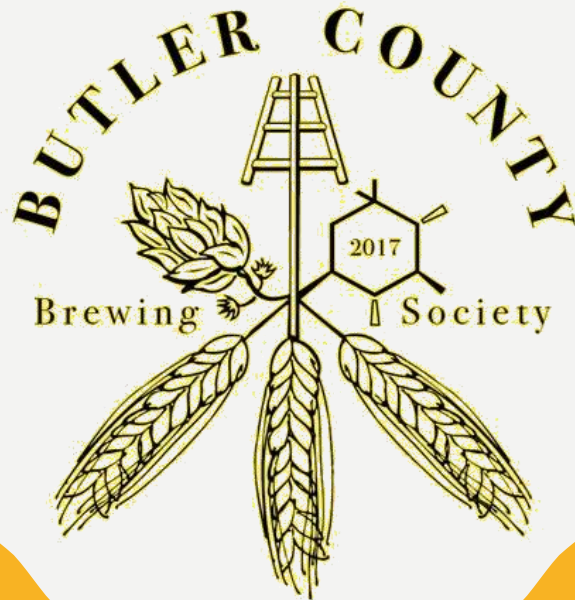


KVEIK YEAST



**BCBS KART PRESENTATION
OCT 2019 – D. WARD**

KVEIK:

THE NEW (NOT NEW) YEAST SWEEPING THE BREWING COMMUNITY

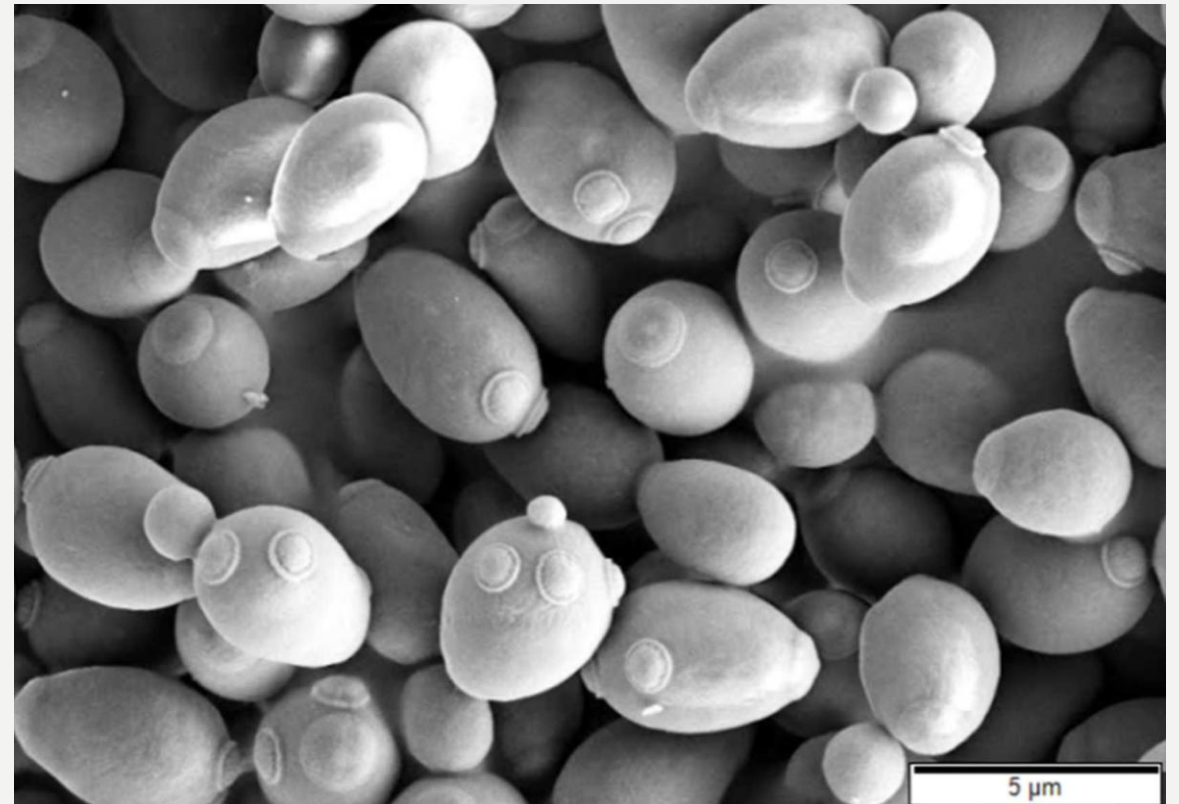
- What is it?
- History
- Why should I care?
- How to use
- Recipe & Sample



