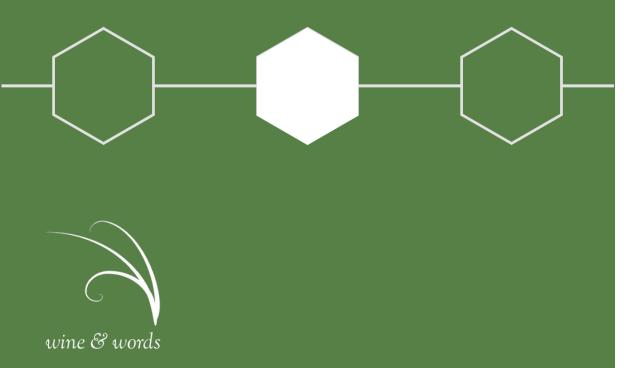


### **MUSCAT BLANC À PETITS GRAINS**

#### MID RIPENING



- Portugal / Douro: 'Moscatel Galego Branco'
- France: most widely planted Muscat variety
  - Rhône: Muscat de Beaumes-de-Venise AOC

  - Roussillon: Muscat de Rivesaltes AOC, Rivesaltes AOC

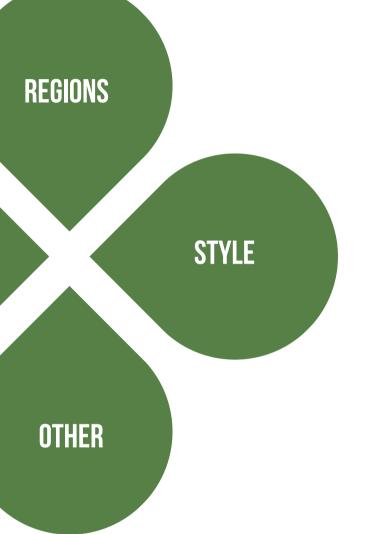
#### • powdery mildew

- botrytis bunch rot
- mites
- drought tolerant

### HAZARDS

- smaller grapes < Muscat of Alexandria

• Languedoc: 4 VDN appellations: Muscat de Frontignan AOC, Muscat de St-Jeande-Minervois AOC, Muscat de Lunel AOC, Muscat de Mireval AOC



- aromatic grape
- often for unaged styles
- greater aroma & flavour intensity > Muscat of Alexandria
- delicately or pungently:
  - grapey
  - floral
  - spicy

• tolerant of dry weather => suited to Mediterranean climates









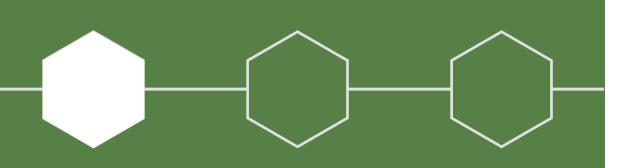
Pear



**Orange Blossum** 

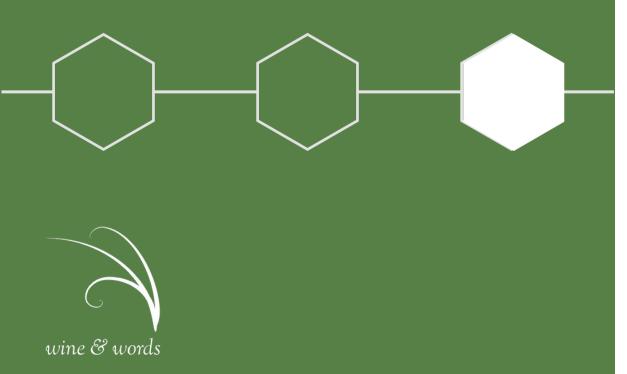
Meyer Lemon

Honeysuckle



### SERCIAL

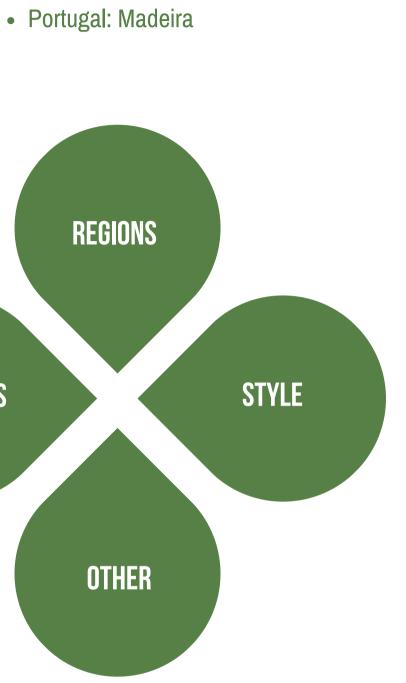
#### LATE RIPENING



- resistant to powdery mildew
- susceptible to botrytis bunch rot
- can experience poor fruit set

#### HAZARDS

- small # of plantings



- high acidity
- used for driest styles of Madeira

• late ripening -> especially in cool sites it can be the latest variety to be picked (barely above min. pot. alc. level)

- Portugal:
  - - most planted now: Malvasia de São Jorge

- Malvasia Cândida: very susceptible to powdery mildew => limits yields => only small plantings left
- Malvasia de São Jorge: susceptible to botrytis bunch rot

#### HAZARDS

- Malvasia Cândida: early-budding, late-ripening.
- Malvasia de São Jorge:
  - most common Malvasia grown on Madeira
  - can produce relatively high yields



