

DIACETYL PRODUCTION DURING MALOLACTIC FERMENTATION

↓ Minimizing Diacetyl Production

1. Strain Choice

- Choose a neutral bacteria strain (Elios 1, VP41 or MT01).

2. Contact time with lees

- The longer the contact time with yeast and bacteria the lower the diacetyl. The living yeast and bacteria break down the diacetyl levels irreversibly.

3. Timing

- A simultaneous alcoholic/malolactic fermentation will tend to produce a more fruit forward style. As the diacetyl is being produced, the yeast and bacteria will break it down. If bacteria is added after alcoholic fermentation, let the wine stay on the lees until a desired level of diacetyl is reached.

4. Fermentation time

- The faster the malolactic fermentation (MLF) the lower the diacetyl.

5. Wine conditions

- Higher pH and temperature conditions favor lower diacetyl levels because the MLF is faster.

6. Stir during MLF

- Try not to stir the wine during MLF. The lower redox potential will tend to favor the production of acetoin and 2, 3 butanediol (rather than diacetyl) which do not contribute to the overall aroma of the wine.

7. Addition of sulfites

- SO₂ binds to diacetyl in a reversible reaction. Initially the diacetyl level will seem to disappear but over time the reaction will reverse and the diacetyl will be released. Wait for the malic and citric acids to be utilized before adding sulfites. Follow the progression of diacetyl and stabilize when it reaches the desired level.

8. Inoculation rate

- Higher bacteria inoculation rates result in lower diacetyl wines.

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