KVEIK:

WHAT IS THIS STUFF AND HOW THE HELL DO YOU PRONOUNCE IT?

- Not a style
- Not a single strain of yeast
- Is a type of *Saccharomyces cerevisiae* (ale yeast)
- Not a substitute for saison yeast
- Kveik means yeast in Norwegian
- Not new, centuries old



KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE

Larsblog

> Home
> Technology
> Beer
> Personal

> The author .
> On Twitter

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My new book



Finding farmhouse ale in Norway

Posted in Beer on 2019-07-14 10:39

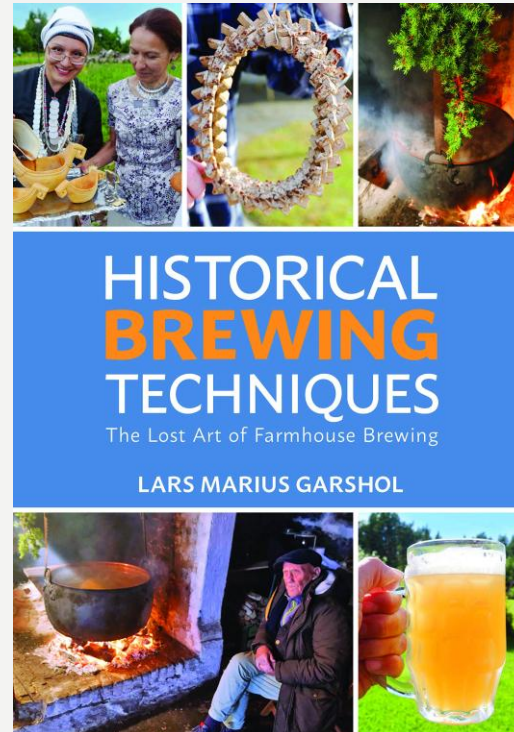
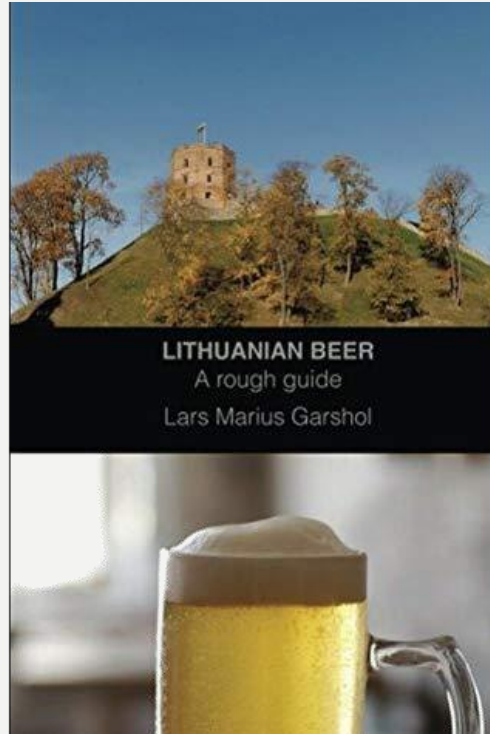




Lars Marius Garshol

KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE



KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE



Farmhouse Ale Trips 2013 - 2018

KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE

- Western Norway
 - Away from coast
 - Isolated villages
 - Poor agriculture conditions
 - Family or farmhouse brewing



KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE



Sigmund Gjernes

**Voss, Norway
May 2014**



Photo's courtesy of Larsblog

KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE

- **Sigmund's Family Ale**
 - All brewing water is infused with juniper
 - 80 gallons heated to 176°



Photo's courtesy of Larsblog

Steeping with Juniper

KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE

- **Sigmund's Family Ale**
 - 110 lbs Pilsner malt
 - Mash at to 156°
 - Drifts to 122° over 6 hours



**Mashing in
&
Mash tun**

KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE

- **Sigmund's Family Ale**
 - Boil 4 hr over wood fire
 - Reduce volume from 300 liters down to 150 (40g)
 - Add 8.8 oz Saaz at end of boil



Photo's courtesy of Larsblog

18th Century copper boil kettle

KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE

- **Sigmund's Family Ale**
 - Cool wort
 - Add Kveik yeast
 - Yeast ring
 - Slurry from last batch
 - Kveik was source of aroma
 - Samples collected



**Yeast ring
&
Slurry**



KVEIK:

WHAT WE KNOW TODAY AND HOW WE GOT THERE



No	Name	Owner	Place	NCYC	Pitch	Harvest	Bacteria	POF	Strains	Max ABV
1	Sigmund	Sigmund Gjernes	Vestbygdi	3995	39	bottom	N	N	3	13
2	Rivenes	Svein Rivenes	Dyrvedalen	3545	37	top			7	
3	Stranda	Stein Langlo	Stranda	4021	30	top		N	1	16
4	Muri	Bjarne Muri	Olden	4045	32			Y	2	14
5	Hornindal	Terje Rafteveld	Grodås	4051	30	top	Y	N	8	16
6	Lærdal	Dagfinn Wendelbo	Lærdal	4283	30	either	Y	N	6	14
7	Granvin	Tor Ølver Helland	Dyrvedalen		30	bottom	N	N		16
8	Tormodgarden	Sigurd Johan Saure	Sykkylven	4171	30	bottom	N	N	10	15
9	Ebbegarden	Jens Aage Øvrebust	Stordal	4224	28	top	Y	N		16
10	Framgarden	Petter B Øvrebust	Stordal	4170	30		N	N		16
11	Lida	Samuel Lien	Grodås		33	top				
12	Nupen	Jarle Nupen	Eidsdal	4196	31	top	N		8	
13	Årset	Jakob Torp Årset	Eidsdal		28	top				
14	Eitrheim	Reidar Eitrheim	Bleie	4284	37	either				
15	Nornes	John Nornes	Dyrvedalen	4101	36				5	
16	Simonaitis	Julius Simonaitis	Joniškelis	4207	35	top	Y	Y	5	15
17	Midtbust	Odd H Midtbust	Stordal		33	top			6	
18	Gausemel	Olav Sverre Gausemel	Grodås		30	top	Y			
19	Nystein	Aave Nystein		4265	28	top			2	
20	Espe	Arve Espe	Grodås	4268	20	top			4	

WHY SHOULD I CARE?

HIGH THERMO-TOLERANCE

- Historically pitched hot (“blood temperature”)
 - 86° to 102° depending on strain
 - Free rise after pitching
- No fusel alcohols
- Kveik is POF negative
 - No phenols (peppery, clove, smoky)
- Higher temps can coax out desirable esters
 - Orange, tropical fruit
- Eliminate need for costly temperature control
 - Ferment in your garage, kitchen, wherever!
 - Can pitch at 68°-70° & temp control but why?

BEAT THE HEAT!



WHY SHOULD I CARE?

RAPID FERMENTATION

- Starts fast
 - Activity in as little as 30 min
- Complete fermentation in 36 hrs isn't unusual
- Short maturation time
 - Ready to drink immediately after carbonation
- Popular with commercial breweries
 - More batches per year without capital investment
- Popular with home brewers
 - Grain to glass in a week
 - Need beer on short notice?
 - No starter but want to brew today?

**BREW FAST.....
FREAKY FAST!**



WHY SHOULD I CARE?

