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"When you mix the best of high society with the best of *high* society": culinary cannabis and the US hospitality industry

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ABSTRACT: The culinary use of cannabis in the US has increased dramatically in the wake of relaxed federal and state laws governing the production, distribution, possession and use of it and its derivatives. While cannabis refers to both hemp and marijuana — both of which produce the chemical compound cannabidiol (CBD) — only marijuana contains delta-9 tetrahydrocannabinol (THC), the psychoactive ingredient traditionally associated with its illicit use. Despite the distinction between the two types of plants and the chemicals that they are prized for creating, edible cannabis, due in part to repeated depictions in popular culture, has long been synonymous with cheap, box-mix, "pot" brownies made by a stereotypical on-screen stoner. Thus, stigmas surrounding its use persist. However, cannabis is becoming increasingly prized for its culinary uses and gastronomic profiles. The changing perceptions, legality and array of available strains of cannabis, as well as the resulting interest in its gastronomy, will no doubt have a significant impact on the American hospitality industry. This article clarifies the term "culinary cannabis" to describe the non-problematic use and/or enjoyment of hemp and/or marijuana (or ingredients derived from the two plant species) in food. It also speculates as to how the trend of culinary cannabis may impact the hospitality industry and identifies avenues for future research.

KEYWORDS: CBD, edibles, food trends, gastronomy, hemp, marijuana, non-problematic cannabis use, THC

Introduction

The food, beverage and hospitality industries are perpetually in search of the next big thing, i.e. the newest ingredient or aesthetic to inspire unique servicescapes and dining experiences (Barrena & Sanchez, 2013). In the US, cannabis is poised to fulfil that role. Cannabis — which refers to the genus of plant that includes *both* hemp and marijuana (only the latter of which produces the psychoactive compound THC [delta-9 tetrahydrocannabinol]) (Bajpai, 2022; Hawdon et al., 2022) — has long been mired in stigma, plagued by misconceptions and deemed a deviant leisure product due at least in part to how it is depicted in popular culture (University of Georgia [UGA] Law Library, 2020). However, as laws governing cannabis are relaxed around the country (for both hemp and marijuana) (UGA Law Library, 2020; Bajpai, 2022), elements derived from the two plants are becoming an increasingly popular ingredient in high-end culinary fare. Both hemp and marijuana are gracing menus at award-winning restaurants, generating dedicated best-selling cookbooks and serving as trendy flavourings in a variety of products. Moreover, a handful of television shows have emerged on TV channels and streaming services highlighting the many culinary uses of both hemp and marijuana. Exclusive chef-curated, cannabis-themed dinners are regularly selling out and respected institutions are offering certificates allowing chefs to specialise in the preparation of cannabis-based dishes. In short, cannabis is having a culinary moment.

Cannabis can be used in a multitude of ways and therefore offers chefs endless opportunities for creativity in the kitchen by giving them an array of options for drawing out the unique flavours and profiles of various strains and for utilising the plants in various cooking formats. This variation in cannabis' characteristics and uses will no doubt generate interest from devoted connoisseurs, much like sommeliers who develop an understanding of how the terroir, or growing conditions and production methods of grapes, affect the nuanced flavours of wine. In turn, the gastronomic trends surrounding cannabis will likely have significant implications for the US hospitality industry, particularly as the ingredient has deep ties to race, class and stigma in the country (Lashley & Pollock, 2020; Hawdon et al., 2022). Yet, scholarly research on cannabis in food is limited and has largely focused on the problematic and/or potentially problematic use of marijuana-based and commercially available edible products (Barrus et al., 2016; Charlebois et al., 2018; Charlebois et al., 2020), Little, if any, research has considered the culinary aspects or gastronomy of cannabis, and fewer studies still have explored the non-problematic use of cannabis, particularly edible cannabis relative to the hospitality industry.

