 75% of production**

- From 1 of the 13 Anbaugebiete allowed; adorns an AP number on bottle
- Region & style must be on the label; Chaptalisation allowed

4. **Pradikatswein / Qualitätswein mit Pradikat – 23% of production**

- From 1 Bereich within the 13 Anbaugebiete w special attributes; has AP number on the bottle
- Min must weights level vary by region e.g. Riesling Kabinett min 70 Oe Mosel vs. 76 Oe in Baden
- Chaptalisation not allowed but sweetening w Sussreserve ok.
- Different styles according to level of sugar in the must (≠final wine):

**I. Kabinett**

- Made from grapes just ripe enough for wines with no need for enrichment; dry to medium sweet

**II. Spatlese**

- 'Late Harvest' i.e. picked +2 weeks after main harvest -> more concentration & flavours vs. Kabinett
- Dry to Medium sweet

**III. Auslese**

- Select harvest i.e. hand selected of extra ripe grapes either at main or late harvest; off dry to sweet

**IV. Beerenauslese**

- Made from individually selected grapes affect by noble rot; sweet wines; rare & expensive

**V. Trockenbeerenauslese**

- Made from grapes that have dried on the vines and with high proportion of noble rot; min 21.5% potential alcohol; noble rot does not split the grapes

**VI. Eiswein**

- -8C for 8h minimum on the vine before picking; grapes pressed while still frozen (higher sugar concentration); same sugar level as Beerenauslese.

• **Other labelling terms**

- **Trocken:** max 4g/l of residual sugar and total acidity up to 9g/l as long as residual sugar +2g/l vs. acidity
- **Halbtrocken:** between 10 and 18g/l residual sugar
- **Liebfraulich**
  - Can only be made in Rheinhessen, Pfalz, Rheingau, Nahe; cross-regions blending not permitted
  - Min 18g/l residual sugar; QbA quality level; 70% from Riesling, Muller-Thurgau, Silvaner & Kerner.
  - Only region of production required on the label; Represented 60% of German exports in the 80s.
- **Riesling Hochgewachs**
  - Riesling with higher must weight vs. QbA level
- **Classic**
  - From specific region w must weight +1% abv vs. minimum for grape & category;
  - Min 12% abv w max 15g/l residual sugar; region, variety & vintage + 'Classic' on the label;
  - Trocken & halbtrocken not allowed on label
- **Selection**
  - From an Einzellage only;
  - Min Auslese ripeness w max 12g/l residual sugar; region, variety & vintage + 'Selection' on the label;
  - Trocken & halbtrocken not allowed on label

• **Geographical levels (large to small):**

- A. **Anbaugebiet** (13): designated quality region; 85% of wine must come from specified region if any region
  - B. **Bereich:** group of several communes within a Anbaugebiet.
  - C. **Grosslage:** group of vineyards; often named after top vineyard/village in the group.
  - D. **Einzellage:** individual vineyard site (similar to 1er Cru / GC in France). Very high quality.
- NB: a town can give its name to a Bereich, Grosslage or Einzellage e.g. Piesporter Michelsberg.

• **The Verband Deutscher Pradikatsweinguter (VDP)**

- **Growers' association w 200 largest and most prestigious German wine estates;**
- Initiated by the Mayor of Trier in 1910s; represents <3% of vineyard area but top quality producers
- Has developed parallel self-regulated classification system based on the Chart movements:
  - Vines to be planted in optimal soils and climatic conditions w only Riesling and Pinot Noir allowed
  - Low yields (max 50hl/ha); hand harvesting only; min 83 for Riesling and 90 Oechsle for Pinot Noir
  - Label states site, vintage, variety, VDP logo
  - 2 specific labelling terms:
    - **Erstes Gewachs** (Rheingau only) for wines from Einzellagen
    - **Erste Lage / Grosses Gewachs:** wines from Einzellagen in Mosel and other wine Anbaugebieten.

KEY  
ANBAUGEBIETE &  
CHARACTERISTICS

- The wine regions are concentrated in the Southwest of the country. Exceptions: Sachen, Saale Unstrut, Ahr.
- Key regions (from west to east):
- 1. **Mosel (formerly Mosel-Saar-Ruwer) – 8,900ha**
  - From border with France and Luxembourg along the Mosel river up to the Rhein.
  - Predominance of white wine (91% of plantings) and esp. Riesling
  - Steep slopes made of slate that absorb the heat and radiate it at night
  - Middle Mosel, Saar and the Ruwer are the best areas w finest Einzellage around the villages of Piesport & Bernkastel
  - Key producers: Moselland cooperative; Loosen; Max-Ferd Richter (famous for Eiswein).
  - Delicate style; steelier acidity and more robust in Saar and Ruwer
- 2. **Nahe – 4,200ha**
  - Along the Nahe river; protect by the Hunsruck mountains
  - Mainly Rieslings but Muller-Thurgau, Silvaner (both declined dramatically since 70s) & Dornfelder also grown

- Key areas:
  - Area around Schlossbockelheim (centre): benefited from Flurbereinigung; complex soils with sandstone & slate; Felsenberg in Schlossbockelheim is a top vineyard for late-ripening Riesling.
  - Around Bad Kreuznach: famous for Rieslings, loess & clay soils for relatively substantial wine
  - Lower Nahe: slate & quartzite soils on steep terraced vineyards for Weissburgunder & Rieslings; Goldloch is one of the top vineyards.
- Predominance of cooperatives
- 3. Rheingau – 3,200ha**
  - North bank of the Rhine facing south; west of Frankfurt;
  - protected by the Taunus mountains -> optimal conditions for grape growing
  - Slate, loess and loam soils on steep slopes and sandy loam in the valley
  - Dark soils absorb heat & radiate it at night, allowing for riper, more concentrated Rieslings.
  - Best vineyards around Rudesheim, Geisenheim and Johannisberg
  - Balanced, elegant fruity wines from hillsides; richer style in the valley
  - Pockets of high quality Spatburgunder esp. Hochheim on the Main & Assmanshausen
  - Geisenheim: world's leading viticulture centre; Charta organisation merged with local VDP organisation
  - Only 7 cooperatives that account for 10% of harvest; iconic Chateaux:
    - **Schloss Johannisberg** – 900yr old 60ha wine estate; claims discovery of botrytised wines by mistake in 18<sup>th</sup>
    - Schloss Vollrads: 800yr old wine estate; member of VDP
    - **Kloster Eberbach**: monastery founded in 1135 w powerful influence on the region; still producing highly rated wines
- 4. Rheinhessen – 26,500ha (#1)**
  - East of Nahe and other side of Rhein vs. Rheingau; largest area under vine in Germany
  - Area protected from winds & rain by up to 600m hills on West; east facing slope vineyard are the best sites
  - **Nierstein**: key village with red soils, east-facing slopes along the Rhine for world famous Rieslings.
  - Most varieties represented but Muller-Thurgau & Silvaner more common; **Liebfraumilch** country
  - Large percentage of Grosslage / cooperative wines w **¾ of wine sold in bulk**
- 5. Pfalz – 23,500ha**
  - Directly south of Rheinhessen along & west of the Rhine
  - Haardt mountains on the west provide similar shelter to Vosges in Alsace -> warm summers, mild winters
  - Soils predominantly sandstone; benefited from Flurbereinigung
  - Spatburgunder, Muller-Thurgau, Riesling & Kerner dominate.
  - Key villages: both Forst and Deidesheim recognised for outstanding Rieslings
  - Von Buhl is the largest winery in Deidesheim; founded 1848; member of the VDP; international reputation.
- 6. Baden – 15,900ha**
  - Longest wine region (400km) along the eastern side of the Rhine; facing Alsace; only German Zone B region
  - Protection from the Vosges and the Schwarzwald -> warmest and sunniest regions in Germany
  - Spatburgunder dominates more than 1/3 of plantings, followed by Muller-Thurgau, Pinot Gris & Riesling.
  - 77% cooperatives produce 80% of the wines with Badische Winzer, largest western European cooperative.
- 7. Ahr – 560ha**
  - Northern part of the country; viticulture possible thanks to dark volcanic soils and historical reasons.
  - Small region; predominantly red production (85%)
- 8. Mittelrhein - 450ha**
  - Neighbouring region to Mosel and Rheingau. Top quality Rieslings can rival top Rheingau.
- 9. Hessische Bergstrasse**
  - Tiny region, which produce is only sold on local market.
- 10. Franken**
  - Located in Bavaria (near Munchen); Hi quality full bodied Silvaner.
- 11. Wurttemberg**
  - Neighbouring region to Baden. Produces large quantities of light fruity reds; dominated by Cooperatives.
- 12. & 13. Saachen and Saale-Unstrut (ex-DDR)**

