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|-----------------------|------------------------------------|---|
| IBU's: 17             | OG:<br>1.041-<br>1.043             | FG: :<br>1.008-<br>1.010  |
| ABV:<br>4.1%-<br>4.6% | Ferm<br>Temp:<br><b>46°- 56° F</b> |  |

### Glossary

OG – Original Gravity

FG – Final Gravity

DME – Dried Malt Extract

LME – Liquid Malt Extract

ABV – Alcohol by Volume

IBU – International Bittering Units

### Included Equipment

Muslin Hop Bag Muslin Grain Bag

### Recommended Brew Day Equipment

4 Gal. Brew Pot      6.5 Gal. Fermenter  
Hydrometer              Thermometer  
Long Spoon or Paddle      Cleanser  
Sanitizer                      Airlock

### Recommended Bottling Day Equipment

Bottling Bucket      12 oz. Bottles (appx. 53)  
Siphon Setup              Bottle Brush  
Bottle Filling Wand      Bottle Caps  
Capper                      Sanitizer

### ABV% Calculator

$(OG - FG) \times 131.25 = ABV\%$

$(\text{___}^* - \text{___}^{**}) \times 131.25 = \text{___}\%$

\*OG from Step #8

\*\*FG from Step #10

### INGREDIENTS

#### FERMENTABLES

3.3 lb. Can Pilsen Light LME

1.0 lb. Avangard Pilsen (Packaged with specialty grains)

#### SPECIALTY GRAINS

2.0 lb. Flaked Rice

0.75 lb. Flaked Maize

#### HOPS

0.34 oz Mt. Hood (Bittering)

0.33 oz Mt. Hood (Flavoring)

0.33 oz Mt. Hood (Finishing)

FININGS 1 tsp. Irish moss

#### YEAST

Imperial Global L13  
(Recommended)

### Recommended Procedures

BREW DAY (Date \_\_\_/\_\_\_/\_\_\_)

1. READ: Read all of the recommended procedures before you begin.

2. ACTIVATE YEAST: If using Wyeast liquid yeast, activate the yeast at least 5 hours prior to pitching.

3. SANITIZE: Thoroughly clean and sanitize ALL brewing equipment and utensils that will come in contact with any ingredients, wort or beer.

4. STEEP GRAINS: Place enough water into a pot to cover specialty grains. Heat to **150°**. Pour crushed grains into grain bag and tie a loose knot at the top of the bag<sup>1</sup> and place in water. Steep for 30 minutes. **DO NOT BOIL THE GRAINS**. Remove bag and allow it to drain into the pot (do not squeeze). Sparge (slowly run water through) the grains with 2 gallons of 168° water. Discard the grain filled bag. Your water is now wort.

5. START BOIL: If needed, add enough water to bring to 3 gallons. Bring your wort to a gentle, rolling boil. **Add the malt extract**<sup>2</sup>. Continuously stir the

extract into the wort as it returns to a gentle, rolling boil<sup>3</sup>.

6. ADD HOPS AND INGREDIENTS<sup>4</sup>: Place hops the provided hop bag and clip to the side of the pot. Do not tie shut as the same bag will be used for each hop addition. Be careful not to let the wort boil over the pot. Using the provided **BREW DAY SCHEDULE**, note the time the bittering hops were added. Continue the gentle, rolling boil.

### BREW DAY SCHEDULE

1. Add bittering hops \_\_\_:\_\_\_ (time)
2. Boil 30 minutes
3. Add flavoring hops \_\_\_:\_\_\_ (time)
4. Boil 15
5. Add Irish moss \_\_\_:\_\_\_ (time)
6. Boil 5 minutes
7. Add finishing hops \_\_\_:\_\_\_ (time)
8. Boil 10 minutes
9. Terminate boil \_\_\_:\_\_\_ (time)

Total Boil Time: 60 Minutes - Continue to Step #7

7. COOL WORT & TRANSFER: Cool the wort down to approximately 70°F by placing the brew pot in a sink filled with ice water<sup>5</sup>. Pour or siphon wort into a sanitized fermenter. Avoid transferring the heavy sediment (trub) from the brew pot to the fermenter.

8. ADD WATER: Add enough clean water (approx. 64° - 72°F) to the fermenter to bring your wort to approximately 5 gallons. Thoroughly stir the water into the wort. Be careful not to add a volume of water that will cause the wort to fall outside of the OG range specified in the BREW STATS<sup>6</sup>. Once you are satisfied your wort is at the proper volume and within the OG range, record the OG in the ABV% CALCULATOR (bottom right on page 1).