This article uses the term "culinary cannabis" to describe the non-problematic use and/or enjoyment of hemp and/or marijuana (or ingredients derived from the two plant species) in

food. Culinary cannabis is a more encompassing term than edibles in that it involves the gastronomic appreciation of cannabis in any format. Further, this article speculates on how the trend of culinary cannabis may impact the hospitality industry in the US and poses questions that highlight issues that stakeholders, scholars and policy makers will have to grapple with.

Definitions, legality and availability of cannabis in the US

Definitions

Cannabis refers to the plant family that includes both hemp and marijuana (Hawdon et al., 2022). While both produce cannabidiol (CBD), the two plants share few other similarities. Hemp can be likened to weeds growing in the wild. It is fibrous, naturally occurring in widespread areas of the US and requires little human intervention to grow productively. Hemp is primarily utilised as an industrial resource for everything from paper to textiles for clothing (West, 1998), though it can be harvested for CBD as well.

Marijuana, on the other hand, is a horticultural, or purposely grown plant, that does best when spaced further apart than hemp and is watered and trimmed regularly to produce the prized "pot" flower. Plants popularly known as marijuana include both *cannabis indica* and *cannabis sativa* (Hawdon et al., 2022), with each strain having unique characteristics and a different effect on the human body. Marijuana, with an increasing commercial market in the wake of more legalisation for recreational use, is now being bred for various characteristics including scent, flavour, mouthfeel and the highs it renders users. All marijuana contains delta-9 tetrahydrocannabinol (THC), or the psychoactive substance that produces a "high". Hemp does not produce THC. Though CBD can be derived from either plant and while it does not produce the high associated with marijuana, it is thought to have therapeutic properties.

Legality

America's relationship with cannabis has fluctuated over the course of the country's history. Early on, domestic hemp growth was encouraged as a resource for sails, ropes and other textiles, and by the late 1800s marijuana was a common medicinal ingredient. In the early 1900s, Mexican immigrants brought notions of recreational marijuana use to the US (UGA Law Library, 2020). However, prejudice towards the wave of new residents gave way to fears about the plant species heavily associated with the group. In turn, legislation outlawing marijuana began in several states in 1931. By 1937, marijuana was effectively criminalised nationwide. From the 1950s through to the 1990s, legal consequences for the growth, sale and possession of marijuana have altered between stages of leniency and strict penalties (UGA Law Library, 2020). The Controlled Substance Act of 1970 placed both marijuana *and* hemp on the list of "drugs" prohibited in the country. The legal landscape for cannabis in the US has shifted in recent years and some laws governing cannabis in the US have been relaxed, with most notably hemp and its derivates legalised nationwide. A recent news article (Bajpai, 2022, n.p.) explains that

> [i]n 2018, federal lawmakers legalized hemp production under the oversight of state or federal licensing programs, and removed hemp from the Drug Enforcement Administration's list of controlled

substances, defining it as any cannabis plants, as well as derivatives, extracts, and cannabinoids, that have a delta-9 THC concentration of less than 0.3%.

While the US House of Representatives recently passed a bill to legalise *all* forms of cannabis across the US, the statute has yet to pass the Senate. The Marijuana Opportunity Reinvestment and Expungement (MORE) Act, introduced by a representative from New York, passed the US House in March 2022. However, the bill has passed several times before but has never obtained enough support in the Senate to move on to federal adoption. Experts speculate that a narrower bill aimed at allowing banks to work with businesses in states where marijuana is legal — the Secure and Fair Enforcement Banking Act — may have a better chance at passing the Senate and making it to the president for a final signature, in turn facilitating the growth of the legal marijuana market (Brown, 2022).

As of April 2022, 18 states allow for the sale and use of both medical and recreational marijuana, and an additional 19 states allow for medical marijuana only. Federally, marijuana is still illegal (Smith, 2022). Marijuana is also still considered a schedule one drug — putting it in the same class of regulation as both cocaine and heroin (Brown, 2022). These federal regulations limit the types of research that can be conducted on and with the plant strain. Most notably, research with human subjects is restricted. As such, little is known about consumers' flavour and potency preferences, the ways in which cannabis may enhance or compliment other food flavours, or the potential effects of cannabis consumption on patrons' behaviour or purchasing patterns in hospitality settings.

