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SCOTTISH ALE



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Scottish Ales

by Jamil Zainasheff

SCOTTISH ALES by the numbers

OG:1.038–1.040 (8.8–10 °P)
FG:1.010–1.015 (2.6–3.8 °P)
SRM:9–17
IBU:10–25
ABV:3.2–3.9%

the first Scottish ale I ever brewed was a sixty-shilling ale that turned out thin and watery, so I set the keg aside and forgot about it. About a year later I came across the keg and tried what I thought was going to be a stale, thin beer. Instead it had been magically transformed. The head was now fine, thick, and long lasting and the beer seemed to have a lot more body. I entered it in competitions and, sure enough, it placed high every time. This success triggered my interest in Scottish ale and taught me that even small beers can benefit from some period of cold conditioning.

This is a style that can be brewed at a variety of strengths. The Beer Judge Certification Program (BJCP) style guide includes 60/-, 70/-, and 80/- Scottish ales. Many years ago the price of a cask of Scottish ale including the tax was given in shillings. This was written as the number of shillings, a slash, and then the number of pence (shillings/pence). When there are no pence, they would write a dash instead (shillings/-). When you see 70/-, read it as “seventy shilling.” Today the shilling number is still a relative indication of one beer’s strength to another, and in Scotland, when ordering Scottish ale, you ask for a “seventy” or an “eighty.” Unfortunately, 60/- is virtually non-existent at pubs in Scotland today. In the U.S., the trend is also toward the higher alcohol versions such as 80/- and more (Odell Brewing Company of Fort Collins, Colorado makes an award-winning 90/-).

Most Scottish ales range in color from very light amber to a deep copper color. They are very clean beers with few apparent esters, except when made as big beers. They have a malt-focused aroma, with bread and toasted malt notes, caramel, and some residual malt sweetness. Most classic examples have just enough hop bitterness to keep the beer from being

too sweet. Generally, any hop flavor and aroma is found in trace amounts from the early bittering addition. The body is thinner on the smaller beers and full on the big beers, but they should never be thin and watery or super thick and heavy.

Some beer judges will detect slight peat smoke notes in this style, even when there is no peat malt used. Perhaps it is the combination of roasted malt and malt sweetness or perhaps it is something else in combination with minor oxidation that is perceived as a very slight smoky, earthy, or peat-like note. Contrary to popular belief, there should never be peat smoked malt in Scottish ale. Much confusion was caused a number of years ago when some written descriptions mentioned peat or smoked character in these beers. Brewers took this description to heart and started adding peat smoked malt to Scottish beers and judges started hunting for any suggestion of it. I’ve heard some people say it is the water or the yeast that provides this peat character, but the water and clean ale yeast I use don’t produce peat or smoke character in any of my other beers. Yet many beer judges do comment on peat smoke character in my Scottish ales. I’m not saying that they don’t actually have that perception, but I think for many judges, they probably try a little too hard to find peat character in Scottish ales and it is actually more imagination than reality. While the judging of this style continues to improve, every now and then I still hear of judges asking brewers to add peat smoked malt to their beers, which is wrong. Do not add peat malt to any of the beers in this category. If you do, it isn’t really a Scottish ale, it’s a smoked beer.

The basis for today’s Scottish ales is well-modified British pale ale malt. British pale ale malt is kilned slightly darker (2.5 to 3.5 °L) than the average American two-row or pale malt



Scottish Heavy 70/- (5 gallons/19 L, all-grain)

OG = 1.038 (9.5 °P)

FG = 1.014 (3.5 °P)

IBU = 15 SRM = 15 ABV = 3.2%

This recipe makes a great Scottish 70/- and you can adjust it to make 60/-, 70/- or 80/- beers. When increasing or decreasing the starting gravity of a recipe, the specialty grains remain the same; it is only the base malt and hop bittering that changes.

Ingredients

5.5 lbs. (2.5 kg) British pale ale malt (3 °L)

1.0 lb. (0.45 kg) crystal malt (40 °L)

0.5 lb. (227 g) honey malt (18 °L)

0.5 lb. (227 g) Munich malt (8 °L)

0.25 lb. (113 g) crystal malt (120 °L)

3.0 oz. (85 g) pale chocolate malt (200 °L)

3.15 AAU East Kent Goldings hops (0.63 oz./18 g of 5% alpha acid) (60 mins)

White Labs WLP001 (California Ale) or Wyeast 1056 (American Ale) yeast

Step by Step

Mill the grains and dough-in targeting a mash of around 1.5 quarts (1.4 L) of water to 1 pound (0.45 kg) of grain (a liquor-to-grist ratio of about 3:1 by weight) and a temperature of 158 °F (70 °C). Hold the mash at 158 °F (70 °C) for 60 minutes to allow for proper grain hydration and enzymatic conversion.