## MALVASIA (DE SÃO JORGE)

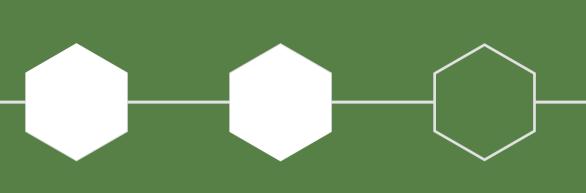
#### LATE RIPENING



• Madeira: 'Malvasia' = umbrella term for # grape varieties historically most important: Malvasia Cândida (= Malvasia di Lipari, Malvasia di Sardegna, ... -> cultivated all round the western Mediterranean)



- Malvasia de São Jorge:
  - high acidity
  - high levels of sugar
  - main variety for Malmsey / Malvasia: sweetest style of Madeira



#### EARLY TO MID BUDDING

### GRENACHE BLANC

#### MID RIPENING





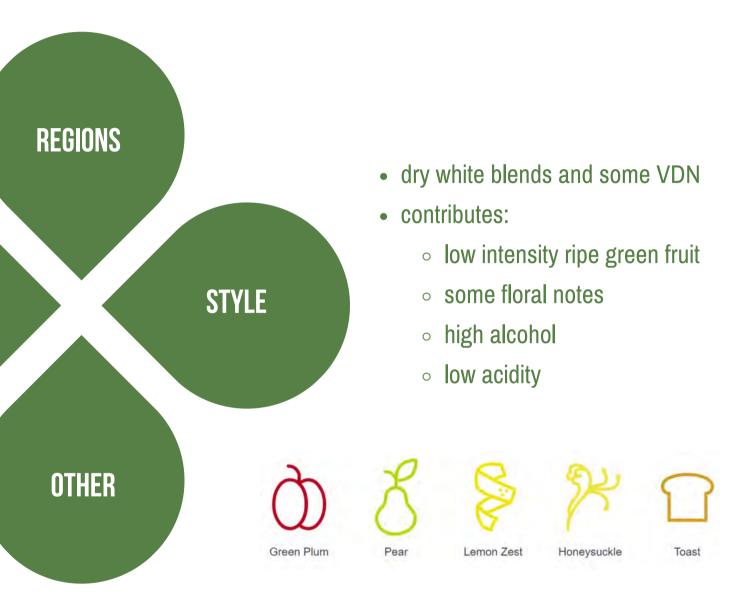
- mainly in S. Rhône

• good wind resistance

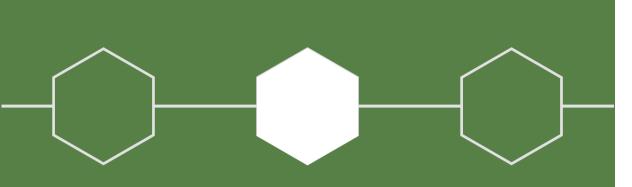
HAZARDS

for VDNs

• South of France, e.g. IGP Pays d'Oc, Corbières AOC, La Clape AOC • Spain / Catalunya: Priorat, Montsant, Costers del Segre • South Africa (Swartland)

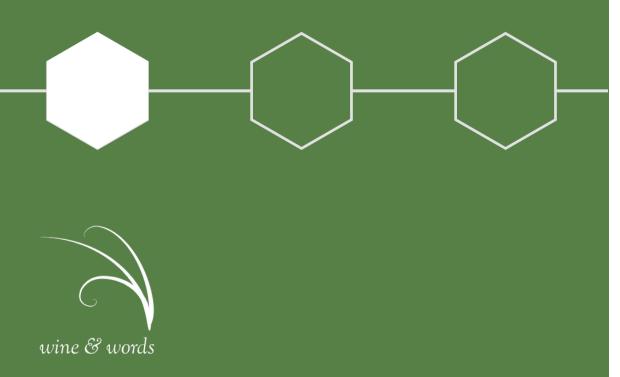


• tendency to reach high alcohol levels => well suited



## VERDELHO

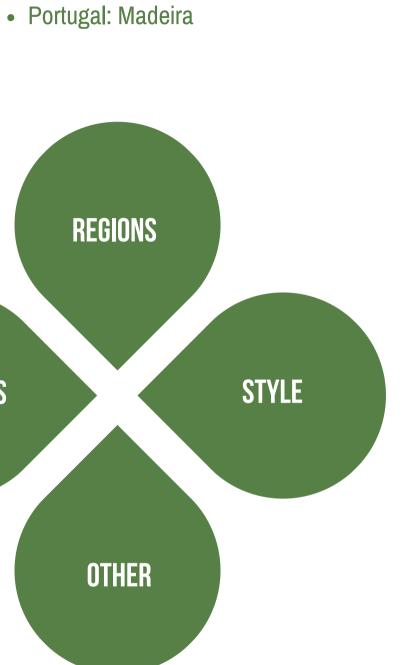
#### EARLY RIPENING



- downy & powdery mildew
- botrytis bunch rot
- coulure

#### HAZARDS

- very early ripening



• high acidity (slightly < Sercial)

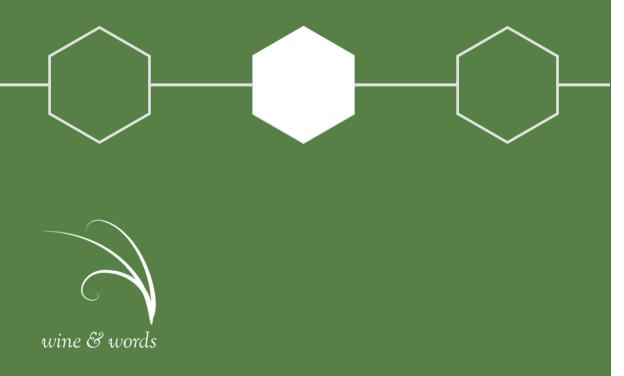
• low yields -> small, compact bunches with few berries

• second most planted V. vinifera in Madeira (after Tinta Negra)