Food goods

As a result of growing legal acceptance of hemp and marijuana, both are becoming increasingly popular as ingredients in various foods, drinks and edible products. Concentrated oils derived from these plants are seemingly the most common form of cannabis available to the general public for the purpose of human consumption. This is likely because both CBD and THC require the presence of a fat to be absorbed by the human body (Leone, 2018; Birnbaum et al., 2019). Thus, infused oils represent a relatively basic cannabis product that can be consumed directly, or easily added to any dish or beverage desired. Tinctures are similar, but utilise an alcohol base instead of an oil base.

Other food products include these and/or additional elements of each plant and may colloquially be referred to as "edibles". The term "edibles", however, is heavy with connotations of marijuana and notions of primarily sweet and baked goods specifically made from the horticultural plant species. Gummies, chocolate bars and other snack foods containing THC and modelled on well-known convenience store "junk" foods are so popular at marijuana dispensaries in the US, in fact, that more than a dozen large corporations have recently joined together to sue for copyright infringement. In the lawsuit, Kellogg, Pepsi, Mars Wrigley and others also cite concerns over the safety of consumers who may not initially notice the difference between the traditional and dosed products (Edward, 2022; LaMotte, 2022).

However, a host of other foods containing either or both THC and CBD from specialty condiments to high-end chocolates and everything in between are increasingly available to consumers, sparking interest from foodies and home and professional chefs alike. Similarly, beverages are also becoming a popular

way to consume both types of cannabis. CBD seltzers and teas, THC-infused coffees and hemp-infused rums are just some of the widely available drinks on the US market. In fact, "the cannabis-infused beverage market is on a steady rise and accounted for USD 89 million in US sales in 2018" (Kovacevich, 2019, n.p.). Thus, industry experts suggest cannabis-infused beverages to be the next big thing (Hawdon et al., 2022).

Many cannabis-infused products in the US seem to be sold under the guise of the health and wellness benefits that they may have for consumers. Thus, America's interest in functional foods may explain the popularity of edible cannabis products, at least in part. Functional foods are foods that are *perceived*, though not necessarily proven, to have positive physical and mental effects on consumers (Siro et al., 2008). This trend represented one of the fastest-growing sectors of the food marketplace in the early 2000s (Verbeke, 2005). However, in addition to being sold as a cure-all for ailments from anxiety and insomnia to sore muscles and dry skin, cannabis in various iterations has become the star ingredient on numerous high-end restaurant menus, in unique gastronomic pairings and as a part of exclusive dining experiences across the US. It is also being used as a prominent ingredient in artisanal honeys and hot sauces, craft ketchups and even miso-mushroom-infused broth bases, both facets seemingly drawing attention to and placing value on the culinary components of cannabis. Thus, the speculated yet still largely unproven health and wellness benefits of cannabis do not alone account for the ingredient's growing culinary capital.

Edible cannabis research

Despite evidence that both hemp and marijuana are becoming increasingly valued for their culinary uses and that an increased interest in gastronomy related to the ingredients appears to be following, both of which are likely to have important effects on American restaurants, chefs and other stakeholders, little if any scholarly research has considered the relationship between culinary cannabis and the hospitality industry. Instead, research on foods containing cannabis has focused almost entirely on the biochemical properties of the ingredients and their effects on the human (or animal) body. Moreover, a majority of the social research on edibles derived from the plant genus is focused on the risks and misuse of cannabis in various forms. The non-problematic use of cannabis in contemporary American culture has yet to be considered by scholars. Lashley and Pollock (2020) point out that more research on the non-problematic use of cannabis in all capacities is needed to help destigmatise its use. The few social science-focused studies of cannabis in food have largely been undertaken in Canada which has long held a liberal view towards the plant genus (Charlebois et al., 2018; Charlebois et al., 2020).

