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CZECH AMBER LAGER

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by Gordon Strong

CZECH AMBER LAGER
BY THE NUMBERS

OG: 1.044–1.060
FG: 1.013–1.017
SRM: 10–16
IBU: 20–35
ABV: 4.4–5.8%

I have a confession to make. I was going to write about Czech dark lager, but I tried an authentic Czech amber lager brewed by my friend Petr Bachan at a recent competition and had to switch topics. It was such a drinkable beer, featuring a remarkable malt character with a toasty-rich base that you'd associate with a Vienna or Oktoberfest lager but with a slightly higher bitterness and much more late hop character (with the herbal-spicy Saaz hop being showcased). Sold.

Czech beers are best thought of as existing on a matrix of color and strength. The colors are pale, amber, and dark, and the strengths are generally between 10 and 14 degrees Plato (original gravity (OG) 1.040 and 1.057), although outliers exist. "Normal" lagers are typically 11 to 12 degrees Plato (OG 1.044 to 1.048), with "special" lagers being stronger at 13 to 15 degrees Plato (OG 1.052 to 1.060). Session strength examples exist in all colors too.

The Beer Judge Certification Program (BJCP) added new Czech styles in the 2015 guidelines as Category 3 "Czech Lager," recognizing the amber and dark lagers, as well as the more session-strength pale lager. The BJCP guidelines are still somewhat of a compromise compared to the ground truth in the Czech Republic, in that the BJCP styles combine some of the Czech styles. But if you have access to the recipe, you can understand the brewer's intent (generally, the gravity level).

The Czech amber lager (BJCP style 3C) is known as polotmavý (literally, half-dark), but is then typically modified with the strength indicator (often just ležák, or lager). However, the polotmavý part is the important bit since that should be translated as "amber" for style description purposes.

In the style guidelines the Czech lager styles are grouped together, which surprised some people who expected the different colors of beers to be grouped. However, since the Czech lagers share common traits across the different color beers, I felt that it worked better to judge these together. The fermentation profile is similar across the Czech beers, and that's enough to differentiate from the German styles. As judges become accustomed to these differences, the groupings could change, but it's easier to describe the "Czech character" of beer using this construct.

SENSORY PROFILE

From a sensory standpoint, the base malt has a richness and depth to it, indicative of using proper continental base malts and decoction mashes. You'll see this theme repeated often, in that the Czechs insist that decoction mashes (double or triple, never single) are at the heart of their styles, along with their characteristic yeast.

It's easy to compare the Czech lagers to modern German counterparts. However, I think this is also a time capsule in a way. The Germans underwent a scientific revolution where they systematically cleaned up their beers, increasing attenuation, and striving for perfection. The Czechs, however, represent the old school of brewing where additional rustic flavors are fine. The Czechs appreciate some additional mouthfeel, residual extract (hint of sweetness), body, and (shudder) diacetyl in their beer. Not enough to be butter-flavored, but enough to enhance the flavor in the way of some traditional English ales.

Czech lagers often differ from their German counterparts in their use of hops. While a German Pils can be quite hoppy, this is often due to the high attenuation. Czechs prefer a little residual extract (unfermented malt sugar) in their beer, as well as less-than-squeaky-clean lager yeast character. In addition to this profile, the Czechs also are beholden to their

CZECH AMBER LAGER

(5 gallons/19 L, all-grain)
OG = 1.045 (*) FG = 1.013
IBU = 24 SRM = 12 (*) ABV = 4.2%
(*) OG and SRM may be higher if performing a decoction mash

INGREDIENTS

4 lbs. (1.8 kg) German or Czech Pilsner malt
3.5 lbs. (1.6 kg) German Vienna malt
12 oz. (340 g) German Munich malt (6 °L)
8 oz. (227 g) Weyermann Caramunich® II malt (45 °L)
6 oz. (170 g) Weyermann Carared® malt (20 °L)
2 oz. (57 g) Weyermann Carafa® Special II malt (430 °L)
2.6 AAU Czech Saaz hops (FWH) (0.75 oz./21 g at 3.5% alpha acids)
3.5 AAU Czech Saaz hops (30 min.) (1 oz./28 g at 3.5% alpha acids)
2.6 AAU Czech Saaz hops (5 min.) (0.75 oz./21 g at 3.5% alpha acids)
1 oz. (28 g) Czech Saaz hops (0 min.)
White Labs WLP802 (Czech Budejovice Lager) or Wyeast 2278 (Czech Pils) yeast
¾ cup corn sugar (if priming)

STEP BY STEP

TTwo or three days before brew day, make a 2-qt. (2-L) yeast starter, aerating the wort thoroughly (preferably with oxygen) before pitching the yeast.

On brew day, prepare your ingredients; mill the grain, measure your hops, and prepare your water. This recipe uses reverse osmosis (RO) water. Add ¼ tsp. 10% phosphoric acid per 5 gallons (19 L) of brewing water, or until water measures pH 5.5 at room temperature. Add 0.5 tsp. calcium chloride (CaCl2) to the mash.

