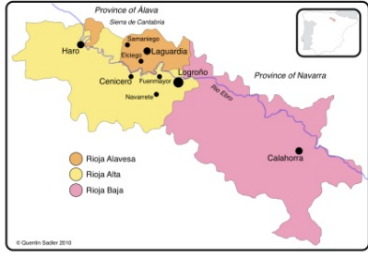


SPAIN

HISTORY	<ul style="list-style-type: none"> • 3000-4000BC: grapes already cultivated • 700BC: first traces of systematic cultivation of vineyards by Greek colonies, in the area now called Emporda • 200BC: industrialisation of wine production under Roman rule. Spanish exports far exceeded those of Italy or France. • 16th: birth of the Sherry industry that was progressively exported all over the world. • 1850s: Luciano de Murrieta produced the first 'modern Rioja' using French vat-fermenting methods • 1870s: Joseph Raventós founded Codorníu. France turned to Spain post-Phylloxera for wine supplies • Late 1890s-Early 20th: Phylloxera hits Spain -> native varieties not replanted in favour of higher yielding ones • 1920-30s: start of DO and first DOs created • 1939-78: the wine industry is crippled by the Civil War and under Franco's rule • 1978-now: modernisation of viticulture (planting, training & pruning) & winemaking (stainless steel) techniques enhanced by European investment (following Spain EU entry in 78) & companies (Miguel Torres) • 2003: irrigation allowed following 1992-3 major drought 		
GEOGRAPHY & CLIMATE	<ul style="list-style-type: none"> • Spain is one of the most mountainous winemaking country in the world with 650m avg altitude: • Key <i>cordilleras</i> influences: <ul style="list-style-type: none"> - The Meseta Central plateau (610-1,000m) tilting towards the west, covers most of central Spain and gives birth to Spain's key rivers - The Cantabrian mountains (up to 2,600m) protect regions like Rioja from rain & winds from Atlantic (Bay of Biscay) - Sierra Morena protects La Mancha from the Mediterranean influence coming from Andalucía • Key rivers: <ul style="list-style-type: none"> - Ebro flowing eastwards through the Rioja to Catalunya, south of Barcelona - Duero flowing westwards through Ribera del Duero, Rueda & Toro and to Portugal - Tajo & Guadiana flowing through La Mancha - Guadalquivir flows through Andalucía to the Atlantic at Sanlúcar de Barrameda 		
GRAPE VARIETIES	<ul style="list-style-type: none"> • 400 different grape varieties planted but 20 grapes represent 80% of the production: <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p><u>Reds (% of plantings)</u></p> <ol style="list-style-type: none"> 1. Tempranillo aka Cencibel aka Tinto Fino aka Ull de Lebre – 17% <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco - 2nd most planted grape in the world 2. Garnacha aka Grenache <ul style="list-style-type: none"> - Mostly likely to originate from Northern Spain - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries - Older vines/lower yields produce darker, more tannic wines (e.g. in Priorat) w darker fruit & more complex flavours - Often blended to add body and fruitiness or used for Rosados - Most planted red wine grape variety in the world 3. Carinena aka Mazuelo aka Carignan <ul style="list-style-type: none"> - Originates from Aragon - Hi yielding; late budding & ripening (-> warm climate) - Thick stalk that makes mechanical harvesting difficult - Deep colour, hi acidity, hi tannins w red fruits flavours (cherry, raspberry) and blackberry - Often blended 4. Monastrell aka Mourvedre <ul style="list-style-type: none"> - Buds & ripens late (-> warm climate) - Thrives in south facing slopes with shallow, water-retaining clay soils - Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity (bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age - Grown in South-east of Spain 5. 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VITICULTURE	<ul style="list-style-type: none"> • 1.2m ha – largest area under vine in the world • Very low density planting w 900 to 1,600 vine/ha • Mostly bush planting (en vaso) with vines sometimes up to 40 yrs for yields <20hl/ha
WINE CLASSIFICATION & LABELLING LAWS	<ul style="list-style-type: none"> • 6 different quality levels: <ol style="list-style-type: none"> 1. Vino de Mesa 2. Vino de la Tierra (IGT) x40 -Similar to VdP/IGT 3. Vinos de Calidad con Indicación Geographica (VCIG) <ul style="list-style-type: none"> - Stepping stone to higher quality level. 5 years before promotion 4. Denominación de Origen (DO) x60 <ul style="list-style-type: none"> - Equivalent to AOC i.e. must satisfy a minimum quality & grape varieties, viticultural method, location and style are specified and regulated by the Consejo Regulador. 10 years for promotion to DOCa 5. Denominación de Origen – Pago (DO Pago) x9 <ul style="list-style-type: none"> - Outstanding single estate from DO and which produce from own grapes. 6. Denominación de Origen Calificada (DOCa, DOQ) x2 <ul style="list-style-type: none"> - Very high quality standards set and controlled by Consejo Regulador - 3 DOCa only: Rioja (91), Priorat (03). Duero expected in 2008 but eventually did not happen. • Ageing requirements with regional differences: <ul style="list-style-type: none"> ○ Joven – bottled <1 yr after harvest ○ Crianza – Min 2 yrs ageing / 6 mths in cask ○ Reserva – Min 3 yrs ageing / 1yr in oak ○ Gran Reserva – 5 yrs ageing / 2yrs in oak Only made in exceptional vintages. Often aged much longer. • Other labelling terms <ul style="list-style-type: none"> ○ Noble – Min 1 yr ageing / no oak ageing required ○ Anejo – Min 2 yr ageing / no oak ageing required ○ Viejo – Min 3 yr ageing / no oak ageing required. Wine may display marked oxidative notes
PRODUCTION	<ul style="list-style-type: none"> • 3rd largest producer in the world with 34.3m hl in 2011 (nearly double the US) <ul style="list-style-type: none"> - 46% Table wines - 34% DO wines • 10,000 wineries • Most important regions: <ol style="list-style-type: none"> 1. Castilla-La Mancha – 47% 2. Catalunya – 10% 3. Extremadura – 8% 4. Rioja – 7% 5. Valencia – 7% • Domestic consumption: 30lts/yr/person (#9th) • Exports: <ul style="list-style-type: none"> - £1.5m exported with UK & Germany the main export markets with a combined 34% - Cava is the main DO to be exported (20%) before Rioja (18%) and La Mancha (10%)

NORTH-CENTRAL SPAIN – UPPER EBRO - RIOJA

HISTORY	<ul style="list-style-type: none"> • 2nd BC: grapes grown on bush vines and pressed by foot on stone troughs • Until 19th: most of the wines are light & fruity made with carbonic maceration • 1852: nobleman Luciano de Murrieta borrows quality oak casks from Bordeaux -> 1st 'modern Rioja' • 1850-60s: nobleman Camillo Hurtado (aka Marques de Riscal) followed & created the 1st industrial-scale bodega • 1860-70s: Bordeaux winemakers flee Phylloxera and relocate in Rioja. • 1901: Rioja hit by Phylloxera; by which time Bordeaux was back to full production • 1926: Consejo Regulador created to delimit the zones of production • 1960-70s: recovery encouraged by growing foreign markets and motorway between Logrono & Bilbao • 1991: Rioja promoted to DOCa 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • South of the Cantabrian mountains which protect the area vs. rain & winds from the Atlantic; along the Ebro river • Most of the vineyards are on a plateau from 300m to 800m hi. • Soils are mostly iron-rich or chalk-rich clay. More fertile alluvial soils in the east 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Continental climate with: <ul style="list-style-type: none"> - Cool Maritime influence climate in Rioja Alavesa - Maritime influence in Rioja Alta. Warmer vs. Alavesa - Warmer, drier continental climate & progressively Mediterranean towards the east in Rioja Baja • Rainfall: from 300mm in parts of Rioja Baja to 500mm in the upper zones of Alta & Alavesa 		
KEY ZONES & CHARACTERISTICS	<div style="display: flex; justify-content: space-between;"> <div style="width: 70%;"> <ol style="list-style-type: none"> Alavesa- 16,000ha <ul style="list-style-type: none"> ○ Located west of Logrono on & north of the river Ebro, in the Basque province ○ Cool maritime influence from the Atlantic with relatively higher rainfall ○ Chalk-rich soils on south facing slopes produce lighter bodied wines with finesse. 94% of the plantings are Tempranillo. Alta – 29,000ha <ul style="list-style-type: none"> ○ Located west of Logrono, south of the Ebro river ○ Maritime influence but warmer & drier climate vs. Alavesa ○ Higher elevation (-> shorter growing season) w clay/red iron rich soils Viura best on Clay; Tempranillo on iron & Malvasia on alluvial soils Baja – 25,000ha <ul style="list-style-type: none"> ○ Located east of Logrono, south of Ebro river ○ Continental to Mediterranean climate in the east. Drought can be a issue in summer months (up to 35C) ○ Heavy clay favours Garnacha ○ Baja wines tend to be deeply coloured, hi in alcohol but low in acidity and flavour intensity </div> <div style="width: 25%; text-align: center;">  </div> </div>		
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VITICULTURE	<ul style="list-style-type: none"> • 60,000ha w small vineyards esp. in Alavesa & Alta. Traditionally, bush vines trained but new vineyards on wires • Rioja Alta: later harvest (i.e. up to end of October)
WINEMAKING & CLASSIFICATION	<p><u>Red vinification</u></p> <ul style="list-style-type: none"> • Styles not defined by fermentation but by barrel maturation and blending. 225l barrique is legally set. • Traditionally, long new American oak ageing was favoured to give the wines a soft vanilla flavour typical of Rioja for younger wines and savoury, meaty characters for Reserva and Gran Reserva. • Modern wines are darker with more pronounced fruit character of strawberries & plum and more obvious oak flavours of vanilla toast and coconut. • Classification <ul style="list-style-type: none"> ▪ Crianza: min 1 yr in oak ▪ Reserva: min 1 yr in oak ▪ Gran Reserva: min 2 yrs in oak <p><u>White vinification:</u></p> <ul style="list-style-type: none"> • Traditional: deliberately oxidised and aged in American oak to create savoury, nutty character (e.g. Lopez de Heredia) • Modern: low temperature fermentation in stainless steel. Some experimentation with French oak & barrel fermentation • Mostly Viura and Malvasia. Verdejo, Chardonnay and Sauvignon blanc not more than 49% of the blend. • Classification: <ul style="list-style-type: none"> ▪ Crianza: min 6mths in oak ▪ Reserva: min 6mths oak ▪ Gran Reserva: min 6mths in oak <p><u>Rosé vinification</u></p> <ul style="list-style-type: none"> • Mainly Garnacha and unaged
PRODUCTION & TRADE STRUCTURE	<ul style="list-style-type: none"> • 250m litres/yr with 75% red, 15% rosé & 10% white • The 500 Bodegas buy grapes either directly from the 20,000 growers or via the 30 cooperatives that control 45% of the grapes • <u>The Rioja Consejo Regulador</u> <ul style="list-style-type: none"> - Based in Logrono; comprised of vine-growers, wine producers & merchants that set the rules for the region - Keeps a register of all the vineyards and bodegas, monitors movement of stock from vineyards to the bottle - Also maintains 2 laboratories in Haro and Laguardia to carry out tests to validate wines before exports - Won a case to get bottling made mandatory within the region in 2000. - Has also enforced a Rioja logo to support modernisation of Rioja wine marketing. • <u>Key producers:</u> <ul style="list-style-type: none"> ○ Marques de Riscal – Alavesa <ul style="list-style-type: none"> - Founded by Camillo Hurtado; now run by Francisco Hurtado; produces 4m btls/yr - First to set up a grape-sorting table in 95; new modern HQ building designed by Frank Gehry in 06 - Owns one of the oldest plantations of Cabernet Sauvignon in Rioja - Signature wine: super Reserva Baron de Chirél made with Cabernet. ○ Marques de Caceres – Rioja Alta <ul style="list-style-type: none"> - Founded in 1970; changed the face of Rioja; does not own any vineyard but produces 8.4m btls/yr - Worked with Emile Peynaud and now Michel Rolland to create very modern Riojas of all colours - Wide range of whites, reds & rosés including a Gran Reserva 2004 (Gold at 2012 IWC). ○ Marques de Murrieta – Rioja Alta <ul style="list-style-type: none"> - Founded by Luciano de Murrieta in 1852; now owned by the Cebrián family; 1.5m btls/yr - Capellania: single vineyard white made from old Malvasia vines in traditional oaky style; Ygay for reds ○ CVNE (Compania Vinícola del Norte de Espana) – Rioja Alta <ul style="list-style-type: none"> - One of Rioja's oldest bodegas (1879); entirely owned by the Real de Asúa family - 1990s: invested heavily in new, state-of-the-art equipment - Signature wines: Vina Real made from Tempranillo from Alavesa & Imperial Reserva made from Graciano & Garnacha from Alta
VINTAGES	<ul style="list-style-type: none"> • 2001, 04, 05 & 09 are the best vintages of the last 15 years.

