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Let's Brew Small

James Spencer

Basic Brewing Podcasts

A Bit of History



First Small Batch Experiment

- The challenge: Design a hopping strategy for concentrated, high gravity extract boils
- What effect would boiling hops in plain water alone have?
- Some predicted a grassy off flavor.

First Small Batch Experiment

- Ingredients:
 - 3 qts. Water
 - 2 cups Light Dry Extract
 - .25 oz Cascade Hop Pellets
- Beer #1: All ingredients added for 60-minute boil
- Beer #2: Extract added last 15 minutes of boil

First Small Batch Experiment

- Beer #2 was lighter in color
- Beer #2 had a more pronounced bitterness
- No grassy off flavors as predicted
- Hops had trouble integrating into plain water
- Recommendation: Add a portion of the extract at the beginning of the boil, then add the balance near the end to sanitize.

A Six-Pack of IPA



A Six-Pack of IPA

- Goal: 3 quarts into fermenter
- 1.25 gallons water
- 1.3 lbs. light dry malt extract – 15 min.
- 0.3 oz. Cascade pellets – 60 min.
- 0.1 oz. Cascade pellets – 15 min.
- 0.1 oz. Cascade pellets – 5 min.
- 0.25 oz. whole Cascade – Dry hop
- A Portion of WLP-001 starter
- OG: 1.074 FG: 1.012 ABV: 8.6%

Small Batch Equipment

Extract Equipment



Toaster: Optional

Kettle

Airlock

Funnel

Scale

Fermenter

Spoon

All Grain Equipment



Fermentation



Fermentation



Fermentation



Bottling



Small Batch Guidelines

- Scale recipe ingredients proportionally.
- Boil off rates will probably be higher, proportionally.
- Small mashes lose heat more quickly.
- Dry yeast is easier to measure than liquid.
- If using liquid yeast, treat the small batch as a starter.

Why?

Why Brew Small?

- Experiment with ingredients and processes
- Formulate new recipes (your own pilot brewery)
- Lack of space
- Less expense
- Moderation
- Less time

Quick and Easy Pale Ale

- 1 lb. (.45 kg) Light Dry Malt Extract
- 3 qts. (2.8 L) Water
- 10 g Simcoe Pellets – 15 minutes
- 18 g Simcoe Pellets – Flameout
- Around 3 g Safale US05 Yeast
- Total boil time: 15 minutes
- Total brew day, including cleanup: 53 minutes

Challenge: Beat 53 Minutes



Challenge: Beat 53 Minutes



Challenge: Beat 53 Minutes



Elapsed time: 5:30

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Challenge: Beat 53 Minutes



Challenge: Beat 53 Minutes



Elapsed time: 12:00

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Challenge: Beat 53 Minutes



Challenge: Beat 53 Minutes



Elapsed time: 28:00

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Challenge: Beat 53 Minutes



Challenge: Beat 53 Minutes



Elapsed time: 39:00

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Challenge: Beat 53 Minutes



Elapsed time: 43:00

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Extract Speed Brewing Results

- James' brewing time:
53:00
- Steve's brewing time:
45:24
- Excellent way to test flavor and aroma characteristics of hops

Speedy All Grain Stout

- 2 lbs (907 g) American 2-row
- 3 oz. (85 g) 120L Crystal
- 3 oz. (85 g) Black Patent
- 2 oz. (57 g) Chocolate Malt
- 6 g UK Kent Goldings – 60 minutes
- 6 g UK Kent Goldings – 15 minutes
- Safale US 05

Speedy All Grain Stout



Elapsed time – 00:00

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Speedy All Grain Stout



Speedy All Grain Stout



Elapsed time - 1:11:00

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Speedy All Grain Stout



Sparge: 4 qts (3.8 L) @ 170°F (77°C)