HIGH ALCOHOL TOLERANCE

- Common to all Kveik strains
- 13% to 16%
- High attenuation
 - Recipe considerations
 - Carapils
- Rapidly ferments high gravity wort
 - Good choice for barley wine & imperial stout
- Not a good choice for mead or cider
 - Doesn't produce its own nutrients

BREW STRONG!

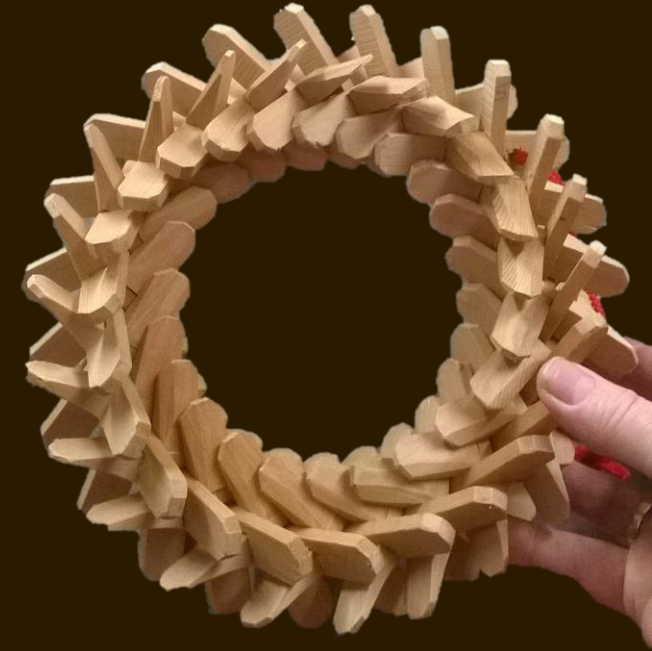


WHY SHOULD I CARE?

YEAST HARVESTING

- Kveik yeasts are easily harvested
- Top or bottom crop depending on strain
- Traditionally dried
 - Norwegian brewers only made 2-3 batches / year
 - Drying helps eliminate contaminants
 - Promoted sharing
- Try it at home
 - Crop yeast
 - Spread on parchment paper
 - Dry (dehydrator, fan or oven)
 - Bag & store in freezer

REUSE!



BREWING WITH KVEIK:

CONSIDERATION FOR USING KVEIK IN YOUR HOMEBREW

- **Styles**

- Anywhere you'd use English ale
- NEIPA, IPA, pale, porter, stout
- High gravity
- Avoid session
- Keep hops low to highlight yeast flavors

- **Fermentation**

- Pitch at 85° to 90°
 - Under pitch dives esters (1 tsp slurry / 6gal)
- Let temperature free rise.
 - Mid to upper 90's is okay
 - Higher temps drive esters



KVEIK STRAINS: VOSS

- **Profile**

- A traditional Norwegian Kveik strain from the farmhouse brewery of Sigmund Gjernes in Voss, Norway. This strain is a fast fermenter with good attenuation, a light earthy spiciness, marked tartness and unique ester profile of orange peel. Pairs well with citrus and fruity hops.

- **Specs**

- Flocculation : Medium
- Attenuation 75-82%
- Temperature Range: 72-98°
- Alcohol Tolerance: 12% ABV

- **Availability**

- Omega Voss OYL-061
- The Yeast Bay: Sigmund's Voss
- Imperial Loki A43



KVEIK STRAINS: **HORNINDAL**

- **Profile**

- A Norwegian Kveik strain. Produces a tropical flavor and complex aroma that presents as stonefruit, pineapple and dried fruit. Complements fruit forward hops. Adds even more dimension to “C” hops.

- **Specs**

- Flocculation : High
- Temperature Range: 72-98°
- Attenuation 75-82%
- Alcohol Tolerance: 16% ABV

- **Availability**

- Omega Hornindal OYL-091
- Imperial Bartleby A46



KVEIK STRAINS: STRANDA

- **Profile**

- Norwegian Kveik ale strain with an astoundingly wide temperature range and little change in flavor across the range, Hothead™ is clean enough for both American and English styles. It has a unique honey-like aroma with overripe mango which is complementary to modern, fruity hops.