NORTH-CENTRAL SPAIN – UPPER EBRO - NAVARRA

HISTORY	<ul style="list-style-type: none"> • 2nd BC: grape growing and wine production under Roman rule • 1890s: Phylloxera destroyed 98% of the Navarra vineyards -> replanting predominantly w Garnacha • Since 1980s: move from bulk wine & rosé to quality & reds w private wineries & cooperatives bottling/labelling quality wine and thanks to the EVENA research
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Directly north of Rioja Baja w vineyards on the lower slopes of the Pyrenees, descending towards the basin of the Ebro river • 5 zones: Valdizarbe, Tierra Estella, Ribera Alta, Baja Montana & the most important Ribera Baja (30% of vineyards) • Various soils. Brownish grey limestone and alluvium soils in Ribera Baja.
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Continental climate (long, hot dry summer and cold winters) with Atlantic influences in the northern zones that moderate the heat and slow the ripening • Average rainfall: 400-600mm.
GRAPE VARIETIES	<p><u>Reds & Rosés (95% of plantings)</u></p> <ol style="list-style-type: none"> 1. Tempranillo – 36% of plantings <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') which suits Navarra's continental climate (i.e. shorter growing season) - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco 2. Garnacha – 32% of plantings <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries 3. Cabernet Sauvignon – 13% <ul style="list-style-type: none"> - Progeny of Cab Franc & Sauv Blc - Small-sized berries w concentrated phenolics - Ageing potential and affinity for oak - Moderate yields; deep coloured, tannic full-bodied wines w blackcurrant aromas. 4. Merlot – 11% <ul style="list-style-type: none"> - One of the most planted dark-skinned grape in the world - Progeny of Cabernet Franc grape; early flowering (-> coulure risk), prone to rot - Responds better to damp, cool soils that retain moisture. Dry summers in well drained soils can lead to under-ripeness - Higher yielding in moderate climates - Medium body & tannins, adds smoothness to blend <p>Others: Graciano, Mazuelo</p> <p><u>Whites (5% of plantings)</u></p> <ol style="list-style-type: none"> 1. Viura 4% <ul style="list-style-type: none"> - Originally from France - Floral fresh fruit character with good acidity when grown in low yields 2. Chardonnay 1% <ul style="list-style-type: none"> - Hardy, easy to grow & versatile - Can produce interesting wines even at hi yields 3. Garnacha Blanca <ul style="list-style-type: none"> - Used in small amounts to add weight and body to Viura-based wines <p>Others: Moscatel</p>
VITICULTURE	<ul style="list-style-type: none"> • 13,300ha w most vines are trellised (≠en vaso) to maximise exposure to sunlight and facilitate mechanisation • Hi planting density. • Key hazards: frost at higher altitude and occasional storms • EVENA (Estacion de Viticultura y Enologica de Navarra) <ul style="list-style-type: none"> - Research foundation located in an old distillery building near Pamplona - Pioneered work around soils, winemaking and bottling; has plantations of all majors vines scattered around the region and experiments with winemaking to pass the learning to winemakers.
PRODUCTION	<ul style="list-style-type: none"> • 47m litres/yr w 1/3 exported • Mainly known for light fresh Rosados & high quality reds. • White production is limited • <u>Key producer:</u> <ul style="list-style-type: none"> ○ Bodegas Julián Chivite <ul style="list-style-type: none"> - Oldest winery in Navarra: founded in 1647 by Julián Chivite; first DO Pago in 2007 - Responsible for 75% of all Navarra exports until mid-80s; completely refurbished in 90 - 3m btls/yr with Gran Feudo being the basic range up to the Colección 125 Tempranillo-Cabernet ○ Ochoa <ul style="list-style-type: none"> - Small but dynamic bodega found in 1847 still run by the Ochoa family; produces 800k btls/yr - Produced the first age-worthy Reserva & Gran Reserva and Navarra's first Muscat (made in Italian style) - Javier Ochoa directed the EVENA for a few years. - Signature wine: Ochoa Tempranillo; Moscatel Dulce

NORTH-CENTRAL SPAIN – UPPER EBRO - SOMONTANO

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> • Foothills of the Pyrenees, north of Zaragoza. Somontano: 'beneath the mountain'. Altitude 350-650m high • Dark sandy-clay soil hi in lime content and rich in alluvial matter 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Cool climate w hi diurnal range • Average rainfall: 500mm 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Moristel - Loganberry flavoured grape - Light red that oxidise easily; better as a blend 2. Cabernet Sauvignon 3. Merlot 4. Pinot Noir Others: Tempranillo, Paralleda </td> <td style="vertical-align: top; padding-left: 20px;"> <u>Whites</u> 1. Chardonnay 2. Chenin blanc 3. Gewurztraminer Others: Macabeo, Alcanon, Riesling, Sauvignon blanc </td> </tr> </table>	<u>Reds</u> 1. Moristel - Loganberry flavoured grape - Light red that oxidise easily; better as a blend 2. Cabernet Sauvignon 3. Merlot 4. Pinot Noir Others: Tempranillo, Paralleda	<u>Whites</u> 1. Chardonnay 2. Chenin blanc 3. Gewurztraminer Others: Macabeo, Alcanon, Riesling, Sauvignon blanc
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VITICULTURE	<ul style="list-style-type: none"> • 4,000ha Key hazard: winter freezes 		
WINE STYLES	<ul style="list-style-type: none"> • Traditional <i>jovenes</i> in all 3 colours made from Macabeo, Moristel and Garnacha. Less and less common. • Modern wines are either French blend reds or fruit-driven varietal whites. 		
PRODUCTION	<ul style="list-style-type: none"> • Generally, modern fruit-driven varietal wines with white more than red. • Just under 20m bottles produced w 93% of the production made by 3 wineries: <ol style="list-style-type: none"> 1. Vinas del Vinero: supermodern winery; owns 1,100ha for 10mbtls, Blecua is the flagship red 2. Estate: international styles of wine; 4.5m btl/yr Estate Reserva Especial 3. Bodegas Pirineos: cooperative formerly 100% of the DO; now 3rd w 3.3m btl/yr; focuses on local varieties 		

NORTH-CENTRAL SPAIN – UPPER EBRO - CARINENA

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> • Most vineyards on a rocky plateau surrounded by hills that protect them from the cool winds of the Pyrenees • Red/brown limestone w rocky sub soil. Hi levels of calcium carbonate and slate in places. 		
CLIMATE	<ul style="list-style-type: none"> • Continental with long, hot summers w up to 38C in summer and -8C in winter. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Garnacha (55% of plantings) - Mostly likely to originate from Northern Spain - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries - Often blended to add body and fruitiness or used for Rosados 2. Tempranillo (~10%) - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco 3. Carinena (~10%) - Originates from Aragon - Hi yielding; late budding & ripening (-> warm climate) - Thick stalk that makes mechanical harvesting difficult - Deep colour, hi acidity, hi tannins w red fruits flavours (cherry, raspberry) and blackberry - Often blended Others: Merlot, Syrah </td> <td style="vertical-align: top; padding-left: 20px;"> <u>Whites</u> 1. Macabeo (20% of total plantings) - Originally from France - Floral fresh fruit character with good acidity when grown in low yields Others: Chardonnay, Paralleda </td> </tr> </table>	<u>Reds</u> 1. Garnacha (55% of plantings) - Mostly likely to originate from Northern Spain - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries - Often blended to add body and fruitiness or used for Rosados 2. Tempranillo (~10%) - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco 3. Carinena (~10%) - Originates from Aragon - Hi yielding; late budding & ripening (-> warm climate) - Thick stalk that makes mechanical harvesting difficult - Deep colour, hi acidity, hi tannins w red fruits flavours (cherry, raspberry) and blackberry - Often blended Others: Merlot, Syrah	<u>Whites</u> 1. Macabeo (20% of total plantings) - Originally from France - Floral fresh fruit character with good acidity when grown in low yields Others: Chardonnay, Paralleda
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VITICULTURE	<ul style="list-style-type: none"> • 17,000ha w most vines on trellis systems. One of the oldest DO in Europe (1932). 		
WINE STYLES	<ul style="list-style-type: none"> • Traditionally high in alcohol wines are being replaced with wines from improved yield & winemaking techniques • Quality inexpensive Reservas and Gran Reservas. Whites represent 20% of the whole production. Rosés too. 		

NORTH-CENTRAL SPAIN – UPPER EBRO - CALATAYUD

CLIMATE & WEATHER	<ul style="list-style-type: none"> • Continental w hot dry summers and cold winters with frost for 6 months most years. Avg rainfall: 300-500mm • Arid environment 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Directly south-west of Carinena in the region of Aragon. • Most vineyards are on south-facing slopes 550-800m hi on both banks of the Jalón river, a tributary from Ebro. • Soils are rocky & friable i.e. brown limestone & loam over slate and gypsum. 		
GRAPE VARIETIES	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p><u>Reds (83% of plantings)</u></p> <p>1. Garnacha (80% of production)</p> <ul style="list-style-type: none"> - Mostly likely to originate from Northern Spain - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries - Lower yields produce darker, more tannic wines w darker fruit & more complex flavours - Often blended to add body and fruitiness or used for Rosados <p>2. Tempranillo</p> <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco - 2nd most planted grape in the world - Most planted red wine grape variety in the world <p>Others: Mazuelo, Monastrell, Merlot, Syrah, Cabernet</p> </td> <td style="vertical-align: top; width: 50%;"> <p><u>Whites (% of plantings)</u></p> <p>1. Viura</p> <ul style="list-style-type: none"> - Originally from - Floral fresh fruit character with good acidity when grown in low yields - Mostly planted in Rioja & Catalunya - Forms the basis for Cava <p>Others: Malvasia, Garnacha Blanca, Chardonnay</p> </td> </tr> </table>	<p><u>Reds (83% of plantings)</u></p> <p>1. Garnacha (80% of production)</p> <ul style="list-style-type: none"> - Mostly likely to originate from Northern Spain - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries - Lower yields produce darker, more tannic wines w darker fruit & more complex flavours - Often blended to add body and fruitiness or used for Rosados <p>2. Tempranillo</p> <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco - 2nd most planted grape in the world - Most planted red wine grape variety in the world <p>Others: Mazuelo, Monastrell, Merlot, Syrah, Cabernet</p>	<p><u>Whites (% of plantings)</u></p> <p>1. Viura</p> <ul style="list-style-type: none"> - Originally from - Floral fresh fruit character with good acidity when grown in low yields - Mostly planted in Rioja & Catalunya - Forms the basis for Cava <p>Others: Malvasia, Garnacha Blanca, Chardonnay</p>
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VITICULTURE	<ul style="list-style-type: none"> • 5,600ha – DO since 1990. Very low yields (20hl/ha). 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • 80% of production is red wine made from Garnacha and Tempranillo for rich, powerful reds • Recent investment in stainless steel and refrigeration for international crisp whites made from Viura and Rosados from Garnacha • Use of new barrel ageing 		
PRODUCTION	<ul style="list-style-type: none"> • The Maluenda and the San Alejandro cooperatives have taken the lead w well-priced international style wines 		