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Speedy All Grain Stout



Speedy All Grain Stout




Elapsed time – 2:26:00

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Speedy All Grain Stout



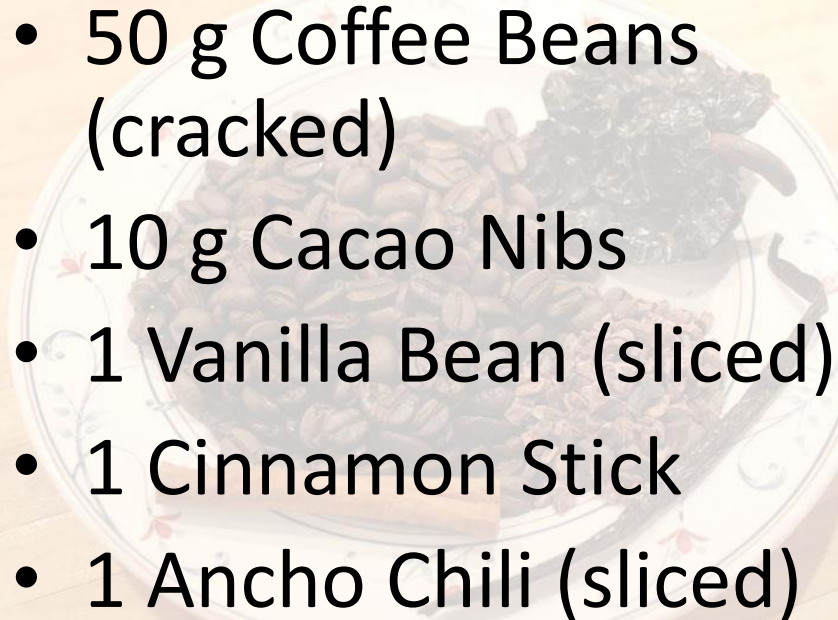
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Speedy All Grain Stout



Speedy All Grain Stout

- 50 g Coffee Beans (cracked)
 - 10 g Cacao Nibs
 - 1 Vanilla Bean (sliced)
 - 1 Cinnamon Stick
 - 1 Ancho Chili (sliced)
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- A glass bowl filled with coffee beans, cacao nibs, a vanilla bean, a cinnamon stick, and an ancho chili. The bowl is placed on a light-colored surface.

Speedy All Grain Stout

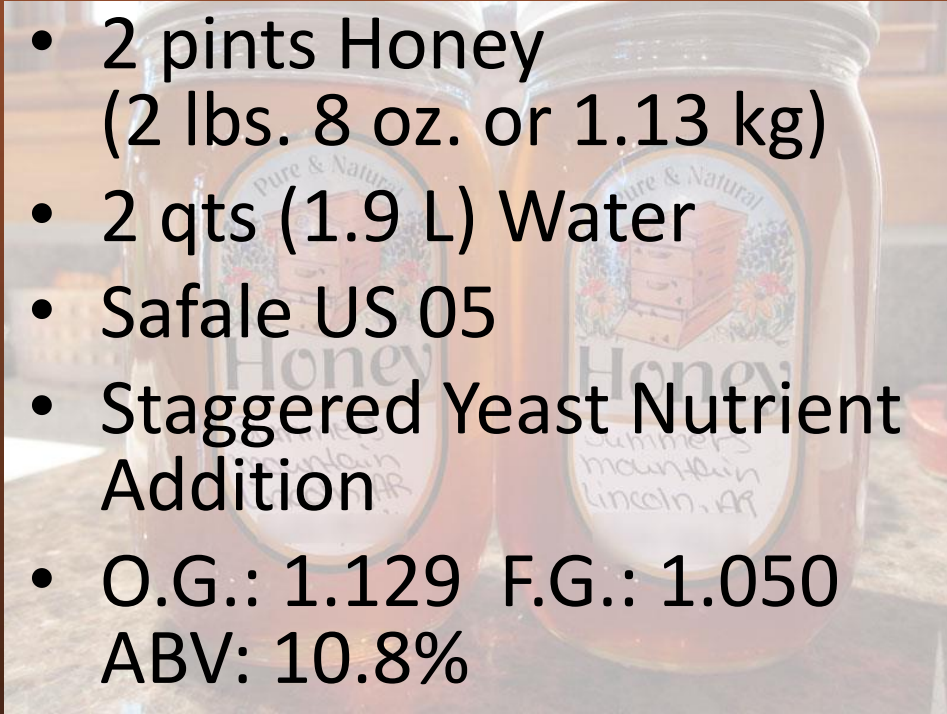


Small Batch Mead



Small Batch Mead

- 2 pints Honey
(2 lbs. 8 oz. or 1.13 kg)
- 2 qts (1.9 L) Water
- Safale US 05
- Staggered Yeast Nutrient Addition
- O.G.: 1.129 F.G.: 1.050
ABV: 10.8%



