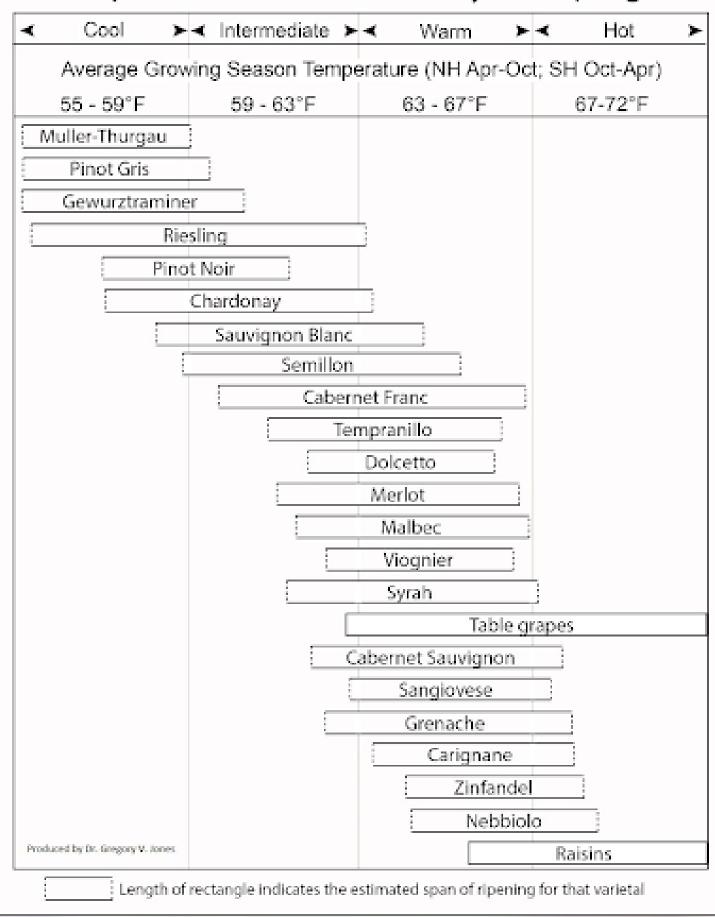
Grapevine Climate/Maturity Groupings



In climate events that shift a geography left or right on ideal climate range for a grape, viticulturists will have to

- Apply additional treatment to the wine to ensure qualities desired by the winemaker
- In extreme events produce a different grape and wine.

Examples of climate events:

- Warmer winters / Hotter summers
- Droughts
- Hailstorms
- Flooding
- Fires

In particular, Shiraz is a versatile grape variety that have desirable characteristics in both cold and warm climates

Expert Interview #1

Isabella Morano

Bay Area-based sommelier, wine grower / harvester, and owner of Isa Wines

Isabella partners with local California farmers & prioritizes organic farming and / or regenerative agriculture practices. We were fascinated to find out that only 2.4% of vineyards in California are certified organic, and many farmers practice organic farming without being certified. We spoke with her about sustainable practices, implications for winemakers, and overall industry trends.

Below are our key takeaways:

- Dry farming: a farming practice that allows growers to conserve water during the grape growing process
 - More expensive & nuanced than traditional practices, and is her preferred method
- Major cost implications in becoming a "certified organic" grower, and as a result, many farmers do not complete the process
 - It is not uncommon for producers to lie about their practices as a result
 - This has also become a massive marketing ploy, with businesses being founded based on their "100% organic" status (example: Avaline)
- Human element is often overlooked when it comes to sustainable farming: balance between investing in organic practices AND paying workers
- Both California & Australia have seen an uptick of climate events, namely wildfires, which significantly impacts the soil and surrounding resources
 - As a result, many producers are considering new areas to grow grapes, Mexico is an area Isabella is particularly excited about
- Hybrid grapes also increasing in popularity, becoming less taboo / more widely accepted in the wine community (as a result of climate change)



Expert Interview #2

Phil Chapman

Viticulturist at Zonzo Estate

Below are our key takeaways:

- Many ways a viticulturist can adapt to certain conditions
 - Preventative techniques include:
 - Agriculture Kaolin clay based UV Protection for days of heatwaves and consecutive days of sun
 - Using clay based soils and various fertilizers
 - Trimming to improve airflow
 - Umbrella shades
- Additional methods in the wine making process that can guide the overall quality of the wine include
 - Additional additives including microbial agents
 - Extended or varying fermentations
 - Using different barrels and wood types

Since completing a degree in viticulture, Phil oversaw 25 vintages in Yarra Valley and joined Zonzo in 2020. His approach to vineyard regeneration complements Caroline's instinctive winemaking: improving soil health by increasing biodiversity and aiding a balanced ecosystem, reducing the need for chemical intervention (and encouraging natural pest predators).