# **/ PX**

#### MID RIPENING



- Spain: Jerez

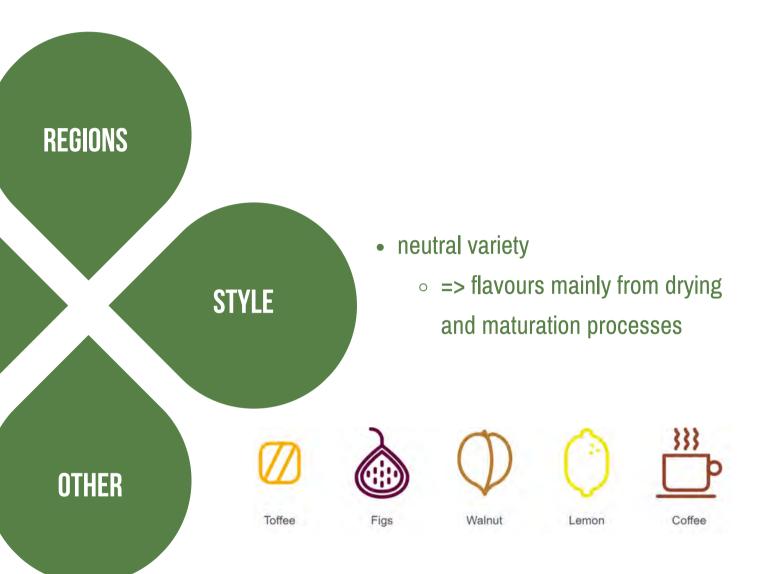
• botrytis bunch rot

• downy mildew

HAZARDS

- sweetening agent
- small, thin-skinned grapes (WSET)
  - - Grapes book)
- dried ('asoleo')

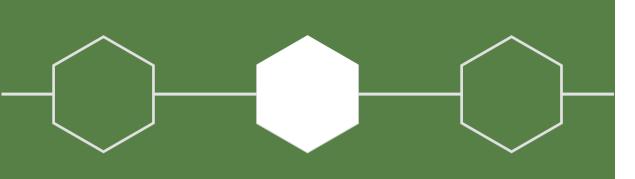
• permitted to be grown in Montilla district (Córdoba) • then shipped into the Zona the Producción as fresh or raisined grapes or (more common) as young wine



• used for production of sweet fortified wines and as a

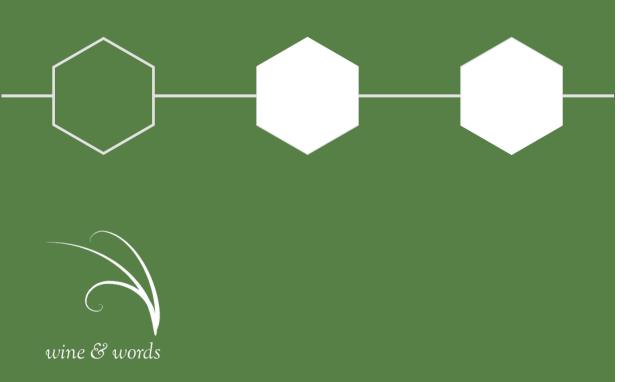
• BUT: "large bunches of thick-skinned berries" (Wine

• accumulate high levels of sugar -> then traditionally sun-



## PALOMINO

#### MID TO LATE RIPENING



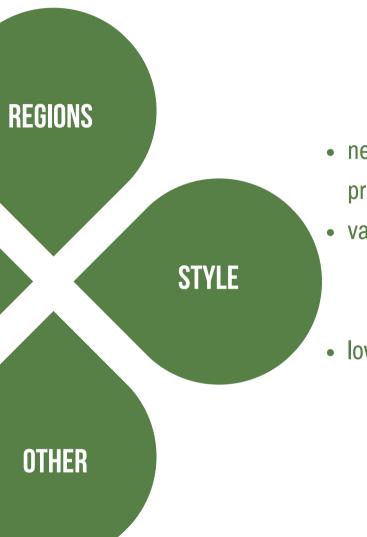
• Spain: Jerez (= Palomino Fino / Listán)

- fairly susceptible to downy mildew
- fairly resistant to powdery mildew
- resistant to rot
- tendency to oxidise

#### HAZARDS

- capable of producing large yields

### • principal variety for all dry and sweetened styles of sherry



- neutral variety -> doesn't add much primary aromas to sherry wines
- varietal wines: typically low in alcohol
  - low lvls of fermentable sugars
  - usually picked early
- low acidity

• well-suited to hot, dry, sunny sites / weather • loses acidity quickly when it nears maturity











Almond

Saline

- Spain (Moscatel de Alejandría) • Jerez: sometimes called 'Moscatel de Chipiona' • France: especially Roussillon
- - Muscat de Rivesaltes AOC
  - Rivesaltes AOC

### MOSCATEL/ **MUSCAT OF ALEXANDRIA**

#### LATE RIPENING



- heat and drought resistant
- powdery mildew
- botrytis bunch rot

#### HAZARDS

- well adapted to heat and drought
- Jerez: coastal town of Chipiona: generally on sandy 'arena' soils
- usually for 'Moscatel' wines and some VDNs
- bigger grapes than Muscat Blanc & achieves higher sugar levels
- wines often considered less refined than Muscat Blanc => plantings are declining



- less subtle, stickier sweet wines than small-berried Muscat
- pronounced intensity
- cooked orange, apricot, orange flowers, honey (linalol, geraniol)
- sweet, with high alcohol