NORTH-EAST SPAIN – CATALUNYA – PENEDES

HISTORY	<ul style="list-style-type: none"> • 6th BC: introduction of Chardonnay vines by the Phoenicians • 19th: one of the first regions in Spain to begin mass production. Birth of the Cava industry before Phylloxera in 87 • 1960s-70s: Miguel Torres, spearhead a radical transformation by using temperature control and stainless steel and by experimenting with international varieties e.g. Cabernet Sauvignon, Chardonnay, etc. • 1980s: others producers followed and Penedes became one of the most dynamic region in Spain • Late 90s: Penedes got overshadowed by Priorat's reds. • Now: still most important DO in Catalunya 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • North-east of Spain, south west of Barcelona • Mostly well-drained, deep poor quality soils of Miocene sediments 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Mostly Mediterranean climate but a wide variety of micro-climates due to the proximity to the coast and the varied terrain rising up to 800m high • Coastal areas are very hot & dry while some areas inland can reach 900mm rainfall and are prone to frosts 		
KEY ZONES (3) & CHARACTERISTICS	<ol style="list-style-type: none"> 1. Baix Penedes <ul style="list-style-type: none"> ○ Low-lying coastal area, From the sea up to 250m high ○ Hot Mediterranean climate; the warmest of the 3 zones; sandy soils ○ Mostly planted with Garnacha, Carinena and Monastrell for sturdy reds 2. Mitja-Penedes <ul style="list-style-type: none"> ○ 250-500m altitude w more temperate climate; chalk & clay soils ○ Centre of Cava production w Xarel-lo, Parellada & Macabeo dominating. Also Ull de Llebre and Cab Sauv. 3. Alt-Penedes <ul style="list-style-type: none"> ○ 500-850m with a cool continental climate similar to Northern France (cold nights & frost danger) but long, sunny growing season. Predominance of Limestone. ○ Chardonnay, Pinot Noir, Gewurztraminer, Riesling ○ Lower yields and frost risk. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds (33% of production)</u></p> <ol style="list-style-type: none"> 1. Ull de Llebre aka Tempranillo <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco 2. Garnacha <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries 3. Monastrell <ul style="list-style-type: none"> - Buds & ripens late (-> warm climate) - Thrives in south facing slopes with shallow, water-retaining clay soils - Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity(bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age <p>Others: Carinena, Pinot Noir, Cabernet Sauvignon, Samsó</p> </td> <td style="vertical-align: top;"> <p><u>Whites (66% of production)</u></p> <ol style="list-style-type: none"> 1. Xarel-lo <ul style="list-style-type: none"> - Most aromatic of the grapes use for Cava 2. Parellada <ul style="list-style-type: none"> - Provides acidity & freshness 3. Viura aka Macabeo <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields <p>Others: Chardonnay, Gewurztraminer, Riesling, Moscatel</p> </td> </tr> </table>	<p><u>Reds (33% of production)</u></p> <ol style="list-style-type: none"> 1. Ull de Llebre aka Tempranillo <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco 2. Garnacha <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries 3. Monastrell <ul style="list-style-type: none"> - Buds & ripens late (-> warm climate) - Thrives in south facing slopes with shallow, water-retaining clay soils - Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity(bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age <p>Others: Carinena, Pinot Noir, Cabernet Sauvignon, Samsó</p>	<p><u>Whites (66% of production)</u></p> <ol style="list-style-type: none"> 1. Xarel-lo <ul style="list-style-type: none"> - Most aromatic of the grapes use for Cava 2. Parellada <ul style="list-style-type: none"> - Provides acidity & freshness 3. Viura aka Macabeo <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields <p>Others: Chardonnay, Gewurztraminer, Riesling, Moscatel</p>
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VITICULTURE	<ul style="list-style-type: none"> • 27,000ha – DO since 91 		
PRODUCTION	<ul style="list-style-type: none"> • <u>Key producers:</u> <ul style="list-style-type: none"> ○ Bodegas Torres – 25m btl <ul style="list-style-type: none"> - Family company created in 1870; most extensive vineyards in Penedes (1,500ha) & largest winery in Spain - Made famous by Miguel Torres Carbó in the 40-50s when he toured the world to promote his wines extensively and started estate bottling before his son introduced new viticulture (e.g. trellis systems) winemaking techniques incl. stainless steel and temperature control in the 60s - Owns estates and joint ventures in Curico, Sonoma and China ○ Codorníu <ul style="list-style-type: none"> - #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. ○ Freixenet <ul style="list-style-type: none"> - 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. 		

NORTH-EAST SPAIN – CATALUNYA – CONCA DE BARBERA

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> • North-east of Spain, south west of Penedes, inland, between Tarragona & Costers del Segre • Most of the vineyards in the valleys around the town of Montblanc up to 500m altitude • Predominantly chalky soils 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Temperate Mediterranean climate with hot summer & cold winters • Coastal areas are very hot & dry while some areas inland can reach 900mm rainfall and are prone to frosts 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds (33% of production)</u></p> <p>1. Ull de Llebre aka Tempranillo</p> <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>2. Garnacha</p> <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries <p>Others: Cab Sauv, Pinot Noir, Trepac (-> rosé), Merlot, Syrah</p> </td> <td style="vertical-align: top;"> <p><u>Whites (66% of production)</u></p> <p>1. Parellada</p> <ul style="list-style-type: none"> - Provides acidity & freshness - Mainly grown for Cava production <p>2. Macabeo</p> <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields - Mainly grown for Cava production <p>3. Chardonnay</p> <ul style="list-style-type: none"> - Hardy, easy to grow & versatile - Can produce interesting wines even at hi yields <p>Others: Chardonnay, Gewurztraminer, Riesling, Moscatel</p> </td> </tr> </table>	<p><u>Reds (33% of production)</u></p> <p>1. Ull de Llebre aka Tempranillo</p> <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>2. Garnacha</p> <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries <p>Others: Cab Sauv, Pinot Noir, Trepac (-> rosé), Merlot, Syrah</p>	<p><u>Whites (66% of production)</u></p> <p>1. Parellada</p> <ul style="list-style-type: none"> - Provides acidity & freshness - Mainly grown for Cava production <p>2. Macabeo</p> <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields - Mainly grown for Cava production <p>3. Chardonnay</p> <ul style="list-style-type: none"> - Hardy, easy to grow & versatile - Can produce interesting wines even at hi yields <p>Others: Chardonnay, Gewurztraminer, Riesling, Moscatel</p>
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VITICULTURE	<ul style="list-style-type: none"> • 5,800ha – DO since 89 • Older vines planted en vaso but most of recent plantings en espaldera (trellises) to increase production • Vineyards classed as experimental -> irrigation allowed 		
WINE STYLES	<ul style="list-style-type: none"> • Ultra-modern winemaking for instantly appealing wines • Most grapes are used to produce Cava so only few wines carry the DO • Fresh, young whites (Parellada/Chardonnay varietal/blend), Trepac rosés and reds. To be drunk young. 		

NORTH-EAST SPAIN – CATALUNYA – COSTERS DEL SEGRE

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> • North-east of Spain, directly west of Conca de Barbera, more inland; protected by mountain ranges • Most vineyards near the town of Lérida. Four sub-zones. • Mainly sandy topsoil over limestone 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Severe semi-arid climate w extreme diurnal range all year and low rainfall <400mm. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds (33% of production)</u></p> <p>1. Ull de Llebre aka Tempranillo</p> <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>2. Garnacha</p> <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries <p>Others: Cab Sauv, Pinot Noir, Trepac (-> rosé), Merlot, Mazuelo, Syrah</p> </td> <td style="vertical-align: top;"> <p><u>Whites (66% of production)</u></p> <p>1. Parellada</p> <ul style="list-style-type: none"> - Provides acidity & freshness - Mainly grown for Cava production <p>2. Macabeo</p> <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields - Mainly grown for Cava production <p>3. Chardonnay</p> <ul style="list-style-type: none"> - Hardy, easy to grow & versatile - Can produce interesting wines even at hi yields <p>Others: Chardonnay, Gewurztraminer, Riesling, Moscatel</p> </td> </tr> </table>	<p><u>Reds (33% of production)</u></p> <p>1. Ull de Llebre aka Tempranillo</p> <ul style="list-style-type: none"> - Premier native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>2. Garnacha</p> <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries <p>Others: Cab Sauv, Pinot Noir, Trepac (-> rosé), Merlot, Mazuelo, Syrah</p>	<p><u>Whites (66% of production)</u></p> <p>1. Parellada</p> <ul style="list-style-type: none"> - Provides acidity & freshness - Mainly grown for Cava production <p>2. Macabeo</p> <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields - Mainly grown for Cava production <p>3. Chardonnay</p> <ul style="list-style-type: none"> - Hardy, easy to grow & versatile - Can produce interesting wines even at hi yields <p>Others: Chardonnay, Gewurztraminer, Riesling, Moscatel</p>
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VITICULTURE	<ul style="list-style-type: none"> • 4,000ha – DO since 88 • Irrigation automatically starts when temperature reach 35C and protects vs. frost in the winter. 		
KEY PRODUCERS	<ul style="list-style-type: none"> • Very few producers but generally high quality. History of the DO strongly linked to Raimat. <ul style="list-style-type: none"> ◦ Codorníu / Raimat – 3,000ha <ul style="list-style-type: none"> - Manuel Raventós invested in the derelict castle of Raimat and renovated the vineyards between 1914 & 78. Obtained a DO for the area. - Produces sparkling, white, rosés and reds (oak-aged and not) in Californian style (winemakers trained there) - Also invested in Conca de Barbera 		

NORTH-EAST SPAIN – CATALUNYA – PRIORATO DOCA

HISTORY	<ul style="list-style-type: none"> • 12th: Carthusian monks founded the prior of Scala dei and introduced the art of viticulture to the area. • Late 1970s: René Barbier saw the potential and set up Clos Mogador and was followed by friends. • 1993: Alvaro Palacios bottled his L'Ermita from old vine Garnacha & successfully priced it higher vs. Vega Sicilia
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Area south-west of Tarragona, isolated, sparsely populated & surrounded by precipitous mountains • Most vineyards are planted on the slopes on terraces at 100m-700m above sea level. • Unique terroir from volcanic origin w <i>licorella</i> (i.e. red slate and mica), 50cm thick over a bedrock of schist which means the vine has to penetrate great depths to find water • Best vineyards on steep slopes near Gratallop.
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Hot & dry continental climate but cooler in altitude. Low rainfall w 400m/yr. Hi seasonal variation (+35C to -4C)
GRAPE VARIETIES	<p><u>Reds (96% of plantings)</u></p> <p>1. Garnacha – 38%</p> <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Thin skins w light pigments -> pale colour - The wines are hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries <p>2. Carinena - 25% ↘</p> <ul style="list-style-type: none"> - Originates from Aragon - Hi yielding; late budding & ripening (-> warm climate) - Thick stalk that makes mechanical harvesting difficult - Deep colour, hi acidity, hi tannins w red fruits flavours (cherry, raspberry) and blackberry - Often blended <p>3. Cabernet Sauvignon - 14%</p> <ul style="list-style-type: none"> - Progeny of Cab Franc & Sauv Blc - Small-sized berries w concentrated phenolics - Ageing potential and affinity for oak - Moderate yields; deep coloured, tannic full-bodied wines w blackcurrant aromas. <p>4. Syrah 11% ↗</p> <ul style="list-style-type: none"> - Uncertain origin: <ol style="list-style-type: none"> 1. From Shiraz in Persia & brought by the Phocaeans 2. From Syracuse & brought by the Romans 3. Grew wild in Rhone. - Needs warm climate - Relatively productive & disease resistant - Late budding but doesn't ripen too late. - Loses aroma & acidity rapidly when yields increase - Hi proportion of anthocyanins (i.e. dark colour) -> responds well to oak maturation when grapes really ripe. <p>Others: Merlot (6%)</p> <p><u>Whites (4%)</u></p> <p>1. Garnacha Blanca - 2%</p> <ul style="list-style-type: none"> - Used in small amounts to add weight and body to Viura-based wines <p>2. Macabeo 1%</p> <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields - Mainly grown for Cava production <p>Others: Pedro Ximenez</p>
VITICULTURE	<ul style="list-style-type: none"> • 1,800ha v very low yields due to the thick & poor soils & hot climate -> grapes are very expensive. • Mechanisation impossible. Traditionally vines planted en vaso with newer vineyards en espaldera. • Key hazards: frost, hailstones
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Traditional Priorat is made from low yielding Garnacha & Carinena and aged for long periods in oak, developing rancio aromas of game & mushroom. They are deep colour, highly tannic and hi in alcohol • Modern wines produced from both local & international varieties show intense bramble fruit, powerful tannins & oak characters and have long potential.
PRODUCTION	<ul style="list-style-type: none"> • 27,000 hl • Only DOCa in Spain with Rioja. • Dominated by cooperatives but now about 50 bodegas in the regions • <u>Key producers:</u> <ul style="list-style-type: none"> ○ Clos Mogador – Gratallops <ul style="list-style-type: none"> - Founded the domain in late 1970s; 20ha for 25,000btl/yr - Clos Mogador Tinto reserve: top Spanish reds, made from Garnacha, Cab Sauv, Syrah & Carinena and aged for 16mths in oak ○ Alvaro Palacios - Gratallops <ul style="list-style-type: none"> - Became world famous with L'Ermita in 1993; made from 100-yr old Garnacha vines and a little Cab Sauv - One of the most sought after and most expensive wines in Spain - 25ha (& bought-in grapes) for 150,000btl/yr

