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# **MUNICH DUNKEL**



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BY GORDON STRONG

# MUNICH DUNKEL

Munich dunkel captures historical Bavarian brewing in a glass: Munich malt, decoction mashing, and clean, smooth lager character.

## MUNICH DUNKEL BY THE NUMBERS

OG: ..... 1.048–1.056  
FG: ..... 1.010–1.016  
SRM: ..... 14–28  
IBU: ..... 18–28  
ABV: ..... 4.5–5.6%

Photo by Charles A. Parker/Images Plus



**M**unich dunkel is kind of like the dark mild of Germany — it just doesn't get the respect it deserves. Overshadowed by newer styles and flashier ingredients, it remains a solid everyday drinking beer. Enjoyable with food and not demanding on the palate, this beer is perhaps a throwback to simpler times when a good tasting beer (and maybe a pretzel) was all you needed.

I think about Munich dunkel along with the other beers of Bavaria: The normal-strength helles, dunkel, and schwarzbier, and the stronger Märzen, festbier, and bocks. The standard-strength beers are all malty, with the helles being pale, the dunkel dark (darker than amber), and the schwarzbier dark and roasty. The helles and dunkel have a malty balance, while the schwarzbier can be more bitter (but not burnt). None of these are as strong (or as malty) as a bock or other fest-type beers.

Munich dunkel captures historical Bavarian brewing in a glass: Munich malt, decoction mashing, and clean, smooth lager character. A fellow homebrewer, Darren Link, once asked me for tips on brewing this style. I told him to use dark Munich malt, a decoction mash, noble hops for bitterness at about 20 IBU, clean German lager yeast, and maybe a little Carafa® Special to adjust the color. Jump forward about a year when I was judging the best-of-show round at a local homebrew competition. Found in that line-up was a spot-on Munich dunkel, which turned out to be Darren's beer. I asked him for the recipe, to which he laughed and said I had told him everything he needed to know.

I still asked Darren for his recipe since I wanted to know what tweaks he had given it. He used a touch of melanoidin malt since he did a single infu-

sion mash, but the rest was basically what I had described. He has since gone pro and still makes this beer at the Fifth Street Brewpub in Dayton, Ohio. He calls it "Funnel" because of me; apparently, I had texted "dunkel" to him but my phone autocorrected it to "funnel" and he thought it was hilarious. Thank you Siri.

The Beer Judge Certification Program (BJCP) groups dunkel and schwarzbier in Category 8, dark European lager, with dunkel being style 8A.

## HISTORY

Bavarian lagers developed due to some regulatory and technological influences in medieval times. The Reinheitsgebot of 1516 was a beer purity law, but also was designed to keep wheat out of beer. Summer brewing was outlawed in 1553, which led to cool weather brewing and storage methods that favored the selection of lager yeast and brewing methods. Beer in Bavaria was dark by necessity until the early 1800s due to how malt was kilned. So a regional preference for these types of beers was established in Bavaria, although similar beers were made in Czech lands.

Munich malt was developed after improvements in kilning in the 1820s made it possible to have richer malts without a smoky taste. Gabriel Sedlmayr was able to take advantage of this malt at the Spaten brewery in Munich, developing the first modern dunkel in the 1830s. This led to what Michael Jackson called the heyday of dark lager in Bavaria from roughly the 1840s to 1890s.

The style persisted and never went away, but it remains somewhat of a regional specialty. Good commercial examples can be found from Ayinger, Spaten, König Ludwig, Ettaler, Hacker-

## MUNICH DUNKEL

(5 gallons/19 L, all-grain)  
OG = 1.049 FG = 1.012  
IBU = 21 SRM = 20  
ABV = 4.9%

### INGREDIENTS

10 lbs. (4.5 kg) Weyermann dark Munich malt (9 °L)  
4 oz. (113 g) melanoidin malt  
4 oz. (113 g) Weyermann Carafa® II Special malt  
5.5 AAU Tettnanger hops (60 min.) (1.25 oz/28 g at 4.4% alpha acid)  
White Labs WLP833 (German Bock Lager), Wyeast 2487 (Hella Bock Lager) or Mangrove Jack's M76 (Bavarian Lager) yeast  
¾ cup corn sugar (if priming)

### STEP BY STEP

This recipe uses reverse osmosis (RO) water. Adjust all brewing water to a pH of 5.5 using phosphoric acid. Add 1 tsp. of calcium chloride to the mash.

**Step mash:** Mash in Munich malt at 131 °F (55 °C) and rest for 10 minutes. Increase to 146 °F (63 °C) using direct heat or hot-water infusion and hold for 40 minutes. Increase to 158 °F (70 °C) using direct heat or hot-water infusion and hold for 30 minutes. Add Carafa® and melanoidin malts on to the top of the mash and raise to 168 °F (76 °C), then hold for 15 minutes while recirculating the wort. Fly sparge with 170 °F (77 °C) water, collecting 6.5 gallons (25 L) of wort.