Opinions about edible cannabis products

Charlebois et al. (2018) explored Canadian consumers' perception of cannabis-containing foods as well as the risks associated with their consumption. While many respondents showed an interest in trying products/dishes, few felt informed enough about cannabis to prepare it themselves. Some concerns about children getting hold of cannabis-containing products were also raised. A follow-up study conducted after the Canadian government decriminalised cannabis (Charlebois et al., 2020) suggested a scepticism about the food safety of edible cannabis

products, the health risks involved in consuming them, and confirmed that concerns persist over whether children or pets might inadvertently consume cannabis-containing products. Experienced users also noted discontent with the increasing price of cannabis edibles in the wake of their liberated legal status.

A 2018 content analysis study of 5 000 tweets related to marijuana edibles similarly considered tweet posters' perceptions of such food items (Cavazos-Rehg et al., 2018). Findings revealed an overwhelming majority championed the normalisation and use of edibles, and nearly half mentioned they either recently had or soon planned to eat or consume such an item in the near future. Positive tweets were more widespread among 17- to 24-year-olds and/or those of an ethnic minority than others. The authors point out that such pro-edibles social media may increase the popularity of the food items, and suggest the information be used to create targeted and effective prevention campaigns and messages.

Consumption preferences

In a 2017 survey of more than 8 000 Americans who self-identified as cannabis users, many of whom reported almost daily use, only 2.4% of respondents indicated eating it and only 0.4% drinking it or taking it as tincture (Kumar et al., 2019). However, a marijuana use survey of 6 174 respondents revealed that 24.5% had consumed edibles and indicated that use in multiple modes was also common (Schauer et al., 2020). Meanwhile, a different study found that up to 40% of North American non-medical cannabis users consumed edibles (Zipursky et al., 2020).

The choice to consume cannabis in food rather than through other methods (e.g. smoking, vaping, etc.) appears to be complex and multifaceted. A handful of studies have addressed this topic. Friese et al. (2016) found that youth in states where marijuana is legal reported using edibles instead of smoking to avoid getting caught at school. The team's data also showed some indication that female users were more drawn to edibles, specifically "brownies", than male users. Additionally, some respondents also noted a preference for edibles because they do not smell or require the inhalation of smoke — things they felt were unattractive (Friese et al., 2016). Similarly, in an investigation into why self-identified edible marijuana users in two US states where recreational use is legal chose to consume the products orally, it was also found that discretion (i.e. does not produce a smell of smoke when consumed) was a primary factor (Giombi et al., 2018). The study also found a preference for edibles among respondents who cited them as being easy to consume and having longer-lasting effects than those associated with other consumption methods. Additionally, people were drawn to the milder high edibles produce, feeling in some cases it reduced the anxiety associated with smoking marijuana. While none of the study's 62 participants mentioned concerns over health risks associated with use, many reported trepidations about the delayed effects and unpredictability of the highs (including, on occasion, unexpected highs) generated from edibles. A study by Borodovsky et al. (2016) suggested that the preference for smoking marijuana decreased with an increase in the density of marijuana dispensaries (which also often carry edible products). The findings imply that edible marijuana is a popular alternative to smoking if consumers are given the opportunity (Borodovsky et al., 2016).

Motivations

In an attempt to understand *why* users consume cannabis as food, Krauss et al. (2017) considered the content of 51 YouTube videos related to marijuana, cannabis and weed edibles. The videos together garnered over nine million views. Over half were informative in some manner, with an overwhelming majority of those representing recipes and/or cooking tutorials. The other half of the videos in the data set were predominantly entertainment. Only 14% were restricted to adult audiences. Further, only a handful mentioned dosing and/or the possible risks associated with consumption. Instead, video content focused largely on the high (generally intense and/or delayed) associated with consumption of the dish being portrayed. Krauss et al. (2017) speculate that the popularity and support for edibles in this platform may increase their use — particularly among the youth who are the predominant audience.