- Average: **9-10m hl** (Europe's #4 biggest producers)
- 75% of wine produced by co-operative cellars.
- Key producers:
  - **Weingut Dr Loosen – Mosel**
    - One of the largest Mosel producer w 70,000btl/yr; famous for the quality of his Rieslings
    - Run by Ernst Loosen; committed from the start to boost quality in all his top sites & sustainable and organic viticulture; Wehlener Sonnenuhr Auslese Erste Lage Riesling one of the flagship wines; also owns Villa Wolf.
  - **Schloss Schönborn – Rheingau**
    - 50ha estate owned by the noble Schonborn for centuries; vineyards dispersed. Known for top sweet wines.
  - **Weingut Gunderloch - Rheinhessen**
    - Owns vineyards in top Nierstein sites; traditional winemaking (low yields, no cultivated yeasts) & unusually long aging in cask for complex Rieslings, from dry to lusciously sweet. Jean Baptiste is the export wine.
  - **Weingut Dr Burklin-Wolf - Pfalz**
    - Large private estate w vineyards in most top sites of Mittelhaardt; rebuilt reputation on dry Rieslings (≠sweet wines) after quality dropped in the 80s; biodynamic since 05;
- Vintages:
  - 2010: poor crop due to bad weather conditions
  - 2009/11/12: more typical years
  - NB: hi crops does not mean lower quality (e.g. 1982 – largest ever and good quality)
- Mature local market:
  - Dominated by multiples (Aldi – 25%) w hi price sensitivity & limited growth opportunity
  - Per capita consumption: 25l/yr; mainly red (63%)

# AUSTRIA

|  |   |  |  |
|--|---|--|--|
| HISTORY  | <ul style="list-style-type: none"> <li>• ~500AD: Celts believed to grow vines for wine</li> <li>• Roman times: viticulture continued in the south east of modern Austria.</li> <li>• <b>9th: monks and monasteries</b> (incl. Some Cistercians from Burgundy) contributed to develop wines around Krems (west of Vienna). The total <b>area under vine was x10 bigger vs. today</b> and Austrian wines widely exported.</li> <li>• 19<sup>th</sup>: Napoleonic wars damaged the vineyards but blooming of viticultural research in 19<sup>th</sup><br/>1860: 1<sup>st</sup> viticultural and oenological school/research centre in Klosterneuburg (later developed Zweigelt crossing)</li> <li>• <b>1985: terrible PR around discovery of diethylene glycol</b> (illegal but harmless additive) in Austrian wine to add apparent body &amp; sweetness -&gt; exports plummeted and wine laws strictly revised.</li> <li>• 2000-05: exports finally recovered to same and then higher level vs. 80s (i.e. pre-scandal)</li> </ul>   |  |  |
| CLIMATE & WEATHER  | <ul style="list-style-type: none"> <li>• <b>Continental climate</b> with short cold winters and long warm summers &amp; mild autumns -&gt; allow late ripening</li> <li>• Annual rainfall 600m w lowest rainfall in western Weinviertel and highest of eastern Weinviertel.</li> <li>• Manifestation of noble rot if sufficient humidity in autumn</li> </ul>   |  |  |
| SOILS & TOPOGRAPHY   | <ul style="list-style-type: none"> <li>• The winemaking regions are <b>concentrated in the east of the country (lower altitude)</b>.</li> <li>• Varied topography from flat by the Neusiedler See to rolling hills in Steiermark (Styria).</li> <li>• Generally <b>stony schist, limestone and gravel soils</b>.</li> </ul>   |  |  |
| GRAPE VARIETIES  | <ul style="list-style-type: none"> <li>• Mainly white wine production but consumption more towards reds.</li> </ul> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p><u>Reds (25%)</u></p> <ol style="list-style-type: none"> <li><b>Zweigelt (9%)</b> <ul style="list-style-type: none"> <li>- Blaufrankisch x St Laurent crossing</li> <li>- Bite of Blaufrankisch + weight &amp; body from St Laurent</li> <li>- 2<sup>nd</sup> most planted grape overall</li> <li>- Mainly in Burgenland &amp; Niederösterreich</li> <li>- Deep colour, soft tannins, bramble fruit</li> </ul> </li> <li><b>Blaufrankisch / Kekfrankos (5.5%)</b> <ul style="list-style-type: none"> <li>- Buds early, ripens late -&gt; important in Burgenland (Neusiedlersee)</li> <li>- Med tannins, hi acidity + sour cherry flavours</li> <li>- Suited for oak ageing</li> </ul> </li> <li><b>St Laurent</b> <ul style="list-style-type: none"> <li>- Long thought to be Pinot Noir: pale colour, lo tannins, cherry fruit, early ripening</li> <li>- Lo yields -&gt; 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| VITICULTURE  | <ul style="list-style-type: none"> <li>• <b>51,000ha</b> of vines with <b>low average yields of only 50hl/ha (half of Germany's)</b></li> <li>• Traditionally, Lenz-Moser high culture system but now hi density plantings and lower training system more common.</li> <li>• <b>32,000 growers w great majority part-time</b> vine-growers and owning 5ha. New generations selling out.</li> <li>• Key issues: spring frost; hail (in Styria); lack of water on Wachau terraces due to thin soils + lo rainfall (-&gt; irrigation)</li> <li>• <b>Klosterneuburg research centre developed the Zweigelt crossing.</b></li> </ul>   |  |  |
| WINEMAKING   | <ul style="list-style-type: none"> <li>• <b>Most wines are fermented to dryness</b> (&lt;4g/l residual sugar) in stainless steel or large old wooden VATs</li> <li>• Red wine producers are experimenting with barrel fermentation</li> <li>• Chemical acidification strictly forbidden but deacidification occasionally used.</li> <li>• Chaptalisation allowed for Qualitätswein but not for Kabinett wines &amp; above or Steinfeder, Federspiel &amp; Smaragd</li> </ul>  |  |  |
| WINE LAWS & CLASSIFICATIONS  | <ol style="list-style-type: none"> <li><b>Wine laws</b> <ul style="list-style-type: none"> <li>- Similar to Germany but higher minimum must weights, chaptalisation forbidden for quality wines</li> <li>- Pradikatswein categories: Spatlese, Auslese, Beerenauslese, Ausbruch, TBA, Strohwein</li> </ul> </li> <li><b>DAC</b> (// French AOC) w first DAC in 2002</li> <li><b>Local associations e.g. Vinea Wachau Nobilis with parallel systems</b> <ul style="list-style-type: none"> <li>• Regions split further into sub-regions (Weinbaugebiete) and districts (Grosslage)</li> <li>• <b>Ried:</b> Austrian term for single vineyard. <b>Lieblich:</b> label terms for wines w residual sugar btw 12g/l and 45g/l</li> </ul> </li> </ol>   |  |  |