NORTH-EAST SPAIN – CATALUNYA - TARRAGONA

HISTORY	<ul style="list-style-type: none"> • Roman times: region renowned for its sweet red wines, exported to Rome. • Before 1960s: red wines regarded as soft, robust & fiery 1960s: reputation of coarse and alcoholic red wines 		
CLIMATE	<ul style="list-style-type: none"> • Mediterranean nearer the coast with continental influences in the higher part of the Ebro river valley inland 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Alluvial soil in the plains, dark soils with limestone in the hills inland. • Variety of altitude from 40-400m above sea level. 		
KEY ZONES (2) & CHARACTERISTICS	<ol style="list-style-type: none"> 1. Tarragona Campo <ul style="list-style-type: none"> ◦ Close to the coast; alluvial soils & Mediterranean climate -> easy drinking fruity wines 2. Tarragona Falset <ul style="list-style-type: none"> ◦ High altitude vineyards inland w loam over limestone soils. More continental influence. ◦ Famous for Tarragona Classico & Capcanes but mostly easy drinking styles. 		
WINE STYLES	<ul style="list-style-type: none"> • Mostly modern style white, reds & rosés. • Rancios: wines left in the sun in glass demijohns and then aged for min 4 years • Tarragona Classico: 100% Tempranillo, fermented up to 17% abv and aged for 12 years. • Sweet desserts aged in vats, oak casks or bottles for 5 to 10 years. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds (30% of production)</u></p> <ol style="list-style-type: none"> 1. Garnacha <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Pale coloured, hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries 2. Carinena <ul style="list-style-type: none"> - Hi yielding; late budding & ripening (-> warm climate) - Thick stalk that makes mechanical harvesting difficult - Deep colour, hi acidity, hi tannins w red fruits flavours (cherry, raspberry) and blackberry 3. Ull de Llebre aka Tempranillo <ul style="list-style-type: none"> - Native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>Others: Cabernet Sauvignon, Merlot</p> </td> <td style="vertical-align: top;"> <p><u>Whites (70% of production)</u></p> <ol style="list-style-type: none"> 1. Garnacha Blanca <ul style="list-style-type: none"> - Used in small amounts to add weight & body to Viura-based wines 2. Macabeo <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields - Mainly grown for Cava production 3. Pedro Ximenez <ul style="list-style-type: none"> - Soft, thin skinned berries that produce a very sweet juice </td> </tr> </table>	<p><u>Reds (30% of production)</u></p> <ol style="list-style-type: none"> 1. Garnacha <ul style="list-style-type: none"> - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Pale coloured, hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries 2. Carinena <ul style="list-style-type: none"> - Hi yielding; late budding & ripening (-> warm climate) - Thick stalk that makes mechanical harvesting difficult - Deep colour, hi acidity, hi tannins w red fruits flavours (cherry, raspberry) and blackberry 3. Ull de Llebre aka Tempranillo <ul style="list-style-type: none"> - Native black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>Others: Cabernet Sauvignon, Merlot</p>	<p><u>Whites (70% of production)</u></p> <ol style="list-style-type: none"> 1. Garnacha Blanca <ul style="list-style-type: none"> - Used in small amounts to add weight & body to Viura-based wines 2. Macabeo <ul style="list-style-type: none"> - Floral fresh fruit character with good acidity when grown in low yields - Mainly grown for Cava production 3. Pedro Ximenez <ul style="list-style-type: none"> - Soft, thin skinned berries that produce a very sweet juice
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VITICULTURE	<ul style="list-style-type: none"> • 7,300ha – DO since 1976 • Traditionally vines planted en vaso with newer vineyards en espaldera • Minimal frost risk 		
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> ◦ Celler de Capcanes <ul style="list-style-type: none"> - One of the first cooperative to drive quality in Tarragona; 250ha for 750,000btl/yr - The top wine, Cabrida, is made from an old Garnacha vineyard and joins the ranks of Catalunya's best 		

NORTH-EAST SPAIN – CATALUNYA – TERRA ALTA

TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Southwest of Tarragona, rolling hills inland & around Gandesa. Up to 900m • Base of limestone & clay with good drainage 		
CLIMATE	<ul style="list-style-type: none"> • Mixture of Mediterranean & continental w 400mm rainfall. Dry wind El Cierzo keeps moisture level down. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds</u></p> <ol style="list-style-type: none"> 1. Garnacha <ul style="list-style-type: none"> - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates. Naturally high yielding. - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - The wines are light in colour, hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries 2. Carinena <ul style="list-style-type: none"> - Hi yielding; late budding & ripening (-> warm climate) - Thick stalk that makes mechanical harvesting difficult - Deep colour, hi acidity, hi tannins w red fruits flavours (cherry, raspberry) and blackberry <p>Others: Syrah, Tempranillo, Cabernet Sauvignon, Merlot</p> </td> <td style="vertical-align: top;"> <p><u>Whites</u></p> <ol style="list-style-type: none"> 1. Macabeo <ul style="list-style-type: none"> - Originally from France - Floral fresh fruit character with good acidity when grown in low yields 2. Garnacha Blanca <ul style="list-style-type: none"> - Used in small amounts to add weight and body to Viura-based wines <p>Others: Paralleda, Moscatel, Chardonnay</p> </td> </tr> </table>	<p><u>Reds</u></p> <ol style="list-style-type: none"> 1. Garnacha <ul style="list-style-type: none"> - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates. Naturally high yielding. - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - The wines are light in colour, hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries 2. Carinena <ul style="list-style-type: none"> - Hi yielding; late budding & ripening (-> warm climate) - Thick stalk that makes mechanical harvesting difficult - Deep colour, hi acidity, hi tannins w red fruits flavours (cherry, raspberry) and blackberry <p>Others: Syrah, Tempranillo, Cabernet Sauvignon, Merlot</p>	<p><u>Whites</u></p> <ol style="list-style-type: none"> 1. Macabeo <ul style="list-style-type: none"> - Originally from France - Floral fresh fruit character with good acidity when grown in low yields 2. Garnacha Blanca <ul style="list-style-type: none"> - Used in small amounts to add weight and body to Viura-based wines <p>Others: Paralleda, Moscatel, Chardonnay</p>
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VITICULTURE	<ul style="list-style-type: none"> • 8,000ha – DO since 1982 		
WINE STYLES	<ul style="list-style-type: none"> • Broad range of wine styles from Joven to Mistelas and Generosos. 		
KEY PRODUCERS	<ul style="list-style-type: none"> • Around 40 wineries. Mainly for domestic market. Celler Barbara Forres-Ferrer is pulling quality upwards. 		

NORTH-CENTRAL SPAIN – DUERO VALLEY - TORO

HISTORY	<ul style="list-style-type: none"> • 1st BC: first wines made in the area. • Middle ages: Toro renowned for its wine all over Spain thanks to King Alfonso IX • 19th: Phylloxera did not affect the region as badly thanks to sandy soils (esp. in the north). 		
CLIMATE	<ul style="list-style-type: none"> • Extreme continental climate with wide temperature range (-11C to 3C) w low rainfall 350mm & 2,600h of sunlight 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Located in the province of Zamora, upstream from Portugal. Most vineyards between 620-750m hi. • Mainly alluvial soils but some sandy soils w limestone subsoil in the north 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds</u></p> <p>1. Tinta de Toro</p> <ul style="list-style-type: none"> - Clone of Tempranillo; native to the area - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>2. Garnacha</p> <ul style="list-style-type: none"> - Mostly likely to originate from Northern Spain - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Pale coloured wine hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries </td> <td style="vertical-align: top;"> <p><u>Whites (% of plantings)</u></p> <p>1. Verdejo</p> <ul style="list-style-type: none"> - Originates from North Africa; arrived in Spain in 11th to make oxidised wines - Wines are dry, light to medium-bodied w hi acidity and delicate flavours of tropical & stone fruit flavours e.g. melon, apricot & peach - Oxidises easily, generally harvested at night <p>2. Viura</p> <ul style="list-style-type: none"> - Full bodied whites w aromas of peaches, apricots and white currants </td> </tr> </table>	<p><u>Reds</u></p> <p>1. Tinta de Toro</p> <ul style="list-style-type: none"> - Clone of Tempranillo; native to the area - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>2. Garnacha</p> <ul style="list-style-type: none"> - Mostly likely to originate from Northern Spain - Strong wood canopy & resistance to wind make it suited for dry, warm & windy climates - Buds early and requires a long growing season to fully ripen (often the last grape after Cab Sauv to be picked) - Vigorous vines i.e. hi yields that prefers hot dry soils - Pale coloured wine hi in alcohol, low in tannins w relatively light flavours of raspberries, strawberries 	<p><u>Whites (% of plantings)</u></p> <p>1. Verdejo</p> <ul style="list-style-type: none"> - Originates from North Africa; arrived in Spain in 11th to make oxidised wines - Wines are dry, light to medium-bodied w hi acidity and delicate flavours of tropical & stone fruit flavours e.g. melon, apricot & peach - Oxidises easily, generally harvested at night <p>2. Viura</p> <ul style="list-style-type: none"> - Full bodied whites w aromas of peaches, apricots and white currants
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WINE STYLES	<ul style="list-style-type: none"> • <u>Reds</u>: predominantly 100% Tinta de Toro; full bodied, hi alcohol (up to 15% abv), soft tannins. Crianza min 6mths in oak & 2 yrs ageing • <u>Rosados</u>: mainly 50% Tinta de Toro & 50% Garnacha • <u>Whites</u>: 100% Verdejo or 100% Malvasia 		
VITICULTURE	<ul style="list-style-type: none"> • 6,000ha – DO since 1987 		
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> • Bodegas Vega Saucó's wines enjoy long American oak-ageing for intense colour & taste. • A lot of top producers from Ribera del Duero are investing in the area. 		

NORTH-CENTRAL SPAIN – DUERO VALLEY - RUEDA

HISTORY	<ul style="list-style-type: none"> • 11th century: first evidence of winemaking in Rueda. Verdejo cultivated since 18th • 1890s: Phylloxera destroyed 2/3 of the vineyards • 1972: arrival of Marques de Riscal from La Rioja that sparked a revolution; DO created in 1980 as a result. 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Around Rueda, 170km northwest of Madrid. Flat plains 600-780m hi w Duero river flowing westwards. • Iron-rich soils w good drainage. Chalky soils beside the Douro in the north. 		
CLIMATE	<ul style="list-style-type: none"> • Continental w cool evenings that give the wine elegance. Avg rainfall 400mm. 2,700h of sunlight/yr. Strong winds 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds</u></p> <p>1. Tinta del País</p> <ul style="list-style-type: none"> - Clone of Tempranillo; native to the area - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>Others: Cabernet Sauvignon, Merlot, Garnacha</p> </td> <td style="vertical-align: top;"> <p><u>Whites</u></p> <p>1. Verdejo</p> <ul style="list-style-type: none"> - Originates from North Africa; arrived in Spain in 11th to make oxidised wines - Wines are dry, light to medium-bodied w hi acidity and delicate flavours of tropical & stone fruit flavours e.g. melon, apricot & peach - Oxidises easily, generally harvested at night <p>2. Sauvignon blanc</p> <ul style="list-style-type: none"> - Vigorous vine (-> use of low vigour rootstock + canopy management) - Green fruits, gooseberries w fresh acidity & mineral undertones <p>Others: Viura</p> </td> </tr> </table>	<p><u>Reds</u></p> <p>1. Tinta del País</p> <ul style="list-style-type: none"> - Clone of Tempranillo; native to the area - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>Others: Cabernet Sauvignon, Merlot, Garnacha</p>	<p><u>Whites</u></p> <p>1. Verdejo</p> <ul style="list-style-type: none"> - Originates from North Africa; arrived in Spain in 11th to make oxidised wines - Wines are dry, light to medium-bodied w hi acidity and delicate flavours of tropical & stone fruit flavours e.g. melon, apricot & peach - Oxidises easily, generally harvested at night <p>2. Sauvignon blanc</p> <ul style="list-style-type: none"> - Vigorous vine (-> use of low vigour rootstock + canopy management) - Green fruits, gooseberries w fresh acidity & mineral undertones <p>Others: Viura</p>
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VITICULTURE	<ul style="list-style-type: none"> • 7,600ha – w most new vineyards set up for mechanisation and vines trained low to protect vs. winds. • Key hazards: spring frost, hailstones in winter/spring 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Whites: night harvest, selection tables, cold maceration, temperature-controlled fermentation are now common • Verdejo must be minimum 50% Verdejo. Aromatic wines w peach & melon flavours. 		
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> • Most of the production is white wines are winemakers are battling in court to keep the DO 100% white. • Vinos blancos de Castilla: undisputed pioneer in modern-winemaking in Rueda when developed a new white wine w the help of Émile Peynaud in the 70s. Now produces 1.5m btls incl Marqués de Riscal Rueda Superior. 		