Tran and Kavuluru (2020) used social media to investigate how and why people are consuming CBD. In an exploration of both Reddit posts and comments submitted to the FDA, data revealed CBD was popular in treating anxiety and pain, depression, inflammation, stress, headache, sleep seizure, cancer and nausea. Most subjects used CBD oils and tinctures as food additives or consumed them directly. Pain treatment was also the primary reason respondents of a survey in 2019 of 1 200 dog owners reported cannabis use for both themselves and/or their dog (Wallace et al., 2020). Most used THC products (76%), followed by hemp (49%). An overwhelming majority reported that the experiences with the treatments met their expectations, believing it reduced pain, promoted greater relaxation, better sleep and improved well-being for both dogs and their owners. The study did not report how owners consumed or treated their pets with THC or CBD products (i.e. using topicals, orally, in concentrated forms, or as food additives). Barrus et al. (2016) reviews the handful of studies on the efficacy, health and physical impacts of THC edibles done to date. The mix of benefits or outcomes and risks among the results of the studies, they note, has created a number of challenges for policy makers. Inexact potency and dosing, unclear information and understandings, the delayed onset of effects and the lack of and inconclusiveness of evidence-based benefits associated with consumption prove to be factors policy makers are still wrestling with (Barrus et al., 2016).

Peng and Shahidi (2021) in reviewing studies from the hard sciences on edible cannabis point out that its use in food is only just beginning. While cannabinoids have largely been the focus of edible cannabis products, flavonoids lignans, terpenoids, polysaccharides and other elements derived from the plants are, they note, also ready for utilisation by the food industry and food manufacturers. Today, many edibles have a short shelf life and suffer from lingering tastes of the marijuana in the food (Blake & Nahtigal, 2019). Thus, scholars argue that studies exploring the many culinary uses of cannabis are still rare and should be pursued (Blake & Nahtigal, 2019; Peng & Shahidi, 2021). Barrus et al. (2016, p. 14) echoes the notion, noting that "further research into cannabinoids and edibles in particular is needed".

Stigma

The distinction between cannabis, hemp and marijuana is often somewhat muddled, and there appears to be little clear separation between terms associated with cannabis even within the scholarly literature. Instead, cannabis in both popular culture and academia seems synonymous with marijuana. The distinction between the two plant species also does not appear to be well-understood in contemporary American society. In turn, "the conflation of the word 'marijuana' and the word 'hemp' has placed a heavy burden on public policymakers as many believe that by legalizing hemp they are legalizing marijuana" (West, 1998, p. 5). Nonetheless, a recent survey by the Pew Research organisation suggested that upwards of 91% of Americans think marijuana should be legal, either for medical use, recreational use, or both. While a similar poll by Gallup Research Group found support for legal marijuana among 68% of US adults.

Despite indications of public support for cannabis in various forms, the lack of clarity associated with the plant genus likely contributes to widespread misunderstandings that underlie stigma that persists around cannabis and its use. With this in mind, Reid (2020) contends that while some stigma associated with cannabis has diminished as states adopt more liberal laws for its use, stigma has not entirely disappeared. Stigmas associated with cannabis use exist as structural (e.g. ideological opposition, illegal status, etc.), social (e.g. linked to stereotypes about certain groups or organisations, and specific cultural messages) and micro stigmas (which take place on an individual level). While Reid (2020) notes that overall stigma has been reduced, they argue it is not true that cannabis use is no longer a source of status loss. The author contends that much work is still needed to truly destigmatise cannabis and that changes that will be needed at the structural, cultural and organisational levels to overcome these perceptions, particularly as in the US stigmas associated with cannabis also intersect with other sources of inequality. Yet, despite these important connections, exceedingly little research has addressed how groups or individuals come to change their views on cannabis (Reid, 2020). Food may represent a venue for studying shifting views about the plant genus. Thus, qualitative research would provide some much-needed, nuanced insight into these issues (Reid, 2020).

Popular culture

Both confusion about and stigma surrounding edible cannabis likely persist due in part to repeated and sensationalised depictions in American popular culture.

