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New England IPA

BY GORDON STRONG

NEW ENGLAND IPA

Dry hopping is the biggest driver of hop character in this style.

NEW ENGLAND IPA
BY THE NUMBERS

OG:	1.060–1.085
FG:	1.010–1.015
SRM:	3–94
IBU:	45–80
ABV:	6–9%

Photo by Charles A. Parker/Images Plus

The inspiration for this column is a recent tweet that I posted (I'm @GordonStrong, by the way), "This is a FAQ for @BJCP_Official competitions: Enter New England IPA as 21B Specialty IPA. It's exactly why we created this style." This tweet was liked 43 times and retweeted 26 times, which is semi-viral for beer judging tweets, so I figured that this was a current topic worth addressing.

Perhaps it is a sign of the times, but contrast that tweet with another one I posted a few weeks later at a competition, "Judging a New England Cider. Remind me again, those are the really cloudy ones?" This was clearly a joke, since I was pointing out the new habit of some to use "New England" as synonymous with "cloudy" (like "imperial" has been used for "strong") but not everyone has a sense of humor. One person responded, "Is there a way to unlike this tweet since it's so un-PC." I'm not sure when beer styles became politically correct, but I have no interest in mixing politics and beer.

The New England IPA style showed up on the national beer consumer radar around 2011 when The Alchemist began canning Heady Topper, but it wasn't until after the 2015 Beer Judge Certification Program (BJCP) Style Guidelines were released that the style really exploded (at least, outside of New England) and became one of the most sought after styles. At the time the style guide was being revised we definitely foresaw continued experimentation and variations of IPAs. The 21B Specialty IPA style was created to house these new styles, but to be judged consistently a style description is in the works.

While it still seems like the style is evolving, it has become popular enough that there is demand for a competition reference. For those who haven't tried one of these, a New England IPA is basically an American IPA that features an intense, mostly tropical fruit, hop aroma and flavor, is heavily dry hopped to the point of being hazy, and that has a fuller body, smoother flavor, and less perceived bitterness than other popular IPA examples.

Commercial examples are expensive and don't travel well, so they can be hard to find outside of New England. Heady Topper is the best known example (and probably the original), but other good examples include Tree House Julius, Trillium Congress Street, Hill Farmstead Susan, and Tired Hands Alien Church. They generally follow the IPA and Double IPA styles for alcohol level, but some standard-strength versions exist (although they may be labeled as New England pale ales).

SENSORY PROFILE

The most common word used in beer enthusiast forums for this style seems to be "juicy," which can be somewhat misleading. I can think of several meanings, including "like juice," "mouth-watering," or "wet," but I think the implication is the sensory equivalent of eating ripe or over-ripe fruit, especially tropical fruit.

The first thing you will notice looking at an example of this style is that the beer is quite hazy. Not cloudy, murky, turbid, milky, or otherwise thick-looking with large suspended particles; just a somewhat opaque, shiny, light-reflecting haze. The beer should not look like a yeast starter or a protein shake. The color is fairly pale (straw to golden), but some examples can have an orange hue. The opacity of the haze can make the color appear slightly darker than it is. A dense,

ENGLAND IPA

(5 gallons/19 L, all-grain)
OG = 1.061 FG = 1.012
IBU = 56 SRM = 5 ABV = 6.5%

INGREDIENTS

9 lbs. (4.1 kg) US 2-row malt
2 lbs. (0.91 kg) UK Golden Promise malt
1 lb. (0.45 kg) flaked wheat
12 oz. (340 g) flaked oats
12.9 AAU Amarillo® hops (first wort hop) (1.5 oz./43 g at 8.6% alpha acids)
1.5 oz. (43 g) Amarillo® hops (0 min.)
1 oz. (28 g) Citra® hops (hop stand)
1 oz. (28 g) Galaxy™ hops (hop stand)
1 oz. (28 g) Mosaic® hops (hop stand)
3 oz. (85 g) Citra® hops (dry hop)
1.5 oz. (43 g) Galaxy™ hops (dry hop)
1.5 oz. (43 g) Mosaic® hops (dry hop)
GigaYeast GY054 (Vermont IPA) or White Labs WLP095 (Burlington Ale) yeast
¾ cup corn sugar (if priming)

STEP BY STEP

On brew day, prepare your ingredients; mill the grains, 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 ¾ tsp. calcium chloride ($CaCl_2$) and ¼ tsp. calcium sulfate ($CaSO_4$) to the mash.

On brew day, mash in all the grains at 152 °F (67 °C) in 5 gallons (19 L) of water, and hold this temperature for 60 minutes. Raise the temperature by infusion or direct heating to 168 °F (76 °C) to mashout. Recirculate for 15 minutes. Fly sparge with 168 °F (76 °C) water until 6.5 gallons (25 L) of wort is collected.