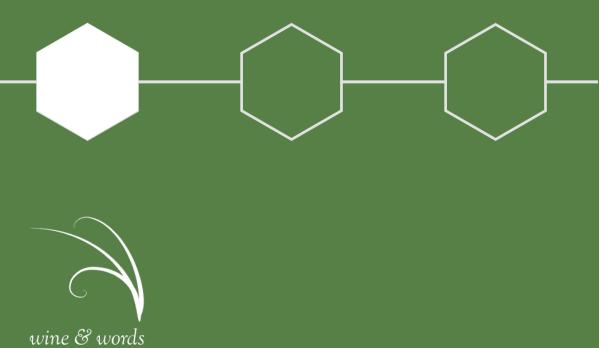


- Portugal:
  - Douro: 'Malvasia Fina'
  - Madeira: 'Boal':



## MALVASIA FINA / BOAL

#### EARLY RIPENING

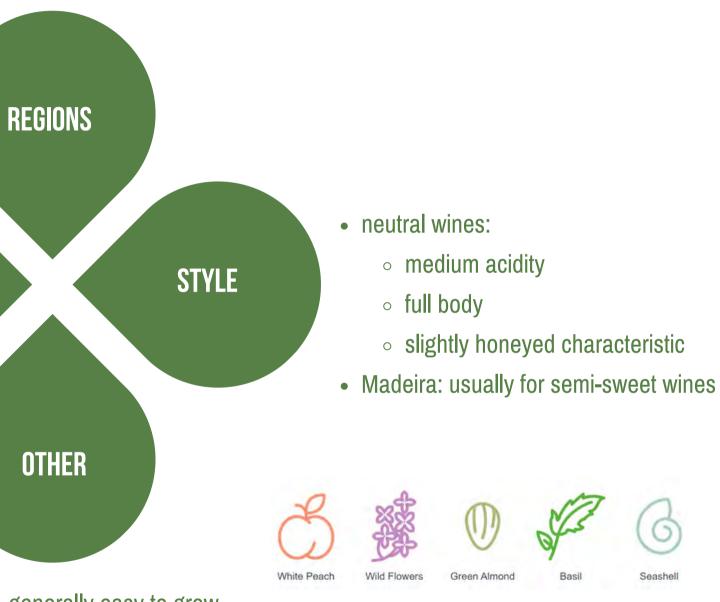


- generally easy to grow
- moderately susceptible to fungal diseases
- susceptible to drought: severe water stress may interfere with ripening

HAZARDS



umbrella term for # grape varieties • in Madeira: Boal Cachudo



• quite vigourous, generally easy to grow

• in Madeira: grows best in warm, low-altitude sites in S of island

susceptible to drought => needs adequate irrigation

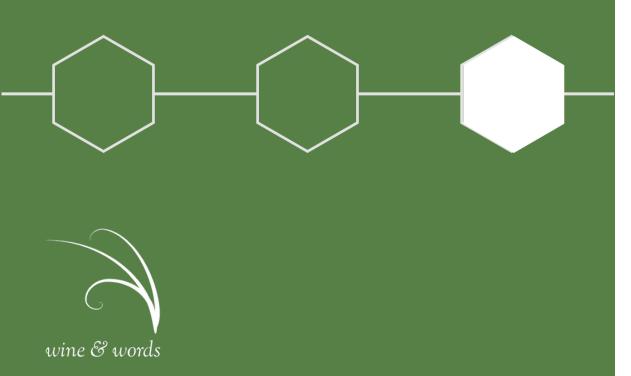




#### ? BUDDING

## TERRANTEZ

#### LATE RIPENING



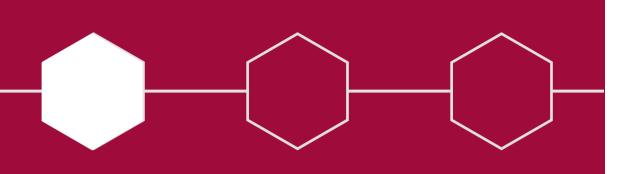
- thin-skinned, extremely fragile grapes
- powdery mildew
- botrytis bunch rot
- berry splitting

#### HAZARDS



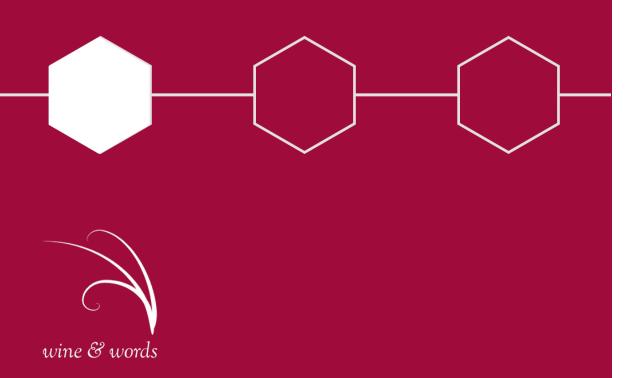
- once highly regarded
- rare, aromatic, full-bodied wines

• susceptible to powdery mildew & botrytis bunch rot => picked soon after reaching 9% abv potential alcohol • very low yields (zero in some years) => now almost extinct



# **TINTA RORIZ**

#### EARLY RIPENING



- PT: Douro ('Tinta Roriz'), other areas: 'Aragonez'
- = Tempranillo in Spain

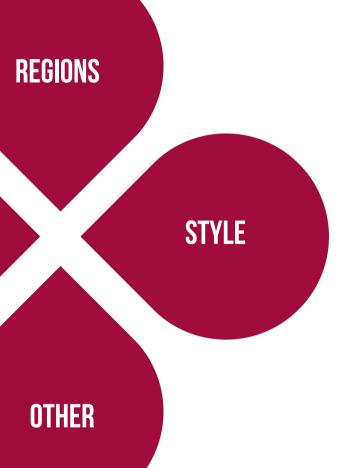
- powdery mildew
- eutypa dieback
- fairly resistant to botrytis bunch rot