- **Specs**

- Flocculation : Med-High
- Temperature Range: 72-98°
- Attenuation 75-85%
- Alcohol Tolerance: 11% ABV

- **Availability**

- Omega Hothead OYL-057
- White Labs Opshaug WLP 518



KVEIK STRAINS: OTHER OPTIONS

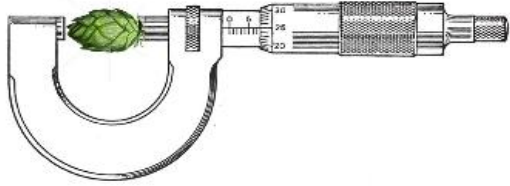
- **Original cultures**

- There are sources for the original multi-strain cultures.
- Likely multiple strains of yeast
- May contain bacteria

No	Name	Owner	Place	NCYC	Pitch	Harvest	Bacteria	POF	Strains	Max ABV
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18	Gausemel	Olav Sverre Gausemel	Grodås		30	top	Y			
19	Nystein	Aave Nystein		4265	28	top			2	
20	Espe	Arve Espe	Grodås	4268	20	top			4	



Machine Tool Ales



- West Chester water
 - Adjust for ~0.5 Sulfate to Chloride
- Malts
 - 60% Pale Ale
 - 10% Flaked Oats
 - 10% White Wheat
 - 10% Flakes Wheat
 - 7% Carapils
 - 3% Acid Malt

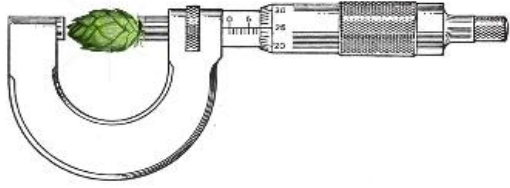
GMC

NEW ENGLAND IPA



* Contains no real
fruit

Machine Tool Ales



- Kettle Hops – 10 IBU
 - Warrior (60 min)
- Whirlpool Hops – 2lbs / barrel
 - Galaxy, Mosaic, Citra @ 185°
 - Galaxy, Mosaic, Citra @ 150°
- Dry Hops – 3lbs / barrel
 - Galaxy, Mosaic, Citra @ ~1.014
 - Galaxy, Mosaic, Citra 2 days

(Total of 13 oz of hops for 5 gal)

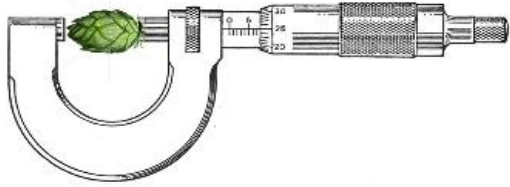
GMC

NEW ENGLAND IPA



* Contains no real
fruit

Machine Tool Ales



- Hornindal Kveik Omega OYL091
 - Pitched into 1.056 wort @ 80°
 - Averaged 77° during ferment
 - Reached 1.008 terminal in 3.5 days
- Brewed & Pitched : 9/22
- Kegged : 9/29

GMC

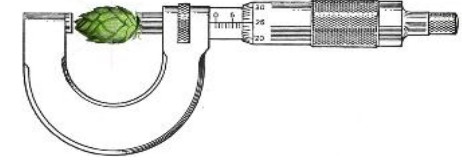
NEW ENGLAND IPA



* Contains no real
fruit

GMC NEW ENGLAND IPA

Machine Tool Ales



Kveik NEIPA (ORANGE TILT)



