



**HOME
BREW
CON
2022**



#HOMEBREWCON

Home Smoking Malt for Rauchbier

a.k.a. – The Smoke Chronicles – An experiment in smoking malt
with various wood species and building a DIY smoke hut



Homebrew Con Seminars Archive



<https://www.homebrewersassociation.org/seminars/>



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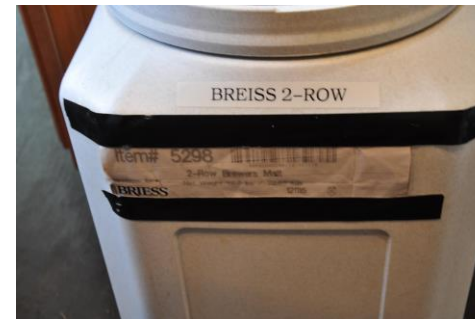


Mike Bury

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Past-President Stoney Creek Homebrewers, former BYO 'The Replicator'

Concept

- Take **Briess (or other)** 2-Row Malt and Slow Smoke it on a Residential or DIY Smoker
- Utilize Various Wood Species to see if there is a discernible difference in smoke intensity and flavor
 - Apple Wood
 - Jack Daniel's Whiskey Barrel
 - Maple & Pecan Wood
- The process must be repeatable and without variation
- Brew the beers without fluctuation in recipe or process



The Process - Equipment

- Utilized a Residential Big Green EGG (BGE) XL with Hardwood Charcoal, Plate Setter and Grate, Aluminum Screen and BBQ Guru Temperature Controller



- Ratio of 7.5 pounds of Briess 2-Row to 1.5 pound of Wood Chips
- BGE was held at 175°F during the entire smoking process
- Wood Chips were placed in basket over “hot spot” on coals for each smoking session

The Process - Sequence

- 7.5 pounds of Briess 2-Row were measured and placed on bucket.
- 1 gallon of Distilled Water was poured over grain; immediately drained in a sieve strainer
- The malt was moistened to two reasons
 - Allow it to accept the smoke flavor
 - Prevent drying out the malt
- * Note – the malt will dry out to a nominal moisture content through the smoking process



The Process – Sequence cont'd

- Concurrently the grill was brought to temperature and held at 175°F
- ½ pound of the specific wood chips were placed in the hot spot and the plate setter was positioned, then the grate and screen



The Process – Sequence cont'd

- 2.5 pounds of malt were spread over the screen to maximize surface area



The Process – Sequence cont'd

- The lid was closed and a timer set for 15 minutes
- When the time ended the malt was piled and redistributed and allowed to smoke for an additional 15 minutes
- After 30 minutes in total, the malt was then allowed to cool on a cookie tray
- The next ½ pound of wood chips were placed on the hot spot and the next 2.5 pounds were smoked as previous until all 7.5 lbs completed
- This process was repeated for all 3 wood profiles



The Recipe

- Disclaimer: the recipe isn't designed to make a world-class rauchbier but rather evaluate rauch malt
- Malt
 - 7# Smoked Malt (Putnam Specialty Rauch malts: 67 %)
 - 1.5# Munich II Malt (Weyermann: 14 %)
 - 1.5# Barke Pilsner (Weyermann: 14 %)
 - 4 oz Melanoidin (Weyermann: 3 %)
 - 3.2 oz Midnight Wheat (Briess: 2 %)
- Hops (21 IBUs)
 - 0.5 oz Magnum (60 min @ 12 % AA)
 - 0.5 oz Hallertauer Mittelfruh (0 min @ 4.1 % AA)
- Water
 - 14 gallons Malvern Well Water (33 ppm Ca, 10:1 Chloride:Sulfate, 7.4 pH)
 - Added 3 grams CaSO_4 (2 grams in HLT; 1 gram in MLT)
- Yeast
 - 2 x 11.5g Safale US-05
 - Fermentation started at 62°F for 48 hours and allowed to free rise to 65°F



THE System - eHERMS



- pH meter holds calibration for > 4 months
- Mash efficiency ~85 %, 1.5 gallons/hr boil-off
- Daily output of 40 gallons
- Thanks Kal!!! (The Electric Brewery)



Overall Brew-day Process

A Mad Scientist Brewday:

- Bulk water salt/acid adjustments
- 60 min mash; check mash pH after 10 min to allow for recirculation
- Drain to top of mash bed before fly sparging over 30 min
- 60 min boil
- Sanitation of immersion chiller and whirlfloc addition at 15 min left
- Chill, rack, and pitch

Why did we use this system?

- Elimination of variables -> more confidence in the end result
- Consistency via bulk water, sparging, boil-off, etc

THE Recipe – Brew DAY(s) and outcomes

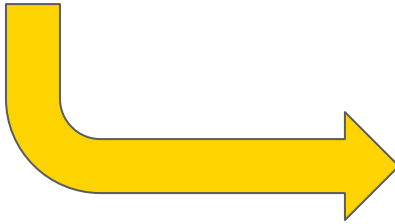
Rauch malt	Kernel Type (residual water)	Mash pH	Final runnings pH	OG	Smell of Wort
Apple	Soft (7 %)	5.20	5.8	1.047	Cigarette smoke, regretful college parties
Maple/Pecan	Squishy/mealy (9%)	5.13	5.78	1.046	Acrid, bitter
Whiskey	Normal (6 %)	5.27	6.06	1.053	Complex, pleasant, yet smooth



Fermentation



Previous experiment
of 8 woods



The outcome

- Did this work?
- Is there a difference in aroma, appearance, flavor, mouthfeel and overall impression?
- Why would anyone in their right mind even do this?
- Was it worth it?
- That is why we experiment!
- Can anyone match the wood species to the beer?