Boil the wort for 75 minutes, adding the hops at times indicated in the recipe. The first wort hops are added to the kettle just before lautering begins. The 0 minute hops get added right after the heat is turned off. Stir the wort gently and allow to cool to 180 °F (82 °C) then add the hop stand hops. Allow to stand for 20 minutes then chill to 64 °F (18 °C) and rack to the fermenter.

Oxygenate, then pitch the yeast. Start fermentation at 64 °F (18 °C), allowing temperature to rise naturally as fermentation progresses. Mix the dry hops and divide into three equal portions. The first portion gets added after two days of active fermentation. The second portion gets added at the end of fermentation. The third portion gets added three days after fermentation ends. Allow each dry hop addition to be in contact with the beer for two to three days, then remove.

Rack the beer, prime and bottle condition, or keg and force carbonate to 2.5 volumes. Do not filter or fine the beer.

NEW ENGLAND IPA

(5 gallons/19 L,
extract with grains)
OG = 1.061 FG = 1.012
IBU = 56 SRM = 5 ABV = 6.5%

INGREDIENTS

7.2 lbs. (3.3 kg) pale liquid malt extract
1 lb. (454 g) dried wheat or weizen malt extract
12.9 AAU Amarillo® hops (first wort hop) (1.5 oz./43 g at 8.6% alpha acids)
1.5 oz. (43 g) Amarillo® hops (0 min.)
1 oz. (28 g) Citra® hops (hop stand)
1 oz. (28 g) Galaxy™ hops (hop stand)
1 oz. (28 g) Mosaic® hops (hop stand)
3 oz. (85 g) Citra® hops (dry hop)
1.5 oz. (43 g) Galaxy™ hops (dry hop)
1.5 oz. (43 g) Mosaic® hops (dry hop)
GigaYeast GY054 (Vermont IPA) or White Labs WLP095 (Burlington Ale) 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). 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 with your spoon. Turn the heat back on and bring to a boil.

Boil the wort for 60 minutes, adding the hops at times indicated. The first wort hops are added to the kettle just after the malt extract is dissolved but before bringing to a boil. The 0 minute hops get added right after the heat is turned off. Stir the wort gently and allow to cool to 180 °F (82 °C) then add the hop stand hops. Allow to stand for 20 minutes then chill to 64 °F (18 °C) and rack to the fermenter.

Oxygenate, then pitch the yeast. Start fermentation at 64 °F (18 °C), allowing temperature to rise naturally as fermentation progresses. Mix the dry hops and divide into three equal portions. The first portion gets added after two days of active fermentation. The second portion gets added at the end of fermentation. The third portion gets added three days after fermentation ends. Allow each dry hop addition to be in contact with the beer for two to three days, then remove.

Rack the beer, prime and bottle condition, or keg and force carbonate to 2.5 volumes. Do not filter or fine the beer.

white, rocky, persistent head is common as well.

The aroma and flavor should be dominated by hops, which are quite intense and fresh. The hop varieties used are commonly associated with ripe or overripe tropical fruit (mango, passionfruit, guava, pineapple, papaya, etc.), but can also have some stone fruit (apricot, peach) or citrus (orange, tangerine) character. Excessively resiny, piney, dank, herbaceous, or grassy characteristics are not typically found.

The malt profile is relatively neutral, with grainy or bready flavors commonplace. Caramel is not typically found, particularly the darker caramel flavors. A light toasty, honey-like, or biscuity malt flavor can sometimes be found, but the malt should not interfere with the appreciation of the hops.

The apparent bitterness level for this style is generally less than traditional IPAs, often at the moderate level. The bitterness is generally smooth and clean in character. The finish is soft, and there is rarely a minerally dryness or bite. The body helps mask some of the bitterness and support the late hop character. Some of the stronger versions may have a light alcohol character, but as with other IPAs, this shouldn't be a hot or burning sensation.

While the beer is very fruity, it shouldn't be sugary sweet and heavy from unfermented sugars. The high ester level may increase the perception of sweetness, as can the smooth body, soft finish, and lack of harshness. However, the mouthfeel is more from dextrins than sugars. A high final gravity is not appropriate for the style as this would negatively impact drinkability.

INGREDIENTS & METHODS

This beer style is hop-driven, but the choice of specific hop varieties and methods used to extract their best qualities is paramount to the success of the recipe. To get the tropical fruit character, you'll have to use modern hop varieties such as Citra®, Mosaic®, Galaxy™, Azacca®, El Dorado, or newer experimental varieties that may only be known by a number. Hop descriptors aren't standardized, so you may wish to try small batch experiments before relying too heavily on expensive, untried varieties.

Additional body is gained through the use of unmalted grains such as flaked wheat and oats.

Hopping methods should be selected that avoid deriving too much bitterness from the hops while maximizing the extraction and preservation of positive hop oils. That's a big problem since the way you get more of a hoppy character is to add more hops. Using first wort hopping instead of a traditional boil addition can give a smoother bitterness and more hop flavor. Omitting traditional boil additions up until the last 15–20 minutes can reduce harshness extracted from the vegetal matter in hops.