KEY REGIONS &  
CHARACTERISTICS

- 90% of production in Niederösterreich (north-east) & Burgenland (western borders)
- Key regions:
  1. **Niederösterreich – 31,000ha**
    - Largest area w 57% of total production; mainly whites w 80% esp. Gruner Veltliner
    - 4 key sub-regions:
      - **Weinviertel DAC (18,000ha)**
        - Largest district; 1<sup>st</sup> DAC in 02 for Gruner Veltliner only. Other wines labelled from Niederösterreich.
        - Also produces Sekt. Not well-known on export markets.
      - **Wachau (1,400ha)**
        - Small area w narrow steep hillsides either of the Danube maximising sun exposure + dry long autumns thanks to moderating effect of Danube -> Riesling & Gruner Veltliner ripen well
        - Classic district for Riesling & fine wines w strong sense of terroir. Often compared w Burgundy/Rheingau
        - Vinea Wachau Nobilis Districtus oversees all viticulture & has its own classification system:
          - i. **Steinfelder**: up to 10.7% abv; light simple wines //upper level Kabinett
          - ii. **Federspiel**: up to 11.9% abv; elegant & w body can be drunk within 5 years //upper level Spatlese
          - iii. **Smaragd**: equivalent to Auslese quality level, ageworthy full-bodied wines
      - **Kremstal DAC (2,000ha)**
        - Bordering the eastern part of Wachau; sun-drenched plains w gentle rolling hills
        - Riesling on steep slope terraced vineyards; Reserve wines see some limited oak + some botrytis
      - **Kamptal (4,000ha)**
        - Takes name from river Kamp; hillsides spread around Langenlois
        - Moderating effect of the river; Loess and loam soils
        - Fine Rieslings and concentrated Gruner Veltliners
  2. **Burgenland– 14,000ha**
    - Part of Hungary until 1921; 2<sup>nd</sup> largest with 35% of total production
    - Sunniest climate w 2,000 sunshine hours
    - Mainly reds w Zweigelt, Blaufrankisch dominating; Pinot blanc & Welschriesling key white varieties.
    - Plantings close to the lake for sweet wines; reds elsewhere
    - 4 key sub-regions:
      - **Neusiedlersee DAC** (Reds only)
        - Lake Neusiedl: 32-km long shallow lake -> moderating impact on climate + humidity in Autumn
        - Noble rot happens everywhere -> cheaper prices vs. France or Germany.
        - Pannobile: association of innovative winemakers incl. Ah, Heinrich and Nittaus from Gols.
      - **Neusiedlersee-Hügelland** (Dry & Sweet W/R)
        - Area around Rust; famous for Ausbruch made by adding botrytised grapes in must
      - **Mittelburgenland DAC** (Reds only)
        - Blaufrankisch-land; reds are 2/3 of plantings;
      - **Burgenland/SudBurgenland**:
        - Small region w rolling hills in the south of Austria; mainly Blaufrankisch w some Bdx blends too.
  3. **Styria (Steiermark)**
    - Smallest region after Vienna in terms of wine production w 7% of total production
    - 3 key sub-regions:
      - **SüdOst Steiermark**
        - Mainly white grapes w large quantities of Welschriesling & some fine Gewurz from volcanic soils
      - **Südsteiermark**:
        - Scenic district making excellent Chardonnay and aromatic Sauvignon Blanc along w Welschriesling
      - **Weststeiermark**
        - Mainly makes an acidic darkish rosé from the Blauer Wildbacher grape.

PRODUCTION &  
BUSINESS

- **Minor wine producer & exporter:**
  - **2.5m hl produced** (#17), which represents **about ¼ of Germany's production**.
  - Export value (#16) w 2/3 of exports to Germany
  - Only 3 large scale producers
- 15% of wine produced by co-operative cellars.
- Key producers:
  - **Stift Göttweig - Niederösterreich**
    - Benedictine monastery dominating the Danube valley, south of Krems; top Gruner Veltliner & Rieslings.
  - **Weingut Brundlmayer**
    - 50ha estate; all around producer of Gruner Veltliner & Rieslings but also Grauburgunder, Sekt & Chardonnay
- **Local market:**
  - **80% of production consumed on local market**