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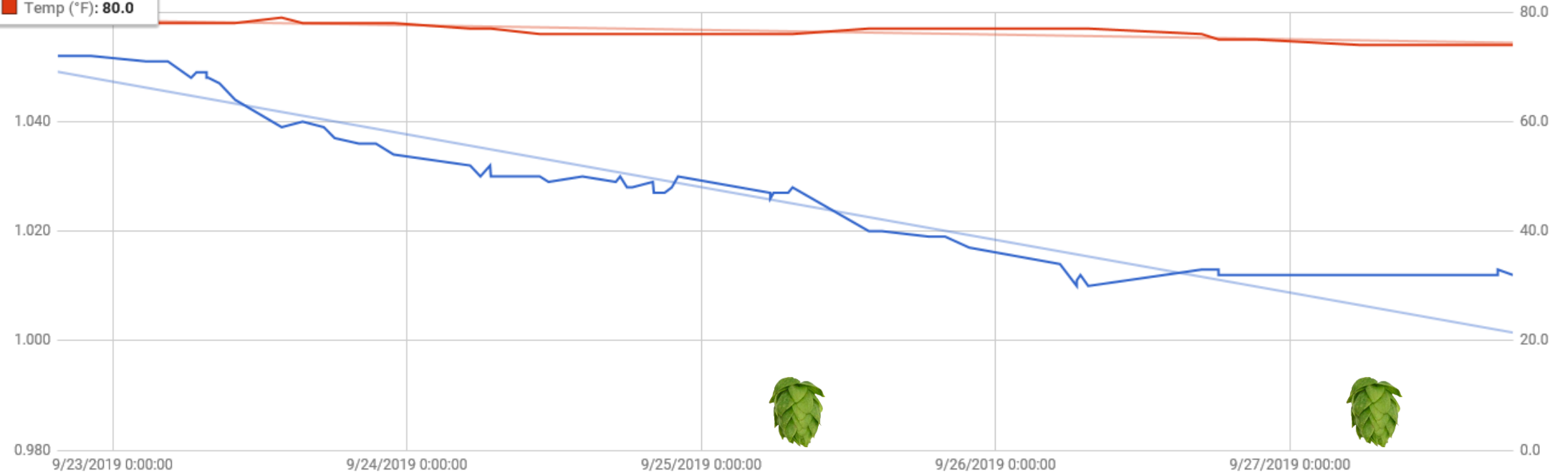


9/22/2019 19:30:48

SG: 1.052

Temp (°F): 80.0

SG SG Trend Temp (°F) Temp Trend



+ ≡

Report ▾

Chart ▾

Data ▾

Help ▾



REFERENCES AND RESOURCES

Larsblog – Lars Garshol blog about farmhouse brewing

– <http://www.garshol.priv.no/blog/>

Larsblog – Farmhouse yeast registry

– <http://www.garshol.priv.no/download/farmhouse/kveik.html>

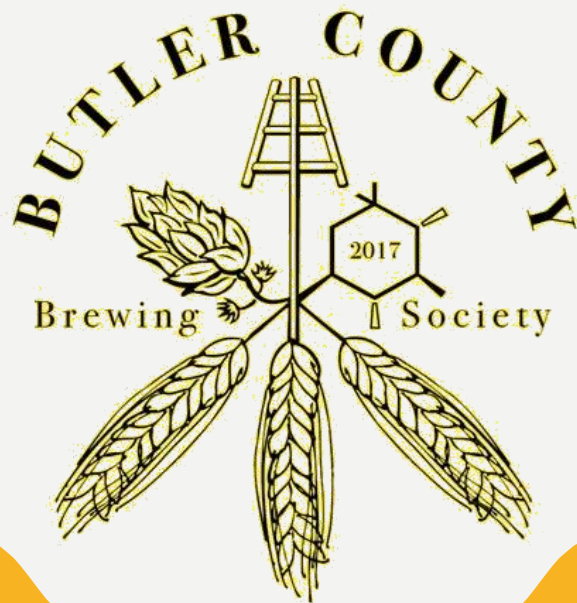
Milk The Funk – Kveik wiki

– <http://www.milkthefunk.com/wiki/Kveik>

Lars Garshol presentation at Kveikfest 2019 Chicago

– <https://www.youtube.com/watch?v=D2NXyUOhQhA&t=2924s>

KVEIK YEAST



QUESTIONS?