

# LAN1616 – TECNOLOGIA DE BEBIDAS

## Aula Prática 21/03/2017 – Produção de Cerveja na Panela (Wheatwine)

### 22D. Wheatwine

**Overall Impression:** A richly textured, high alcohol sipping beer with a significant grainy, bready flavor and sleek body. The emphasis is first on the bready, wheaty flavors with interesting complexity from malt, hops, fruity yeast character and alcohol complexity.

**Aroma:** Hop aroma is mild and can represent just about any late hop aromatic. Moderate to moderately-strong bready, wheaty malt character, often with additional malt complexity such as honey and caramel. A light, clean, alcohol aroma may be noted. Low to medium fruity notes may be apparent. Very low levels of diacetyl are acceptable but not required. Weizen yeast character (banana/clove) is inappropriate.

**Appearance:** Color ranges from gold to deep amber, often with garnet or ruby highlights. Low to medium off-white head. The head may have creamy texture, and good retention. Chill haze is allowable, but usually clears up as the beer gets warmer. High alcohol and viscosity may be visible in “legs” when beer is swirled in a glass.

**Flavor:** Moderate to moderately-high wheaty malt flavor, dominant in the flavor balance over any hop character. Low to moderate bready, toasty, caramel, or honey malt notes are a welcome complexity note, although not required. Hop flavor is low to medium, and can reflect any variety. Moderate to moderately-high fruitiness, often with a dried-fruit character. Hop bitterness may range from low to moderate; balance therefore ranges from malty to evenly balanced. Should not be syrupy and under-attenuated. Some oxidative or vinous flavors may be present, as are light alcohol notes that are clean and smooth but complex. A complementary, supportive oak character is welcome, but not required.

**Mouthfeel:** Medium-full to full bodied and chewy, often with a luscious, velvety texture. Low to moderate carbonation. Light to moderate smooth alcohol warming may also be present.

**Comments:** Dark malts should be used with restraint. Much of the color arises from a lengthy boil. Some commercial examples may be larger than the Vital Statistics, and some may not be brewed every year.

**History:** A relatively recent American craft beer style that was first brewed at the Rubicon Brewing Company in 1988. Often a winter seasonal, vintage, or one-off release. Breweries frequently experiment with this style, leading to a range of interpretations.

**Characteristic Ingredients:** Typically brewed with a combination of American two-row and American wheat. Style commonly uses 50% or more wheat malt. Any variety of hops may be used. May be oak-aged.

**Style Comparison:** More than simply a wheat-based barleywine, many versions have very expressive fruity and hoppy notes, while others develop complexity through oak aging. Less emphasis on the hops than American Barleywine. Has roots in American Wheat Beer rather than any German wheat styles, so should not have any German weizen yeast character.

**Vital Statistics:**  
IBUs: 30 – 60  
SRM: 8 – 15

OG: 1.080 – 1.120  
FG: 1.016 – 1.030  
ABV: 8.0 – 12.0%

**Commercial Examples:** Rubicon Winter Wheat Wine, Two Brothers Bare Trees Weiss Wine, Smuttynose Wheat Wine, Portsmouth Wheat Wine

**Tags:** very-high-strength, amber-color, top-fermented, north-america, craft-style, strong-ale-family, wheat-beer-family, balanced, hoppy

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### Carga de malte

5,0 kg	Malte de trigo Wheat Munich	50 % do total de grãos utilizados
2,5 kg	Malte de trigo Wheat malt	25 %
1,4 kg	Malte de cevada Munich	14 %
0,9 kg	Malte de cevada Vienna	9 %
0,2 kg	Malte de cevada Carared	2 %

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### Lúpulo

60 g	Target (10% alfa ác.) – adicionados aos 20 min. de fervura
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### “Temperos”

200 g	Café em grãos moídos grosseiramente
35 g	Zimbro amassado

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### Levedura

15,3 g	Safale S-33 (levedura tipo ale)
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Água de mostura – 30 L pH 4,8 (acidificação com ácido cítrico)

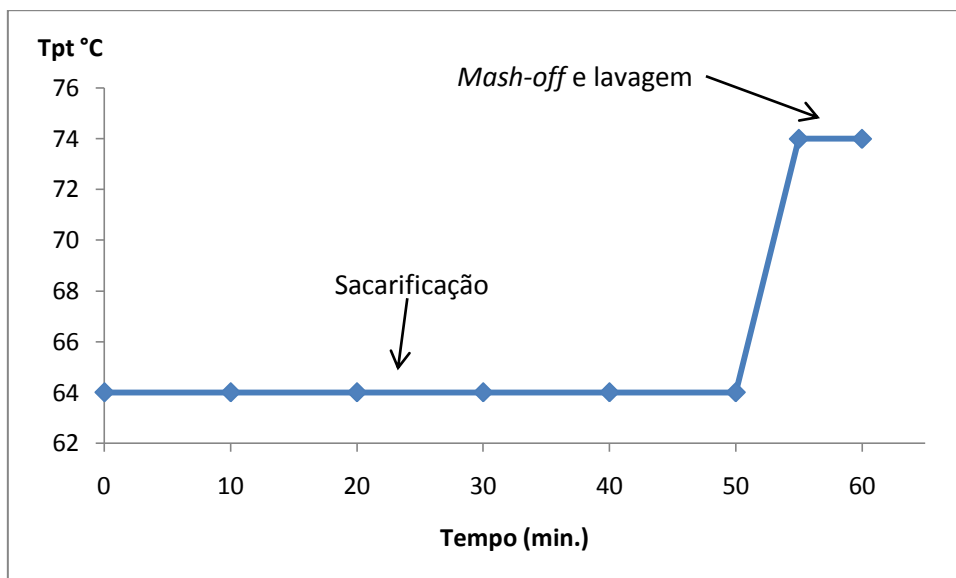
Água de lavagem – 8 L (lavagem até obter 30 L)

## Modo de preparo



(Referência para os francófonos: [https://pt.wikipedia.org/wiki/Palminha\\_Onofre](https://pt.wikipedia.org/wiki/Palminha_Onofre))

## Mostura por Infusão



Sacarificação (50 min.), *Mash-off* ou inativação enzimática e lavagem a 74 °C

## Fervura

Evaporação de cerca de 2 a 3 L de água durante a fervura de 40 min.; adição de lúpulos aos 20 min. (confere amargor e sabor); adição de “temperos” (café e zimbro) quando a fervura foi finalizada (*knock-out*).

Resfriamento e decantação do mosto (para eliminar o *trub*/ borra que não ficou na panela de fervura); inoculação de levedura S-33 (15,3 g) re-hidratada com 30 minutos de antecedência (em 120 mL de água).]

Densidade Original medida = 1,080 (ou aproximadamente 20 °Brix)

Teor alcoólico esperado = 8,67 % (v/v)

### **Fermentação**

À temperatura ambiente (com ar condicionado ligado)  $\approx 20\text{ }^{\circ}\text{C}$ ;

Início da fermentação em 16 h (borbulhamento)