#### HAZARDS

- best grown in relatively cool sites (otherwise: suffers from water stress)
- capable of producing high yields -> needs to be limited or wines can lack concentration

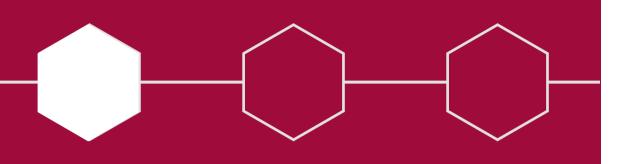






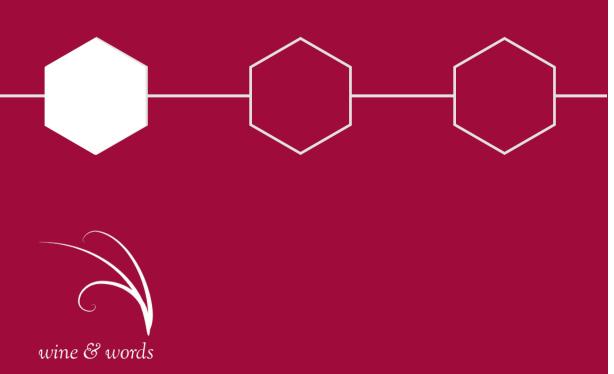
- raspberry and black plum fruit
- M to M+ acidity
- M to M+ tannins
- lends body and deep colour to port blends





# **TINTA BARROCA**

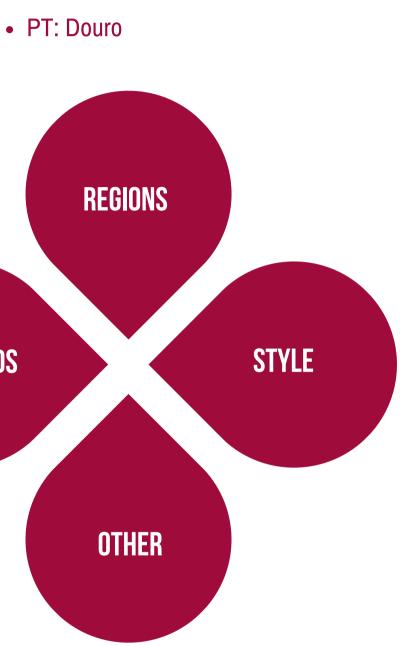
#### EARLY RIPENING



• prone to heat damage and grape shrivelling

### HAZARDS

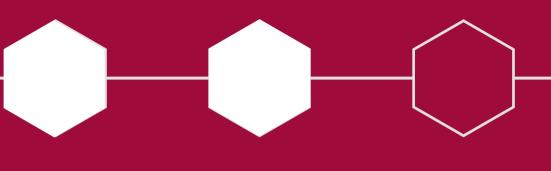
- capable of producing high yields



• best grown in relatively cool sites: high altitude or northfacing slopes, usually in Baixo Corgo / Cima Corgo

- less floral, more earthy flavours
- soft, full-bodied, cherry and blackberry
- can lack acidity unless in coolest sites
- colour tends to fade quickly

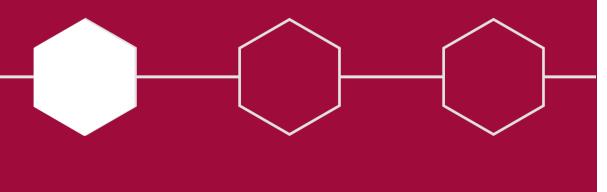




#### EARLY TO MID BUDDING

### TINTA AMARELA **/ TRINCADEIRO**

#### EARLY RIPENING



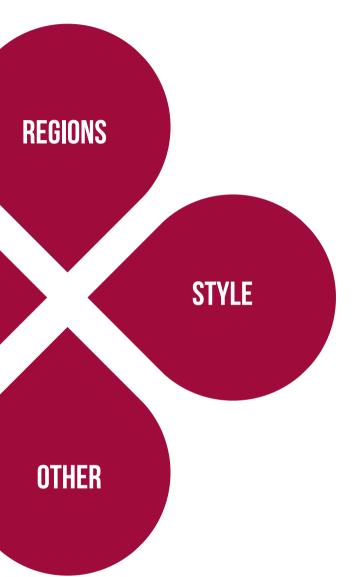
• fungal diseases (tight bunches)

• PT:

HAZARDS



#### • 'Tinta Amarela' in Douro • 'Trincadeira' in other parts of Portugal

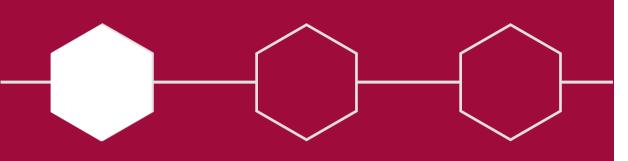


#### • tight bunches of grapes

#### • full-bodied

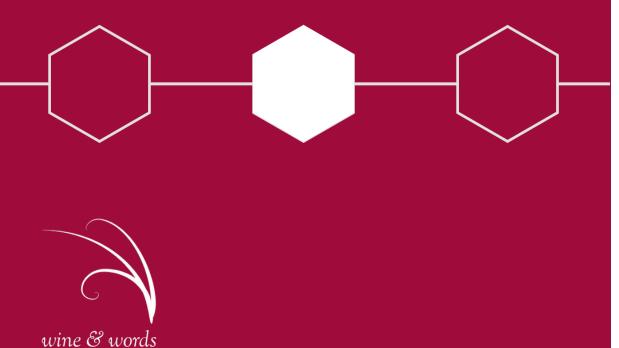
- concentrated black fruits
- spicy notes
- approachable in youth + capable of ageing