NORTH-CENTRAL SPAIN – DUERO VALLEY – RIBERA DEL DUERO

HISTORY	<ul style="list-style-type: none"> • 12th: arrival of Benedictine monks from Cluny and birth of modern viticulture dates in the region • 1970-80s: tradition of cheap rosés overturned overall quality drive behind bodegas like Pesquera that started making wines as elegant as Rioja but more full bodied, concentrated & fruit driven. International renown followed 		
TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> • Flat, high altitude land around Cigales (700-850m). ¾ of the vineyards are in the province of Burgos. • Best soils have high limestone content and large stones to aid drainage. 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Continental climate tempered by altitude -> high diurnal range. • Relatively short growing season with hot summers (up to 40C) and harsh winters. • Low rainfall (450mm) and 2,400h of annual sunlight. 		
GRAPE VARIETIES	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <u>Reds (80% of production)</u> 1. Tinta Fino aka Tempranillo – 95% of plantings <ul style="list-style-type: none"> - Clone of Tempranillo; native to the area - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco Others: Garnacha, Cabernet Sauv, Merlot, Malbec </td> <td style="vertical-align: top; width: 50%;"> <u>Whites</u> 1. Albillo – 1% <ul style="list-style-type: none"> - Pale skinned grapes that produces full bodied aromatic wines with low acidity </td> </tr> </table>	<u>Reds (80% of production)</u> 1. Tinta Fino aka Tempranillo – 95% of plantings <ul style="list-style-type: none"> - Clone of Tempranillo; native to the area - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco Others: Garnacha, Cabernet Sauv, Merlot, Malbec	<u>Whites</u> 1. Albillo – 1% <ul style="list-style-type: none"> - Pale skinned grapes that produces full bodied aromatic wines with low acidity
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VITICULTURE	<ul style="list-style-type: none"> • 21,000ha – DO since 1982 • More than 8,000 vine growers. • Key hazards: spring frost 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Almost 100% Tempranillo (excl. Vega Sicilia) with most wines not aged as long as in Rioja for a deeper colour, high sweeter tannins and darker black fruit & plum flavours. Use of new French oak. • Vega Sicilia: aged for many years in cask, oak vat or concrete tank for wines w intense complexity & hi premium 		
PRODUCTION	<ul style="list-style-type: none"> • 73m btls/yr (vs. 29m btls in 2001). 250 bodegas including: <ul style="list-style-type: none"> ○ Vega Sicilia – 2.3m btls/yr <ul style="list-style-type: none"> - 200ha-Spanish 'first growth' vineyard estate founded in 1864 now part of the Ribera del Duero DO. - Current style defined in 1910s when winery was leased by a Rioja grower. Jump in quality after acquisition by Alvarez family in 82 - Vineyards on limestone soils w Tinto fino but also 20% of Cab Sauv, Merlot, Malbec and Albillo. - Range: Valbuena – 5yrs in American oak; Unico - best vintages only & up to 10yrs in tanks & barrels - Also invested in Toro -> Pintia winery (first vintage in 2001) ○ Pesquera <ul style="list-style-type: none"> - Founded by Alejandro Fernandez who is credited to have created the modern Ribera style when in 1972, angered by the cooperatives' attitude towards grapes buying (the more colour, the higher the price) decided to create his own bodega. His quality wines quickly built a great reputation that became worldwide when Robert Parker called his wines 'the Pétrus of Spain'. - 100% Tinto fino wines aged in American oak. 850,000btls/yr from the 220ha estate. ○ Pingus <ul style="list-style-type: none"> - 5ha vineyard run by Bordeaux-trained Peter Sisseck; vineyards in the best terroirs of Ribera; wines matured in new oak only. Parker-acclaimed cult wine w only 7,000btls produced annually. Flor de pingus 2nd wine. 		

NORTH-CENTRAL SPAIN – DUERO VALLEY - BIERZO

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> • Bordering with Galicia towards the west. • Vineyards on gentle slopes at low altitude, protected from the Atlantic influence by mountains. • Mostly rich & fertile soils. Some quartz & slate soils in the mountains. 		
CLIMATE	<ul style="list-style-type: none"> • More balanced climate vs. rest of Castilla y Leon: cooler, less extreme continental climate 		
GRAPE VARIETIES	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <u>Reds</u> 1. Mencia <ul style="list-style-type: none"> - Similar to Cabernet Franc in style - Light, pale colour, fresh berry fruit and potential herbaceous aromas, hi acidity and characteristic minerality. Distinct blackberry flavours in old vines - Well-drained soils of slate and granite best for Mencia Others: Garnacha Tintotera </td> <td style="vertical-align: top; width: 50%;"> <u>Whites</u> 1. Godello <ul style="list-style-type: none"> - Aromatic white grape Others: Dona blanca, Palomino </td> </tr> </table>	<u>Reds</u> 1. Mencia <ul style="list-style-type: none"> - Similar to Cabernet Franc in style - Light, pale colour, fresh berry fruit and potential herbaceous aromas, hi acidity and characteristic minerality. Distinct blackberry flavours in old vines - Well-drained soils of slate and granite best for Mencia Others: Garnacha Tintotera	<u>Whites</u> 1. Godello <ul style="list-style-type: none"> - Aromatic white grape Others: Dona blanca, Palomino
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WINEMAKING & STYLES	<ul style="list-style-type: none"> • DO since 1989. All reds must contain min 75% Mencia. Closer in style to Galicia. 		
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> • Amongst the group of producers to revived the interest in the region in 90s (// Priorat): <ul style="list-style-type: none"> ○ Descendientes de J. Palacios: <ul style="list-style-type: none"> - Old 15ha-vineyard in the slopes owned Alvaro Palacios & his new nephew Ricardo; use biodynamic viticulture. Top wine: Pétalos del Bierzo 		

NORTH-WEST SPAIN – GALICIA – RÍAS BAIXAS

HISTORY	<ul style="list-style-type: none"> 1970s: revival of the area (formerly planted with high yielding hybrids & Palomino for poor quality wine) further helped by EU funds after Spain joined the EU in 86. Main DO in Galicia. 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> Northern Atlantic coast in the north-west of Spain and directly north of Portugal. 5 sub-zones, each w their terroir & climate. El Salnés, around Cambados w low rolling hills w rocky & alluvial soils. 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> Atlantic climate w mild temperatures and high rainfall (up to 1,300mm in El Salnés). Wet winters & sea fog. High vintage variation impacts quantity and prices. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Caino Tinto <ul style="list-style-type: none"> From Galicia Highly perfumed wines with hi tart acidity Others: Caino Tinto, Espadeiro, Loureira Tinta, Mencía </td> <td style="vertical-align: top;"> <u>Whites (90% of production)</u> 1. Albarino – 90% of plantings <ul style="list-style-type: none"> Native grape from Galicia almost extinct post-phyloxera Thick-skinned to resist damp climates Produces dry whites w hi acidity, light body and floral and fruity flavours of apples, apricots, lemons & peaches w a mineral edge Mainly grown on the Atlantic coast Others: Loureira blanca, Treixadura, Torrontes, Godello </td> </tr> </table>	<u>Reds</u> 1. Caino Tinto <ul style="list-style-type: none"> From Galicia Highly perfumed wines with hi tart acidity Others: Caino Tinto, Espadeiro, Loureira Tinta, Mencía	<u>Whites (90% of production)</u> 1. Albarino – 90% of plantings <ul style="list-style-type: none"> Native grape from Galicia almost extinct post-phyloxera Thick-skinned to resist damp climates Produces dry whites w hi acidity, light body and floral and fruity flavours of apples, apricots, lemons & peaches w a mineral edge Mainly grown on the Atlantic coast Others: Loureira blanca, Treixadura, Torrontes, Godello
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VITICULTURE	<ul style="list-style-type: none"> 2,700ha – DO since 1988 Vines trained along granite posts (parrales) and wires to protect them from humidity and maximise sun exposure Key hazards: Dampness (-> disease control key); coastal winds, frosts, hailstones and summer heat 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> Rias Baixas DO must contain min 70% Albarino. All Galician wines to be drunk young. Experimentation with barrel fermentation for Albarino but mostly aromatic with high refreshing acidity. 		
KEY PRODUCERS	<ul style="list-style-type: none"> o Martín Codax is one of the most popular producer w 1.5m btls/yr 		

SOUTH-EAST SPAIN – THE LEVANT – VALENCIA

TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> South-east coast, low altitude on the coast, higher inland Clay soils on the coast; limestone inland. Most of the vineyards inland 		
CLIMATE	<ul style="list-style-type: none"> Warm Mediterranean climate on the coast and mild continental inland. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Tempranillo <ul style="list-style-type: none"> Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. 2. Bobal <ul style="list-style-type: none"> Native to Utiel-Requena Derived from bull's head in Latin in reference to the grape shape Vigorous, highly productive, resistant to hot climates Deep colour, hi acidity, hi tannins but low alcohol suitable for ageing & blending Mainly for bulk wine production Others: Monastrell, Garnacha, Cabernet Sauvignon </td> <td style="vertical-align: top;"> <u>Whites</u> 1. Merseguera <ul style="list-style-type: none"> Old Spanish grape Vigorous and fertile for neutral dry whites 2. Moscatel aka Muscat of Alexandria <ul style="list-style-type: none"> Aromatic grape used for Moscatel de Valencia 3. Macabeo <ul style="list-style-type: none"> Floral fresh fruit character with good acidity when grown in low yields Others: Malvasia, Pedro Ximénez, Chardonnay </td> </tr> </table>	<u>Reds</u> 1. Tempranillo <ul style="list-style-type: none"> Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. 2. Bobal <ul style="list-style-type: none"> Native to Utiel-Requena Derived from bull's head in Latin in reference to the grape shape Vigorous, highly productive, resistant to hot climates Deep colour, hi acidity, hi tannins but low alcohol suitable for ageing & blending Mainly for bulk wine production Others: Monastrell, Garnacha, Cabernet Sauvignon	<u>Whites</u> 1. Merseguera <ul style="list-style-type: none"> Old Spanish grape Vigorous and fertile for neutral dry whites 2. Moscatel aka Muscat of Alexandria <ul style="list-style-type: none"> Aromatic grape used for Moscatel de Valencia 3. Macabeo <ul style="list-style-type: none"> Floral fresh fruit character with good acidity when grown in low yields Others: Malvasia, Pedro Ximénez, Chardonnay
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VITICULTURE	<ul style="list-style-type: none"> 17,000ha Low density plantings en vaso in hot areas (coast) and en espaldera in milder climates (inland) Key hazards: drought (-> drip irrigation allowed) 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> Move towards quality but mainly value for money wines. Whites to be drunk young. Moscatel de Valencia: highly perfumed sweet fortified/unfortified wine Reds mostly blends of Bobal, Monastrell, Tempranillo & Garnacha. Shorter ageing requirements for DO. Experiments with Cabernet Sauvignon & Chardonnay. 		
PRODUCTION	<ul style="list-style-type: none"> 5 producers dominate the production. 		