Boil the wort for 90 minutes, adding hops at the times indicated in the recipe. A kettle fining can be added but a proper lagering should sufficiently clear the beer.

Chill the wort to 50 °F (10 °C), pitch the yeast, and ferment at this temperature until complete. Lager the beer at 32 °F (0 °C) for six weeks. Rack and package the beer, or rack and clarify the beer, if desired, with finings before packaging

(prime and bottle condition, or keg and force carbonate).

## MUNICH DUNKEL

(5 gallons/19 L, extract with grains)  
OG = 1.049 FG = 1.012  
IBU = 21 SRM = 20  
ABV = 4.9%

### INGREDIENTS

6.6 lbs. (3 kg) Munich liquid malt extract  
4 oz. (113 g) melanoidin malt  
4 oz. (113 g) Weyermann Carafa® II Special malt  
5.5 AAU Tettnanger hops (60 min.) (1.25 oz/28 g at 4.4% alpha acid)  
White Labs WLP833 (German Bock Lager), Wyeast 2487 (Hella Bock Lager) or Mangrove Jack's M76 (Bavarian Lager) yeast  
¾ cup corn sugar (if priming)

### STEP BY STEP

Start with 6 gallons (23 L) of water in the brew kettle; heat to 158 °F (70 °C). Steep the Carafa® and melanoidin malts for 30 minutes, then remove.

Turn off the heat. Add the liquid malt extract and stir thoroughly to dissolve completely. You do not want to feel liquid extract at the bottom of the kettle when stirring with your spoon. Turn the heat back on and bring to a boil.

Boil the wort for 60 minutes, adding remaining hops at the times indicated. A kettle fining can be added but a proper lagering should sufficiently clear the beer.

Chill the wort to 50 °F (10 °C), pitch the yeast, and ferment at this temperature until complete. Lager the beer at 32 °F (0 °C) for six weeks. Rack and package the beer, or rack and clarify the beer, if desired, with finings before packaging (prime and bottle condition, or keg and force carbonate).

### TIPS FOR SUCCESS:

Don't skimp on two important aspects with this style of beer: Appropriate yeast pitching and a proper lagering phase.

Pschorr, Hofbräu, and Weltenberger. American examples from Chuckanut Brewing, Von Trapp Brewing, Harpoon Brewery, The Olde Mecklenburg Brewery, and Penn Brewery are all quite good.

## SENSORY PROFILE

Munich dunkel is a malty beer that features a deep, complex, rich Munich malt flavor. There are bready-toasty flavors that often seem like toasted breadcrusts. Yet the beer isn't sugary sweet. You simply couldn't drink these beers a liter at a time if they were. The bitterness is on the low side so that the malt is emphasized, but the residual sugar is not high.

The quality of the malt is paramount in a proper Munich dunkel. Well-developed Maillard flavors permeate the beer, with some developed during the kilning of the malt, and others brought out during the mashing process. Background flavors of chocolate, nuts, caramel, and toffee can be present, but without sweetness, harshness, roasted, or astringent flavors.

The beer itself is a deep copper to dark brown, often with a reddish tint when held up to the light. The head is creamy with a light tan color. As a lagered beer, it is expected to be clear. The body is moderate, but the mouthfeel may feel a little more full due to dextrinous malts used. The beer should not feel heavy, though.

The hop character is minimal. Often without flavor or aroma hops, the bittering hops provide some balance at 20–25 IBUs. Classic German noble hops such as Hallertauer, Tettnanger, or Spalt are traditional.

The beer finishes relatively dry but with a malty aftertaste. Sweetness or pronounced caramel flavors are undesirable, although many may perceive a strong maltness as sweet. The fermentation profile is clean with no esters or fermentation byproducts. The lagering period smooths out the beer.

An average-strength beer, a Munich dunkel is typically around 5% ABV (plus or minus a half percent). It shouldn't have a warming, bock-like feel; it should be a beer you can easily drink in quantity.

Compared to other styles, the beer

has the balance of a Munich helles, but with a much richer malt flavor. It is not as strong, rich, or full-bodied as a bock. It should not have the roasted flavors of a schwarzbier; deep toasted malt is fine, but anything that gets roasty does this style a disservice. A Munich dunkel has less hops than its cousin, the Czech dark lager, with a cleaner German profile and slightly richer malt flavor. The toasted malt flavors are deeper in character than a Märzen.