# HUNGARY

|  |  |  |   |
|--|--|--|---|
| HISTORY  | <ul style="list-style-type: none"> <li>• 400BC: first vines planted</li> <li>• 13<sup>th</sup>: wine production given a priority by Bela IV in reconstruction of the country after Mongol invasion</li> <li>• Late 15<sup>th</sup>: 1<sup>st</sup> mention of Tokaji as a dry wine</li> <li>• 16<sup>th</sup>: Muslim ruling -&gt; wine production maintained but not developed</li> <li>• Late 16<sup>th</sup>-17<sup>th</sup>: emergence of rich Tokay Aszú with laws for Aszú formulated.</li> <li>• 1870s: Phylloxera hit -&gt; development of vineyards in the sandy Great plain</li> <li>• 1947-80s: communist monopoly took control -&gt; stagnation</li> <li>• Post-communism: most Hungarian vineyards still in private hands so quicker adaptation to western standards and recovery from fall of ex-USSR export market</li> </ul>   |  |   |
| CLIMATE & WEATHER  | <ul style="list-style-type: none"> <li>• Continental climate with short cold winters and long warm summers &amp; mild autumns -&gt; allow late ripening</li> <li>• Avg rainfall 600mm/yr and 2,000hours of sunshine on average</li> <li>• Manifestation of noble rot if sufficient humidity in autumn</li> </ul>   |  |   |
| SOILS & TOPOGRAPHY   | <ul style="list-style-type: none"> <li>• Northerly latitude (on par with Burgundy) + climate -&gt; great for aromatic varieties</li> <li>• Danube crosses the country North-South; flat country with hillier areas along the Slovakian border</li> <li>• Lake Balaton is one of the largest lake in Europe (west side of the country).</li> </ul>  |  |   |
| GRAPE VARIETIES  | <ul style="list-style-type: none"> <li>• Most wines are varietal in Hungary.</li> <li>• International varieties of importance are Chardonnay, Pinot Gris, Cabernet Sauvignon and Cabernet Franc.</li> <li>• Hungarian varieties are:</li> </ul> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p><u>Reds (30%)</u></p> <ol style="list-style-type: none"> <li><b>Kadarka</b> <ul style="list-style-type: none"> <li>- Productive black grape that ripens v late</li> <li>- Famous for being Bull's blood main grape but now almost entirely replaced by international varieties excl. in the Great Plain.</li> <li>- Fully ripened -&gt; soft, full bodied, ageworthy wines</li> </ul> </li> <li><b>Kékfrankos (Blaufränkisch)</b> <ul style="list-style-type: none"> <li>- Buds early, ripens late</li> <li>- Light purple colour, Med tannins, hi acidity + sour cherry flavours</li> <li>- Suited for oak ageing</li> </ul> </li> <li><b>Kékoportó (Portugieser)</b> <ul style="list-style-type: none"> <li>- Needs warmth</li> <li>- Blended to add soft tannins &amp; acids</li> </ul> </li> <li><b>Zweigelt</b> <ul style="list-style-type: none"> <li>- Blaufränkisch x St Laurent crossing</li> <li>- Bite of Blaufränkisch + weight &amp; body from St Laurent</li> <li>- Widely planted; Often produces hi yields</li> </ul> </li> </ol> </td> <td style="vertical-align: top; width: 50%;"> <p><u>Whites (70% of production)</u></p> <ol style="list-style-type: none"> <li><b>Furmint</b> <ul style="list-style-type: none"> <li>- Hi acidity, hi sugar levels, susceptible to noble rot</li> <li>- Produces dry and sweet wines w apple character when young and complex honey, nutty notes w age</li> <li>- Grown mainly in Tokaji and Somló</li> </ul> </li> <li><b>Hárslevelú (linden leaf)</b> <ul style="list-style-type: none"> <li>- Late ripening, prone to botrytis, Furmint partner</li> </ul> </li> <li><b>Sarga Muskotály (Muscat blanc a petits grains)</b> <ul style="list-style-type: none"> <li>- Aromatic orange blossom character. Use for Tokaji</li> </ul> </li> <li><b>Olaszrizling (Welschriesling)</b> <ul style="list-style-type: none"> <li>- Needs warm, nutrient-rich soils; ripens late</li> <li>- Produces crisp, light wines w notes of bitter almonds</li> <li>- Grown around Balaton lake</li> </ul> </li> <li><b>Zéta</b> <ul style="list-style-type: none"> <li>- Crossing of Furmint x Bouvier permitted in Tokaji</li> </ul> </li> <li><b>Irsai Olivér</b> <ul style="list-style-type: none"> <li>- Crossing Pozsony x Pearl of Csaba</li> <li>- Ripens extremely early and reliably for heavy, aromatic wines similar to Muscat</li> </ul> </li> </ol> </td> </tr> </table> | <p><u>Reds (30%)</u></p> <ol style="list-style-type: none"> <li><b>Kadarka</b> <ul style="list-style-type: none"> <li>- Productive black grape that ripens v late</li> <li>- Famous for being Bull's blood main grape but now almost entirely replaced by international varieties excl. in the Great Plain.</li> <li>- Fully ripened -&gt; soft, full bodied, ageworthy wines</li> </ul> </li> <li><b>Kékfrankos (Blaufränkisch)</b> <ul style="list-style-type: none"> <li>- Buds early, ripens late</li> <li>- Light purple colour, Med tannins, hi acidity + sour cherry flavours</li> <li>- Suited for oak ageing</li> </ul> </li> <li><b>Kékoportó (Portugieser)</b> <ul style="list-style-type: none"> <li>- Needs warmth</li> <li>- Blended to add soft tannins &amp; acids</li> </ul> </li> <li><b>Zweigelt</b> <ul style="list-style-type: none"> <li>- Blaufränkisch x St Laurent crossing</li> <li>- Bite of Blaufränkisch + weight &amp; body from St Laurent</li> <li>- Widely planted; Often produces hi yields</li> </ul> </li> </ol> | <p><u>Whites (70% of production)</u></p> <ol style="list-style-type: none"> <li><b>Furmint</b> <ul style="list-style-type: none"> <li>- Hi acidity, hi sugar levels, susceptible to noble rot</li> <li>- Produces dry and sweet wines w apple character when young and complex honey, nutty notes w age</li> <li>- Grown mainly in Tokaji and Somló</li> </ul> </li> <li><b>Hárslevelú (linden leaf)</b> <ul style="list-style-type: none"> <li>- Late ripening, prone to botrytis, Furmint partner</li> </ul> </li> <li><b>Sarga Muskotály (Muscat blanc a petits grains)</b> <ul style="list-style-type: none"> <li>- Aromatic orange blossom character. Use for Tokaji</li> </ul> </li> <li><b>Olaszrizling (Welschriesling)</b> <ul style="list-style-type: none"> <li>- Needs warm, nutrient-rich soils; ripens late</li> <li>- Produces crisp, light wines w notes of bitter almonds</li> <li>- Grown around Balaton lake</li> </ul> </li> <li><b>Zéta</b> <ul style="list-style-type: none"> <li>- Crossing of Furmint x Bouvier permitted in Tokaji</li> </ul> </li> <li><b>Irsai Olivér</b> <ul style="list-style-type: none"> <li>- Crossing Pozsony x Pearl of Csaba</li> <li>- Ripens extremely early and reliably for heavy, aromatic wines similar to Muscat</li> </ul> </li> </ol> |
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| VITICULTURE  | <ul style="list-style-type: none"> <li>• <b>65,000ha</b> of vines</li> </ul>   |  |   |
| WINEMAKING   | <ul style="list-style-type: none"> <li>• <b>Tokaji Aszú winemaking:</b> <ul style="list-style-type: none"> <li>- Botrytis-affected grapes selected on the vine, 3-4 times in good autumn.</li> <li>NB: if Aszú berries on bunch less than 50% -&gt; bunch used for Szamorodni ('as it comes') for dry/sweet wines</li> <li>- Aszú berries blended in base wine (from healthy grapes) for 24-36 hours</li> <li>- Modest pressing and very long fermentation in Hungarian oak casks</li> <li>- Legally Min 2 yrs in oak + 1 yr in bottle ageing before release. Usually 3-6 years.</li> <li>- Oxidisation during ageing less common.</li> </ul> </li> <li>• <b>Bull's blood:</b> historic robust red made from indigenous and international red varieties; long maceration + ageing</li> </ul>   |  |   |
| WINE LAWS & CLASSIFICATIONS  | <ul style="list-style-type: none"> <li>• Based on French appellation system with 3 zones and 22 regions</li> <li>• 3 categories: <ol style="list-style-type: none"> <li>1. Asztali Bor - <b>Table wine</b></li> <li>2. Minósegi Bor – <b>quality wine</b></li> <li>3. Kúnlonégés Minósegi Bor – <b>Special Quality wines w official state seal and 4 groups:</b> <ol style="list-style-type: none"> <li>a. <b>Late harvested wines:</b> similar to Austrian Spatlese</li> <li>b. <b>Special selection late harvest:</b> similar to Auslese</li> <li>c. <b>Shirvelled grapes:</b> BA/TBA</li> <li>d. <b>Aszu wines</b> with ranking according to residual sugar: <ul style="list-style-type: none"> <li>3 Puttonyos: 60g/l</li> <li>4 Puttonyos: 90g/l</li> <li>5 Puttonyos: 120g/l</li> <li>6 Puttonyos: 150g/l</li> </ul> </li> </ol> </li> </ol> </li> <li>• New governing body since 1995 with: <ul style="list-style-type: none"> <li>- National council w overall supervisory role</li> <li>- Regional councils w a representative from each commune</li> <li>- Local council for each wine commune</li> </ul> <p>The council is responsible for the grape quality, the harvest date and vinification methods but not final results</p> <p><b>All growers must register to be able to sell on domestic or export markets.</b></p> </li> </ul>   |  |   |

