

Craft Beer and Food Pairing: An Exploration

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Abstract: *This study explores the world of craft beer, looking at its various flavors, distinctive brewing techniques, and growing appeal. It draws attention to the significance of craft beer brewing and the creativity and innovation that go into it. This study provides an insight into the vibrant and tasty world of craft beer, whether you're a connoisseur of the beverage or seeking to learn more about it. The study also looks into the various food combinations that can be made with craft beers. It assists you in making the best craft beer choice to enhance your dining experience by examining professional opinions and consumer preferences. The purpose of this research is to improve dining experiences by offering useful advice to individuals who value fine food and beer*

Keywords: Craft Beer

I. INTRODUCTION

Craft Beer is booming. Recent reports show that over the last four years, the market share of craft beer has increased from 4.4% to 7.8% of the total beer industry. In addition, in 2013 the overall U.S. beer market saw a decline of 1.9%, yet craft beer brewers saw sales increase by 18%, leading Bloomberg to state, "Goose Island is the new Bud. So are Shock Top and Ziegen Bock and Leinenkugel's Blue Moon, for that matter, could be called the new Coors or Miller."

Of course, craft beer goes much deeper than those brands, which are in fact owned by some of the larger beverage companies. From Oregon to Texas to Michigan, everyone has a new local brewery focusing on intense, unique flavors and one-off releases. With all this noise around, we thought we would get back to some basics, and share an Introduction to Craft Beer. Craft Beer is a term that usually means relatively small, independently produced batches of beer. How small? Well, there's your inconsistency. Sometimes small enough to be rare or sought after, and sometimes large enough to be in national grocery store chains and TV commercials. Another way to slice it: generally, craft beer comes from Craft Breweries. The Brewers Association (the not-for-profit trade association that represents the majority of U.S. breweries) classifies craft breweries as:

Small: Annual production of 6 million barrels of beer or less (approximately 3 percent of U.S. annual sales). Beer production is attributed to a brewer according to the rules of alternating proprietorships.

Independent: Less than 25% of the craft brewery is owned or controlled (or equivalent economic interest) by an alcoholic beverage industry member who is not themselves a craft brewer.

Traditional: A brewer that has a majority of its total beverage alcohol volume in beers whose flavor derives from traditional or innovative brewing ingredients and their fermentation. A brewer has either an all-malt flagship (the beer that represents the greatest volume among that brewer's brands) or has at least 50% of its volume in either all-malt beers or in beers that use adjuncts to enhance rather than lighten flavor. Flavored malt beverages (FMBs) are not considered beers for purposes of this definition. By this definition, 98% of the 2,822 breweries in the U.S. are craft breweries.

1. American Lager - These beers have very little hop or malt presence, making them light, crisp, and clean. They're almost always straw or golden-colored and contain alcohol contents lower than 5%. Popular Brands: Coors, Corona

2. Vienna Lager - Although they're darker in color (somewhere between pale to medium amber), these beers still have a light flavor and are as easy to drink as American lagers. These beers originated in Vienna but they're very popular in Mexican breweries. Popular Brands: Dos Equis Ambar, Boston Lager.

3. Japanese Rice Lager - Rice lagers have the same light, crisp profile as American lagers, with one notable distinction: which is a lot of rice! This keeps the flavors light and adds a signature dry finish, making them a perfect combination with sushi. Popular Brands: Asahi, Sapporo, Kirin

4. German Pilsner - Unlike other straw-colored lagers, German pilsners have a notable sweetness from the malts used during the brewing process. They can contain a slight hop bitterness, which balances out the sweet flavors to finish

crisp and refreshing. They are usually less than 5% alcohol by volume. Popular Brands: Warsteiner, Beck's, Firestone Walker PivoPils

5. Helles -Helles German beers are perfect for hot, summer days! They're light-colored and sweet like pilsners, but with a spicy hop presence and a fuller, more bread-like malt character. They tend to lean closer to 5.5% alcohol by volume. Popular Brands: Weihenstephan, Spaten, Paulaner

