# The League "The Beeper" (AG)

Belgian IPA (21 B)

***Type:*** All Grain
***Batch Size:*** 23.00 L
***Boil Size:*** 28.50 L
***Boil Time:*** 60 min
***Final Bottling Vol:*** 22.00 L
***Fermentation:*** Belgian Ale

***Date:*** 11 Feb 2019
***Efficiency:*** 75.00 %
***Est Mash Efficiency:*** 81.5 %



***Brewing Notes:***
This beer is fermented at higher temperatures than typical ales. The higher fermentation temperatures are required to ensure maximum flavour contribution from the yeast and ensure complete attenuation.

1. If flavour minerals are available, add to boil only as mash pH taken care of with acid malt.
2. Add the whirlpool hops at the start of cooling down the wort (e.g., when the cooling water is applied to the wort chiller).
3. Pitch at 18C and keep as close to this temperature as possible for 3 days. After 3 days, let rise up to a maximum of 25C and hold until fermentation is complete. If possible, cold crash for a few days before packaging and let age for a minimum of 2 weeks.
4. Carbonate to 2.6 volumes of CO2.

## Water Prep

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 6.80 g | Gypsum (Calcium Sulfate) (Mash) | Water Agent | 1 | - | - |
| 3.40 g | Calcium Chloride (Mash) | Water Agent | 2 | - | - |

## Mash or Steep Grains

### Mash Ingredients

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 4.000 kg | Pilsner (Weyermann) (4.5 EBC) | Grain | 3 | 74.1 % | 2.61 L |
| 0.800 kg | Gladfield Vienna Malt (6.8 EBC) | Grain | 4 | 14.8 % | 0.52 L |
| 0.400 kg | Gladfield Aurora Malt (58.0 EBC) | Grain | 5 | 7.4 % | 0.26 L |
| 0.200 kg | Gladfield Sour Grapes Malt (acid malt) (4.0 EBC) | Grain | 6 | 3.7 % | 0.13 L |

### Mash Steps

| Name | Description | Step Temperature | Step Time |
|---|---|---|---|
| Saccharification | Add 18.08 L of water at 70.1 C | 65.0 C | 60 min |
| Mash Out | Heat to 76.0 C over 10 min | 76.0 C | 10 min |

Fly sparge with 15.83 L water at 76.0 C
Add water to achieve boil volume of 28.50 L
Estimated pre-boil gravity is 1.047 SG

## Boil Ingredients

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 30.00 g | Rakau (Alpharoma) [9.00 %] - Boil 60.0 min | Hop | 7 | 28.8 IBUs | - |
| 20.00 g | Rakau (Alpharoma) [9.00 %] - Boil 30.0 min | Hop | 8 | 16.3 IBUs | - |

## Steeped Hops

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 50.00 g | Pacifica [4.50 %] - Steep/Whirlpool 30.0 min, 80.0 C | Hop | 9 | 4.1 IBUs | - |
| 50.00 g | Wai-iti [1.40 %] - Steep/Whirlpool 30.0 min, 80.0 C | Hop | 10 | 1.3 IBUs | - |
| 30.00 g | Mandarina Bavaria [7.60 %] - Steep/Whirlpool 30.0 min, 80.0 C | Hop | 11 | 4.2 IBUs | - |

Estimated Post Boil Vol: 26.00 L and Est Post Boil Gravity: 1.054 SG

## Cool and Transfer Wort

Cool wort to fermentation temperature
Transfer wort to fermenter
Add water if needed to achieve final volume of 23.00 L

## Pitch Yeast and Measure Gravity and Volume

### Fermentation Ingredients

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 2.0 pkg | Belgian Abbey (Mangrove Jack's #M47) | Yeast | 12 | - | - |

Measure Actual Original Gravity _____ (Target: 1.054 SG)
Measure Actual Batch Volume _____ (Target: 23.00 L)

## Fermentation

11 Feb 2019 - Primary Fermentation (3.00 days at 18.0 C ending at 18.0 C)
14 Feb 2019 - Secondary Fermentation (2.00 days at 18.0 C ending at 25.0 C)
16 Feb 2019 - Tertiary Fermentation (10.00 days at 25.0 C ending at 25.0 C)

## Dry Hop and Bottle/Keg

### Dry Hop/Bottling Ingredients

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 70.00 g | Mandarina Bavaria [7.60 %] - Dry Hop 5.0 Days | Hop | 13 | 0.0 IBUs | - |
| 50.00 g | Pacifica [4.50 %] - Dry Hop 5.0 Days | Hop | 14 | 0.0 IBUs | - |
| 50.00 g | Wai-iti [1.40 %] - Dry Hop 5.0 Days | Hop | 15 | 0.0 IBUs | - |

Measure Final Gravity: _____ (Estimate: 1.010 SG)
Date Bottled/Kegged: - Carbonation: Bottle with 129.40 g Corn Sugar