# The League "Phazers" NEIPA (PE)

Specialty IPA (21 B)

***Type:*** Partial Mash
***Batch Size:*** 23.00 L
***Boil Size:*** 7.00 L
***Boil Time:*** 10 min
***Final Bottling Vol:*** 21.49 L
***Fermentation:*** Ale, Two Stage

***Date:*** 19 Aug 2021
***Efficiency:*** 55.00 %
***Est Mash Efficiency:*** 59.5 %



***Brewing Notes:***
There is no boil hop addition with all bitterness coming from the 30 min steep/whirlpool hops. This is a challenging beer to make, when adding the dry hops and once fermentation is complete, any exposure to oxygen will impact the beer flavour, aroma and shelf life. This recipe also uses a large amount of dry hops so suggest using hop bags for the dry hop additions.

The large dry hop additions should cause some 'dry hop creep' which will result in additional fermentation of previously unfermentable sugars. A lower FG and higher ABV than is predicted can be expected.

The suggested mineral additions assume an average NZ water profile and should be fine for most NZ water sources. The target water profile in ppm is Ca - 110, Mg - 10, Na - 10, SO4 - 75, Cl - 150.

1. Heat 6L of water to 71C, remove from heat, add grains mixing thoroughly, cover and let steep for 30 min.
2. When complete, remove grains and rinse with 3L of warm water, resulting boil volume should be 7L.
3. If flavour minerals are available, add to boil. Boil for 10 min, remove from heat, add steep/whirlpool hops, cover and let stand for 30 min.
4. Dissolve the LME as normal.
5. Strain out hops, add liquid to the LME mixture, and top up to 23 L.
6. It is recommended that the yeast be rehydrated per the manufacturer's instructions. Pitch at 18C and let rise to 20C over 48 hours.
7. After 3 days, add the first dry hop addition.
8. Add second dry hop addition near end of fermentation and raise the temp to 22C for a diacetyl rest.
9. Ferment for another 3-5 days to ensure full attenuation and diacetyl removal by the yeast.
10. Once fermentation is complete, lower the temperature to 2C and hold for 2 - 3 days prior to packaging.
11. Use care to minimize or eliminate exposure to oxygen during dry hopping, cold crashing and packaging.
12. Carbonate to 2.5 - 2.7 volumes of CO2.
13. For peak flavour and aroma, this beer is best consumed fresh.

## Mash or Steep Grains

### Mash Ingredients

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 0.900 kg | Harraway's Rolled Oats (2.8 EBC) | Grain | 1 | 19.1 % | 0.59 L |
| 0.675 kg | Gladfield American Ale Malt (4.7 EBC) | Grain | 2 | 14.4 % | 0.44 L |
| 0.300 kg | Warminster Caragold (7.9 EBC) | Grain | 3 | 6.4 % | 0.20 L |
| 0.125 kg | Gladfield Sour Grapes Malt (4.0 EBC) | Grain | 4 | 2.7 % | 0.08 L |

## Mash Steps

| Name | Description | Step Temperature | Step Time |
|---|---|---|---|
| Mash Step | Add 6.00 L of water and heat to 71.0 C over 0 min | 71.0 C | 30 min |

◯ Add water to achieve boil volume of 7.00 L
◯ Estimated pre-boil gravity is 1.051 SG

## Boil Ingredients

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 10.00 g | Calcium Chloride (Boil) | Water Agent | 5 | - | - |
| 4.40 g | Gypsum (Calcium Sulfate) (Boil) | Water Agent | 6 | - | - |

## Steeped Hops

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 70.00 g | HORT 4337 [11.00 %] - Steep/Whirlpool 30.0 min, 90.0 C | Hop | 7 | 29.2 IBUs | - |
| 50.00 g | Galaxy [13.60 %] - Steep/Whirlpool 30.0 min, 90.0 C | Hop | 8 | 25.7 IBUs | - |

◯ Estimated Post Boil Vol: 6.86 L and Est Post Boil Gravity: 1.050 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 |
|---|---|---|---|---|---|
| 1.500 kg | Pure Liquid Malt Extract - Wheat (MJ) [Primary] (6.0 EBC) | Extract | 9 | 31.9 % | 1.06 L |
| 1.200 kg | Light Pure Liquid Malt Extract (MJ) [Primary] (6.5 EBC) | Extract | 10 | 25.5 % | 0.84 L |
| 2.0 pkg | SafAle English Ale (DCL/Fermentis #S-04) [0.02 L] | Yeast | 11 | - | - |

◯ Measure Actual Original Gravity _____ (Target: 1.050 SG)
◯ Measure Actual Batch Volume _____ (Target: 23.00 L)

## Fermentation

◯ 19 Aug 2021 - Primary Fermentation (2.00 days at 18.0 C ending at 18.0 C)
◯ 21 Aug 2021 - Secondary Fermentation (12.00 days at 20.0 C ending at 20.0 C)

## Dry Hop and Bottle/Keg

### Dry Hop/Bottling Ingredients

| Amt | Name | Type | # | %/IBU | Volume |
|---|---|---|---|---|---|
| 65.00 g | HORT 4337 [11.00 %] - 3.0 Days Into Primary for 4.0 D… | Hop | 12 | 0.0 IBUs | - |
| 25.00 g | Galaxy [13.60 %] - 3.0 Days Into Primary for 4.0 Days | Hop | 13 | 0.0 IBUs | - |
| 65.00 g | HORT 4337 [11.00 %] - 5.0 Days Before Bottling for 5.0… | Hop | 14 | 0.0 IBUs | - |
| 25.00 g | Galaxy [13.60 %] - 5.0 Days Before Bottling for 5.0 Days | Hop | 15 | 0.0 IBUs | - |

◯ Measure Final Gravity: _____ (Estimate: 1.014 SG)
◯ Date Bottled/Kegged: - Carbonation: Bottle with 118.78 g Forced Carbonation