On screen

Reefer Madness (1936) represents perhaps the most (in)famous example of on-screen cannabis use in the country's history. The 1936 film, brainchild of a conservative church group yet finding widespread mainstream distribution, greatly exaggerated the harmful effects of smoking marijuana. Its plotline portrays a group of individuals whose lives are destroyed by pot use, driving them to experience hallucinations, go insane and even commit murder. Widely recognised as propaganda today, the movie nonetheless endures. While contemporarily viewed as satire, the film remains a cultural touchstone in modern America and is well-known to have shocked audiences and shaped perceptions of marijuana for generations. Thus, it is forever ingrained in the country's popular culture.

While *edible* cannabis was not a part of the *Reefer Madness* storyline, numerous films and television shows since then have utilised the ingredient as a prop in various plotlines. The depictions, however, have done little to combat confusion about

or stigma surrounding cannabis. Instead, in recent memory, edible cannabis has been portrayed on screen almost exclusively as marijuana-laced or pot brownies. Over the last thirty years, in television shows including *Frasier*, *Big Bang Theory*, *E.R.*, *Modern Family*, *Bob's Burgers*, *Glee*, *Desperate Housewives*, *That '70s Show* and *One Tree Hill*, just to name a few, and films from *Hall Pass* to *The Perks of Being a Wallflower*, edible cannabis has enduringly been portrayed as the archetypal, marijuana-laced, no-frills baked good concocted by a chef of questionable morals and, usually, amateur culinary skills. Synonymous with the stereotypical "pot head", dealer, or bro-culture character, (often) preoccupied with pot, perpetually high, friendly but with little depth to their personality and in danger of failing at school and/or life (Hawdon et al., 2022), the depictions usually show cannabis edibles as either inevitably ending up in the hands of an unsuspecting (though usually deserving) antagonist, or as being consumed with such vigour that the effects are extremely amplified. In turn, American films and television shows perpetuate misconceptions about edible cannabis by portraying it only as a product of stoner kids using low grade marijuana in cheap brownie-mix treats and by showing only the exaggerated effects of its consumption.

After states began legalising recreational marijuana in 2012, however, more attention has been paid to the many culinary uses of cannabis in various facets of popular culture. Television shows themed around the use of both hemp and marijuana have become popular on a number of platforms. The shows *Bong Appetit, Cooking on High* and Netflix's *Cooked with Cannabis* garnered the attention of millions of viewers. Each episode explores how chefs can and/or are incorporating various elements of cannabis into food to create new gastronomic flavours and experiences. From smoking meats with hemp stems to using marijuana-flavoured ricotta cheese in an elegant sardine spaghetti dish, the shows highlight the variety of culinary uses that can be garnered from cannabis and its derivatives.

Similarly, *Martha and Snoop's Potluck Dinner Party* television show gained notoriety when it aired for two seasons from 2016 to 2018. The California rap icon, Snoop Dogg, whose public persona is largely built on his love for weed, and Martha Stewart, the New England WASP (white, Anglo-Saxon Protestant) and domestic goddess, pair up to host celebrity guest stars of all backgrounds in a quasi-talk show/cooking show hybrid usually themed around a general topic such as "Wok this way" or "Shell of a good time". The cast would cook and chat about various topics both light-hearted and serious while walking through Snoop's and Martha's variations on the same recipe. Though the Emmy-nominated show did not explicitly highlight cannabis as a food ingredient, Snoop and his guests often discussed how they swapped elements of the plant species into their own similar recipes at home, while Martha would offer tips for how her own recipes could be modified to include additions of one's choosing. Nonetheless, it was extremely popular and did draw attention to the many potential culinary uses of cannabis. Further, with the juxtaposition of the two hosts from starkly different backgrounds, the show was a tongue-in-cheek critique of the many interpretations of cannabis as related to race, class, gender and identity in America. Martha and Snoop explain in one interview that "when you mix the best of high society...with the best of *high* society...you never know what's going to pop off" (Gilbride, 2016, n.p.). Scholars point out that these and other depictions that include "casual banter about

