

TIPS FROM THE PITCH

LAGERS

Beloved for their clean, crisp, and ultra-drinkable profiles, lagers are the most widely brewed beer in the world. Craft your best lager with these tips and tricks from Lager Pros.

1 PITCH RATE MATTERS

- ▶ **Industry Standard is 1.5 - 2 million cells/mL/°Plato**
This refers to the rate of cells needed for repitching after harvesting yeast from a previous beer and is a good rule of thumb.
- ▶ **Starting gravity affects pitch rates**
 - Up to 15 Plato = 1.5 million cells/mL/°Plato
 - > 15 Plato = 2 million cells/mL/°Plato

Lab grown yeast like PurePitch® Next Generation is usually pitched at a lower rate due to its glycogen levels, viability, and overall health. You will typically see a range of 7 - 15 million cells/mL with lab grown yeast.

2 TRADITIONAL METHOD

Lager purists prefer the traditional method of fermentation - knocking out and fermenting at lagering temperatures. Due to the cooler temperatures for the yeast, higher pitch rates are required for successful fermentation. The lower temperatures result in slower fermentation, with less metabolites (flavor & aroma compounds), creating complexity and a clean, crisp beer.

- Start fermentation between **8-12°C (48-55°F)**
- Free rise to **18°C (65°F) at 50-60% attenuation** until diacetyl rest is complete (about 2-6 days)
- Once fermentation at or near terminal, cool **2-3°C (4-5°F)** per day until hitting lager temperature of **2°C (35°F)**, collect flocculated yeast

PRO TIP: If you want to adhere to Czech-style tradition, don't exceed fermentation temperatures for diacetyl rest and condition the beer longer at the same temperatures. Ferment cooler and longer when you can for the most delicate flavor profiles.

- ▶ **Temperature of fermentation affects pitch rates**

- **Pitch at warm temperatures** then lower to fermentation temperature after 12 hours = Ale Recommended Pitch Rates (1.0 million cells/mL/°Plato)
- **Pitch at cold temperatures** = Lager Recommended Pitch Rates (2 million cells/mL/°Plato)

To customize your pitch with PurePitch® Next Generation visit [Yeastman.com/calculator](https://yeastman.com/calculator)



3 WARM PITCH METHOD

This method relies on warm yeast pitching temperatures to promote a stronger fermentation and more quickly achieve finished beer. It is a popular method in many craft breweries, allowing for less yeast and shorter fermentation times while still producing great lagers.

GET MORE DETAILS ON REPITCHING & GETTING THE MOST VALUE

- Start fermentation between **15-18°C (60-65°F)** and maintain until signs of fermentation are evident, usually within 12 hours (CO₂ production or pH decrease)
- After 12 hours of fermentation, slowly lower the temperature to **8-12°C (48-55°F)** to limit ester production
- Free rise to **18°C (65°F) at 50-60% attenuation** until diacetyl rest is complete (about 2-6 days)
- Cool **2-3°C (4-5°F)** per day until hitting lager temperature of **2°C (35°F)**, collect flocculated yeast

PRO TIP: Pitching warm allows for shorter lag times and an earlier growth phase.

- After 12 hours of fermentation, most ester formation is created within the first 12-72 hours of growth phase and slows when the fermentation temperature is lowered.
- By pitching warm and quickly lowering the temperature, cell growth and maintaining a clean beer profile can be achieved.



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4 “FAST” LAGERS

Modern brewers are finding new ways to produce lagers, including “fast” or “pseudo” lagers, which are untraditional but result in clean, lager-like profiles.

► Pseudo Lagers

“Pseudo” lagers fermented with Kveik strains have gained popularity for their ability to ferment fast, at ale temperatures, and for their crisp lager profile. Brewed like an ale, tastes like a lager.

[READ MORE ABOUT OUR R&D BREWING LAGERS WITH KVEIK YEAST.](#)

5 PRODUCTS FOR LAGERS

► Lager Yeast Strains

- WLP800 Pilsner Lager Yeast
- WLP802 Czech Budejovice Lager Yeast
- WLP810 San Francisco Lager Yeast
- WLP820 Oktoberfest/Marzen Lager Yeast
- WLP833 German Bock Lager Yeast
- WLP838 Southern German Lager Yeast
- WLP840 American Lager Yeast
- WLP850 Copenhagen Lager Yeast
- WLP860 Munich Helles Lager Yeast
- WLP925 High Pressure Lager Yeast
- WLP940 Mexican Lager Yeast

► Alternative Yeast Strains

- WLP518 Opshaug Kveik Ale Yeast
- WLP521 Hornindal Kveik Ale Yeast
- WLP1983 Charlie’s Fist Bump Yeast
- WLP4030 Franconian Dark Lager Yeast
- WLP4035 Hessian Pils Lager Yeast
- WLP4061 Rhine Kolsch Ale Yeast

SPUND FOR FUN

► High Pressure Lager

Fermenting under pressure is a way to quicken fermentation timelines by fermenting hotter without the usual risk of “off-flavors”. Pressure reduces yeast growth which reduces metabolite production and inhibits some Acetyl-CoA formation.

[READ ABOUT WLP925 HIGH PRESSURE LAGER YEAST](#)

[MBAA PODCAST: UNDER PRESSURE](#)

► Yeast can be repitched but always check viability

- Start fermentation between **18-20°C (65-68°F)**
- Set spunding valve to 1 bar (15psi)
- Once terminal gravity is hit cool **2-3°C (4-5°F)** per day until hitting lager temperature of **2°C (35°F)**
- May allow for a warmer fermentation temperature with reduced metabolite production
- Pressure reduces yeast growth
- Less yeast growth can result in lower esters



PRO TIP: Beer under pressure clears slower, so use finings or a more flocculent strain.



PRO TIP: Want to double batch your High Pressure Lager? Don’t set the spund valve until the full batch of wort is added.

PRODUCT	APPLICATION
WLE4000 Clarity-Ferm	Used for gluten reduction and chill haze reduction. Add to cooled wort at the beginning of fermentation.
WLE4100 Ultra-Ferm	Amylogucosidase used to increase the breakdown of dextrins to glucose. Add in mash.
WLE4900 Brewzyme-D	Prevent the formation of diacetyl during fermentation.
WLN1000 White Labs Yeast Nutrient	Our classic White Labs Yeast Nutrient is an effective boost for first and/or late generation yeast slurries which increases the health of yeast and improves fermentation and re-pitching performance. Add 5-10 minutes at the end of boil.
WLN2000 FANMaxBio™ Yeast Nutrient	An all-organic version of nutrients, FANMax Bio™, is great for providing the necessary nutrients and nitrogen needed for healthy fermentations. A great product for deficient nitrogen fermentations such as kombucha, wine, or cider. Add 5-10 minutes at the end of boil.
WLN3500 Servomyces	Servomyces is an organic yeast nutrient that contains naturally zinc enriched yeast hulls. Used to shorten beer maturation timelines by being a cofactor in alcohol dehydronase. Add 5-10 minutes at the end of boil.
WLN4700 Zinc Buddy™	Sterile & Ready-to-use, Cold-side Zinc Solution for Improved Yeast Health and Better Fermentations.

ENZYMES

NUTRIENTS