

WEINAKADEMIE AUSTRIA RUST

ABSTRACT of

THESIS

by

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**From earth to aroma:
the science and marketing of soil and yeast in wine**

Motivation

In today's geopolitical climate we experience on a global scale why discerning truth from fiction is crucial to understand the world. This is also true in the wine world. The more you learn, the more you discover that misinformation is commonplace. To understand the world of wine we need to separate fact from fiction. As I delved deeper into wine, the greatest challenge and question for me became: why does a wine taste as it does? Marketing often emphasizes soil's impact on structure and flavour, but critics challenge this. However, the fact that specific yeast is used to enhance aromas is rarely mentioned. This contradiction inspired my deeper exploration of this subject.

Objective

This thesis investigates the scientific basis of claims about soil and yeast influencing wine taste. It also examines how yeast could play a more prominent role in explaining a wine's taste. The assumption is that claims about soil impact lack scientific credibility compared to yeast and that there is potential for yeast in marketing.

Methodology

In order to research the subjects, scientific literature, wine journalism, podcasts and wine marketing sites were reviewed by using online search engines and Google scholar. Furthermore, brainstorming was performed in tasting groups and a marketing professional was consulted.

Content

Soil's role on wine structure, flavours and aroma's

Soil impacts wine indirectly through water retention, drainage, and nutrient availability, affecting grape composition and structural elements like body and acidity. Three primary soils are analysed:

Clay: Retains water and nutrients and is linked to bold, structured wines with earthy notes, though scientific evidence for direct flavour transfer is lacking.

Sandy: Poorly stores nutrients and water and promotes light-bodied, aromatic wines with bright fruit profiles.

Limestone: Balances water retention and drainage, is associated with high acidity and often linked to the much debated taste 'minerality', a term lacking scientific grounding.

Research confirms no direct link between soil minerals and specific flavours. Structural impacts stem from soil texture and water dynamics rather than taste transfer.

Yeast's influence on wine structure, flavours and aromas

Yeast directly shapes wine aromas and flavours through enzymatic processes, extraction of flavours from grape solids during and after fermentation and by adding flavours after they die.

Important findings concern the following:

Commercial Strains: Strains like *Saccharomyces cerevisiae* reliably ferment wines and enhance specific aromas (e.g., citrus in Sauvignon Blanc via Lalvin QA23).

Ambient Yeast: Wild strains contribute regional complexity, with studies showing distinct phenolic and aromatic profiles in wines using local yeast.

Market Growth: The yeast market (\$2.1B in 2024) reflects demand for tailored strains and shows growth. Yet wine writers and marketers underemphasizes yeast importance compared to soil.

Marketing Proposal

The thesis advocates rebranding yeast using Keller's Customer-Based Brand Equity model with the main goal of elevating yeast to the status of terroir and soil by building it as brand. The model is shaped like a pyramid with four levels building on top of each other.

Brand Identity: Yeasts need to gain formal recognition. For instance by changing its name to for instance "microbial winemakers" and by creating "Yeast Heritage" certifications to parallel terroir.

Brand Meaning: Educate consumers via storytelling (e.g. yeast "avatars") and highlight strain-specific impacts (e.g. tropical notes from exotic SPH yeast).

Brand Response: Engage consumers through subscription boxes, limited editions, and personalized yeast selected batches.

Brand Resonance: Create a 'yeast connoisseur' community and integrate yeast discussions into wine criticism and social media.

Conclusion

While soil influences wine structure, yeast's scientifically proven role in aroma and flavour creation remains undervalued. Transparent yeast focused marketing could enhance consumer understanding and offer wineries and yeast companies new differentiation avenues.