Did you match?

- Sample 1 – Apple
- Sample 2 – Jack Daniel's Whiskey Oak
- Sample 3 – Maple & Pecan

Recommended Woods to Use (and those to avoid)

- Recommend (anything used for smoking meat)
 - Fruit woods, ie, apple, cherry
 - Used barrel staves (JD's whiskey, red wine barrel); up-cycling!!!!
 - Pecan, hickory, possibly walnut
- Would NOT suggest using
 - Maple or sugary woods
 - Absolutely DO NOT USE Pressure-treated wood, construction lumber
 - Possibly cedar or rosewood variant due to allergies

Equipment Used (Reference)

- Balance
- Distilled water
- Strainer
- Wood Source
- Home smoker (BGE, Kamado Joe, Masterbuilt, etc)
- Brewing system of choice

LEVEL UP: Building a sáinn house



History of såinn houses

“In our small town, Stjørdal in Norway, there are approx. 23,000 inhabitants, and in this small place we are many who still make this fantastic smoke malt in our såinn houses. A traditional craft we have been doing since the Viking Age. All the way back to the year 1050, traces of såinn houses have been found during excavations. Today we have about 40 active såinn houses here, and make about 20 tons of malt every year. - [Jørund Geving](#)”



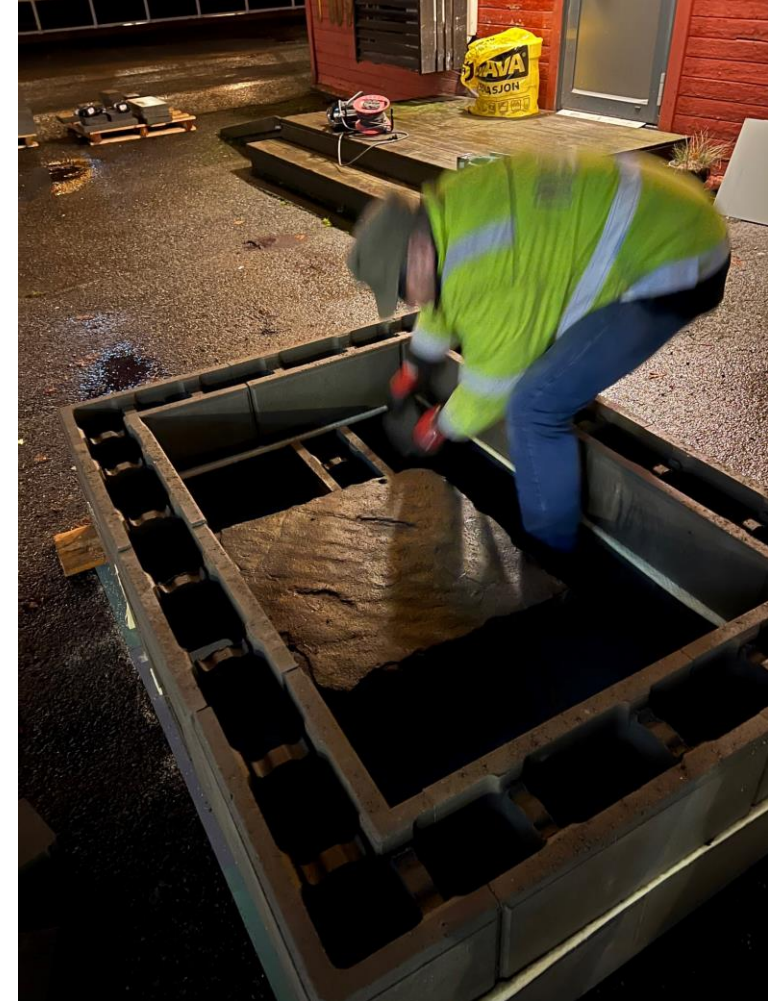
Materials Needed:

Concrete Slabs for Base
Cinder Block or formwork blocks.

Usually, these blocks are filled with concrete to make a heating magazine, or glass insulation, ore, stonewool, or sand.

Slate slab or metal plate.
Malt frame made of spruce





Tips on Assembly



The world's most important, long-running, and most awarded show dedicated to smoked beer.

This Week in Rauchbier

"May all your malts be dried over an open flame"



Enjoy some smoky delights

Bonus Recipes

Courtesy



Special Thank You to:

BRIESS MALTS
Hop Farm Brewing Co.
Lawrenceville, PA

THANK YOU!

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Related Resources

Find hundreds of other member resources on [HomebrewersAssociation.org](https://homebrewersassociation.org)

- Recipe: [Jamil's Classic Rauchbier](#)