KEY REGIONS &  
CHARACTERISTICS

- 3 key zones:
  1. **Northern Massif**
    - Along the Slovakian border in the North-eastern part of the country; volcanic soils; continental climate
    - 2 key regions:
      - **Tokaji – 5,800ha**
        - Far north east of Hungary; 28 villages including the village of Tokaj; most prestigious region
        - Volcanic clay soils, particularly thin & poor on the steepest slopes, with loess & sedimentary clay on the hills
        - The Carpathian mountains shelter the area and create a macroclimate of humid nights, long, warm autumns, which combined with the Tisza and Bodrog rivers favour Botrytis development
        - Key types of wines:
          - i. Dry wines: fresh, briefly matured or matured in wood. Non-botrytised grapes from higher altitude areas
          - ii. Szamorodni dry: Beerenauslese but fermented dry (<4g/l residual sugar) + some maturation under flor
          - iii. Szamorodni sweet: when grapes will not ferment to dryness (min 30g/l) + some oxidised maturation
          - iv. Aszú sweet: made from Botrytis-affected grapes.
          - v. Aszú Eszencia: made from Aszú berries free run only in best years from best vineyards. >6 Puttonyos sugar level w hi flavour concentration, long ageing potential and prices on par with Ch. d'Yquem.
        - Foreign investment in Tokaji: French (Axa), Italian (Antinori), Dutch and Spanish (Vega Sicilia)
      - **Eger**
        - In the foothills of the Búkk mountains; around the town of Eger
        - Late spring; low rainfall
        - Best known for age-worthy red wine, notably Egry Bikaver i.e. **Bull's blood** on export markets, famous in the 70s and made **from 10 different grapes including local (Kekfrankos) and Bordeaux varieties (Cab Sauv)** with no grape more than 50% of blend. Also produces whites.
  2. **Transdanubia**
    - West of Danube river; strong influence of the Balaton lake (//Neusiedlersee in Austria) & the Danube.
    - Key areas:
      - Around Lake Balaton:
        - Area protected from winds with ideal climate for wine production
        - Volcanic, iron rich soils gives more body to the wine.
        - Wide range of varieties.
      - **Szekszárd**: long warm summers allow reds to ripen better. Mainl Kekfrankos, Cab Sauv & Merlot. SB too.
      - **Villány-Siklos**: producers in the Villány hills produce powerful, ageworthy premium reds from Cabernet (most successful), Kekfrankos, Merlot & Zweigelt.
  3. **The Great plain**
    - Vast, flat zone south of Budapest, between the Danube and Tisza rivers
    - 50% of vineyards as sandy soils that Phylloxera is intolerant to. Can be quite hot in the summers (droughts)
    - Mainly international varieties for big volume low quality wines for the local market.

PRODUCTION &  
BUSINESS

- Minor wine producing country & exporter
  - 15<sup>th</sup> biggest producer in volume with around 4million hl/yr
  - 19<sup>th</sup> biggest exporter in value
- Large local market w 88% of production going for local consumption
- Key producers:
  - **Royal Tokaji – Northern Massif**
    - Wine company owned by 100 shareholders incl. Hugh Johnson; only produces Aszú wines. Rare and expensive
  - **József Bock –Transdanubia**
    - One of Villány's leading lights; produces v good Hárslevelú whites and top Kékoportó and Bdx blend ('Bock Grand selection')