6. Kolsch This unique beer uses lager yeasts but is fermented at warmer, ale temperatures. Like its lager cousins, its light in color but with a fruitier flavor and a dryer finish. Kolsch beers are as refreshing as lagers, but their spicy, herbal hop presence and full mouthfeel make them as satisfying as ales. Popular Brands: Ballast Point California Kolsch, Samuel Adams East-West Kolsch

7. Cream Ale - Like Kolsch, cream ales are also hybrid beers. They're usually brewed with ale yeast and finished with lager yeast (or, mixed together with a lager beer). That gives them the creamy texture they're named after. Popular Brands: Genesee, New Belgium Dayblazer, Anderson Valley Summer Solstice, Pelican Pub Kiwanda Cream Ale, Sun King Sunlight Cream Ale

8. Blonde Ale - Despite their pale, golden color, blonde ales are usually made with ale yeast (although, it gets tricky because sometimes they're lagered instead). They're one of the easiest drinking ales with a smooth flavor and no dominant malt or hop presence to speak of. They are sometimes called golden ale because of their vibrant color and range from 4 to 5% alcohol. Popular Brands: Deschutes Brewery Twilight Summer Ale, Kona Brewing Big Wave Golden Ale, Victory Summer Love.

9. Hefeweizen - Traditionally, German Hefeweizen beers are made with 50% barley and 50% wheat, although sometimes they contain even more wheat than that. This gives them a light color, an almost chewy texture, and a cloudy appearance. The ale yeast used for these beers has a banana-like flavor, and many Hefeweizen beers also contain clove-spice flavors. These beers range in alcohol but generally settle between 4 to 5%. Popular Brands: Ayinger, Spaten, WidmerHefeweizen

10. American Wheat - The American version of Hefeweizen skips all the fruity flavors and aromatic clove-like phenols and have more of a neutral flavor. They still have all the chewiness of a German Hefeweizen, but they're usually filtered to remove the cloudy appearance. Like Hefeweizen, you'll find these beers from 4 to 7% alcohol. - Popular Brands: Blue Moon, Bell's Brewery Oberon, Boulevard Unfiltered Wheat,

11. Belgium Witbier -Belgium's version of wheat beer is often brewed with oats to give the beer a darker pale color and a cloudy appearance. The yeast used also gives the beer a spicy flavor, and additional spices like coriander and orange peel are often added to boost the fruity characteristic, they can go as high as 7%. Popular Brands: Hoegaarden Original White Ale, Shock Top Belgian White, Avery White Rascal, Unibroue Blanche de Chambly

12. Farmhouse Ale- Farmhouse ales don't describe a single beer, but rather a category of styles (including Saison, which we'll talk about in a minute). If it has a slightly funky flavor, an aroma that reminds you of wet hay, or a tart, crisp finish, it's probably a farmhouse ale! These beers are typically low in alcohol and have a dry character. Popular Brands: Boulevard Brewing Tank 7 Farmhouse Ale, Goose Island Sofie, Brasserie Fantôme Hiver, Brooklyn Brewery Sorachi Ace

13. Saison - These Belgian beers are the most popular form of farmhouse ales. They are often bottle-conditioned, which means yeast is added to the bottle to naturally carbonate the beer. That makes them extra yeasty-flavored and gives them a hazy character. Many Saisons are light and crisp, although some have high amounts of hop bitterness. The original Saisons were less than 5% alcohol by volume, although today you can find them as high as 8.5%. Popular Brands: Saison Dupont, Fantome Saison, Brewery Ommegang Hennepin

14. Session Beer- A session beer can be any type of craft beer: Breweries brew session IPAs, pale ales and ambers. It just has to have less than 5% alcohol by volume, which makes it easy to drink, light and refreshing. If you're planning to drink all day, you should probably reach for a session beer! Popular Brands: Bell's Brewery Oarsman, Lagunitas Day Time, Firestone Walker, Easy Jack IPA,

