

# German Ripeness Levels

*Determined by must weight (i.e. density); regulated terms that vary by grape variety and region*

- **Kabinett**-least ripe, makes light refreshing wines (16.4-19.8 Brix)
- **Spatlese**- “late harvest,” meaning riper than Kabinett. Wines range from dry to sweet, can age well (18.5-21.6 Brix)
- **Auslese**- “select harvest,” made from riper grapes, sometimes botrytized, usually some residual sugar (20-25 Brix)
- **Beerenauslese (BA)**- “berry select harvest,” rare, sweet wines made from botrytized grapes (26-29 Brix)
- **Eiswein**- grapes have high sugar and acidity from being frozen on the vine (26-29)
- **Trockenbeerenauslese (TBA)**- “dry berry select harvest” very rare, very sweet, very expensive, each grape fully dried on the vine by botrytis (over 30 Brix)



## Session 3: Versatility of Riesling



“Clean” Riesling fruit at Spatlese ripeness level.



Botrytis infected cluster showing raisining and fuzzy mold; Auslese ripeness level.

## Session 3: Versatility of Riesling

### [Video of late harvest picking day at Doyle Fournier Vineyard in 2022](#)

**“Late Harvest” is a regulated label term in the US  
Based on chemistry, not harvest date:**

*From ATF Ruling 78-4 “The Bureau will approve the use of the terms “Late Harvest” and “Late Picked” and acceptable variations thereof, for appearance on labels for grape wine, provided the amount of sugar contained in the grapes at the time of harvest and the amount of residual sugar in the finished wine are accurately stated on a front or back label for the product.”*



Doyle Fournier Botrytis Riesling hand-picked Oct. 5, 2022  
The remaining Riesling was picked Oct. 24-25, 2022

# Ways to Make Wine Sweet

Method	Example
<b>Concentrating</b> the sugar in grapes (noble rot, frozen grapes, dried grapes)	Noble rot: Sauternes, Beerenauslese, Tokai Frozen: Eiswein, Iced Wine Dried: Strohwein, Recioto della Valpolicella
<b>Adding sweetness</b> with sugar* or sweet grape juice (sussreserve) after fermentation	Adding sugar: Red Cat Sussreserve: Non pradikat German wines
<b>Arrested fermentation</b> (through chilling, filtering out yeast, and/or addition of sulfur dioxide)	Silver Thread Semi-dry Riesling and single-vineyard Rieslings, Pradikatswein from Germany that isn't dry
<b>Adding spirit</b> to grape juice during fermentation	Vin Doux Naturel, Port

*\*adding sugar after fermentation is illegal in many wine regions, but not in the US*

# Session 3: Versatility of Riesling



## Residual sugar alone can be deceiving



	Dry Riesling 2022	Doyle Riesling 2022	Late Harvest Riesling 2022
Residual sugar	6 g/L	10 g/L	33 g/L
Titrateable acidity	6.10 g/L	6.83 g/L	9.57 g/L
Sugar/acid ratio	0.9	1.5	3.5
pH	3.19	3.24	3.29
IRF level	Dry	Medium dry	Medium sweet

IRF RIESLING TASTE PROFILE, TECHNICAL GUIDELINES SUMMARY					
	SUGAR TO ACID RATIO	pH		pH	SHIFT DUE TO pH
DRY	< 1.0	3.1 to 3.2	If = or > 3.3		Med Dry
				> 3.5 or >	Med Sweet
MEDIUM DRY	1.0 to 2.0		= or > 3.3		Medium Sweet
				< or = 2.9	Dry
MEDIUM SWEET	2.1 to 4.0		= or > 3.3		Sweet
				< or = 2.9	Medium Dry
				< or = 2.8	Dry
SWEET	= or > 4.1		< or = 2.9		Medium Sweet
				< or = 2.8	Medium Dry

Good article on Balance in Riesling from International Riesling Foundation:  
<https://drinkriesling.com/riesling-rules-book/beauty-in-balance-sweetness-to-acidity>