# SWITZERLAND

|                               |  |
|-------------------------------|--|
| HISTORY                       | <ul style="list-style-type: none"> <li>• Grape growing dating back to 3000-1800BC</li> <li>• 6<sup>th</sup> century: Burgundian monks founded monasteries and helped vine-growing to spread</li> <li>• 19<sup>th</sup>: industry in crisis due to growing imports from Germany and Italy and major devastation by Phylloxera</li> <li>• Since 70s: internal demand increase and improvement in the vineyards e.g. clonal selection has helped the industry recovery and rise in quality</li> </ul>   |
| CLIMATE                       | <ul style="list-style-type: none"> <li>• Continental climate. Rainfall 500-1,800mm</li> </ul>  |
| SOILS & TOPOGRAPHY            | <ul style="list-style-type: none"> <li>• Ideal latitude for wine production (45-47°) but very mountainous country i.e. too high for vine growing</li> <li>• Majority of the vineyards in the western French-speaking part i.e. Suisse romande</li> <li>• <b>Vineyards up to 1,100m above sea level and slopes as steep as 90%</b></li> <li>• <b>Various soils</b> but limestone present in most regions along with glacial moraine, gravel &amp; clay.</li> </ul>  |
| GRAPE VARIETIES               | <ul style="list-style-type: none"> <li>• A number of crossings e.g. Charmont (Chasselas x Chardonnay) have been developed for Switzerland</li> </ul> <p><u>Reds (62% of plantings)</u></p> <p><b>1. Pinot Noir</b></p> <ul style="list-style-type: none"> <li>- Difficult grape to grow: thin-skinned, small berries prone to rot and mildew.</li> <li>- Uninteresting if overcropped.</li> <li>- Lower tannin &amp; anthocyanins make it harder a very delicate grape to vinify</li> <li>- Most widely planted red grape in Switzerland and most planted in Eastern German-speaking Switzerland</li> </ul> <p><b>2. Gamay</b></p> <ul style="list-style-type: none"> <li>- Potentially named after village of same name close to Puligny-Montrachet</li> <li>- Early budding, flowering &amp; ripening -&gt; susceptible to spring frosts</li> </ul> <p><b>3. Merlot</b></p> <ul style="list-style-type: none"> <li>- Progeny of Cabernet Franc grape;</li> <li>- Early flowering (-&gt; colour risk), prone to rot</li> <li>- Dry summers in well drained soils can lead to under-ripeness</li> <li>- Higher yielding in moderate climates</li> <li>- Medium body &amp; tannins, adds smoothness to blend</li> <li>- Main grape in Ticino where it creates either light &amp; fruity reds for rich, black berry fruit and toasty oak flavoured wines</li> </ul> <p><b>Others: Bondola, Syrah</b></p> <p><u>Whites (38% of plantings)</u></p> <p><b>1. Chasselas (45% of pltns 60% of production)</b></p> <ul style="list-style-type: none"> <li>- Wines are light &amp; dry and range from fairly neutral to aromatic</li> <li>- Can express terroir if well vinified</li> <li>- Called in Fendant in Valais and Gutedelin German part</li> </ul> <p><b>2. Silvaner</b></p> <ul style="list-style-type: none"> <li>- Early ripening, productive but frost sensitive grape</li> <li>- High natural acidity but lower vs. Riesling</li> <li>- Fuller bodied vs. Chasselas</li> </ul> <p><b>3. Muller-Thurgau</b></p> <ul style="list-style-type: none"> <li>- Crossing Madeleine Royale x Riesling developed by Dr Muller from Thurgau in 1882</li> <li>- Earlier ripening vs. Riesling (safer), can be grown anywhere and produce high yields but softer wood vs. Riesling (winter damage) &amp; susceptible to rot</li> <li>- Lo yields -&gt; elderflower aromas</li> <li>- Hi yields -&gt; damp cardboard aromas</li> <li>- Most common in German Switzerland</li> </ul> <p><b>4. Pinot Gris</b></p> <ul style="list-style-type: none"> <li>- Believed to be a mutant clones of Pinot Noir</li> <li>- Can have a grayish-blue coloured berries</li> <li>- Grows best in cool climates and matures relatively early w high sugar levels</li> <li>- Produces full bodied, perfumed whites in Valais</li> </ul> <p><b>5. Aligoté</b></p> <ul style="list-style-type: none"> <li>- Hardy grapes for mostly thin &amp; high acidity wines</li> </ul> <p><b>Others: Arnigne, Petite Arvine, Gewurztraminer, Chardonnay, Sauvignon Blanc, Kerner, Sémillon</b></p> |
| VITICULTURE                   | <ul style="list-style-type: none"> <li>• <b>15,000ha</b> w high viticulture costs.</li> <li>• Wide variety of training systems w Cordon, Gobelet, Guyot and Tendone (in Ticino) used.</li> <li>• No mechanisation possible. Irrigation sometimes necessary</li> <li>• Key hazards: soil erosion, frosts, mildew</li> </ul>   |
| WINEMAKING & WINE STYLES      | <ul style="list-style-type: none"> <li>• <b>Keen to avoid high acidity via chosen varieties, use of MLF and extra ripening of the grapes.</b></li> <li>• Chaptalisation permitted for added softness</li> <li>• Reds tend to go through carbonic maceration; barrel maturation is also getting popular.</li> <li>• Whites tend to be light and relatively neutral</li> </ul>   |
| WINE LAWS                     | <ul style="list-style-type: none"> <li>• AC system introduced in the early 90s but yield levels can be quite high and vary between cantons.</li> </ul>   |
| KEY REGIONS & CHARACTERISTICS | <p><b>1. Western region – 11,000ha – ¾ of all plantings</b></p> <ul style="list-style-type: none"> <li>○ French-speaking corner made of Neuchatel, Geneva and Valais. Valais is the biggest w 1/3 of all plantings.</li> <li>○ Mountainous regions w vineyards up 400-700m high and some vineyards w 85% steep slopes</li> <li>○ Key sub regions: <ul style="list-style-type: none"> <li>▪ <b>Valais (5,200ha)</b> <ul style="list-style-type: none"> <li>- Located in the upper Rhone valley, east of Geneva and south-west; around the town of Sion</li> <li>- Mainly south-facing terraced vineyards; Chasselas dominates</li> <li>- Dôle: wine produced from Pinot Noir and Gamay w Pinot Noir needing to be main component</li> <li>- Johannisberg: Valais name for fuller-than-average dry white from Silvaner grapes</li> <li>- Vin des Glaciers: local specialty from Val d'Anniviers; maderised white made from Reze</li> <li>- A lot of indigenous varieties e.g. Arnigne, Petite Arvine (famous from Fully)</li> <li>- 40% of annual Swiss production</li> </ul> </li> <li>▪ <b>Vaud (3,850ha)</b> <ul style="list-style-type: none"> <li>- On the slopes of Lake Geneva; 2<sup>nd</sup> largest canton in the country</li> <li>- Chasselas represents 70% of production and shows mineral characters and ageing potential</li> <li>- Gamay grown for red and rosé production; 2 grands Crus: Dézaley and Calamin</li> </ul> </li> <li>▪ <b>Others: Neuchatel and Geneva</b></li> </ul> </li> </ul>   |



2. **Eastern region -2,600ha**

- German speaking part; south of Baden in Germany
- 80% of production is red wine made from Pinot Noir
- Muller Thurgau dominates the whites

3. **Southern region – 1,000ha**

- Italian speaking part
- Vineyards at low altitude can grow fully ripened Merlot (85% of production) while higher vineyards grow Pinot Noir
- Ticino's 2 styles of Merlot e.g. light & fruit or new oak-aged can be of top international standards
- Hybrids and American vines still represent 7% of production here.

PRODUCTION &  
BUSINESS

- **1m hl w less than 1% exported**
- Fairly high annual consumption w 380m btls consumed each / 49l/per/yr
- Imports banned until recently so producers have to face international competition
- Key producers:
  - **Louis Bovard – 250,000btls – Lavaux canton**
    - Produces white Dézaley with ageing capacity; counselled by Jean-Luc Colombo from Cornas.
  - **Gialdi SA – 400,000btls**
    - Relatively new wine company; excellent oak-aged Merlot including Sassi Grossi with partially air-dried grapes

