

PINNACLE™ BREWERS YEAST

Why Pinnacle Low Alcohol?



■ Flavor and body

- Reduces warty aldehydes
- Non-phenolic
- Accentuates hop character

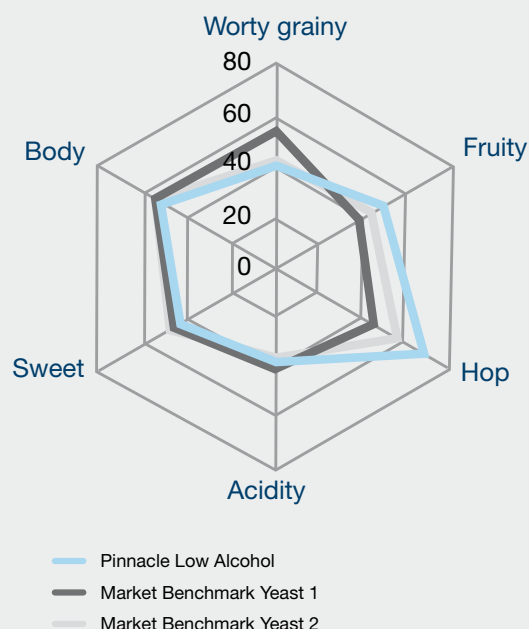
■ Maltose-negative yeasts are more economical and sustainable

- Requires less malt with target OG between 4-6dP
- Avoids energy-intensive vacuum distillation
- Eliminates need for high water-use membrane de-alcoholization

■ No upfront investment in alcohol removal equipment

- Achieves <0.5% ABV without alcohol removal systems
- Ideal for brewers looking to expand into low-alc with minimal capital investment

■ Non-GMO



SCAN TO DISCOVER MORE >>>



for **Craft Brewers** from craft beer lovers

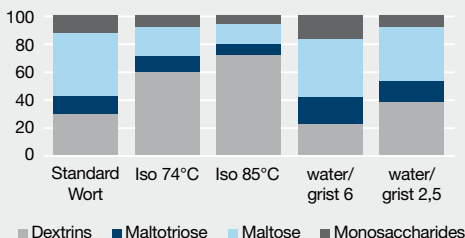
AB Biotek
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Best Practices for Pinnacle Low Alcohol

Hotside

- ✓ Mash to favor dextrins over maltose
 - Mashing thicker: water to grist ratio of 2.5 L/kg
 - Mashing higher: 165–185°F (74–85°C)
- ✓ Experiment with specialty and adjunct malts for flavor and body
- ✓ Increase percentage of dextrin malts to build body and foam
- ✓ Maintain a pH between 5.1–5.4 during lautering to avoid astringency
- ✓ Keep bitterness in check. Near beers won't support a hefty kettle addition
- ✓ Knockout at 4–6° Plato to target <0.5% ABV
- ✓ Acidify wort to 4.8–5.0 before transferring to fermenter
- ✓ Skip oxygenation when using first-generation dry yeast - it's not required

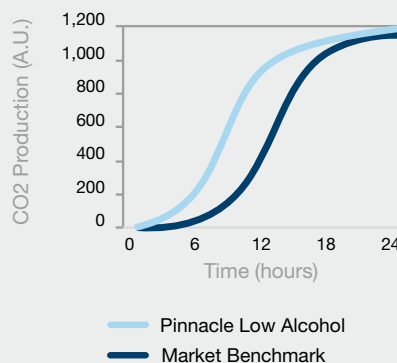
Wort Sugar Composition



Coldside

- ✓ Lower pitch rate (50g/hL) due to limited fermentation, but avoid under-pitching to prevent spoilage or worty aldehydes
- ✓ Expect attenuation of 12–18%, depending on the mashing and original gravity
- ✓ Crash cool after initial fermentation period (4 days)
- ✓ Dry hop at colder temperatures to minimize hop creep and microbial growth
- ✓ Prevent cross-contamination. Brewing yeast will readily out compete a maltose-negative strain, so be extra vigilant
- ✓ Avoid re-pitching or propagation
- ✓ Take caution when crash cooling - low-alcohol beers are more prone to freezing

Fermentation Progression



Food Safety

- ✓ Pasteurization is required to ensure product stability
- ✓ Follow good manufacturing practices throughout production
- ✓ Target a finishing pH below 4.6 (ideally a pH of 4.2) to prevent growth of food-borne pathogens
- ✓ Minimize warm hold times post-fermentation to reduce spoilage risk
- ✓ Some preservatives can be effective but require validation for use in low and no alcohol beer
- ✓ Draft service requires extra care - when serving non-alcoholic beer on draft, specific draft systems have been developed to minimise food safety concerns
- ✓ Consult with a food process authority and ensure you have a robust food safety plan in place

Microbial Barriers in Low Alcohol Beer