9. PITCH YEAST: If using liquid yeast open package and pour over the top of the wort surface. If using a dry yeast sprinkle the contents of the yeast sachet over top of the entire wort. Firmly secure the lid onto the fermenter. Fill your airlock halfway with water and gently twist the airlock into the grommeted lid. Move

fermenter to a dark, cool, temperature stable area (approx. 46° - 56° F). *The yeast included with this kit is a lager yeast and ferments best at cool temperatures. If you cannot ferment at a cool temperature, please ask a High Gravity salesperson for a suitable substitute.*

#### FERMENTATION

10. **MONITOR & RECORD:** The wort should begin to ferment within 48 hours, and you will notice CO<sub>2</sub> releasing (bubbling) out of the airlock. Lager yeasts will ferment at a significantly slower rate and will take between 14-21 days to ferment completely. 10

Fermentation may be so slow that airlock activity towards the end might not be evident. The best way to determine if the beer is finished fermenting is to take a hydrometer reading at least 4 days apart. If the reading is close to the final target and hasn't changed, then fermentation is complete. Record the FG your ABV% CALCULATOR.

#### BOTTLING DAY (DATE \_\_ / \_\_ / \_\_)

11. **READ:** Read all of the recommended procedures before you begin.

12. **SANITIZE:** Thoroughly clean and sanitize ALL brewing equipment and utensils that will come in contact with any ingredients, wort or beer.

13. **PREPARE PRIMING SUGAR:** In a small saucepan dissolve priming sugar into 2 cups of boiling water for 5 minutes. Pour this mixture into a clean bottling bucket. Carefully siphon beer from the fermenter to a bottling bucket. Avoid transferring any sediment. Stir gently for about a minute.

14. **BOTTLE:** Using your siphon setup and bottling wand, fill the bottles<sup>8</sup> to within approximately one inch of the top of the bottle. Use a bottle capper to apply sanitized crown caps.

15. **BOTTLE CONDITION:** Move the bottles to a dark, warm, temperature-stable area (approx. 64° - 72°F). Over the next two weeks the bottles will naturally carbonate. Carbonation times vary depending on the

#### BIAB Instructions

Mash 7.25 lbs Avangard Pilsner Malt with specialty grains in 30 quarts of water to get a single infusion mash of 150° F for 60 minutes. Remove grains and drain. Bring to boil and follow the BREW DAY SCHEDULE.

#### All Grain Instructions

Mash 5.5 lbs Avangard Pilsner Malt with specialty grains in 10.25 quarts of water to get a single infusion mash of 150° F for 60 minutes. Sparge with hot water of 170° F to get 6 gallons of wort. Bring to boil and follow the BREW DAY SCHEDULE.

#### Optional Two-Stage (Secondary) Fermentation

All you need is a 5 Gal carboy, drilled stopper, airlock and siphon setup to transfer the beer. You will also need to monitor and record the SG with your hydrometer when the beer is in the 'primary'. When the fermentation slows (5-7 days), but before it completes, simply transfer the beer into the carboy and allow fermentation to finish in the 'secondary'.

(SECONDARY RACK DATE \_\_ / \_\_ / \_\_)

#### BREW TIPS

<sup>1</sup>The grains should not be compacted inside the bag. Grains should steep loosely allowing the hot water to soak into all of the grain evenly.

<sup>2</sup>Run LME under hot water to allow the extract to pour easier.

<sup>3</sup>Pay careful attention that the extract does not accumulate and caramelize on the bottom of your brew pot.

<sup>4</sup>When consumed, hops can cause malignant hyperthermia in dogs, sometimes with fatal results.

<sup>5</sup>To avoid bacteria growth cool as rapidly as possible. Do not add ice directly to the wort. Alternatively, you can use a brewing accessory like a Wort Chiller.

<sup>6</sup>Use a sanitized hydrometer while adding water to monitor the SG.

<sup>7</sup>Consider transferring your beer to a secondary carboy see "Two-Stage (Secondary) Fermentation" see sidebar.

<sup>8</sup>Make sure bottles are thoroughly clean. Use a bottle brush if necessary to remove stubborn deposits. Bottles should be sanitized prior to filling.

<sup>9</sup> The yeast included with this kit is a lager yeast and ferments best between 45° and 50°. If you cannot ferment at this temperature, please ask a High Gravity sales person for a suitable substitute.

<sup>10</sup> It's recommended to perform a Diacetyl Rest for fermenting lagers. When the beer is approximately 70% complete in its fermentation, ramp the temperature to 65° - 70° F for at 2 days. This will help prevent diacetyl (butter flavors) from forming.

temperature and beer style, so be patient if it takes a week or so longer.