SOUTH-WEST SPAIN – THE LEVANT – UTIEL-REQUENA

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> Hills inland of Valencia and directly west of the Valencia DO. Dark soils with high lime content. Permeable and poor in organic matter. 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> Severe continental climate (long hot, dry summers & cold winters). Up to 40C in summer & down -10C in winters. Low rainfall w 450mm Mediterranean influence from the coast and Solano cooling wind help keep temperatures down. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Bobal – 80% plantings <ul style="list-style-type: none"> Native to Utiel-Requena Derived from bull's head in Latin in reference to the grape shape Vigorous, highly productive, resistant to hot climates Deep colour, hi acidity, hi tannins but low alcohol suitable for ageing & blending Mainly for rosés & sturdy young reds Others: Tempranillo, Garnacha, Cabernet Sauvignon </td> <td style="vertical-align: top; padding-left: 20px;"> <u>Whites</u> 1. Macabeo <ul style="list-style-type: none"> Floral fresh fruit character with good acidity when grown in low yields Others: Merseguera, Planta Nova, Sauvignon blanc, </td> </tr> </table>	<u>Reds</u> 1. Bobal – 80% plantings <ul style="list-style-type: none"> Native to Utiel-Requena Derived from bull's head in Latin in reference to the grape shape Vigorous, highly productive, resistant to hot climates Deep colour, hi acidity, hi tannins but low alcohol suitable for ageing & blending Mainly for rosés & sturdy young reds Others: Tempranillo, Garnacha, Cabernet Sauvignon	<u>Whites</u> 1. Macabeo <ul style="list-style-type: none"> Floral fresh fruit character with good acidity when grown in low yields Others: Merseguera, Planta Nova, Sauvignon blanc,
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VITICULTURE	<ul style="list-style-type: none"> 40,000ha – DO since 1957 Key hazards: autumn frosts, hailstones 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> Mostly rosés and sturdy young reds. Doble pasta: double maceration for rosés 		
PRODUCTION	<ul style="list-style-type: none"> 100 wineries 		

SOUTH-WEST SPAIN – THE LEVANT – ALICANTE

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> In the hills behind Alicante on the south-east coast of Spain. South of Valencia. Alluvial soils w limestone subsoils. 		
CLIMATE	<ul style="list-style-type: none"> Hot Mediterranean climate. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Monastrell <ul style="list-style-type: none"> Buds & ripens late (-> warm climate) Thrives in south facing slopes with shallow, water-retaining clay soils Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity(bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age Others: Garnacha Tinta, Tempranillo, Bobal, Cab Sauv </td> <td style="vertical-align: top; padding-left: 20px;"> <u>White</u> 1. Moscatel <ul style="list-style-type: none"> Aromatic grape used in sweet wines 2. Merseguera <ul style="list-style-type: none"> Old Spanish grape Vigorous and fertile for neutral dry whites Others: Planta fina </td> </tr> </table>	<u>Reds</u> 1. Monastrell <ul style="list-style-type: none"> Buds & ripens late (-> warm climate) Thrives in south facing slopes with shallow, water-retaining clay soils Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity(bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age Others: Garnacha Tinta, Tempranillo, Bobal, Cab Sauv	<u>White</u> 1. Moscatel <ul style="list-style-type: none"> Aromatic grape used in sweet wines 2. Merseguera <ul style="list-style-type: none"> Old Spanish grape Vigorous and fertile for neutral dry whites Others: Planta fina
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VITICULTURE	<ul style="list-style-type: none"> 14,000ha with en vaso plantings (due to heat) Key hazards: frost (inland) 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> Export easy drinking whites, reds & rosados, sweet Moscatel. Fondillon: traditional naturally sweet wine from late picked Monastrell grapes & aged for 78 years in oak barrels 		
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> 90% of production is produced by poorly equipped cooperative but some more quality producers e.g. Bocopa (cooperative) or Enrique Mendoza (private firm). <ul style="list-style-type: none"> Enrique Mendoza – 400k btls/yr <ul style="list-style-type: none"> Owns 100ha of vines at higher altitude -> powerful and concentrated not overripe. Santa Rosa red from Cab Sauv, Merlot & Syrah & Moscatel are the key wines. 		

SOUTH-WEST SPAIN – THE LEVANT – YECLA

TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • South-east coast, inland west of Alicante. Sandwiched between Alicante & Jumilla. 400-800m high. • Limestone bedrock w subsoil high in carbonate content or sandy topsoil with clay. 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Mediterranean-continental with long, hot dry summers and mild winters. • Very high summer temperatures (up to 39C) with low rainfall (300mm/yr). 3,000h sunlight/yr. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds</u></p> <p>1. Monastrell – 85% of plantings</p> <ul style="list-style-type: none"> - Buds & ripens late (-> warm climate) - Thrives in south facing slopes with shallow, water-retaining clay soils - Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity (bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age <p>Others: Cabernet Sauvignon, Tempranillo, Merlot</p> </td> <td style="vertical-align: top; padding-left: 20px;"> <p><u>Whites</u></p> <ol style="list-style-type: none"> 1. Macabeo 2. Airen <p>Others: Malvasia Chardonnay</p> </td> </tr> </table>	<p><u>Reds</u></p> <p>1. Monastrell – 85% of plantings</p> <ul style="list-style-type: none"> - Buds & ripens late (-> warm climate) - Thrives in south facing slopes with shallow, water-retaining clay soils - Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity (bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age <p>Others: Cabernet Sauvignon, Tempranillo, Merlot</p>	<p><u>Whites</u></p> <ol style="list-style-type: none"> 1. Macabeo 2. Airen <p>Others: Malvasia Chardonnay</p>
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VITICULTURE	<ul style="list-style-type: none"> • 20,000ha – DO since 75 • Some vines untouched by Phylloxera. • Key hazards: hailstorms (autumn rains). 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Carbonic maceration common for Joven wines. • Predominantly reds from Monastrell. Only small amount of whites produced. • Some Crianza, Reserva and Gran Reserva. 		
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> • Only 3 producers bottle their wine. Quality driven by some producer including: <ul style="list-style-type: none"> ◦ Bodegas Castano – 1m btls/ yr <ul style="list-style-type: none"> - Adds Cabernet Sauvignon and Tempranillo to the blend for better more ageworthy quality wines. 		

SOUTH-WEST SPAIN – THE LEVANT – JUMILLA

TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Directly west of Yecla DO. Half of the vineyards part of La Mancha. Other half part Murcia. • Vineyards in hills up 700m high; hot, dry sandy soil (no phylloxera until 1980s) 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Hot, arid Mediterranean climate. Low rainfall 300mm/yr. 3,000h of sunlight. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds</u></p> <p>1. Monastrell – 85% of plantings</p> <ul style="list-style-type: none"> - Buds & ripens late (-> warm climate); good resistant to drought - Thrives in south facing slopes with shallow, water-retaining clay soils - Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity (bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age <p>Others: Cencibel (aka Tempranillo), Cabernet Sauvignon, Syrah, Merlot</p> </td> <td style="vertical-align: top; padding-left: 20px;"> <p><u>Whites</u></p> <ol style="list-style-type: none"> 1. Macabeo 2. Airen <p>Others: Malvasia Moscatel, Sauvignon blanc</p> </td> </tr> </table>	<p><u>Reds</u></p> <p>1. Monastrell – 85% of plantings</p> <ul style="list-style-type: none"> - Buds & ripens late (-> warm climate); good resistant to drought - Thrives in south facing slopes with shallow, water-retaining clay soils - Dark, full bodied wines w hi acidity, hi tannins, med+ to hi alcohol w a fruity (bramble fruits) & meaty aromas that develop into leather, mushroom & spicy aromas with age <p>Others: Cencibel (aka Tempranillo), Cabernet Sauvignon, Syrah, Merlot</p>	<p><u>Whites</u></p> <ol style="list-style-type: none"> 1. Macabeo 2. Airen <p>Others: Malvasia Moscatel, Sauvignon blanc</p>
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VITICULTURE	<ul style="list-style-type: none"> • 33,000ha – DO since 1966 • 1980s arrival of Phylloxera led to replantings with new varieties. • ½ of vineyards in La Mancha & ½ in Murcia -> DO managed by Ministry of Agriculture (≠ regional Consejo Regulador) 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Mainly strong red wines w mainly joven wines but some Crianza and Reserva production too. • Reds & Rosados must contain min 50% Monastrell. Some sweet reds made from Monastrell. • Reds are full bodied, hi in alcohol and tannins w black fruit, hints of meat and liquorice. 		
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> • One of the country's leading DO with recognised high quality potential • San Isidro cooperative dominates the region's production but others e.g. Agapito Rico (Casa Castillo wine) drive quality. Torres also invested heavily in the region. 		

CENTRAL SPAIN – THE MESETA – LA MANCHA

HISTORY	<ul style="list-style-type: none"> • 1940s: wine production took off due to the arrival of numerous cooperatives in the region. • 1986: key point of discussion in EU funding schemes 				
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • 500-700m high plateau directly south of Madrid. • Most of the vineyards located in Cidudad real, one of the 5 sub-zones of La Mancha. • Dry, hard & shallow sandy clay soils. 				
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Hot, dry and extremely continental climate (45C to -15C). Rainfall 300-400mm. 3,000h of sunlight/yr. 				
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds (25% of plantings)</u> 1. Cencibel aka Tempranillo – 17% of all plantings <ul style="list-style-type: none"> - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. </td> <td style="vertical-align: top;"> <u>Whites (75% of plantings)</u> 1. Airen – 2/3 of all plantings <ul style="list-style-type: none"> - Prized for hardiness & resistance to drought - Not a lot of character; average quality wines - Wines prone to oxidation - Mainly in La Mancha for spirits or light fresh whites </td> </tr> <tr> <td style="vertical-align: top;"> Others: Garnacha (3%), Syrah, Cabernet Sauvignon </td> <td style="vertical-align: top;"> Others: Macabeo (2%), Verdejo (1.4%) </td> </tr> </table>	<u>Reds (25% of plantings)</u> 1. Cencibel aka Tempranillo – 17% of all plantings <ul style="list-style-type: none"> - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. 	<u>Whites (75% of plantings)</u> 1. Airen – 2/3 of all plantings <ul style="list-style-type: none"> - Prized for hardiness & resistance to drought - Not a lot of character; average quality wines - Wines prone to oxidation - Mainly in La Mancha for spirits or light fresh whites 	Others: Garnacha (3%), Syrah, Cabernet Sauvignon	Others: Macabeo (2%), Verdejo (1.4%)
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Others: Garnacha (3%), Syrah, Cabernet Sauvignon	Others: Macabeo (2%), Verdejo (1.4%)				
VITICULTURE	<ul style="list-style-type: none"> • 163,000ha – world's largest wine region. DO since 1976 • 17,000 vine growers • Low density bush trained vines. Low training so that leaves can shade the fruit from scorching sun. • Recent move to pick earlier to keep acidity and fruit characters. • Key hazards: drought (-> irrigation permitted since 1996). 				
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Stainless steel and cool fermentation now prominent. Mainly neutral light wines. • Standard ageing rules for Crianza, Reserva & Gran Reserva. 				
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> • Represents 50% of Spain's harvest • 15-20m hl produced annually with: <ul style="list-style-type: none"> - 60% exported (mainly Germany & France) - 2/3 reds and rosados produced (Airen used for distillation) • Key producers: <ul style="list-style-type: none"> ○ Tomelloso – 1m btls <ul style="list-style-type: none"> - Quality producer with key wine Torre de Gazate from Cabernet sometimes blended w Cencibel 				

CENTRAL SPAIN – THE MESETA – VALDEPENAS

TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Small enclave in the south of La Mancha plateau surrounded by hills. Name means 'valley of rocks' • Limestone based soils w good water retention during the hot summers. Some alluvial soils. 				
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Hot, dry and extremely continental climate (40C to -10C). Rainfall sparse and mainly spring & autumn 				
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Cencibel aka Tempranillo <ul style="list-style-type: none"> - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. </td> <td style="vertical-align: top;"> <u>Whites</u> 1. Airen – 2/3 of all plantings <ul style="list-style-type: none"> - Prized for hardiness & resistance to drought - Not a lot of character; average quality wines - Wines prone to oxidation - Mainly in La Mancha for spirits or light fresh whites </td> </tr> <tr> <td style="vertical-align: top;"> Others: Garnacha, Cabernet Sauvignon </td> <td style="vertical-align: top;"> Others: Macabeo (2%), Verdejo (1.4%) </td> </tr> </table>	<u>Reds</u> 1. Cencibel aka Tempranillo <ul style="list-style-type: none"> - Premier native black grape w thick skin; ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. 	<u>Whites</u> 1. Airen – 2/3 of all plantings <ul style="list-style-type: none"> - Prized for hardiness & resistance to drought - Not a lot of character; average quality wines - Wines prone to oxidation - Mainly in La Mancha for spirits or light fresh whites 	Others: Garnacha, Cabernet Sauvignon	Others: Macabeo (2%), Verdejo (1.4%)
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Others: Garnacha, Cabernet Sauvignon	Others: Macabeo (2%), Verdejo (1.4%)				
VITICULTURE	<ul style="list-style-type: none"> • 30,000ha – DO since 1932 • Newer plantations on trellises to allow increase in production. • Key hazards: hail storms, strong winds in spring 				
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Modern winemaking w temperature controlled fermentation, stabilisation casks, modern filters, etc. • Whites must be 100% Airen. Rosados usually blend of red grapes. Most wines to be drunk within a year. • Joven & Crianza – min 20% Cencibel. Reservas & Gran Reservas 100% Cencibel. Joven usually made by carbonic maceration. Crianza, Reservas, Gran Reservas aged in old American oak. Oak-aged reds have good structure, full bodied and ageworthy. Best wines are high quality & reasonably priced 				
PRODUCTION & KEY PRODUCERS	<ul style="list-style-type: none"> • Key producers: <ul style="list-style-type: none"> ○ Bodegas Real – 1.2m btls <ul style="list-style-type: none"> - Owned by Sergio Barroso; produces unoaked reds and Palacio de Ibor Crianza ○ Miguel Calatayud – 2.5m btls <ul style="list-style-type: none"> - Signature wines: Vegaval Plata Reserva made from Cencibel or Cabernet. 				