15. American Pale Ale - If you're looking for a beer that has a good balance between caramel flavors and hop brightness, an APA is the right choice. They also have moderate alcohol percentages, ranging from 4.5 to 6.5% alcohol by volume. Popular Brands: Sierra Nevada Pale Ale, Oskar Blues Dale's Pale Ale, Deschutes Brewery Mirror Pond Pale Ale, SweetWater Brewing 420 Extra Pale Ale

16. Belgian Pale - Unlike American pale ales, Belgian-style pale ale has less hop presence and a sweet, more malt-forward flavor. The yeast used for these beers also adds a fruity flavor and a spicy aroma that's missing in American versions. Expect to see 4.5 to 7% alcohol on these beers. Popular Brands: Orval Trappist Ale, Petrus Aged Pale, Boston Beer Beltian Session, Spencer Trappist Ale

17. American IPA - American IPAs take hop presence to the next level! Instead of using hops just as a preservative (as they were in the original India pale ales), breweries use hops to add extreme levels of bitterness as well as piney, herbaceous or citrusy flavors. These beers tend to be higher in alcohol than most ales, ranging from 5.5 to 7.5%. Popular Brands: Bells Two Hearted Ale, Ballast Point Sculpin, Stone IPA, Lagunitas IPA

18. Imperial IPA - Also called double IPAs, these high-alcohol beers are an amped-up version of American IPA. With robust malt profiles and extreme amounts of hops, expect a full-bodied beer with flavors that almost punch you in the face. Don't try to drink a lot of these beers, either; the alcohol content can vary from 7 to 12%. Popular Brands: Russian River Pliny the Elder, Dogfish Head 90 Minute IPA, Green Flash West Coast IPA

19. Brut IPA - Brut IPAs appeared in California in 2017. These beers are lighter in color than regular IPAs, and they have a bubbly, dry mouthfeel like champagne. Their alcohol content is pretty similar to regular IPAs, ranging from 6 to 7.5%. Popular Brands: Sierra Nevada Brut IPA, New Belgium Brut IPA, Six Point Brewery Sparkler

20. New England IPA - These beers are full of hops, but they're added at the end of the brew, giving the beer a huge burst of hop aroma and flavor without any extra bitterness. Many brewers also add oats or wheat to the grain bill to make the beers hazy. Expect to see these beers in the same alcohol range as American IPAs (6 to 7.5%). Popular Brands: The Alchemist Hazy Topper, Tree House Brewing Julius, Hill Farmstead Abner, Trillium Brewing Congress Street IPA

21. Black IPA - Also referred to as Cascadian Dark, these IPAs are as dark as porters and stouts without most of the heavy, roast flavors. They are hopped as aggressively as regular IPAs, giving them a bitter taste with citrusy and herbaceous notes, and they have the same alcohol content as regular IPAs (6 to 7.5%). Popular Brands: 21st Amendment Back in Black, Uinta Dubhe, Odell Brewing Mountain Standard

22. California Common (Steam Beer) - Like Kolsch, the California common bear (also known as steam beer) is brewed with a lager yeast that works best at warm, ale temperatures. These beers have darker colors, ranging from light amber to deep red. They have a decent malt presence and a full-bodied texture but finish light and slightly hoppy. You'll find these beers from 4 to 6% alcohol by volume. Popular Brands: Anchor Steam Beer, Widmer Brothers Columbia Common, Steamworks Brewing Steam Engine Lager

23. Extra Special Bitter (ESB) - Although the word "bitter" is in the title, these beers don't taste bitter at all! They are dark gold or copper colored and have a balanced, super drinkable flavor. Many ESBs are low in alcohol, but they can go as high as 7%. Popular Brands: Fuller's EXB, Redhook ESB, Black Sheep Ale, Left Hand Brewing Sawtooth

24. English-Style Mild - Like ESBs, English-style mild ales are low in hop bitterness and have a decent grain bill, giving the beer its deep amber color. You can expect these beers to have toasty flavors and chewy textures, but they drink easily like a lighter-colored beer. It helps that they're often less than 6% alcohol by volume, too. Popular Brands: Surly Brewing Mild, Guinness Generous Ale, Goose Island Mild Winter.

