

Rye: It's back, bigger, better than ever!

'Adjunct' means "an addendum" or "a complement to," and that's what the "specialty grains" in craft beer do. These grains are used as a complement to barley, to enhance an experience, broaden flavor and mouthfeel.

Whether you enjoy the big mouthfeel of an oatmeal stout, the crisp edge of a "rye-P.A.," or the refreshing, light drinkability of a wheat beer, much of the depth and personality of your beer is due to adjuncts. Surprisingly, these grains have been utilized in beers for hundreds of years, and are now re-emerging in new ways.

German-Style Roggenbier

The German-style Roggenbier originated centuries ago in what is now Germany. The Beer Judge Certification Program (BJCP) classifies a Roggenbier as "a specialty beer originally brewed in Regensburg, Bavaria as a more distinctive variant of a dunkelweizen using malted rye instead of malted wheat."

To be considered a Roggenbier according to the World Beer Cup, the grain bill must consist of at least 30 percent rye, and in some instances up to 65 percent, which is impressive as rye is historically difficult to work with as a primary grain. These beers typically have a medium-heavy mouthfeel, sharp rye flavor and are often infused with weizen yeast taste and aroma.

Commercial Examples

FATE Norns | FATE Brewing Co. | Boulder, CO

Norm Is A Son Of A Bitch | Spiteful Brewing | Chicago, IL

Rogue Farms Roguenbier Rye | Rogue Ales | Newport, OR

Rye Today

For the small-scale brewer in particular, experimentation and curiosity, not necessity, are guiding forces in the development of new brews. Enter rye, an often overlooked grain with a distinctive flavor, which has been kindling interest over the last couple of years among microbrewers, home brewers, and beer drinkers alike.

Mention rye and the average person thinks of dense, flavorful breads, crisp crackers, distilled spirits. "Beer" does not immediately leap to most minds. Yet rye makes for an interesting recipe component, contributing a distinctive, refreshing flavor; its growing presence on the beer frontier is well justified in light of its unique contributions to the taste and quality of beer.

Most rye beers currently available in brewpubs across the United States don't have an instantly recognizable rye quality to them. Rye's main contribution as an ingredient is its enhancement of the overall complexity of the beer's flavor.

Although the crisp, slightly spicy rye flavor does emerge somewhat distinctly (usually at the finish), at the proportions generally used it is neither too forceful nor overpowering.

The subtlety of the rye flavor is due to a variety of factors, including the amount of rye used in the recipe, the form of rye used, the hopping level, the type of yeast used in the recipe, and the other ingredients involved in the brew.

Yet despite rye's many positive attributes, it is not without drawbacks when used as an adjunct or recipe component; unexpected difficulties can arise when brewing with rye, and first batches have proved disastrous for many skilled brewers.

Brewing with Rye

Most microbreweries use a 10-20% rye concentration in their recipes. Higher levels of rye can result in both brewing and marketing complications. Using proportions of rye as high as 50%; the rye really comes out in this concentration, and such a strong brew is neither for the faint of heart nor the beer drinker with ambivalent feelings about the taste of rye. Most experienced brewers of rye beer, or Roggenbier, as it is called in Germany, agree that a recipe calling for 10-20% rye makes for a good starting point; if a stronger flavor is desired, levels can be gradually adjusted upward in subsequent batches.

In many ways, the flavor of rye beer is reminiscent of wheat beers. Light bodied and somewhat dry, rye beers tend to have a nice head and an interesting grainy, slightly spicy flavor. Brewers have also discovered similarities in the physical properties of rye and wheat, which lead to similar problems when brewing with these grains.

Like wheat, rye comes in hulled form. The lack of a hull, combined with rye's high water retention capacity, can create a very sticky mash prone to setting.

When brewing with rye, it is a good idea to keep the following hints in mind:

- Increase the mash temperature 1-2 degrees to increase the runoff (note: increasing the temperature too much creates off flavors, so care is required)
- Add extra water to the mash, as needed, to keep it as thin as possible
- Give the mash a good beta glucan rest
- A simple one-step infusion is best, especially if you use a lot of rye in your recipe
- Avoid combining rye with raw barley; raw barley also has high levels of beta-glucans, and this could make for an extremely sticky combination.

Commercial Examples

Cane and Ebel (red rye ale) | Two Brothers Brewing Co.
Warrenville, IL

Hop Rod Rye (rye IPA) | Bear Republic Brewing Co.
Healdsburg, CA

Red's Rye IPA | Founders Brewing Co.
Grand Rapids, MI

Rich & Dan's Rye IPA | Harpoon Brewery
Boston, MA

Ruthless Rye (IPA) | Sierra Nevada Brewing Co.
Chico, CA

Wookey Jack (black rye IPA) | Firestone Walker Brewing Co.
Paso Robles, CA

- Expect a long sparge (approximately 30-50% longer) regardless of precautionary measures. Like oatmeal, rye becomes heavy and sticky in the mash. The form of rye used (malt, flakes, rolled or crushed) will not only affect the intensity of the beer's rye flavor, but will also greatly affect the wort and mash consistency.