## BREWING INGREDIENTS AND

### METHODS

Munich malt plays a major role in this style, with dark Munich malt being the choice of many German brewers. It can be used for the entire grist, but is often transformed further through the use of the traditional decoction mash. It is one of the few styles where a triple decoction mash is traditional, although few use this intensive process today.

An interesting alternative to the triple decoction mash is to use a step mash, followed by a kettle mash. This is a single decoction mash program, but boils the entire thick portion of the mash. The enzyme-rich thin portion is drained off after the final saccharification rest, the thick portion is boiled for 20–30 minutes, then the two portions are recombined to complete the mash program.

Both of these mash programs develop intense Maillard reaction products that give the rich, toffee, almost meaty flavors. The use of specialty malts and caramel-type malts is rare, or kept to a low percentage to avoid an overly sugary-sweet flavor and to keep the body in check.

Step mashes do not develop the same flavors as decoction mashes but are important in creating a well-attenuated beer that still has a pleasant body and mouthfeel without being heavy. Continental barley tends to be higher in protein than other European maritime malts, so these mash programs help develop the right character in the beer. Since more highly kilned malts such as Munich can be lower in enzymes, the more intensive mash programs also help guarantee proper

conversion of starches in the mash.

Using specialty malts to add color, malty sweetness, and flavor are tricky since they never really give the same combination of flavor, body, and character as developing them naturally from Munich malts. Using color malts that impart too much of a roasted flavor are especially problematic. Color adjustment using de-husked malts such as Carafa® Special are fine, but it's better to have a paler version of the beer than one with the wrong flavors.

Traditional German hops are used, such as Hallertauer, Tettnanger, or Spalt, but since the beer doesn't have much of a hop character, this isn't critical. American versions can be substituted, such as Liberty, Vanguard, Crystal, Mt. Hood, Santiam, or Sterling, but any hop should not have a strong character that interferes with the malt.

German lager yeast, fermentation process, and lagering methods are traditional. German lager yeasts that are clean, low sulfur-producing, and slightly malty are best. A cool fermentation followed by a long, cold lagering period reduces yeast byproducts and creates the smooth character that is desired.

Munich water is moderately carbonate, but the beer doesn't have a mineral taste. Sulfur in the water should be avoided since the sharp dryness is not desirable in this style. Relatively neutral water can produce good results, as with the Czech lagers.

## HOMEBREW EXAMPLE

This recipe is somewhat of a compromise in mash techniques. Traditionally, this is a decocted style, but we're going to use a step mash and a little extra character malt instead. If you want to use a decoction, I'll describe that as well.

The base malt is almost all dark Munich; I prefer Weyermann Munich II malt for this beer. Note that if you use another malt, check the color specifications and conversion capabilities because not all dark Munich is the same. Given a choice, choose the ones with the least color. If you can't find the dark Munich malt, substitute Munich but understand that the flavor will be less malty.

The step mash program helps create an attenuated beer that still has some body, which is a hallmark of German styles. The melanoidin malt adds an extra toasted-breadcrust flavor, while the Carafa® Special II adjusts the color darker without adding much flavor. The rich dark Munich malt carries the beer.

If you want to decoct the beer, go ahead but delete the melanoidin and Carafa® malts. Use the same rest temperatures for a traditional triple decoction beer as indicated in the step mash. The beer can also be made using a single decoction, but I like to use a kettle mash technique. This technique uses the same steps as the step mash, but after resting at 158 °F (70 °C), drain the liquid portion of the mash and reserve. Bring the full thick portion of the mash to a boil, and boil for 20 minutes, then mix back in the reserved thin portion. Hold for 20 minutes, then proceed to lauter.

German noble hops provide 21 IBU of bittering, which is enough to balance the malt and not make the beer seem sweet. However, the beer should not have a bitter finish and aftertaste. No aroma or flavor hops are needed; the malt should be foremost in the balance.

Any neutral German lager yeast will work; however, I prefer the White Labs WLP833 (German Bock) yeast, which reportedly is from Ayinger. It gives a malty profile to the finished beer and doesn't throw much sulfur. It can sometimes be hard to find, so a good substitute is the workhorse Weihenstephan yeast (White Labs WLP830, Wyeast 2124 Bohemian Lager, Saflager W34/70).

The fermentation and lagering process is pretty standard for German beers. I don't find that these yeast strains produce diacetyl during normal processes, so I only do a diacetyl rest if needed. A cool fermentation followed by a cold lagering period adds the clean smoothness so characteristic of a proper lager.

Remember that the finished beer should be somewhat dark but not really have a dark malt, roasty character. The balance should be malty but not sweet, with a somewhat lean body that

allows you to drink these a liter at a time. It's a difficult balance to pull off properly, but when it's right, it's a magical beer. 