25. Amber / Red Ale - In general, red ales tend to be hoppier than ambers, but the terms can be used interchangeably. Popular Brands: Yuengling Traditional, Alaskan Brewing Amber, Mad River Jamaica Brand Red Ale

26. Stout - Like porters, stouts are dark in color but finish dryer and have more roasted flavor, thanks to the use of roasted barley in the mash. They can have coffee and chocolatey flavors, or they can remain unflavored to accentuate the bitterness of the roasted grains. Like porters, they're usually under 7% alcohol by volume. Popular Brands: Rogue Ales Chocolate Stout, Deschutes Brewery Obsidian Stout, Samuel Smith Organic Chocolate Stout

27. Russian Imperial Stout - These stouts have a super high alcohol content — as much as 12%! Like most stouts, they have a dark color and a dry finish, but their high alcohol content also brings out dried fruit aromas and dark chocolate flavors. If you're planning to eat raw oysters on the half shell, try pairing them with one of these. Popular Brands: North Coast Old Rasputin, Firestone Walker Parabola, Bells Brewery Expedition Stout, Sierra Nevada Narwhal

28. Berliner Weisse - Berliner weisse is pale in color and lightly tart, and most of them contain less than 3.4% alcohol by volume. Most breweries serve them with a flavored syrup called Woodruff to balance out the acidic flavors. Popular

Brands: Dogfish Head FestinaPeche, 3 Floyds Brewing Deesko!, Bear Republic Tartare, Perennial Artisan Ales Peach Berliner Weisse

29. Wild Ale - Wild ales use bacteria like Brettanomyces, Pediococcus and Lactobacillus to add funky flavors to regular brews. True wild ales aren't inoculated with lab-created bacteria but rather use oak barrels that naturally contain these products. These beers can range from 6 to 10% alcohol. Popular Brands: Russian River Temptation, BrueryTerreux Tart of Darkness, New Belgium Le Terroir, Cascade Brewing Sang Noir.

30. Flanders Red Ale -These sour, Belgian-style ales almost taste like red wine! They are fruity but sharply sour, finishing dry with wine-like tannins. They are usually aged in oak. Although they taste big, their alcohol content is usually less than 6.5%. Popular Brands: Duchesse De Bourgogne, Rodenbach Grand Cru, BrueryTerreux Oude Tart, Lost Abbey Red Poppy, Jolly Pumpkin Artisan Ales La Roja

The current popularity of Craft Beer

Craft Beer has boomed because people truly care about their beer, whether making it or drinking it. Craft brewers are passionate, fanatics, teachers, geeks, and ... The way that craft beer is developed, from conception to presentation, is a labor of love.

There is also the current trend of buying local, which fuels beer choices. Buying and drinking local beer keeps your local brewery alive and local people employed, and in theory, you will pay local prices for the freshest beer, having less shipping costs and time in transportation to allow for.

At any given Beer Festival, beer-tapping event, or online beer forum, you will likely meet someone who has been drinking, reviewing, and home-brewing small-batch beers for decades. Indeed; 'craft beer', independent breweries, and beer nerds have all been around since the beginning of beer-time. The 1970s-1990s saw the beer industry, much like the media, music, and movie industries, consolidate into global corporate giants. Despite this, the spirit, culture, and knowledge survived, and there was a small population that used the term 'micro-brewing'. Microbrews, from Microbreweries, started to become more common towards the end of the century, and the scene somehow morphed into our current 'craft brewing' industry.

However, the real boom that we are currently seeing, resulting in the macros making their buy-outs and adapting marketing strategies, has been bubbling away for about 5-10 years: since 2003 we have seen consistent increases in both the number of craft brewers overall and the market segment that they reach. This 'new wave' of educated beer communities has brought us to the current pinnacle, where some mainstream media and commercial retail outlets are often just as brew-savvy as many regular drinkers. Small-scale, entrepreneurial craft brewing is among the hottest trends in the United States and many parts of the world today, but small, localized beer-making operations have been an integral part of American society for hundreds of years. Craft brewing is one of the oldest arts in America.