# ROMANIA

|   |   |   |   |
|---|---|---|---|
| HISTORY   | <ul style="list-style-type: none"> <li>• 7<sup>th</sup>BC: coastal region settled by by Ancient Greeks who probably started viticulture</li> <li>• 1861-1914: Romania's political unification</li> <li>• 1884: Phylloxera hit so resistant hybrids dominated production until 1930s</li> <li>• <b>1947-89: Communist regime w government's stronghold on research establishments, wine estates (nationalised) and co-operative vineyards linked to the wine estates</b></li> <li>• <b>1990s: privatisation</b> w dismantling of co-operatives, restitution of land to former private owners <b>but quality dropped due to lack of expertise and/or finance</b></li> <li>• Since late 1990s: active restructuring of the industry to attract more foreign investment</li> <li>• <b>Now: huge quality potential but still desperate need for more investment</b></li> </ul>   |   |   |
| CLIMATE & WEATHER   | <ul style="list-style-type: none"> <li>• <b>Continental climate excl. Black Sea where Maritime</b></li> <li>• Sea breezes on the Black Sea coast and by the Danube in the South and Southwest.</li> </ul>   |   |   |
| SOILS & TOPOGRAPHY  | <ul style="list-style-type: none"> <li>• Country east of Hungary &amp; Serbia; South of Ukraine &amp; Moldova and North of Bulgaria; Black sea on eastern coast</li> <li>• Dominated by <b>the Carpathian mountains that curve across the country.</b></li> <li>• <b>Great variety of soils:</b> generally stony &amp; free draining by the Carpathians; alluvial &amp; sandy nearer the coast</li> </ul>   |   |   |
| GRAPE VARIETIES   | <ul style="list-style-type: none"> <li>• Wide variety of American vines, hybrids, native and European vines:</li> </ul> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><u>Reds</u></p> <p><b>1. Cabernet Sauvignon</b><br/>- Not as widely planted as in Bulgaria</p> <p><b>2. Pinot Noir</b><br/>- Main export variety from Romania</p> <p><b>Others:</b> Kekoporto, Kefrankos</p> </td> <td style="width: 50%; vertical-align: top;"> <p><u>Whites</u></p> <p><b>1. Feteascas</b><br/>- 2 types: Alba and Regala; both produce fresh, perfumed, dry white<br/>- Most planted variety by far (25,000ha)<br/>- Alba used in Cotnari sweet white blend</p> <p><b>2. Riesling Italico aka Welschriesling</b><br/>- Needs warm, nutrient-rich soils; ripens late<br/>- Usually simple, light wines but can produce good dry &amp; great sweet wines</p> <p><b>Others:</b> Riesling, Sauv Blanc, Pino Gris, Aligoté, Rkatsiteli, Muscat Ottonel, Gewurztraminer</p> </td> </tr> </table>   | <p><u>Reds</u></p> <p><b>1. Cabernet Sauvignon</b><br/>- Not as widely planted as in Bulgaria</p> <p><b>2. Pinot Noir</b><br/>- Main export variety from Romania</p> <p><b>Others:</b> Kekoporto, Kefrankos</p> | <p><u>Whites</u></p> <p><b>1. Feteascas</b><br/>- 2 types: Alba and Regala; both produce fresh, perfumed, dry white<br/>- Most planted variety by far (25,000ha)<br/>- Alba used in Cotnari sweet white blend</p> <p><b>2. Riesling Italico aka Welschriesling</b><br/>- Needs warm, nutrient-rich soils; ripens late<br/>- Usually simple, light wines but can produce good dry &amp; great sweet wines</p> <p><b>Others:</b> Riesling, Sauv Blanc, Pino Gris, Aligoté, Rkatsiteli, Muscat Ottonel, Gewurztraminer</p> |
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| VITICULTURE   | <ul style="list-style-type: none"> <li>• <b>250,000ha</b> of vines with ~100,000ha</li> <li>• <b>Irrigation permitted but rarely used.</b> Mechanical harvesting still a novelty.</li> <li>• Key hazards: severe winter cold, spring frosts, summer droughts, harvest rain</li> </ul>   |   |   |
| WINEMAKING  | <ul style="list-style-type: none"> <li>• <b>Considerable modernisation thanks to SAPARD funding w bottling lines, temperature-controlled stainless steel tanks, new presses and water treatment.</b></li> <li>• Use of Romanian oak chips and barrel widespread</li> <li>• Consultant winemakers and travelling Romanian winemakers help build expertise</li> <li>• <b>Cotnari:</b> sweet white wine produced from Botrytised grapes of any of 4 traditional varieties i.e. Grasa, Tamaioasa, Francusa and Feteasca Alba. Produced in the North.</li> </ul>   |   |   |
| KEY REGIONS & CHARACTERISTICS   | <ul style="list-style-type: none"> <li>• 8 regions but 4 key ones are:             <ol style="list-style-type: none"> <li><b><u>Muntenia - Dealu mare</u></b> <ul style="list-style-type: none"> <li>◦ South facing slopes of the Carpathian foothills, 50km north of Bucharest; part of larger Muntenia</li> <li>◦ Historic region w vineyards at altitudes (130-600m); annual rainfall 640mm</li> <li>◦ Mainly reds with Pinot Noir, Merlot, Cabernet and local varieties</li> </ul> </li> <li><b><u>Dobroga - Murfatlar</u></b> <ul style="list-style-type: none"> <li>◦ Coastal subregion of the Black Sea; 50km north of the Bulgarian border.</li> <li>◦ Warm climate w 300 days of sunshine and low rainfall in growing season; Limestone soils</li> <li>◦ Best known for whites including Chardonnay and Pinot Gris but also soft Merlot and Cab Sauv</li> </ul> </li> <li><b><u>Moldova</u></b> <ul style="list-style-type: none"> <li>◦ Area in the North-east of the country, along the border w the Republic of Moldova</li> <li>◦ Home to Cotnari region, one of the oldest wine region</li> </ul> </li> <li><b><u>Transylvania - Tarnave</u></b> <ul style="list-style-type: none"> <li>◦ High Central region, north-west of Bucharest; oldest wine region in the country</li> <li>◦ Coolest region with vineyards up to 300m on steep slopes similar to the ones in the Mosel.</li> <li>◦ Traditional varieties i.e. Feteascas, Welschriesling and Muscat Ottonel dominate but also some Austrian Neuburger.</li> <li>◦ Wines are predominantly white with a similar appealing acidity to Mosel wines</li> </ul> </li> </ol> </li> </ul> |   |   |
| WINE LAWS & CLASSIFICATIONS   | <ul style="list-style-type: none"> <li>• New EU-friendly system introduced in 2002 with:             <ul style="list-style-type: none"> <li>- <b>Vin de Masa</b> – table wine; Special wines being fortified or liqueur</li> <li>- <b>Vin Cu Indicatie Geografica</b> – equivalent to VdP</li> <li>- <b>Denumire de Origine Controlata (DOC)</b> – high quality wine from a controlled appellation of origin with different sub-categories depending on sugar level at harvest</li> </ul> </li> </ul>   |   |   |
| PRODUCTION & BUSINESS   | <ul style="list-style-type: none"> <li>• <b>85% of production consumed locally w white wines dominating (2/3 of volume consumed)</b></li> <li>• Exports mainly to Moldova and Germany</li> <li>• Key producers include Italian-backed Vinarte (2.6m btls), Guy de Poix's SERVE, Carl Reh Winery and Reca Winery.</li> </ul>   |   |   |