Sour Mash Small Batch



Sour Mash Small Batch



Fruitcake Barleywine

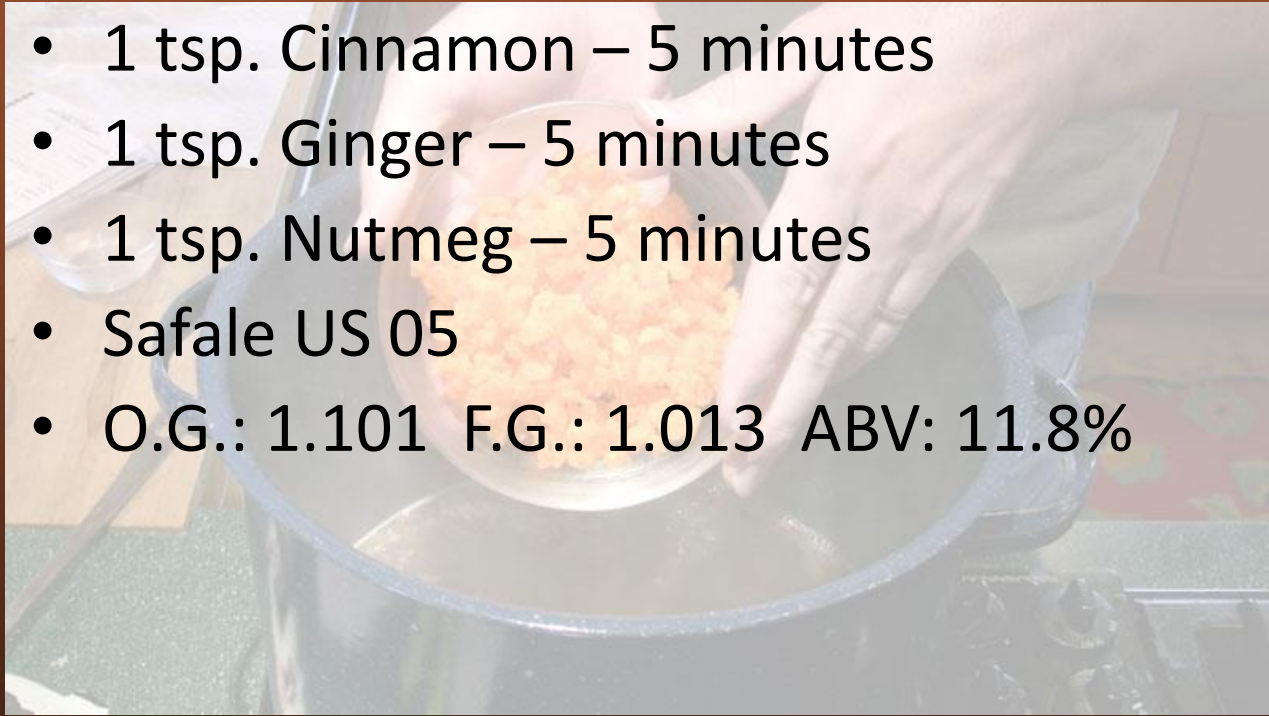


Fruitcake Barleywine

- Two Gallon (7.5 L) Batch
- 8 lbs. (3.6 kg) American 2-row
- 4 oz. (113 g) 90L Crystal
- 7 g Magnum – 60 minutes
- ½ cup (136 g) Brown Sugar – 30 minutes
- 4 Tbsp (75 g) Molasses – 30 minutes
- 6 oz (170 g) Candied Mango – 10 minutes
- 6 oz (170 g) Candied Pineapple – 10 minutes

Fruitcake Barleywine

- 1 tsp. Cinnamon – 5 minutes
- 1 tsp. Ginger – 5 minutes
- 1 tsp. Nutmeg – 5 minutes
- Safale US 05
- O.G.: 1.101 F.G.: 1.013 ABV: 11.8%



100% Malted Rye



100% Malted Rye



100% Malted Rye



Split Batches

- “Normal” sized wort or must
- Split into smaller fermenters
- Brew an extra gallon
- Pitch different yeasts
- Dry hop with different hops
- Add interesting ingredients into secondary
- Benefit: Brew day yields more beer or mead