### TOURIGA NACIONAL

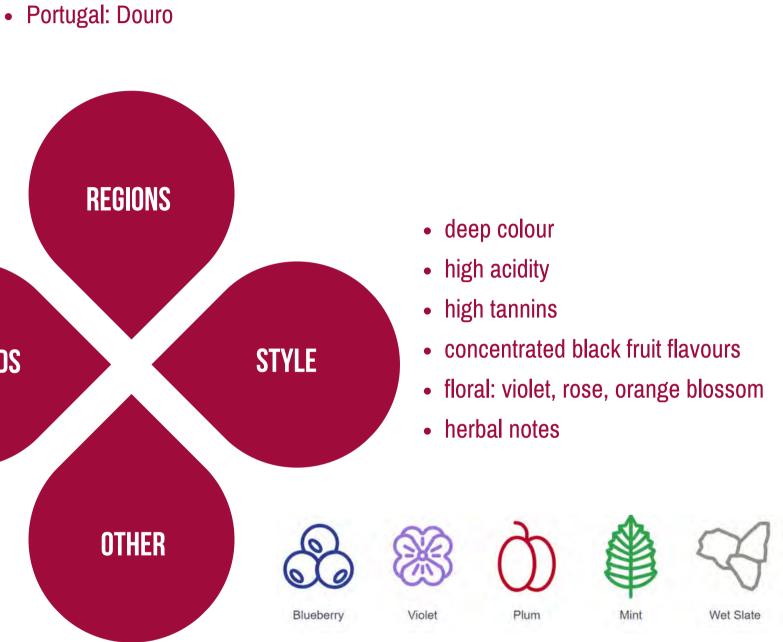
#### MID RIPENING



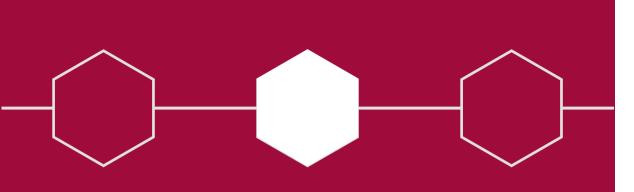
• coulure => can lower yields substantially & cause vine imbalance

HAZARDS

- retains acidity well

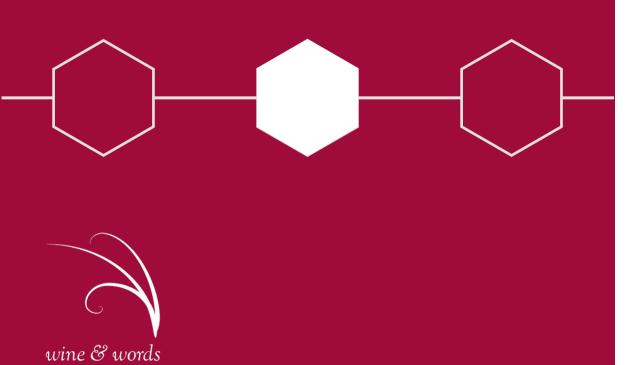


• high vigour -> managed through summer pruning • wines are said to have long ageing potential => often component in premium, long-matured port wines



## **TINTA NEGRA**

#### MID RIPENING



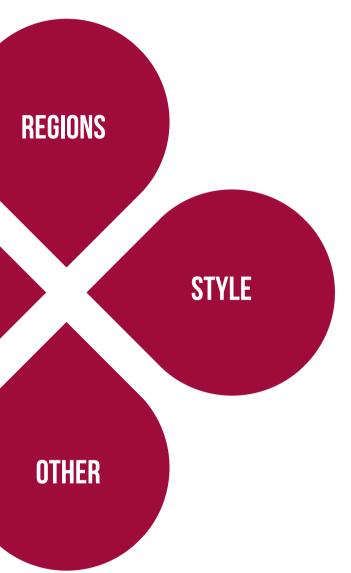
• sensitive to abrupt temperature changes

- Portugal: Madeira

HAZARDS

• high yielding, easy to grow





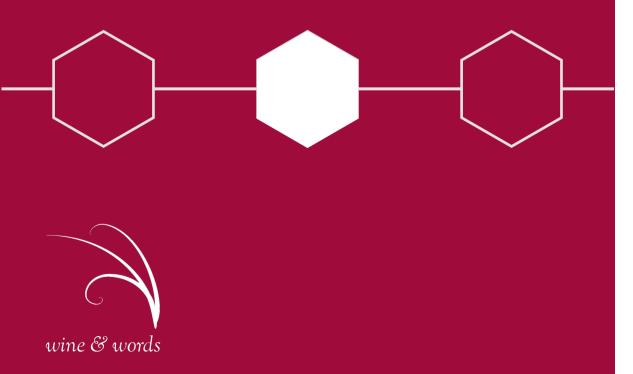
• used to produce Madeira wines of all sweetness levels

• most planted variety on Madeira



### MUSCAT À PETITS **GRAINS ROUGES**

#### MID RIPENING



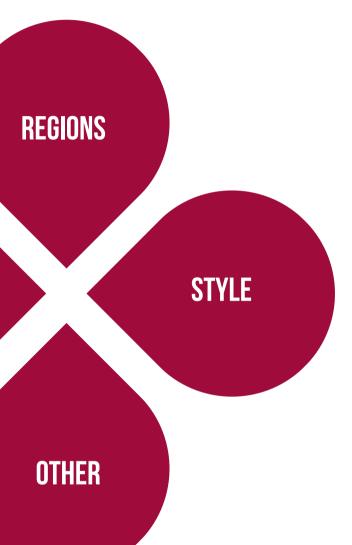
• Australia: Rutherglen (VIC) • = 'Rutherglen Brown Muscat' • France: Rhône: for red and rosé VDN in Muscat de Beaumes-de-Venise AOC

