

YEASTS IN WINERY FERMENTATIONS DURING FIVE YEARS OF SAMPLING

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The objective of this study was to describe the commercial and indigenous yeast strains in both inoculated and spontaneous Pinot Noir and Chardonnay fermentations at multiple wineries in the Okanagan Valley.

These results were also reflected in the spontaneous fermentations that were conducted at the same wineries. The spontaneous fermentations were dominated by commercial, rather than indigenous, *S. cerevisiae* strains. This was observed at all wineries studied as well as with fermentations of different varieties (Figure 1, taken from Scholl et al., 2016). The spontaneous fermentations had a larger indigenous *S. cerevisiae* presence than the inoculated fermentations (data not shown), but the dominant strains were still commercial ADY strains used previously at their respective wineries.

The trend of having commercial strains dominating at the end stage of spontaneous fermentations was observed for all years sampled.

The finding that spontaneous fermentations were composed of predominantly commercial strains used concurrently or previously at the winery indicates that the commercial strains are likely aggressive towards indigenous *S. cerevisiae*, and potentially against spoilage yeasts, since no spoilage organisms were detected in any of the fermentations sampled over the five vintages.

Our results suggest that using a variety of commercial *S. cerevisiae* strains may be a way for wine-makers to increase the diversity of strains involved in their fermentations, while still mitigating the risks of stuck and spoiled fermentations that can accompany spontaneous fermentations.

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Prijevod: GOOGLE TRANSLATOR (bez mojih intervencija)

KVASCI U VINU FERMENTACIJE ZA VRIJEME OD PET GODINA OD UZIMANJE UZORAKA

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Cilj ove studije bio je opisati komercijalne i autohtone sojeve kvasca u inokuliranim i spontanim fermentacijama Pinota Noira i Chardonnaya u više vinarija u dolini Okanagan.

Ti su se rezultati odrazili i na spontane fermentacije koje su provedene u istim vinarijama. U SPONTANIM FERMENTACIJAMA DOMINIRALI SU SOJEVI S. CEREVISIAE, A NE AUTOHTONI. TO JE UOČENO U SVIM PROUČAVANIM VINARIJAMA, KAO I FERMENTACIJAMA RAZLIČITIH SORTI (Slika 1, preuzeta od Scholl i sur., 2016). Spontane fermentacije imale su veću autohtonu populaciju *S. cerevisiae* u odnosu na inokulirane fermentacije (podaci nisu prikazani), ali dominantni sojevi su i dalje bili komercijalni ADY sojevi prethodno korišteni u njihovim vinarijama.

Trend uzorka komercijalnih sojeva koji su dominirali u krajnjoj fazi spontanih fermentacija promatran je svih godina uzorkovanja.

Otkriće da su spontane fermentacije sastavljene od pretežno komercijalnih sojeva korištenih istodobno ili ranije u vinariji, pokazuje da su komercijalni sojevi vjerovatno agresivni prema autohtonim *S. cerevisiae* i potencijalno protiv kvarećih kvasaca, jer u nijednom od kvarenja nisu otkriveni organizmi fermentacije uzorkovane tijekom pet berbi.

Naši rezultati sugeriraju da upotreba različitih komercijalnih sojeva *S. cerevisiae* može biti proizvođačima vina način da povećaju raznolikost sojeva uključenih u njihove fermentacije, istovremeno ublažujući rizike zaglavljenih i pokvarenih fermentacija koji mogu pratiti spontane fermentacije.