The Resurgence of Craft Brewing

In 1965 a man named Fritz Maytag purchased a San Francisco-based beer operation called Anchor Brewing Company. Fritz was the great-great-grandson of Frederick Louis Maytag, founder of the iconic home appliance company. Fritz wanted to strike out on his own and make something of himself outside the famous appliance empire of his family. He opted to revitalize the Anchor Brewing Company – but he wanted to do things differently. Fritz Maytag was perhaps the first person to embrace the craft brewing concept. He wanted to fashion a brew that resembled the robust, heady, and darker beer styles of the Old World. In short, he sought to make a specialty beer that was distinct.

The volume of craft beer manufacturing grew from 35 percent in 1991 to 58 percent in 1995. After a slump in production between 1997 and 2003, craft brewing launched into the stratosphere. There were just eight craft brewers in 1980 but 537 by 1994. Today, there are an astounding 6,000 as of the end of 2017. The craft beer segment has grown from six to 12 percent almost every year since 2003 – but 2016 saw a 16.6 percent growth rate. Today craft brew brands have captured 12 percent of the U.S. beer market.

II. LITERATURE REVIEW

(Watson, 2018) The craft beer industry has taken off since its humble beginnings as a home brewing hobby and now faces new challenges growing its market share and reaching new consumers. Craft brewing began as a home hobby for

enthusiasts, but since its legalization in 1979, it has grown into a \$27.6 billion industry in the U.S. (Watson, 2018). In recent years, the industry's growth has slowed to single digits as the market approaches maturation and some home brewers fail in the transition from hobby to business...

(Associated Press, 2016) Additionally, commercial beer competitors have made strategic acquisitions in recent years in order to reach the craft market themselves. In 2016, Anheuser-Busch Bev acquired SAB Miler, creating the largest brewing company in the world, together, valued at over \$55 billion in total annual sales (Associated Press, 2016). They will have a dozen craft brands, some in part from their partnership with the Craft Brew Alliance (Kell,). Independent breweries need to do more than ever before to stay relevant to consumers and to maintain growth.

(K. Johnson, personal communication, March 17, 2020) This final theme encompassed how the tastes and preferences of brewing professionals reflect on the products they create, the food pairings they explore, and where those intersect in the general trends of the industry. At least for both brewing professionals interviewed, typically the creative process of starting a new beer stemmed from simply brewing a style that they liked. One professional remarked about wild fermentation beers, "I've always been interested. I did them when I was home brewing as well... I was interested in exploring that. I like drinking those beers, so I like making them" (K. Johnson, personal communication, March 17, 2020). With respect to food and beer pairings, the author noted that balance was either suggested or explicitly mentioned as important to making well-suited pairings. Such as the inherent balance of a beer as a standalone product, or in balancing pairings like the deep, roasted flavors of an imperial stout with vanilla ice cream.

(Donadini et al., 2008; Harrington et al., 2008; Paulsen et al., 2015), As explored in the literature (Donadini et al., 2008; Harrington et al., 2008; Paulsen et al., 2015), there seems to be some basis for the principle of balance in pairing food that could warrant future research. However, a business must produce what consumers demand, and overwhelmingly the craft brewing industry is still dominated by pale ale, especially IPA-style beer. As of the 2018 IBIS World report on the industry, IPA-style beers made up 25.2% of revenue, followed closely by Belgian Witbiers, which pulled 20.6%. Furthermore, both brewing professionals talked about the continuing dominance of IPAs and other trending pale ale varieties in the craft brewing industry, one stating, "Usually our top-selling beers in the tasting room are almost always an IPA