#### • powdery mildew

- botrytis bunch rot
- mites
- drought tolerant

#### HAZARDS

- accumulation



• red-skinned mutation of Muscat Blanc à Petits Grains • GS: warm days and long, dry autumns => high sugar

• grapes: often left on the vine to shrivel => dried fruit characteristics & potential alcohol of up to 20% abv • if old vines: deeper coloured, more concentrated wines

- 4 styles:
  - Rutherglen Muscat
    - avg. age 3-5y
    - RS 180-240 g/L
  - Classic Rutherglen Muscat
    - avg. age 6 10y
    - RS 200 280 g/L
  - Grand Rutherglen Muscat
    - avg. age 11-19y
    - RS 270 400 g/L
  - Rare Rutherglen Muscat
    - avg. age min. 20y
    - RS 270 400 g/L
- usually (increasing with style):
  - medium amber or tawny
  - pronounced raisins, figs, dates, sweet spices
  - full body; M alcohol
  - M+ acidity

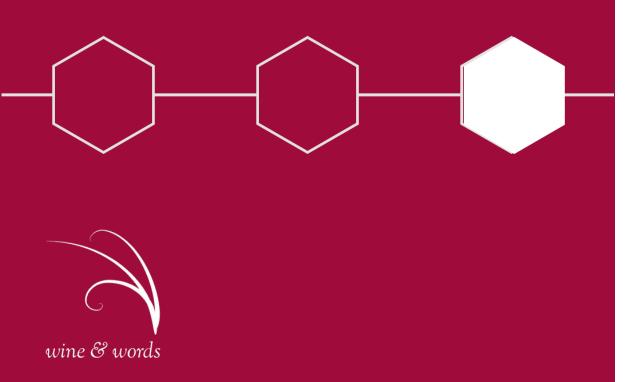
- for fortified wines: mainly VDNs in Southern France:

  - Roussillon:
    - Banyuls AOC: min 50% Gren N

    - Rivesaltes AOC: reds: mainly Gren N

## **GRENACHE NOIR**

#### LATE RIPENING



- good drought resistance
- yield can be reduced by:
  - coulure
  - downy mildew
  - phomopsis
  - botrytis bunch rot

#### HAZARDS

- drought tolerant -> good in Mediterranean climates
- needs warm climate to ripen
- high-yielding grape variety
- upright growth -> very suitable as bush vine • can accumulate high sugar lvls quickly =>
- very suitable for VDNs

• Rhône: Vin Doux Naturel Rasteau AOC: min 75% Gren N

Banyuls Grand Cru AOC / Maury AOC: min 75% Gren N

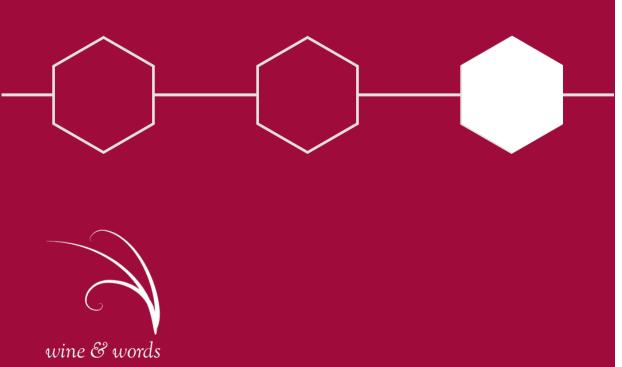






# TINTO CÃO

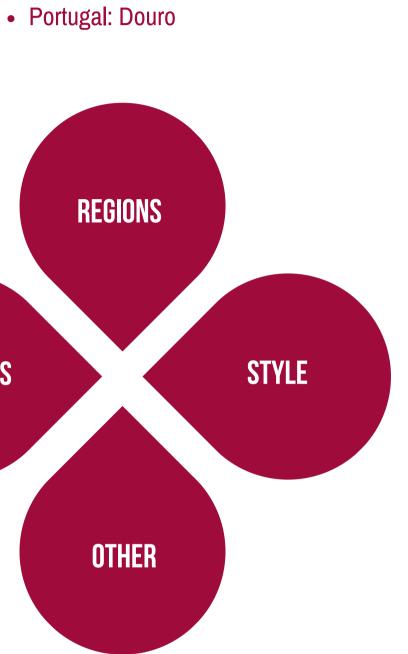
#### LATE RIPENING



• thick-skinned

- relatively resistant to fungal diseases
- very heat tolerant

#### HAZARDS



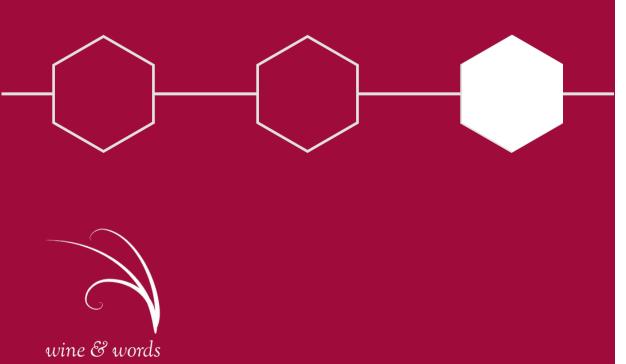
• low-yielding variety • ripens late • very heat tolerant