Infuse the mash with near boiling water while stirring or with a recirculating mash system raise the temperature to mash out at 168 °F (76 °C). Sparge slowly with 170 °F (77 °C) water, collecting wort until the pre-boil kettle volume is around 6.5 gallons (25 L) and the gravity is 1.029 (7.4 °P). The total wort boil time is 90 minutes. Add the bittering hops with 60 minutes remaining in the boil. Add Irish moss or other kettle finings with 15 minutes left in

the boil. Chill the wort to 65 °F (18 °C) and aerate thoroughly. The proper pitch rate is one package of liquid yeast in a 1-liter starter.

Ferment at 65 °F (18 °C) until the yeast drops clear. Fermentation will be slow and steady at this temperature and with healthy yeast, fermentation should be complete in about one week. Allow the lees to settle and the brew to mature without pressure for another two days after fermentation appears finished. Rack to a keg and force carbonate or rack to a bottling bucket, add priming sugar, and bottle. Serve at 48 to 52 °F (9 to 11 °C). Allowing the beer to cold condition at 40 °F (4 °C) or lower for several months will improve the beer.

60/- and 80/- options:

To make a 60/- ale, decrease the British pale ale malt to 4.75 lb (2.15 kg) and reduce the hop addition to 0.56 oz (16 g). The post-boil gravity should be 1.034 (8.6 °P).

To make an 80/- ale, increase the British pale ale malt to 8.5 lb (3.85 kg) and increase the hop addition to 0.85 oz (24 g). The post boil gravity should be 1.053 (13 °P). Use two liquid yeast packages or make a 1.5-liter starter using one yeast package.

Scottish Heavy 70/-

(5 gallons/19 L,

extract with grains)

OG = 1.038 (9.5 °P)

FG = 1.014 (3.5 °P)

IBU = 15 SRM = 15 ABV = 3.2%

Ingredients

3.6 lbs. (1.63 kg) English pale ale liquid malt extract (3.5 °L)

1.0 lb. (0.45 kg) crystal malt (40 °L)

0.5 lb. (227 g) honey malt (18 °L)

0.5 lb. (227 g) Munich malt (8 °L)

0.25 lb. (113 g) crystal malt (120 °L)

3.0 oz. (85 g) pale chocolate (200 °L)

3.15 AAU East Kent Goldings hops

(0.63 oz./18 g of 5% alpha acid) (60 mins.)

White Labs WLP001 (California Ale) or Wyeast 1056 (American Ale) yeast

Step by Step

Mill or coarsely crack the specialty malts. Mix them well and place loosely in a grain bag. Steep the bag in about two gallons (~8 L) of water at roughly 170 °F (77 °C) for about 30 minutes. Lift the grain bag out of the steeping liquid and rinse with warm water. Allow the bags to drip into the kettle for a few minutes while you add the malt extract. Do not squeeze the bags. Add enough water to the steeping liquor and malt extract to make a pre-boil volume of 5.9 gallons (22 L) and a gravity of 1.032 (8.2 °P). Stir thoroughly to help dissolve the extract and bring to a boil.

Once the wort is boiling, add the bittering hops. The total wort boil time is one hour after adding the bittering hops. During that time add the Irish moss or other kettle finings at 15 minutes before shut-down. Chill the wort to 65 °F (18 °C) and aerate thoroughly. The proper pitch rate is one package of liquid yeast in a 1-liter starter. Follow the fermentation and packaging instructions for the all-grain version.

60/- and 80/- options:

To make a 60/- ale, decrease the English pale ale extract to 3.1 lb (1.4 kg) and reduce the hop addition to 0.56 oz (16 g). The post boil gravity should be 1.034 (8.6 °P).

To make an 80/- ale, increase the English pale ale extract to 5.6 lb (2.5 kg) and increase the hop addition to 0.85 oz (24 g). The post boil gravity should be 1.053 (13.1 °P). Use two liquid yeast packages or make a 1.5-liter starter using one yeast package.

(1.5 to 2.5 °L) and this higher level of kilning brings out the malt's biscuity flavors. A few malt companies (Crisp Malting is one) still produce British pale ale malt from cultivars such as Maris Otter and Golden Promise using a traditional floor malting method. The result is malt with a slightly darker color (3.5 to 4.0 °L) and more flavor than other pale ale malts. It provides a biscuit and bread-like maltiness that is fundamental to these styles. While you can use North American two-row malt in a pinch (~1.5 °L), the more highly-kilned North American pale ale malt (~2.5 °L) is a better choice.