PORTUGAL

HISTORY	<ul style="list-style-type: none"> • Long tradition of UK-Portugal commercial relationship <ul style="list-style-type: none"> - since 12th: wines shipped from Minho - 1703: Methuen that gave Portuguese wines tax advantages to export to UK. Birth of Port industry. • 1756: Portugal becomes to country to • 18-19th: expansion to the US • Late 19th: Phylloxera devastated vineyards; some Portuguese regions that never recovered from it. • 1937-74: Salazar's dictatorship; country is isolated. <ul style="list-style-type: none"> - 1937: Junta Nacional de Vinho - a program of co-operativisation of the wine industry w over 100 winery cooperatives built mostly in northern Portugal. Inflexible system led to drop in quality. - 1942: launch of Mateus and Lancers that became international success despite Portugal's seclusion - 1974-76: regime overthrown by coup; free elections organised. The wine industry is a mess. • 1986: Portugal joins the EU & gets funding to modernise. Small quintas started bottling their own wines • Since 90s: modernisation -> Dao and Alentejo boast some of the most modern facilities in southern Europe
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Temperate maritime climate with warm summers and cool, wet winters. More extreme in south and east. • Rainfall from 500mm up to 2,000mm on the mountain ranges of Oporto.
GRAPE VARIETIES	<ul style="list-style-type: none"> • Very few plantings of international grape varieties e.g. Syrah, Cabernet Sauvignon and Chardonnay. <p>Reds</p> <ol style="list-style-type: none"> 1. Castelao aka Periquita <ul style="list-style-type: none"> - Versatile vine that thrives in sandy soils but can adapt to a variety of conditions - Most planted red variety; mainly found in south coast regions 2. Touriga Nacional <ul style="list-style-type: none"> - Believe to originate from Dao - Vigorous vine prone to poor fruit set that produces small quantities of very small berries - Deep coloured, hi tannins, concentrated wines - Mainly grown in Douro & Dao 3. Tinta Roriz (aka Tempranillo) <ul style="list-style-type: none"> - Black grape w thick skin that ripens early i.e. several weeks earlier vs. most Spanish red grapes (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco - 2nd most planted grape in the world 4. Trincadeira <ul style="list-style-type: none"> - Prone to rot -> performs better in hot, dry climate - Wines are deep coloured, full bodied w aromas of plum w hints of coffee & chocolate enhanced by oak ageing - Commonly used for Port; mainly grown in Alentejo 5. Baga <ul style="list-style-type: none"> - Vigorous variety, resistant to powdery mildew that ripens late and has a tendency to rot - Deep coloured, hi acidity, hi tannins wines w restrained fruit intensity - Tannins can be astringent if fermentation w stalks as still quite common - Mostly grown Bairrada <p>Whites</p> <ol style="list-style-type: none"> 1. Loureiro/a <ul style="list-style-type: none"> - 'Laurel scented' aromatic white grape - Most planted in Vinho Verde country (Minho) and Galicia in Spain - Often blended with Trajadura 2. Alvarinho <ul style="list-style-type: none"> - Thick-skinned grapes that can resist damp climates - Wines in relatively high alcohol (12-13%abv), hi acidity and intense flavours - Most planted in Vinho Verde & neighbouring Spain's Galicia under the name of Albarino 3. Bical <ul style="list-style-type: none"> - Wines have a good acidity - Often used for sparkling wine production - Some ageing potential - Mostly grown in Bairrada and Dao 4. Arinto <ul style="list-style-type: none"> - Hi acidity wines with lemon notes - Mainly grown in Bucelas but also in Ribatejo, Terras do sado <p>Others: Fernao Pires, Antao, Encruzado</p>
WINE LAWS	<ul style="list-style-type: none"> • Similar to other EU countries with: <ul style="list-style-type: none"> - Vinho de Mesa – table wine - Vinho Regional – equivalent to VdP - Denominacao de Origem Controlada (DOC) – equivalent to AC • Labelling terms: <ul style="list-style-type: none"> ▪ Reserva: wine from a single vintage, tasted by a panel and above min %abv set for DOC ▪ Garrafeira reds: Reserva + min 2yrs ageing in cask & 1 yr in bottle; applies to all reds (DOC or not) ▪ Garrafeira whites: Reserva + min 6mths ageing in cask & 6mths in bottle; applies to all reds (DOC or not)
WINE STYLES	<ul style="list-style-type: none"> • Remarkable diversity of wines. Almost always blends.
PRODUCTION	<ul style="list-style-type: none"> • 240,000ha for 6m hl/yr production with: <ul style="list-style-type: none"> - 2/3 reds & rosés and 1/3 whites - 35% DOP wines, 27% Table wine, 22% IGP, 15% DOP dessert wine • Very fragmented ownership with 300,000 growers but a handful of large producers. • Key DOP regions: <ol style="list-style-type: none"> 1. Douro – 40% 2. Minho – 28% 3. Alentejo – 12% • 5th biggest exporter in the world with Angola with 0.5m hl and France 0.3m hl the main destinations markets. • Large producers: Sogrape (Mateus), Fonseca (Lancers), Bacalhoa (ex-JP Vinhos), Caves Alianca.

NORTHERN PORTUGAL – VINHO VERDE

TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Extreme north-west of Portugal, between Porto and the Spanish border (river Minho) • Mostly sandy granite soils. 		
CLIMATE	<ul style="list-style-type: none"> • Maritime climate with warm summers. High rainfall from 1,200mm (coast) to 2,000mm (inland). 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds & Rosés</u> 5. Azal 6. Vinhao 7. Espadeiro </td> <td style="vertical-align: top;"> <u>Whites</u> 1. Alvarinho - Thick-skinned grapes that can resist damp climates - Wines in relatively high alcohol (12-13%abv), hi acidity and intense flavours of green apple - Limited to the north of the region (Moncao). Used for best wines, often single quintas 2. Loureiro/a - 'Laurel scented' aromatic white grape; higher yielding vs. Alvarinho - Often blended with Trajadura. Important in the south of Vinho verde area 3. Trajadura - Adds citrus character if picked sufficiently early. Also grown in Galicia Others: Avesso, Pederna </td> </tr> </table>	<u>Reds & Rosés</u> 5. Azal 6. Vinhao 7. Espadeiro	<u>Whites</u> 1. Alvarinho - Thick-skinned grapes that can resist damp climates - Wines in relatively high alcohol (12-13%abv), hi acidity and intense flavours of green apple - Limited to the north of the region (Moncao). Used for best wines, often single quintas 2. Loureiro/a - 'Laurel scented' aromatic white grape; higher yielding vs. Alvarinho - Often blended with Trajadura. Important in the south of Vinho verde area 3. Trajadura - Adds citrus character if picked sufficiently early. Also grown in Galicia Others: Avesso, Pederna
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VITICULTURE	<ul style="list-style-type: none"> • 59,000ha • Vines trained in high pergolas (cruzeta) to avoid grey rot. Recent plantings wire trained or double cordon. • 90% of farmers also grow vines 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Vinho verde refers to youth of the wine. Can be red, white or rosé. • Traditionally, MLF to give the wine a prickle of CO2 and reduce acidity. Now CO2 injected. • Export wines are partially fermented to keep some residual sugar i.e. sweetness. • Whites usually made more & more with Loureiro and Trajadura. Light bodied wines, bone dry w hi acidity, low alcohol, slightly fizzy and Riesling-like aromas • Reds still around 50% of production but hasn't succeeded on the export market. In decline. 		
PRODUCTION	<ul style="list-style-type: none"> • 800,000hl/yr of DOP wine in Minho • <u>Key producers:</u> <ul style="list-style-type: none"> ○ Quinta da Aveleda -13m btls/yr - Largest Vinho Verde producer owned & run by the Guedes family. Casal Garcia ○ Provam, Cabo-Barbeita - Association of quality winemakers founded in 92; only bough-in grapes 		

NORTHERN PORTUGAL – DOURO

TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • 3 regions: 1) Baixo Corgo 2) Cima Corgo 3) Douro Superior 1) Baixo Corgo: coolest & wettest (900mm); wines of lesser quality 2) Cima Corgo: heart of demarcation; around Pinháo; lower rainfall (700mm) + higher temp; largest area under vine; 3) Douro Superior: most easterly; most arid (400mm; +3C vs Baixo); still relatively unexploited Schist soils usually for Port varieties and granite-based soils for table wine. 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Hot continental; very dry; increasingly hot and dry further inland • V. unpredictable weather: excess heat (50C), frost (Douro sup) & unpredictable rain + Summer & Autumn hail • Altitude from 80 to 600m w/ better quality in lower altitude. 		
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VITICULTURE	<ul style="list-style-type: none"> • 38,000ha with around 50% of area dedicated to unfortified wines • As with Port, viticulture is labour and cost intensive due to steepness of vineyards (mostly on narrow terraces) 		
PRODUCTION	<ul style="list-style-type: none"> • 1.3m hl/yr with 60% of Port. • Beneficio system sets quantity for Port production -> excess harvest made into unfortified wine. Now, many vineyards dedicated to high quality unfortified wines, rather than Port. 		

NORTHERN PORTUGAL – DAO

HISTORY	<ul style="list-style-type: none"> • 1940s: monopole given by Salazar to 10 cooperatives had adverse effect and drove quality down. • Since 1980s: entry in the EU -> end of monopolies; investment from large producers e.g. Sogrape 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Area situated 80kms inland, south of Douro; 200-400m high plateau sheltered by mountains on all sides • Well-drained sandy soils on top of granite rock. 		
CLIMATE & WEATHER	<ul style="list-style-type: none"> • Temperate climate Long warm dry summers Hi rainfall mostly in winter. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds (80% of production)</u></p> <p>1. Jaen</p> <ul style="list-style-type: none"> - Ripens early in Dao to produce deep coloured reds with low acidity - Usually blended w Touriga Nacional or Alfrocheiro. <p>2. Touriga Nacional</p> <ul style="list-style-type: none"> - Believed to originate from Dao - Vigorous vine prone to poor fruit set that produces small quantities of very small berries - Deep coloured, hi tannins, concentrated wines - Mainly grown in Douro & Dao <p>3. Tinta Roriz (aka Tempranillo)</p> <ul style="list-style-type: none"> - Black grape w thick skin that ripens early (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>Others: Alfrocheiro preto</p> </td> <td style="vertical-align: top; padding-left: 20px;"> <p><u>Whites</u></p> <p>1. Encruzado</p> <ul style="list-style-type: none"> - Low yields produces fragrant full bodied nutty whites - Best in Dao - Can be close to a white Burgundy when aged in barrique - All too often blended with poorer quality Malvasia Finca & Bical <p>Others: Malvasia Finca, Bical</p> </td> </tr> </table>	<p><u>Reds (80% of production)</u></p> <p>1. Jaen</p> <ul style="list-style-type: none"> - Ripens early in Dao to produce deep coloured reds with low acidity - Usually blended w Touriga Nacional or Alfrocheiro. <p>2. Touriga Nacional</p> <ul style="list-style-type: none"> - Believed to originate from Dao - Vigorous vine prone to poor fruit set that produces small quantities of very small berries - Deep coloured, hi tannins, concentrated wines - Mainly grown in Douro & Dao <p>3. Tinta Roriz (aka Tempranillo)</p> <ul style="list-style-type: none"> - Black grape w thick skin that ripens early (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>Others: Alfrocheiro preto</p>	<p><u>Whites</u></p> <p>1. Encruzado</p> <ul style="list-style-type: none"> - Low yields produces fragrant full bodied nutty whites - Best in Dao - Can be close to a white Burgundy when aged in barrique - All too often blended with poorer quality Malvasia Finca & Bical <p>Others: Malvasia Finca, Bical</p>
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VITICULTURE	<ul style="list-style-type: none"> • 20,000ha – DOC since 1990 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • In theory, Touriga Nacional min 20% of any red blend but much lower in practice. • Red Dao tends to be firm, tannic (sometimes astringent if prolonged maceration with stalks) • Investment in new French and Portuguese oak by new quality oriented producers. • Whites traditionally oxidised and full bodied; modern wines fresher, fruitier and more fragrant. 		
PRODUCTION	<ul style="list-style-type: none"> • 0.3m hl/yr with most under DOC • <u>Key producers:</u> <ul style="list-style-type: none"> ○ Dao Sul – several million bottles/yr <ul style="list-style-type: none"> - Owns 1,000ha and continues to expand with a wide range of wines from supermarket wines to top quality wines. Also operates in Estremadura, Douro, Bairrada and Alentejo. ○ Quinta das Carvalhais <ul style="list-style-type: none"> - Started by Sogrape in the 90s; mass market Grao Vasco brand to high quality Duque de Viseu. 		