- concentrated wines
- high acidity
- capacity to age well

#### EARLY TO MID BUDDING

### **TOURIGA FRANCA**

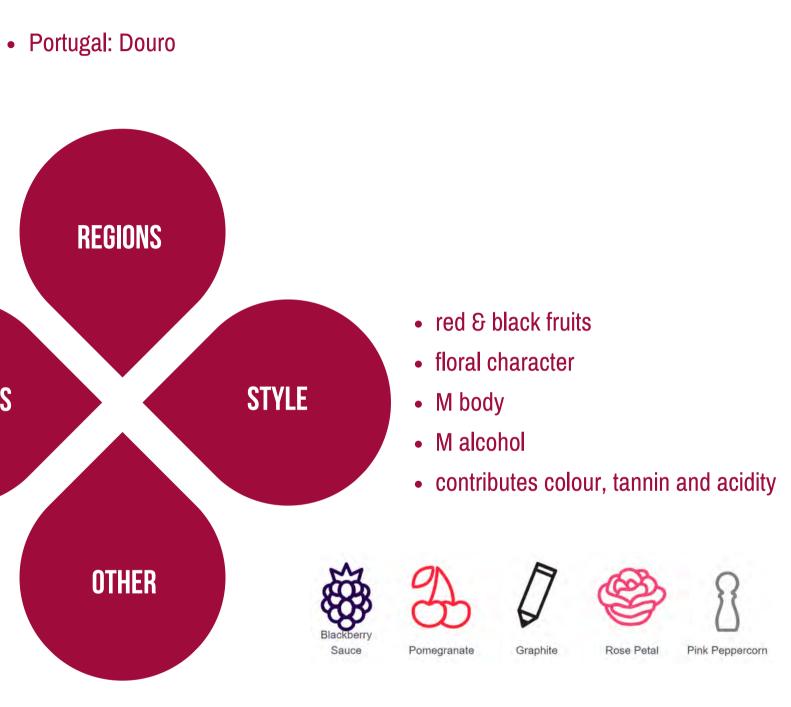
#### LATE RIPENING



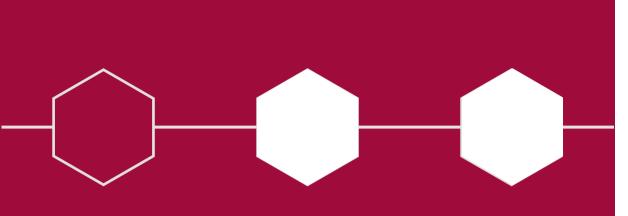
- thick-skinned
  - relatively resistant to fungal diseases

### HAZARDS

- tight bunches of thick-skinned grapes

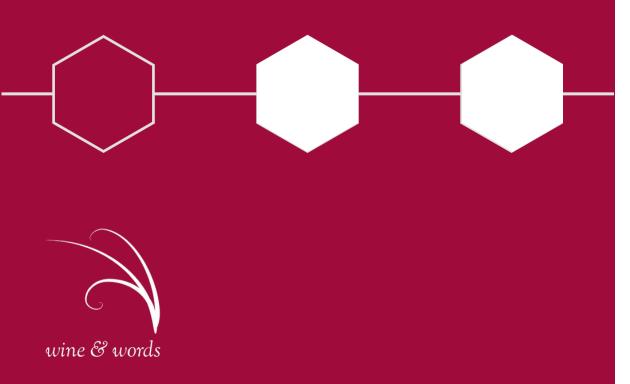


• WSET: late-ripening (vs. mid to late ripening: Wine Grapes book) • can be vigorous => needs to be managed e.g. summer pruning) • popular with growers => most grown variety by far



### MID TO LATE BUDDING SOUSÃO

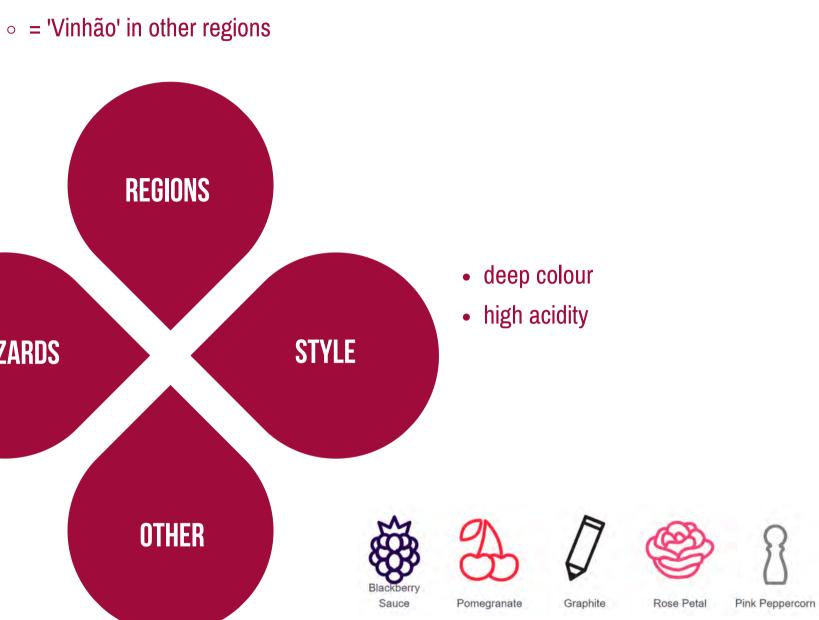
#### MID TO LATE RIPENING



- Portugal: • Douro: 'Sousão'

• thick-skinned

HAZARDS



• in Douro: found mainly in the old mixed vineyards • e.g. in ungrafted Nacional vineyard of Quinta do Noval • increasingly popular for deep colour intensity (often used for colour) and ability to retain high levels of acidity • e.g. by Symington: appreciated for acidity / freshness

### Information and image sources

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