This recipe uses a hybrid step and double decoction mash with a mashout. On brew day, mash in the Pilsner, Vienna, and Munich malts at 131 °F (55 °C) and hold for 10 minutes. Pull a thick decoction (about ⅓ of the grain mass) and rest the decocted portion at 145 °F (63 °C) for 15 minutes, 158 °F (70 °C) for 15 minutes, then boil for 15 minutes. Recombine the decocted portion with the main mash, hitting 145 °F (63 °C) in the main mash. Hold for 15 minutes, then pull a thick decoction (about ⅓ of the grain mass) and boil for 15 minutes. Recombine, hitting 158 °F (70 °C) in the main mash. Hold for 15 minutes, then add the Caramunich®, Carared®, and Carafa® Special malts while raising the mash temperature to 170 °F (77 °C) for mashout, recirculating the whole time. Hold the mashout temperature for 20 minutes.

Fly sparge with 170 °F (77 °C) water until 6.5 gallons (25 L) of wort is collected. Add the first wort hops to the kettle during the sparge.

Boil the wort for 90 minutes, adding the hops at times indicated in the recipe. Chill to 46 °F (8 °C).

Oxygenate, then pitch the yeast starter. Start fermentation at 46 °F (8 °C) but allow the temperature to rise to 50 °F (10 °C) until fermentation is complete. Rack the beer. Lager at 32 °F (0 °C) for 11 weeks, then fine with gelatin or filter.

Prime and bottle condition, or keg and force carbonate to 2.5 volumes. If bottle conditioning, you may want to consider adding a bottle conditioning yeast strain and warm condition the beer at 68 °F (20 °C) for one to two weeks before chilling.

CZECH AMBER LAGER

(5 gallons/19 L, extract with grains)
OG = 1.045 FG = 1.013IBU = 24
SRM = 12 ABV = 4.2%

INGREDIENTS

3.9 lbs. (1.8 kg) liquid Pilsner malt extract
1.7 lbs. (771 g) liquid Munich malt extract
8 oz. (227 g) Weyermann Caramunich® II malt (45 °L)
6 oz. (170 g) Weyermann Carared® malt (20 °L)
2 oz. (57 g) Weyermann Carafa® Special II malt (430 °L)
2.6 AAU Czech Saaz hops (FWH) (0.75 oz./21 g at 3.5% alpha acids)
3.5 AAU Czech Saaz hops (30 min.) (1 oz./28 g at 3.5% alpha acids)
2.6 AAU Czech Saaz hops (5 min.) (0.75 oz./21 g at 3.5% alpha acids)
1 oz. (28 g) Czech Saaz hops (0 min.)
White Labs WLP802 (Czech Budejovice Lager) or Wyeast 2278 (Czech Pils) yeast
¾ cup corn sugar (if priming)

STEP BY STEP

Use 6 gallons (23 L) of water in the brew kettle; heat to 158 °F (70 °C). Steep Caramunich®, Carared®, and Carafa® malts for 30 minutes, then remove and rinse. Turn off heat.

Add the malt extracts and stir thoroughly to dissolve the extract completely. You do not want to feel liquid extract at the bottom of the kettle when stirring. Turn the heat back on and bring to a boil. Boil the wort for 60 minutes, adding the hops at the times indicated in the recipe. Add the first wort hops just before turning the heat back on.

After the boil is complete, chill to 46 °F (8 °C). Oxygenate, then pitch the yeast starter. Start fermentation at 46 °F (8 °C) but allow the temperature to rise to 50 °F (10 °C) until fermentation is complete. Rack the beer.

Lager the beer at 32 °F (0 °C) for 11 weeks, then fine with gelatin or filter.

Prime and bottle condition, or keg and force carbonate to 2.5 volumes. If bottle conditioning, you may want to consider adding a bottle conditioning yeast strain and warm conditioning the beer at 68 °F (20 °C) for one to two weeks before chilling.

wonderful Saaz hops, which can at times have a sea breeze character. The balance of the Czech beers can run the gamut, and are sometimes quite sweet. More modern craft versions tend to have a higher bitterness level and less sweetness, while more traditional versions can be on the sweet side (due to both lower IBUs and higher final gravity).

Recognize that there is a range to Czech beer. Just like American pale ale can vary widely in bitterness, sweetness, and hop character, Czech lagers are the same. In general, there are enough differences from German lagers to break these out as their own unique styles, but understand that there is a broad range to them.

Czech amber lager has a deep amber to copper color from the use of specialty malts and a decoction mash schedule. The alcohol range can vary from 4.4% to 5.8%, reflecting the range of the "normal" and "special" Czech lagers. While the sweetness levels can vary, the Czech hops should be apparent in the aroma and flavor (and in more modern examples, the bitterness level as well).

BREWING INGREDIENTS AND METHODS

Czech beers are traditionally produced using decoction mashes, a practice that has largely been replaced in Germany with step mashes. Czech malts are often a bit undermodified, but Czech brewers will still perform decoction mashes with highly modified malts because of the flavor and mouthfeel advantages. Czechs feel the mash program will improve the drinkability, flavor, and body of the beer while improving mash efficiency and creating a smooth beer with individual character and increased stability.

