Northern German Pilsner
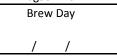
Well balanced and easy to drink. Restrained malt and hop profiles. Great go to session beer.

Original Gravity :	1.056	**IBUs :**	36	**Color :** Copper
Pre-Boil Gravity :	1.052	**ABV%:**	5.7%	
Final Gravity :	1.012			**Difficulty :** Advanced
Ingredients Included :	Grains & Hops			**Additives :**

Mash Techniques:	Grain Bill:
Single Infusion: 152 °F Until Conversion (*Usually 60 Minutes*) Kettle Mash Tun: Mashout to 170° then Sparge with 170° Water Cooler Mash Tun: Sparge with 190° - 200° Water	10 Lbs German Pilsner 1 Lb Munich

Boil/Bittering Hops :	Flavor Hops:	Aroma Hops :	Knock - Out Hops :	Dry Hops :
7.5 HBU Perle 60 Minutes	0.5 oz Tettnang 15 minutes	0.5 oz Tettnang 5 minutes		

YEAST:	White Labs 011 European Ale, Whitelabs 830 German Lager, Wyeast 1007 German Ale, Wyeast 2206 Bavarian Lager

Basic All Grain Brewing Method. Advanced Brewing Knowledge is Needed.

Have an understanding of lagering techniques and equipment, as well as advanced brewing principles such as diacetyl rests before attempting an all grain lager recipe. We recommend doing a Yeast starter with all Lagers.

This Brewing Technique uses a Boil Kettle and "Cooler" Mash Tun.

1. Clean and assemble your mash tun. Add 1 QT 180°F water for Every LB of grain to be mashed (Add Water First). By adding water first, you will pre-heat your mash tun. Stir water until your temperature hits 170°F. It is now time to add your CRUSHED grains to the cooler. Gently dough grains in until all grain is covered by water. Place lid on and continue to step #2.

2. After 10 minutes you can check your temperature. You will be between 149°F and 156°F assuming you measured your water and grains correctly. Replace lid and "Mash" for 1 hour. Start to heat your sparge water at this point. You will need enough 200°F water for your expected final volume (5 gallons if you want five gallons of brew).

3. After mashing for one hour, you will want to check for conversion of starch to sugar. This will be done by placing a small amount of grain free wort on a white plate or bowl. Add one drop of "Tincture of Iodine" to the wort. If it quickly disappears or stays/remains red, you are ready to move on to step #4. If the iodine turns black, starch is still present, return the lid and run a few test. Calibrate your thermometer. Recheck the temperature of the mash. If both are accurate, do another iodine test every 20 minutes until conversion is complete.

4. Conversion is now complete. Slowly drain 1/2 gallon of wort and pour it back on top of your mash. This process (Vorlauf) is used to clear your wort. You may need to run more than 1/2 gallon. When wort is clear, sparging is your next process. Sparging is no more than rinsing the sweet wort from the grains in your mash tun. You will want to gently pour 200°F water over your grains (try to keep an inch or so of clean water on top of the grain bed). SLOWLY collect your wort from the spigot at the bottom of your mash tun. This process should take ONE HOUR. If this is rushed, your gravity will be low...take your time!

5. After ONE HOUR and you have collected enough wort, it is time to start your boil. Keep in mind you will lose approximately 15% of your boil due to evaporation. If you want five gallons of beer, start with six gallons of wort. You are now on familiar ground. You will simply add your hops as scheduled in the recipe. No need to add specialty grains, they were in your mash. Be sure to add your wort chiller and Irish Moss for the last 15 minutes of the boil.

6. You've made it this far and only have the basics left. Chill your wort as quickly as possible. Add your wort to a clean, sanitized fermentor. Aerate your wort aggressively and pitch your yeast. You are all grain beer brewing, so I hope you are building yeast starters at this point.

7. After fermentation and bottling/kegging, be sure to bring us a sample. With all of this hard work, we know you will want a quick critique of your final product...and God knows I deserve one for typing this up for you.

ABV% Calculator				
_____	—— _____	X 131.25	=	_____
Original Gravity	Finishing Gravity			Alcohol by Volume %