Adding most of the hops at the end of the boil, at knockout, or in the whirlpool can retain more of the hop oils while reducing the bitterness extracted from the hops. One whirlpool trick is to allow the wort to cool down from the boiling point since this will reduce the utilization rate of hops. This hasn't been exactly determined, but I try to let the temperature reduce to 180 °F (82 °C) or less. Not all recipe software will calculate this effect properly (some will show zero utilization of hops added at knockout, for instance), so don't overdo your main bittering additions.

Dry hopping is the biggest driver of hop character in this style. Multiple dry hop additions add a more complex character. Keep the additions in contact with the beer for a shorter time frame (2–3 days, perhaps) to focus on the hop oils without getting too much of the vegetal/grassy character from hops. One area of new research is dry hopping during active fermentation in the hopes of achieving biotransformation of the hop oils. This basically means certain hop oils will be transformed by metabolic pathways of yeast into different chemicals with additional fruity properties. This phenomenon is not well understood or characterized, so some amount of trial and error is still being used.

The grist for this style is relatively simple. Mostly neutral base malt is used, although some characterful pale ale type base malts may join the party. Caramel flavors are not desirable, so any crystal type malts should be used with great restraint and mostly in the paler color range. I leave them out of my recipes, but that's the same thing I do with my normal IPAs too. Additional body is gained through the use of unmalted grains such as flaked wheat and oats. This practice is becoming more common in modern IPAs, but New England IPAs will use a higher percentage of these adjuncts. Simple mash programs are commonplace; I would avoid intensive step mashes since the additional body-building starches in the adjuncts are desirable.

I have heard of some recipes using raw starch, fruit purees, and other similar additives in the attempts to add haze and fruit character. The haze in this style is from the dry hopping process, not adding raw starch. Fruitiness comes from the hop choices, techniques, and biotransformation, not adding fruit.

The yeast selection is a matter open to debate. This style can be made with neutral or fruity American or English yeast. However, some swear by special strains derived from some of the well-known commercial producers. These products are available from some smaller yeast suppliers, such as GigaYeast GY054 Vermont IPA, Yeast Bay VT Ale Strain, or Omega Yeast Lab OYL-052 DIPA Ale. White Labs WLP095 (Burlington Ale) and Wyeast 1318 (London III) are also popular.

Nothing special needs to be done with the yeast, except perhaps allowing it to rise in temperature towards the end of fermentation to make sure it finishes strong and reduces any diacetyl present. Using other ester-producing techniques such as underpitching, using open fermenters, and fermenting warmer are not necessary. Try the bio-

transformation technique to see the effect of enhanced fruitiness before adding any other steps.

The water profile for this style is another matter open to debate among brewers. Some go quite heavy on the calcium chloride, which can give the beer a "wet" character. Some like to use some calcium sulfate to balance the bite. I prefer to go low on minerals in general, but you can tweak the balance of chloride to sulfate to help get the character you want. I don't want the sulfur character from too much sulfate, so avoid *Burtonizing* the water. I can see increasing the calcium sulfate level rather than manipulating mash temperatures as the way to fine-tune the dryness of the beer.

HOMEBREW EXAMPLE

The example I'm providing on page 29 follows the recommendations in this article fairly closely. I have made American IPAs with the same hops, so I do have a preference for modern IPAs with a tropical fruit character. But instead of using my normal Munich malt for a little more body, color, and flavor, I'm using flaked wheat and oats to give it some extra body. Golden Promise adds a little more malt interest to the neutral 2-row base malt I chose. A simple infusion mash will accomplish my goals, so I won't use anything more involved. I have a preference for calcium chloride in my water treatments, but I'm adding a touch of calcium sulfate to give it a slight bite. I certainly don't want a minerally character in my beer.

Amarillo® hops are one of my favorites, and they add a distinctive apricot flavor to the beer. They are the lowest alpha acid of the hops I'm using so I'll use them for bitterness. I'll save the tropical fruit hops for the late hopping. I'm using Citra®, which has a mango-guava character, Galaxy™, which brings the passionfruit, and Mosaic®, which provides pineapple. Together, they should have the tropical fruit salad experience I want.

The hop techniques I'm using are a variation of my normal methods. I frequently use first wort hopping for a smooth bitterness and hop flavor, so no surprises there. I'm following this with hop bursting the knockout and whirlpool additions, including waiting for the whirlpool to cool off enough to minimize bitterness extraction.

I'm selecting one of the well-known yeast strains for this style, hoping for some extra biotransformation of the hop oils. To encourage this, I'm using three equal dry hop additions, with one of them during active fermentation. I'll limit the dry hopping to three days for each addition, taking care to avoid oxygen uptake during the process. As soon as the last dry hops are pulled, I would keg and serve as quickly as possible to get the most fresh hop character.

I know the hop choices are expensive and popular, so they may be hard to find. But if you want the tropical character to shine, these are your best choices. Freshness of the hops is important, so make sure they aren't oxidized before you use them (check that the hop cones are still green, and the lupulin is yellow not orange). BYO