Decoction mashing involves removing a portion of the mash (called the decoction) and boiling it in a separate vessel, often with mash rests along the way. Double decoction is the most common Czech method. The multiple decoction methods simply mean that more than one decoction is pulled during the mash schedule.

The color and flavor development in a decoction program comes from the Maillard reaction, which is a non-enzymatic browning process where amino acids and reducing sugars in malt and wort react in a moist, high-temperature environment to create rich flavors and deeper colors typically associated with roasted or seared foods that have developed a rich, brown color. It's a complex chemical reaction that can produce hundreds of flavor compounds as well as brown-colored melanoidins.

Czech malts are traditional, but German malts can certainly be used; a grain bill with a majority of Pilsner malt is common, sometimes with Munich or Vienna malt adding additional malt flavor. The use of mid-range caramel-type malts is common for flavor and color. Roasted malt flavor should not be present, but some darker color malts are often used for color adjustment. Dehusked varieties can limit the flavor impact while still adding color.

Czech hops (especially the Saaz variety) are characteristic for the style, particularly in the flavor and aroma. Czech beers normally are brewed using water with a very low mineral content; sulfates in particular are typically avoided. A Czech or a clean, malty German yeast strain works best, as Czech beers often have a very small bit of residual unfermented extract.

The hop character should be noticeable in the bitterness, flavor, and aroma. As with most Czech lagers, three hop additions are common, but dry hopping is not a traditional method. The fermentation profile is relatively clean, but not as clean as German beers. Low background levels of diacetyl and esters might be present, but aren't required; they should not adversely affect the flavor balance.

HOMEBREW EXAMPLES

My homebrew example on page 2 is a lower-gravity modern Czech amber lager. It has an OG of 1.045, which makes it an 11 °P beer, or one of the lighter examples. I like to think of it as an everyday beer, something you can keep on tap as a house beer for all occasions. The balance is somewhat hoppy (particularly in late hops), but the bitterness isn't extreme. The finished beer should be very drinkable, but is best enjoyed by people who enjoy some bitterness in beer as well as a lot of flavor.

Since this is a Czech recipe, it's going to have an involved mash schedule. Czechs love decoction mashes, so this one uses a proper Czech double decoction. Authentic Czech malts are preferred but are somewhat hard to find, so using German malts will do fine. The specialty malts are German (I call for Weyermann brand malts, but others are readily available).

Some people (wrongly) claim that decoctions don't do anything, or that you can't taste the difference. If you think that's true, you probably aren't doing your decoctions correctly or you aren't attuned to the nuances in richness and body that decoctions can enhance. Try this schedule before writing the method off. The Czechs really are adamant about this being an essential part of the character of their lagers.

About 90% of the grist is the base malt, which contains Pilsner, Vienna, and Munich malt. Rich, malty continental styles often use a blend of these malts. The Munich is a relatively low percentage because this should not wind up tasting too much like a bock. Remember that the decoction mash will increase the rich malt flavors and color of the beer, as well as improve the mouthfeel.

I wouldn't really substitute domestic North American malts for the continental malts. I think those malts are richer and cleaner in flavor profile, particularly in the Vienna and Munich products. If you want to brew Czech-style lager it is best to use malts like those used by Czech brewers.

The rest of the grist is crystal-type malts to provide the caramel flavors and reddish color. The dark malt is simply for color adjustment and

shouldn't provide noticeable flavor.

The hops are all Czech Saaz, which are featured in most authentic Czech beers. Here is where you really see the departure from a Vienna lager recipe. There is considerable hop flavor and aroma in this beer. The perceived bitterness is somewhat similar to a Vienna, but since there is a bit more residual malt sweetness, the IBUs can go a bit higher to balance. If you can't get good fresh Czech Saaz hops, I'd substitute fresh US Sterling hops. They really are a fine choice, and I'd rather go with fresh hops than those of authentic parentage.

The fermentation schedule is Czech as well. A low temperature fermentation and a traditional lagering period of one week per degree Plato of original extract is used. German lager yeasts taste good, although they tend to be a bit too clean for this style. I like to use the WLP833 (German Bock) yeast sometimes, but it won't have as rustic a quality. The WLP802 (Czech Budejovice Lager) yeast is a good choice, but other Czech lager yeasts can be used.

Note that Czech lagers can have borderline diacetyl. If you don't care for this flavor, use a diacetyl rest or swap in a cleaner German yeast. The flavor should never really be above threshold level, so please don't try for a butter beer. The perception of diacetyl varies by person, and is also temperature-dependent. So try your beer at different serving temperatures to see if you have a problem (cooler temperatures reduce the perception of diacetyl, generally).

When you look at the statistics for the recipe, keep two things in mind. My recipe program doesn't assign any IBUs to hops added at knockout. That's not true; they're more like a 10 minute addition. Also, the program doesn't adjust the color based on the mash method. Using a decoction mash (especially a double or triple decoction) will darken the beer resulting in a deeper color than indicated. So don't go by those calculated values as much; trust your perceptions of the finished beer.

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