pot use serves to normalize marijuana consumption, softening the image of marijuana users and giving the audience a window into a subculture that has traditionally been heavily criminalized" (Hawdon et al., 2022, p. 235). While the show did not explicitly focus on edible cannabis as its moniker might imply, both Martha and Snoop have since entered the edible cannabis market. Martha Stewart has her own brand of CBD gummies. Likewise, Snoop Dogg has his own lines of marijuana and marijuana-based edibles, including chocolate bars, gummies and peanut butter candies (Hawdon et al., 2022).

Print media
In addition to changing depictions on screen, cookbooks devoted to cannabis are gaining popularity. Cookbooks with information on how to use cannabis in the kitchen are popular at a number of bookstores. *Bong Appetit* (McDonough, 2018), for instance, was as of July 2022 ranked 16th in herb, spice and condiment cooking, 83rd in baking and 420th in the special diet cooking books on Amazon. Similarly, *Edibles* (Hua & Carroll, 2018) is ranked #3 in confectionary desserts, #6 in herb, spice and condiment cooking, #25 in herbal remedies and #9574 overall on the same platform. A search on Amazon for "cannabis cookbooks" yields dozens of pages of options and most have large numbers of purchaser reviews.

Cookbooks are an important symbol and conveyor of heritage and culture (Forêt, 1989; Brien & Wessell, 2013). They reflect the availability of certain foodstuffs, food habits and "current mentalities, moral attitudes, ideology, national identity, and gender roles" (Notaker, 2012, p. 132) as well as collective values, views and symbols. Cookbooks are, in short "enmeshed in the cultural and social fabric of life" (Gallegos, 2005, p. 99). In turn, they are also credited with shaping tastes and trends by teaching audiences how to develop and communicate taste and culture (Gallegos, 2005). Thus, the sale of cannabis cookbooks implies that numerous home chefs are interested in cooking and baking with cannabis-based ingredients. However, while these cookbooks may suggest a growing interest in the culinary uses of cannabis, some studies show that people are often reluctant to prepare cannabis dishes for themselves, feeling they lack the knowledge and skill to do so properly (Charlebois et al., 2018). Nonetheless, popular American food magazines are also providing readers with basic tips for cooking with cannabis and specific recipes including related ingredients (Seaman, 2022). Though perhaps considering the public's trepidation, the outlets do also include suggestions for places to eat where either hemp, marijuana, or both are featured on the menu.

Together, these depictions of, articles on and cookbooks about both hemp and marijuana are no doubt fuelling an increased interest in the multiple dimensions of cannabis as a food product. Popular culture is well-recognised by scholars to both reflect and shape contemporary society and, to some extent, individual behaviour (Powell & Prasad, 2010; Seaman, 2016; Schroeder & Seaman, 2018) Thus, the notable and celebrity chefs contributing to these representations are also food influencers. They introduce audiences and restaurant patrons to new ways to use ingredients, new flavours and textures on the plate and new dining experiences (Powell & Prasad 2010; Seaman et al., 2021). In this sense, they are also stimulating people's interest in the gastronomy of cannabis. With this in mind, explorations of the relationship between culinary notions of cannabis and specific celebrities, on-screen depictions, or print media on

the topic might reveal some interesting insights into how the public views class, privilege, heritage, specific foods and even aesthetic trends relative to both hemp and/or marijuana.

The gastronomy of cannabis

Cooking schools and tools

With growing legislative support for the sale and use of both hemp and marijuana, an increasing array of cannabis strains and edible products are becoming available to chefs across the country. The increasing variety of culinary cannabis options allows for seemingly endless creativity in the kitchen. As such, a handful of respected institutions in the US have begun offering specialised courses focused on culinary cannabis. The American Culinary Federation (ACF), North America's largest professional group for chefs and other hospitality professionals, offers a certificate in "Culinary Cannabis and Edibles". The course was designed to help fill what the organisation notes is an "information gap [that exists] with respect to food safety and preparation as it relates to THC and CBD-infused products" (ACF, 2022, n.p.).