Skyhorse Publishing Inc., 2012 " From lessons in cheese-and-brew pairings to sketching a menu for a multi-course, beer-pairing dinner party...[this] excellent, 300-page guide to beer and food is a steal."--Evan S. Benn, Esquire. com" Yes, great beer can change your life," writes chef Schuyler Schultz in Beer, Food, and Flavor, an authoritative guide to exploring the diverse array of flavors found in craft beer--and the joys of pairing those flavors with great food to transform everyday meals into culinary events

Morten T Paulsen, Guro H Rognså, Margrethe Hersleth -International Journal of Gastronomy and Food Science 2 (2), 83-92, 2015 - Good pairing recommendations may be crucial for the success of foods and beverages, both in the retail and hospitality sector. Food-beverage pairings are often presented by culinary professionals such as chefs or sommeliers, however, little focus has been given to consumer perception of such pairings

Charles Spence - Food Research International 133, 109124, 2020 - The recent explosion of interest in the topic of flavor pairing has been driven, at least in part, by the now-discredited food-pairing hypothesis, along with the emergence of the new field of computational gastronomy. Many chefs, sommeliers, mixologists, and drinks brands, not to mention a few food brands, have become increasingly interested in moving the discussions that they have with their consumers beyond the traditional focus solely on food and wine pairings. Here, two key approaches to pairing that might help to explain/justify those food and beverage combinations that the consumer is likely to appreciate are outlined

Anastasia Eschevins, Agnès Giboreau, Perrine Julien, Catherine Dacremont International Journal of Gastronomy and Food Science 17, 100144, 2019 - Pairing food and beverages is a traditional practice in French gastronomy. Culinary literature provides recommendations in terms of food and beverage pairing but identifying general strategies to create a match is still difficult.

This work aims at identifying what makes a match between food and beverage according to experts and at investigating whether explanations are domain-specific or generalizable.

Gianluca Donadini, Giorgia Spigno, Maria Daria Fumi, Roberto Pastori Journal of the Institute of Brewing 114 (4), 329-342, 2008 - The aim of this study was to investigate the relationship between the sensory characteristics of beer and

food that harmonically complement each other respectively from the consumer or the sommelier point of view. With this in view, the most desirable beer and everyday Italian food combinations were explored. Eighteen beer samples, easily available in the off-premise chain in Italy, and 9 dishes of Italian cuisine, were selected. The level of match of each beer and food combination was determined by a group of 51 consumers and by seven food experts using a 9-point Likert-like scale of suitability. Agreements and disagreements between food professionals and consumers were studied and discussed. Generally speaking, most of the dishes were poor complements to the beers selected for this study, for both regular consumers and experts. In particular, seafood salad, spaghetti with tomato sauce and creamed vegetable soup were inappropriate to nearly all of the beer samples overall. However, both consumers and experts found appropriate and interesting beer and food pairing choices, despite usually indicating different ideal beer samples and different levels of match for the same food. This confirmed that certain flavors of food and beer mix together better than others and indicates that consumers may have a different perception of the level of match between beer and food from experts. For regular consumers, the suitability to food was found to positively correlate with the sensory liking of beer.

Pairing Food with Craft Beer

Food pairing is growing in popularity, and now more than ever consumers are ready to explore for experiences through flavors and taste. This is not yet a science, but an art backed by experience and knowledge, the aim of which is to make the individual components interact and create an enhanced overall experience. Due to the vast variety of flavors and sensations out there, it is important to always consider the whole dish and beer being served and not just the primary components of each.

PAIRING STEPS

1. Look at the main ingredient of the dish and take into consideration the cooking method.
2. Identify the secondary ingredients, such as herbs, spices, and sauces, used with the other components of the dish, such as vegetables.
3. Check whether any of these secondary elements become a main part of the taste experience when combined with the main ingredient.
4. Select a beer that matches the intensity of the dish and will neither overpower nor disappear into the dish.
5. Think about what you want the beer to achieve, e.g. should it complement the dish's flavors and aromas, should it contrast to create a different experience, or should it cut through the components to provide something new?

PAIRING PRACTICES

Pairing primarily consists of three possible interactions as detailed below.