CENTRAL PORTUGAL – BAIARRADA

HISTORY	<ul style="list-style-type: none"> • 18th: tannic reds from Bairrada very popular in Britain and sometimes blended with Port from Douro -> Marquis de Pombal ordered the uprooting of all Bairrada's vineyards in 1756. It took 2 centuries to recover. • 1970-80s: DOC and EU entry 		
TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • Directly west of Dao DOC; Heavy clay soils (Bairro in Portuguese) 		
CLIMATE	<ul style="list-style-type: none"> • Damp & rainy maritime climate. High vintage variation. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <p><u>Reds (70% of production)</u></p> <p>1. Baga (2/3 of production)</p> <ul style="list-style-type: none"> - Vigorous variety, resistant to powdery mildew that ripens late and has a tendency to rot - Deep coloured, hi acidity, hi tannins wines w restrained fruit intensity - Tannins can be astringent if fermentation w stalks as still quite common. - Good years -> ageworthy top reds; <p>Others: Touriga Nacional, Cabernet Sauvignon & Merlot</p> </td> <td style="vertical-align: top; padding-left: 20px;"> <p><u>Whites (30% of production)</u></p> <p>1. Bical</p> <ul style="list-style-type: none"> - Local white grape - High acidity nutty flavoured wines </td> </tr> </table>	<p><u>Reds (70% of production)</u></p> <p>1. Baga (2/3 of production)</p> <ul style="list-style-type: none"> - Vigorous variety, resistant to powdery mildew that ripens late and has a tendency to rot - Deep coloured, hi acidity, hi tannins wines w restrained fruit intensity - Tannins can be astringent if fermentation w stalks as still quite common. - Good years -> ageworthy top reds; <p>Others: Touriga Nacional, Cabernet Sauvignon & Merlot</p>	<p><u>Whites (30% of production)</u></p> <p>1. Bical</p> <ul style="list-style-type: none"> - Local white grape - High acidity nutty flavoured wines
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VITICULTURE	<ul style="list-style-type: none"> • Mainly smallholdings 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Reds traditionally fermented with stalks (-> harsh tannins). Require decades to be approachable • New style less tannic, hi in acidity with bell pepper and berry flavours. More immediate consumption. 		
PRODUCTION	<ul style="list-style-type: none"> • 0.25m hl/yr • <u>Key producers:</u> <ul style="list-style-type: none"> ○ Caves Alianca – 10m btls/yr <ul style="list-style-type: none"> - One of the largest family wineries; restructured since 90s with Michel Rolland as consultant 		

CENTRAL PORTUGAL– RIBATEJO

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> • North-east of Lisboa; known as Portugal's orchard; either side of the Tejo river • Broad range of soils with: <ul style="list-style-type: none"> - fertile alluvial soils on the river plains - clay with sandstone & limestone on Tejo' left bank - sandy & poor soils south of the river 		
CLIMATE	<ul style="list-style-type: none"> • Maritime influence and cooling morning mists around the Tejo estuary. Hotter temperatures inland. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Castelao aka Periquita <ul style="list-style-type: none"> - Versatile vine that thrives in sandy soils but can adapt - Wine with crisp acidity, raspberry fruit and firm tannins 2. Trincadeira <ul style="list-style-type: none"> - Prone to rot -> performs better in hot, dry climate - Wines are full bodied w aromas of plum, coffee & chocolate - Commonly used for Port; mainly grown in Alentejo Others: Cabernet Sauvignon, Merlot, Syrah </td> <td style="vertical-align: top; padding-left: 20px;"> <u>Whites</u> 1. Fernao Pires (40% of all plantings) <ul style="list-style-type: none"> - Most planted white grape in Portugal - Does well in relatively warm climates with large volumes of simple, honeyed, slightly spicy dry whites Others: Malvasia Fina, Arinto </td> </tr> </table>	<u>Reds</u> 1. Castelao aka Periquita <ul style="list-style-type: none"> - Versatile vine that thrives in sandy soils but can adapt - Wine with crisp acidity, raspberry fruit and firm tannins 2. Trincadeira <ul style="list-style-type: none"> - Prone to rot -> performs better in hot, dry climate - Wines are full bodied w aromas of plum, coffee & chocolate - Commonly used for Port; mainly grown in Alentejo Others: Cabernet Sauvignon, Merlot, Syrah	<u>Whites</u> 1. Fernao Pires (40% of all plantings) <ul style="list-style-type: none"> - Most planted white grape in Portugal - Does well in relatively warm climates with large volumes of simple, honeyed, slightly spicy dry whites Others: Malvasia Fina, Arinto
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VITICULTURE	<ul style="list-style-type: none"> • 23,000ha recently restructured 		
PRODUCTION	<ul style="list-style-type: none"> • 0.5m hl/yr w Falua Vinhos, project of oenologist Joao Portugal Ramos, dominating w 1.5m btls/yr. 		

SOUTHERN PORTUGAL– PALMELA

TOPOGRAPHY& SOILS	<ul style="list-style-type: none"> • Inland from sea town of Palmela, 30kms south west of Lisboa; between Tejo and Sado rivers. • Limestone soils in the hills and sand on the plains. 		
CLIMATE	<ul style="list-style-type: none"> • Warm maritime climate with warm summers & mild winters. 		
GRAPE VARIETIES	<table border="0"> <tr> <td style="vertical-align: top;"> <u>Reds</u> 1. Periquita aka Castelao <ul style="list-style-type: none"> - Vine that thrives in sandy soils but can adapt to various conditions - Many styles from medium to full bodied wines, rosés & sparkling - Most planted red variety; mainly found in south coast regions Others: Cabernet Sauvignon, Alfocheiro </td> <td style="vertical-align: top; padding-left: 20px;"> <u>Whites</u> 1. Fernao Pires <ul style="list-style-type: none"> - Most planted white grape in Portugal - Does well in relatively warm climates with large volumes of simple, honeyed, slightly spicy dry whites Others: Muscat of Alexandria, Arinto </td> </tr> </table>	<u>Reds</u> 1. Periquita aka Castelao <ul style="list-style-type: none"> - Vine that thrives in sandy soils but can adapt to various conditions - Many styles from medium to full bodied wines, rosés & sparkling - Most planted red variety; mainly found in south coast regions Others: Cabernet Sauvignon, Alfocheiro	<u>Whites</u> 1. Fernao Pires <ul style="list-style-type: none"> - Most planted white grape in Portugal - Does well in relatively warm climates with large volumes of simple, honeyed, slightly spicy dry whites Others: Muscat of Alexandria, Arinto
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VITICULTURE	<ul style="list-style-type: none"> • 10,000ha. Vines mostly low trained on wires to allow for mechanisation. 		
WINEMAKING & WINE STYLES	<ul style="list-style-type: none"> • Stainless steel and temperature control now widely used. • Region known for its Moscatel de Setubal dessert wines but recent move to dry red and white unfortified. 		
PRODUCTION	<ul style="list-style-type: none"> • 0.4m hl/yr including dessert wines. • <u>Key producers:</u> <ul style="list-style-type: none"> ○ Bacalhoa (ex JP vinhos) – 13m btls/yr <ul style="list-style-type: none"> - Fondee by ex Fonseca - Mass producing winery with atypical and typical wines from mass market to elite wines. ○ Fonseca – 12m btls/yr <ul style="list-style-type: none"> - Family company that originally produced old fortified Setubal Muscat and diversified into excellent wines in all price categories ○ Santo Isidro cooperative – 8m btls <ul style="list-style-type: none"> - Exemplary good cooperative with fruity red wines with fine barrique nuances. ○ Casa Ermelinda Freitas – 2m btls <ul style="list-style-type: none"> - Family-run winery with oaked-aged Chardonnay and Moscatel (stocked by Laithwaites in the UK) 		

SOUTHERN PORTUGAL – ALENTEJO

TOPOGRAPHY & SOILS	<ul style="list-style-type: none"> • 'California of Portugal'; south-east of the country from Ribatejo to Spanish border. • Loam soils with granite and schist 	
CLIMATE	<ul style="list-style-type: none"> • Dry continental climate with hot summers (up to 35C) and low rainfall 	
GRAPE VARIETIES	<p><u>Reds (60% of production)</u></p> <ol style="list-style-type: none"> Trincadeira <ul style="list-style-type: none"> - Prone to rot -> performs better in hot, dry climate - Wines are dark, full bodied w aromas of plum w hints of coffee & chocolate, enhanced by oak ageing Aragonez aka Tempranillo <ul style="list-style-type: none"> - Black grape w thick skin that ripens early (temprano: 'early') - Thrives in chalky soils & moderate climates for better acidity & elegance - Little resistance to pest and diseases - Wines are med->full bodied, low to med+ acidity, w med tannins and flavours of strawberry, cherry, raspberry & plum. Oak and ageing add flavours of herbs, mushrooms, leather & tobacco <p>Others: Alfrocheiro Preto, Alicante Bouschet, etc.</p>	<p><u>Whites (40% of production)</u></p> <ol style="list-style-type: none"> Roupeiro <ul style="list-style-type: none"> - Full bodied whites with flavours of honey when blended w Antao Vaz Antao Vaz <ul style="list-style-type: none"> - Traditional Alentejo variety - Firm structure & character Arinto <ul style="list-style-type: none"> - Hi acidity wines with lemon notes - Blended with Roupeiro and Antao to add crispness <p>Others: Fernao Pires</p>
VITICULTURE	<ul style="list-style-type: none"> • 23,000ha. Traditionally low bush vines but new plantings on trellises to help mechanisation. Yields usually low. • Experimentation w canopy management; irrigation permitted. 	
WINEMAKING	<ul style="list-style-type: none"> • Temperature control essential esp. for whites. 	
PRODUCTION	<ul style="list-style-type: none"> • 0.8m hl/yr; with production of reds exceeds whites. Enjoying a rapid expansion a la California in the 60-70s. • Production used to be dominated by 6 large cooperatives but estates have mushroomed. Key producers: <ul style="list-style-type: none"> ○ Reguengos de Monsaraz cooperative – 10m btls <ul style="list-style-type: none"> - Largest cooperative in Alentejo and one of the first to shift to more quality wines e.g. Garrafeira dos Sócios ○ Joao Portugal Ramos – 1m btls <ul style="list-style-type: none"> - Star oenologist initial winery. Key wine Marques de Borba. 	

VINHOS REGIONAIS

- Growing category that represents 22% of Portugal's production. Allows more flexibility for wine growers. Popular amongst single quintas.
- Key VRs:
 - VR Alentejano**
 - #1 VR with nearly ½ million hl/yr; exceeds the production of DOC wine in the region.
 - Covers the whole Alentejano region; same grape varieties allowed as DOC but also international varieties i.e. Cabernet Sauvignon, Merlot and Chardonnay
 - VR Lisboa**
 - #2 largest IGP wine producer w 0.3m hl/yr. Very little DOP wine produced in the area.
 - Covers the Estremadura region, from Lisboa along the Atlantic coast to Bairrada DOC.
 - Wide variety of grapes allowed including Baga, Periquita, Trincadeira and Fernao Pires
 - VR Minho**
 - Covers same area as Vinho Verde DOC but permits Chardonnay, Chenin Blanc and Merlot. Minor in volume
 - VR Tras-os-Montes**
 - Entire north east; blends of international varieties & local grapes. Relatively small in volume
 - VR Ribatejano**
 - Fourth biggest in volume; commercial quantities of international varieties i.e. Chardonnay, Sauvignon blanc, Merlot, Cabernet Sauvignon and Syrah.
 - VR Beiras**
 - 3 provinces: Alta, Baixa, Litoral. Declassified Dao or Bairrada DOC as well as international varieties.
 - VR Peninsula de Setúbal (ex VR Terras do Sado)**
 - #3 largest IGP wine producer in volume; covers Palmela DOC area.
 - Large number of varieties grown with Castelao & Muscat and many international varieties.

VINHOS DE MESA

- Represent nearly a 1/3 of Portugal's wine production
- Key examples:
 - Mateus**
 - Brand created in 1942 by Fernando Guedes (then producer of Vinho Verde) when he produced a sparkling rosé sweetened to appeal to developing US and North-European wine markets
 - Production took place in a winery built close to the Mateus Palace .
 - Lancers**
 - Brand created in after WWII by the JM Fonseca winery to tap into the growing N-A and North-European markets.
 - More popular in the US.