# BULGARIA

|   |   |   |  |
|---|---|---|--|
| HISTORY   | <ul style="list-style-type: none"> <li>• Wine producing country for 3 millennia.</li> <li>• 1947-60s: country became communist and the production rationalised around large cooperative e.g. Vinprom</li> <li>• <b>1960-80s: significant progress</b> with:             <ul style="list-style-type: none"> <li>- Introduction of new international varieties e.g. Cabernet Sauvignon &amp; Merlot</li> <li>- Rise in quality &amp; exports of inexpensive well-crafted varietal wines esp. Cabernet -&gt; UK's main supplier of Cabernet</li> </ul> </li> <li>• <b>Mid 80s-late 90s: decline in quality and quantity</b> due to:             <ul style="list-style-type: none"> <li>- Gorbachev's initiatives to curb alcoholism in the USSR including uprooting of vineyards in Bulgaria and price set on weight only</li> <li>- Fall of USSR and lack of modern working equipment. Disputes about vineyard ownership.</li> </ul> </li> <li>• <b>Recently: emergence of quality boutique wineries</b> brought by foreign investors e.g. Bessa Valley project</li> </ul>  |   |  |
| SOILS & TOPOGRAPHY  | <ul style="list-style-type: none"> <li>• Country borders Romania in the North, Greece &amp; Turkey in the south, Serbia in the west, Black sea on the east</li> <li>• The <b>Balkan mountains run east to west</b> and split the country in North-South</li> </ul>  |   |  |
| CLIMATE & WEATHER   | <ul style="list-style-type: none"> <li>• <b>Continental climate</b> with hot summers (up to 40C) and harsh winters (-25C).</li> <li>• Mediterranean influence in the South and Maritime influence near the Black sea.</li> </ul>  |   |  |
| GRAPE VARIETIES   | <table border="0"> <tr> <td style="vertical-align: top;"> <p><b>Reds (63% of plantings)</b></p> <p><b>1. Pamid (30% of all plantings)</b></p> <ul style="list-style-type: none"> <li>- Local oldest &amp; most planted variety</li> <li>- Produces thin, early-maturing reds with slight sweetness</li> </ul> <p><b>2. Merlot (16%)</b></p> <ul style="list-style-type: none"> <li>- Progeny of Cabernet Franc grape;</li> <li>- Early flowering (-&gt; colour risk), prone to rot</li> <li>- Dry summers in well drained soils can lead to under-ripeness</li> <li>- Higher yielding in moderate climates</li> <li>- Medium body &amp; tannins, adds smoothness to blend</li> </ul> <p><b>3. Cabernet Sauvignon (15%)</b></p> <ul style="list-style-type: none"> <li>- Progeny of Cab Franc &amp; Sauv Blc</li> <li>- Small-sized berries w concentrated phenolics</li> <li>- Ageing potential and affinity for oak</li> <li>- Moderate yields; deep coloured, tannic full-bodied wines w blackcurrant aromas.</li> </ul> <p><b>4. Gamza aka Kadarka</b></p> <ul style="list-style-type: none"> <li>- Productive black grape that ripens v late</li> <li>- Fully ripened -&gt; soft, full bodied, ageworthy wines</li> <li>- Tendency to overproduce</li> <li>- Widely planted in the North</li> </ul> <p><b>5. Mavrud</b></p> <ul style="list-style-type: none"> <li>- Native small berried, low yielding grape</li> <li>- Affinity w oak ageing; Produces intense, tannic wines if fully ripe</li> <li>- Most popular in local market; grown mainly around Plovdiv</li> </ul> <p><b>6. 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| VITICULTURE   | <ul style="list-style-type: none"> <li>• <b>130,000ha</b> of vines</li> <li>• Key hazards: fungal diseases caused by humidity</li> </ul>  |   |  |
| WINEMAKING  | <ul style="list-style-type: none"> <li>• Foreign investment and EU <b>funding has allowed to renovate wineries</b> and install more modern equipment i.e. stainless steel, rotary fermenters</li> <li>• Irrigation and chaptalisation usually not necessary</li> <li>• Use of oak chips is quite common</li> </ul>  |   |  |
| WINE LAWS & CLASSIFICATIONS   | <ul style="list-style-type: none"> <li>• 1978 Wine Act classifies wines under 5 different categories             <ol style="list-style-type: none"> <li>1. <b>Standard wines:</b> basic level; still light wine for domestic market</li> <li>2. <b>Special wines:</b> includes sparkling, fortified and fruit wines</li> <li>3. <b>High quality wines without geographical indication:</b> unspecified region; usually large brands</li> <li>4. <b>High quality wines with declared geographical indication (DGO):</b> states region and may state varietal on the label; quality level not stated</li> <li>5. <b>Controliran:</b> equivalent to French AC w varieties, area and quality level stated on the label. Tasting required.</li> </ol> </li> <li>NB: A Reserve is a DGO or Controliran aged for a minimum time ageing in oak</li> </ul>   |   |  |
| KEY REGIONS & CHARACTERISTICS   | <ul style="list-style-type: none"> <li>• 2000: EU reclassification of the regions between Danubian plain (incl. Black Sea) and Thracian lowlands (incl. Struma):             <ol style="list-style-type: none"> <li>1. <b>Black sea region – 30% of total vineyard</b> <ul style="list-style-type: none"> <li>o Entire eastern coastline from Danube river to Turkish border; Climate moderated by the sea and the mountains further inland</li> <li>o Mainly whites with Chardonnay dominating.</li> <li>o Controliran Chardonnay produced in Shumen (inland) and near Varna on the coast.</li> </ul> </li> </ol> </li> </ul>  |   |  |

## 2. Danubian plain

- South of the Danube river from Serbian and Romanian borders in the North-west to the Black sea in the west
- Vineyards in the northern slopes of the Balkan mountains in the south and the plains
- Continental climate with hot summers
- Suhindol (in the plain; once major exporting winery in the 90s) and Russe (along the Danube) are important for Cabernet Sauvignon

## 3. Struma valley region

- South-west corner of the country; bordering with Serbia on the west and Greece in the south
- Mediterranean climate w large volume production of white Rkatsiteli for local market
- Reds for export from Melnik (now in small quantities) or Cabernet

## 4. Thracian valley region – 33% of total vineyard

- Sandwiched between the Struma valley and the Southern part of the Black sea; 100-300m high
- Continental climate cooled by mountain breezes; Good quality red region with 2 areas
  - **West Thracian valley:** Valley of the Maritsa river, directly east of Struma valley region, largest producing region; Controliran wines from Assenograd and Cabernet Sauvignon near Plovdiv and Oriachivitza.
  - **East Thracian valley:** valley & hilly region around Sakar (South-east); Merlot dominated but also Chardonnay, Cab Sauv, Aligoté, Misket, Muscat-Otonel and Pamid.

## 5. Sub-balkan region

- Southern foot of the Balkan Mountain range, south of the Danubian plain and Black sea region
- Deep valleys produce unique micro-climates
- White wines from different grape varieties are the local specialty.

### PRODUCTION & BUSINESS

- 1.4m hl of wine produced
- **Exports account for nearly 2/3 of production** with Russia, Poland, UK and Germany being the key markets.
- Key producers:
  - **Chateau de Val – Danubian plains**
    - Small quality focused winery led by Val Markov; one of the first to develop terroir wines; 'Grand Claret'.
  - **Bessa Valley – Thracian valley**
    - 140ha estate founded by Von Niepperg and Hauptman of French varieties; 'BV by Enira'