Consideration must also be given to the intensity and depths of flavors e.g. match delicate dishes with light beers and strongly flavored dishes with more assertive beers.

- **Complement:** The most common and successful pairings work by finding harmonies; identifying complimentary flavor and aroma elements that tie the beer and dish together i.e. the caramelization reaction that occurs when torching the sugars atop a Crème Brulee also occurs when crystal malts, which links the flavors.
- **Contrast:** More difficult to master, this type of pairing focuses on the primary flavor profile of the dish and beer e.g. a sickly-sweet dessert could be contrasted with an intensely acidic beer to balance out the flavors thus creating a heightened and more balanced experience for both.
- **Cut:** Using beer to cleanse away the flavors from the dish resets the palate back to neutral. The use of highly carbonated beer can leave the palate feeling refreshed, awakened, and ready for the next bite. High bitterness levels in a beer can cut through the oil and fats in a dish.

SPICES & BEER

Spicy light food, such as Southern Indian curries, and snacks with spices such as tamarind, curry leaves, fenugreek, and turmeric pair well with a light refreshing beer. Many dishes from the region are vegetarian and there is a dominance of spice that is absorbed by the starchy ingredients such as potatoes and chickpeas. This gives a great depth and purity of

flavor, and these flavors pair brilliantly with Saisons, a light-bodied beer with high carbonation and a lot of aromas (white pepper, clove, phenols) all coming from the yeast during fermentation.

Regardless of the specific dishes on your menu, there are some general spice and beer pairings that can be applied to many global flavors that may feature in wraps, burgers, dips, or sauces. The pairings can be used to complement Mexican, Indian, Japanese, Argentinian, Mediterranean, and Middle Eastern-inspired dishes.

Ale is an ideal beverage to pair with dishes such as paneer, mild butter chicken, and light vegetable curries, particularly those made with coconut or cashews. Its smoothness complements meals containing cream or butter, enhancing their flavors. For example, a curry with chickpeas, coconut, and cashews paired with Theakston Pale Ale creates a stunning combination. The zesty flavor of this British Ale enhances the cozy creaminess of the dish while providing a crisp and fresh sensation. Similarly, beers like Kingfisher pair well with foods such as Tadka Dhal or a mild curry with pumpkin and cauliflower, as the zesty undertones and refreshing bitterness enhance the overall dining experience.

Chinese Food and Cart Beer - Pairing craft beer with Chinese cuisine creates an interesting blend of flavors tastes and aromas, enhancing the complete dining experience. The wide spread of Chinese dishes, ranging from delicate steamed dim sum, and fish preparations to bold Sichuan and Peking specialties, presents a blank canvas for beer pairings. For example, light and crisp beers like lagers and wheat varieties complement the subtleties of light and steamed dishes, while hoppy beers provide a robust match for the spiciness in dishes like General Tso's chicken. Malty beers enhance the sweetness in Peking duck, and dark beers pair well with rich, braised meats. Sour beers add a tangy contrast to vinegar-based dishes, and the complexity of Belgian-style beers harmonizes with sweet and spicy flavors. Amber ales, with their caramel notes, prove versatile companions for stir-fried dishes and fried rice. More specific pairings can be tried out by experimentation and trials. Both worlds are very vast when it comes to diversity and the sure will be a pair that is a match that can create a memorable dining experience.

Popular Styles of Craft Beer along with their characteristics and suggested culinary combinations.