Highly-modified British malts are perfectly suited to single infusion mashes, which is typical for all Scottish beers. Mash around 158 °F (70 °C) for Scottish ales, to produce highly dextrinous wort. Highly dextrinous wort (created through proper mash temperature and a substantial amount of specialty grains) is needed in this style, as it creates a beer with more non-fermentable, complex sugars. It is these polysaccharides, which provide enough body to keep the beer from being thin and watery.

If you're brewing with extract, your best choice is an extract made from British pale ale malt. There are some British style malt extracts currently on the market made from 100% Maris Otter malt and they are an excellent choice for Scottish beers. If you must use North American two-row malt or extract made from it, you'll need to compensate with some additional specialty malts such as biscuit or Victory®, but remember to use restraint.

There are two schools of thought when brewing Scottish ale. One camp brews this style using pale ale malt, a touch of black malt or roasted barley for color, heavy kettle caramelization to develop caramel flavors, and an extended boil to develop additional melanoidins. The other camp, based on an idea I first learned from Ray Daniels, uses specialty malts, such as crystal, honey and Munich to provide the characteristic malty, caramel flavors of Scottish ale instead

“If you have particularly hard water, you might cut it with distilled water or boil your water to precipitate some of the calcium carbonate.”

of a caramelizing step and an extended boil.

In my experience, beers made with heavy kettle caramelization often have a strong toffee note, which many people describe as buttery and a flaw in the beer. While it may not be very traditional, I prefer the specialty grain method.

When using the specialty grain method you're trying to create three characteristics in the beer: a rich, malty flavor of bread and toast, a caramel sweetness, and a slight background roast grain note. For highlighting the malt character, I like Munich and honey malt for approximately 10% of the grist. A bold dose of mid-color crystal malt (~40 °L), as much as 15%, creates an easily recognizable caramel sweetness. A touch of dark crystal malt (~120 °L) adds some interesting background burnt caramel and raisin notes. Many other recipes out there use a dash of highly-kilned grain in the 500 °L or darker color range. I find that a bit much and prefer to use lighter kilned malt, specifically pale chocolate (200 °L). Along with a slight roast note, the pale chocolate lends a deep, dark, toasted bread note to the beer.

Good hop choices for Scottish ales are East Kent Goldings or Fuggles. The hop bitterness in this style is quite subdued — just enough to keep the beer from being overly sweet. Hop flavor and aroma should be from very low to none at all. A single addition early in the boil is all that is needed. Target a bitterness to starting

gravity (IBU divided by OG) ratio around 0.3 to 0.5.

Scottish ale is traditionally brewed with fairly soft water, which keeps the hop bitterness from being sharp and enhances the soft maltiness of the beer. If you have particularly hard water, you might cut it with distilled water or boil your water to precipitate some of the calcium carbonate. I have moderately hard water, but I only adjust my water for proper mash pH when brewing Scottish ales. If your water tastes good, it will usually make a fine Scottish ale.

Yeast selection for Scottish ales is quite straightforward: pick a clean-fermenting ale yeast with moderate attenuation. Many brewers find White Labs WLP028 (Edinburgh Ale) and Wyeast 1728 (Scottish Ale) yeast satisfactory. However, I prefer White Labs WLP001 (California Ale) or Wyeast 1056 (American Ale). These are both very clean fermenting yeasts, lacking most of the diacetyl and ester production of other yeasts, and with a combination of cool, controlled fermentation, a relatively high mash temperature, and plenty of specialty malts the attenuation is moderate. If you're making a big beer and want it to have a bit more esters, the Edinburgh/Scottish yeast is a good choice. Ferment around 60 to 62 °F (16 to 17 °C) with the Edinburgh or Scottish yeast or 65 °F (18 °C) with the California Ale or American Ale yeast. Cold conditioning the beer for a month or two at near freezing temperatures helps it mature.

Scottish ales require a relatively low level of carbonation. Add just enough to impart a bit of mouthfeel and to drive the aroma out of the glass and up to your nose. Too much carbonation makes the smaller beers seem dry, harsh, and acidic, while gentle carbonation can make them feel creamy and soft. Aim for 1.5 to 2.0 volumes of CO₂ for bottled product. This is about two-thirds of the carbonation of a typical American pale ale, so you'd use two-thirds the amount of priming sugar at bottling time. If you keg or cask condition your beer, aim for 1.0 to 1.5 volumes. 

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