# Session 3: Versatility of Riesling

## Acidity & pH in Riesling

### Acidity in Riesling

Ideal titratable acidity in finished Dry or Semi-dry

Riesling: 6.5-9g/L

Juice is usually 1-1.5g/L higher in T.A. at harvest

Late harvest or bone dry styles may be higher or lower

### pH in Riesling

Ideal range is 3.1-3.2

Not uncommon to see 2.8-3.5

Affected by vineyard conditions, especially potassium in soil

Low pH may reduce ageability





## Riesling Doyle Fournier Vyd 2022

**Aroma Intensity:** \_\_\_ low \_\_\_ medium \_\_\_ high

### **Aromas/Flavors:**

\_\_\_ citrus \_\_\_ tree fruit \_\_\_ stone fruit \_\_\_ tropical fruit

\_\_\_ flowers \_\_\_ herbs \_\_\_ vegetal \_\_\_ stony/steely

\_\_\_ biscuit \_\_\_ vanilla \_\_\_ yeast \_\_\_ cream

\_\_\_ butter \_\_\_ coconut \_\_\_ smoke/toast \_\_\_ cedar/oak

\_\_\_ nuts \_\_\_ marmalade \_\_\_ nutmeg/ginger \_\_\_ petrol

\_\_\_ earth \_\_\_ mushroom \_\_\_ tea \_\_\_ honey

### **Structure**

**Flavor Intensity:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Body:** \_\_\_ light \_\_\_ medium \_\_\_ full

**Acidity:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Alcohol:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Residual Sugar:** \_\_\_ dry \_\_\_ off-dry/semi-dry \_\_\_ sweet

### **Length/Finish**

\_\_\_ short \_\_\_ medium \_\_\_ long

## Riesling Late Harvest Select Doyle Fournier Vineyard 2022

**Aroma Intensity:** \_\_\_ low \_\_\_ medium \_\_\_ high

### **Aromas/Flavors:**

\_\_\_ citrus \_\_\_ tree fruit \_\_\_ stone fruit \_\_\_ tropical fruit

\_\_\_ flowers \_\_\_ herbs \_\_\_ vegetal \_\_\_ stony/steely

\_\_\_ biscuit \_\_\_ vanilla \_\_\_ yeast \_\_\_ cream

\_\_\_ butter \_\_\_ coconut \_\_\_ smoke/toast \_\_\_ cedar/oak

\_\_\_ nuts \_\_\_ marmalade \_\_\_ nutmeg/ginger \_\_\_ petrol

\_\_\_ earth \_\_\_ mushroom \_\_\_ tea \_\_\_ honey

### **Structure**

**Flavor Intensity:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Body:** \_\_\_ light \_\_\_ medium \_\_\_ full

**Acidity:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Alcohol:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Residual Sugar:** \_\_\_ dry \_\_\_ off-dry/semi-dry \_\_\_ sweet

### **Length/Finish**

\_\_\_ short \_\_\_ medium \_\_\_ long



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**Glossary of Terms:** *Oxford Companion to Wine third ed.; Robinson J.; 2006*

**Pradikats**—per the German Wine Law of 1971, grapes for quality wines (QMP) are classified by must weight (or sugar level) using one of the distinctions on the label (see first slide of this presentation for Pradikats)

**Sweet Wines**—have been popular since ancient times; the most admired wines of ancient Rome, Italian City-states of the Middle Ages, and 17<sup>th</sup> and 18<sup>th</sup> Century Europe were sweet white wines. Examples include Sauternes, Tokaji, Constantia and Vin Doux Naturel.

**Botrytis Bunch Rot**-- a fungal disease that can develop in vineyards in humid climates, especially when it rains during harvest. The malevolent form is called grey rot. The benevolent form is called noble rot, which is responsible for some of the world's finest sweet wines. Botrytis is never desirable in red wines.

**Botrytized Wines**—wine made from white grapes affected by the benevolent form of botrytis bunch rot, also known as noble rot. Distinctively scented with considerably more extract than most wines, they are the most complex and longest lived of all the sweet, white tables wines. The noble rot aroma is often described as honeyed, but it can also have notes of rye grain and marmalade.

**Tri(e)**— French for “sorting process,” or selection of suitable grapes. This can take the form of a sorting table at the winery, or pickers proceeding along the rows and only selecting desired clusters.