1	Belgian Witbier	Unfiltered with orange, citrus, and coriander aromas	Complements salads with light citrus dressings and feta or goat cheese as well as ceviche and other light, citrus-flavoured dishes
2	Blonde Ale/Cream Ale	Unfiltered with orange, citrus, and coriander aromas	Pairs perfectly with sweet, hot, or spicy foods including many Asian dishes, chili, mango, or jalapeño salsa
3	Light Lager	Most popular style worldwide. Very refreshing & thirst-quenching	Complements lemongrass, ginger, garlic, cilantro, and similar flavors; adds depth to light dishes such as spring rolls and salads
4	Pilsner	Pronounced hops aroma and bitterness with a refreshing finish	Works well with salmon, tuna & other high-fat, oily fish, and with marbled meats; bitterness offers pleasing contrast with sweet reductions and sauces
5	Hefeweizen	Unfiltered with unique clove and banana aromas	Classically paired with Weisswurst (white sausage); contrasts with pungent, intense aromatics such as mustard flavors, pickles, horseradish, and cured meats
6	American Wheat Ale	Very refreshing, slightly tart flavour with a subtle citrus aroma	Complements the lighter elements of foods like seared scallops and oil-cooked garlic shrimp, while adding a refreshing flavour contrast

7	American Pale Lager	Balance of hops and malt with a crisp, dry finish	Offers the perfect contrast to Thai, Pan-Asian, Latino Fusion, Mexican, Peruvian, and other spicy cuisines
8	Pale Ale	Malty sweetness balanced by hoppy bitterness	Hops bitterness contrasts with spicy, heat-charred, smoky, or aromatic flavors such as those in Stilton and blue cheese
9	IPA	Increased maltiness with a prominent hoppy aroma & flavour	Complements intensely flavourful, highly spiced dishes, such as curry, and bold, sweet desserts like flourless chocolate cake and crème brûlée
10	Amber Lager	Roasted, malty sweetness with well-balanced, dry bitterness	Sweetness pairs well with sundried tomato reduction sauces; balanced hopping complements foods flavoured with basil and oregano
11	Amber Ale	Sweet caramel notes and citrusy with a smooth finish	Complements rich, aromatic, spicy, and smoked foods such as chili, BBQ ribs, grilled chicken, and beef
12	Brown Ale	Malty flavour balanced with hints of caramel and chocolate	Pairs well with roasted pork, smoked sausage, and hearty foods; complements the nutty flavors of chicken satay, cashew chicken, pecan pie, and peanut sauces
13	Lambic	Crisp, dry and cider type with a subtle sour flavor	Can complement light, fruity dishes; best served as a companion with after-meal foods like desserts featuring fruit or dark chocolate
14	Porter	Roasted flavor complemented by nutty and toffee characteristics	Works well with smoked meats, especially bacon; complements chocolate-, espresso- and coffee-flavored desserts and soft, creamy cheeses
15	Stout	Prevalent chocolate and coffee flavors	Highlights the nuttiness and braised, caramelized integrity of dishes with brown, savoury sauces; complements silky, salty foods like oysters on the half shell

III. CONCLUSION

This study has given us an insight into the fascinating world of craft beer and also how the pairing of Craft Beer with food helps in creating a memorable dining experience that allows us to savor both the worlds of food and beverages. Through an exploration of diverse beer styles and food flavors, we've uncovered the intricate flavors, aromas, tastes, and textures that contribute to successful pairings. The principles and considerations identified in this study provide valuable insights for laymen, craft beer enthusiasts, Chefs, Hospitality students, and Professionals seeking to enhance the dining experience through thoughtful beer selection. As the craft beer movement continues to grow, the importance of understanding and experimenting with food pairings becomes increasingly necessary. This research not only delves into the technical aspects of matching flavors but also highlights the dimensions of craft beer and food pairing. The

findings contribute to a broader understanding of how this practice has evolved into a prominent aspect of modern culinary culture, offering an array of possibilities for those who are connoisseurs of the art of combining great beer with delicious food.

Ultimately, the exploration of craft beer and food pairing extends beyond mere gastronomical satisfaction; it encapsulates a memorable and enjoyable dining experience. By appreciating the finer flavor interactions, we can elevate ordinary meals into extraordinary culinary experiences, fostering a deeper appreciation for the craftsmanship and creativity in both craft brewing and gastronomy.

As we enjoy glasses of craft beer and gastronomical delights, it becomes clear that the journey is as enriching as the destination, which invites us to savor the symphony of tastes, and flavors that emerges when these two culinary worlds meet.

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