Chili Beer Experiment



Chili Beer Experiment



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Chili Beer Experiment

- Ancho – Raisin, dark fruit
- Big Jim New Mexico – Mild, light fruit
- Guajillo – Earthy, a bit more heat
- Chipotle – Smoky, balanced heat
- Pequin – Small, but hot (3 per gallon)
- Blend for a final balanced recipe

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Split Batch Mead



Split Batch Mead

- Blood Orange
- Ancho Chili
- Apricot & Saffron
- Black Cherry Extract
- Allspice Berries
- Plain (control)

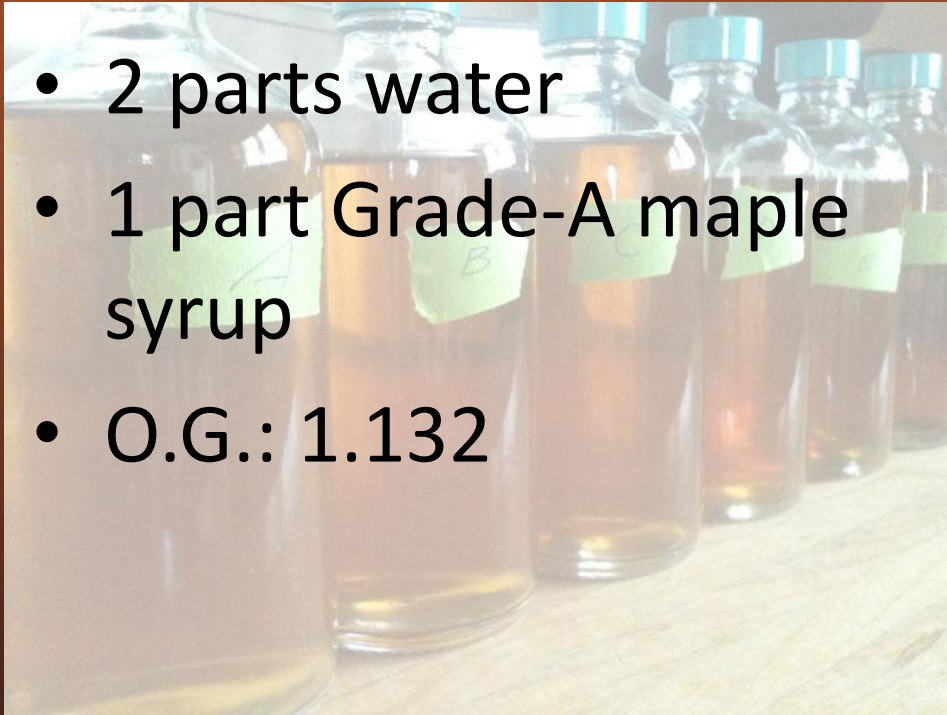


Maple Wine – Andrew Parr

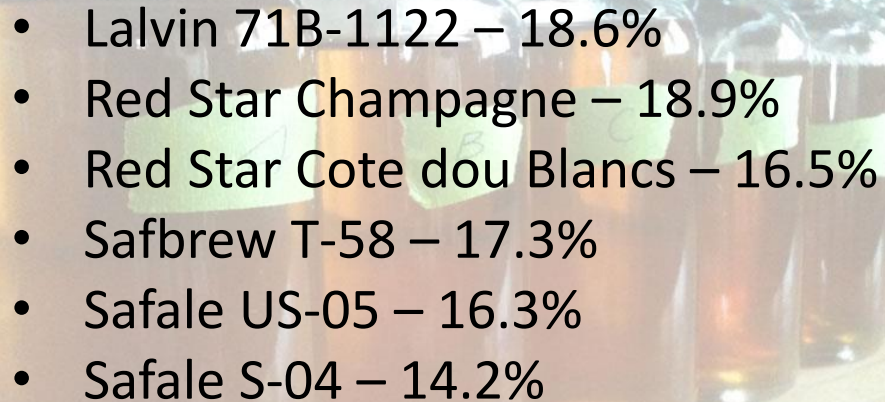


Maple Wine – Andrew Parr

- 2 parts water
- 1 part Grade-A maple syrup
- O.G.: 1.132



Maple Wine – Andrew Parr

- 
- Lalvin 71B-1122 – 18.6%
 - Red Star Champagne – 18.9%
 - Red Star Cote dou Blancs – 16.5%
 - Safbrew T-58 – 17.3%
 - Safale US-05 – 16.3%
 - Safale S-04 – 14.2%



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