Rye Forms

Rye can be obtained in a variety of forms. Selecting the right form for you is a matter of deciding on the type and intensity of flavor desired, how much time you want to spend on the brewing process, and how much you are willing to spend on the rye, among other considerations.

Whole rye berries can be used, but they must be cracked first and then cooked in a cereal cooker for gelatinization. The cereal should be heated and stirred until it stops thickening (an indication that most of the starches have been exploded) and then added to the mash. Using this several-step process not only adds preparation time to the brewing process, but, compared to using rye flakes, whole-grain rye tends to increase runoff and sparge times because the cracked rye is quite sticky and doesn't dissolve in solution as readily as commercially available rye flakes.

Rolled rye, inexpensive form of rye. During the rolling process, the rye is flattened under hot, heavy rollers. The heat and pressure from the rollers gelatinizes the rye starch, thus eliminating the need for precooking the rye. Rolled rye makes a good, readily available adjunct, which is why so many brewers began their first rye beer experiments with it.

Roasted rye, more difficult to find but available through specialty stores such as Liberty Malt Supply (Seattle), provide yet another option for experimentation.

Rye malt adds a distinct flavor to the brew. Malting modifies the rye grain in a way that eliminates some of the unwanted effects that are present when using unmalted rye.

Rye flakes may provide the most trouble-free source of rye for your recipe; rye flakes available from Briess Malting Company (Chilton, Wisconsin) disintegrate readily and can be obtained through homebrew supply stores.

Weyermann® Chocolate Rye Malt

188-300° L. Use 1-5% to add color and a subtle roasty character to Dunkelweizen, Roggenbier, or other specialty ales.

Tasting Samples

Bear Republic Hop Rod Rye Ale

Style: Rye IPA

ABV: 8

IBU: 80

Color: Amber

COMMERCIAL DESCRIPTION

A high gravity IPA brewed with 18% rye malt. Hop Rod Rye has a floral hop aroma and subtle caramel notes with a slightly earthy and spicy rye character. 2009 California State Fair – GOLD 2003 California State Fair – GOLD 2002 Real Ale Festival (Chicago) – GOLD

Wookey Jack

2012 Great American Beer Festival Gold Medal (American-Style Black Ale)

Style: Unfiltered Black Rye IPA

ABV: 8.3%

IBU: 80

COLOR: 45 SRM

Fermentation: 100% Stainless Steel

Malts: Pale Malt, Malted Rye, Dash of Cara-Rye, Midnight Wheat from Briess, De-Bittered Black Malt (Weyermann - Germany/Patagonia malting - Chile), Dash of Wookey dust

Hops: German Magnum (bittering), Citra & Amarillo (flavor/aroma and double dry-hopped)

A unique twist on the Cascadian Dark Ale style. Wookey Jack offers true hop aroma to rival most IPAs, with pungent citrus and herbal hop nuances, a hint of peppery rye and earthiness on the nose. Big roasty malt flavors with balanced hop bitterness and spicy rye offer a full and complex texture with a refined bittered finish. A truly different IPA for dark beer fans.

Recipes

Smoking Wood Porter

5 gal recipe

8# pale malt

3# smoked pale malt (crack before smoking 45 min 200F)

.5# 120L crystal malt

1 # chocolate malt

2# rye malt

1# oak flakes

1# rye flakes

1# rice hulls added at end

Mash at 150F for 60 min and sparge slowly with 170F water to help sparge rye.

Collect runnings. Boil (approx. 7 gal of wort) for a total of 90 min.

At boil, add .5# DME.

60 min boil, check gravity to adjust bittering use 30ibu Perle hops

15 min boil, add 5 ibu Perle, add .5# lactose.

Cool to 75F and oxygenate with pure O2, pitch strong Scottish yeast. After 24 hours, oxygenate again. After all fermentation has ceased, transfer to secondary. Add the equivalent of 12 oak strips which have been roasted 375F for 30 min and after cooling, soak in bourbon and add strips to secondary. Let sit for about 2 months.

India Black Nut Rye

5 Gal Batch 1.109 OG

80 IBU 52 SRM 10% ABV

90 Min Boil Mash 154°F 1Hr

10 lb LME Pilsen Briess

1 lb Crystal Rye 75L Thomas Fawcett

1 lb Rye Malt Great Western

1 lb Caramel 80L Briess

1 lb Pale Malt Great Western

1 lb Blackprinz Briess

8 oz Carapils Briess

8 oz Chocolate Malt 375L Thomas Fawcett

8 oz Victory Malt Briess

4 oz Red Wheat Briess

0.5 oz Warrior 16.8% 90 min

1 oz Galena 13.2% 60 min

1 oz Galena 13.2% 30 min

3 oz Cascade 7.4% 0 min

4 oz Cascade 7.4% Dry Hop 14 days

California Ale Yeast WLP001