Similarly, Niagara County Community College (NCCC), a division of the State University of New York (SUNY) system, likewise offers a semester-long, similarly named "CUL 250 — Culinary cannabis and edibles" course. In 2020, Metropolitan State University of Denver (MSU Denver) also announced that they would offer two courses on culinary cannabis: "RST 290A — Cannabidiol use" and "HTE 190A — Cannabis 101 for hospitality" (Phare, 2020). A glance at each programme suggests the classes are aimed not only at helping chefs to elicit the potent compounds that intoxicates diners (and to do so carefully), but also to tease out the various flavour notes and textures of the unique ingredients themselves. Hinting at the profits that stand to be made from culinary cannabis in the future, both NCCC's and MSU Denver's initiatives are supported in part by private cannabis corporation partnerships (Phare, 2020). A handful of other institutions of higher education in the US have also begun to offer more general cannabis and marijuana-focused classes and programmes, many of which note that they too touch on edibles or culinary aspects of the plants in the curriculum.

New cooking tools such as the Levo Machine are also allowing serious home and professional chefs the ability to infuse their own substances with cannabis. The device is marketed as being able to infuse food goods with *any* herb one desires (the emphasis on *any* heavily implying its potential use for cannabis). The device is clearly marketed to serious and professional chefs as the base model retails for around USD 250 to USD 300, while the higher end models sell in the USD 400 range. Introduced in 2017, the company claims to have sold over 10 000 products in its first year alone (Shapiro, 2018). These trends again suggest that cannabis in various iterations is of increasing interest to American chefs and foodies alike.

Terroir and sommeliers

Given the variety of strains of cannabis available and the nuanced ways in which growing conditions, cultivation and processing practices change the flavour, profile and potency of its harvest, the terroir of the ingredient is likely to draw increased attention from enthusiasts. Terroir refers to the humanistic and physical geographic components that contribute to taste and texture profiles of food (Barham, 2003; Trubek, 2008; Richards, 2015). In wine and beer, many people utilise their knowledge of a food's terroir to elevate their own expertise or social status. Certified wine experts or sommeliers, for example, study the vintage and production of grapes and identify flavour notes to suggest how the finished product might be best paired with foods. Similar enthusiasts consider the flavour notes and brewing styles of beer. Thus, it is likely that culinary cannabis will generate its own devoted connoisseurs who build their identity in part on their knowledge of the product's terroir and gastronomy. In fact, the closest botanical relative to cannabis is *humulus*, the family of plants which contains the beer-flavouring hops (West, 1998). Yet, while these consumers will no doubt bring a new market demand to the industry, it remains unforeseen how this genre of aficionados will interact with hospitality organisations when it comes to cannabis. As this trend emerges, so will questions about who is participating in the elevated gastronomy of cannabis and about how those individuals may contribute to the potential destigmatisation or even gentrification of cannabis on a wider scale. Other questions will arise about how hospitality-based organisations will meet and/or capitalise on these demands. How will kitchens, back-of-house, equipment, supply lines and servicescapes need to be adjusted to attract and satisfy customers seeking a gastronomic experience with cannabis?

Foodies

With an increasing number of individuals considering themselves "foodies" (Sloan, 2013), or people whose identity is based in part on food (e.g. cooking, eating, learning about, etc.) (Getz et al., 2014), interest in the gastronomy of cannabis is likely to garner the attention of food enthusiasts and adventurous eaters too. Foodies, or those with the means to seek out unique dining experiences, often want to try a notable chef's creations by giving the kitchen creative freedom. Trying new dishes or ingredients and ways of preparing them fuels their ascension to the status of food expert (Hyman, 2008). Recognised local and celebrity chefs and their devoted followers in this sense are literal taste makers (Brien, 2008) as they often contribute to food trends by introducing diners to new foods, new ways to use ingredients and new eating experiences (Cardello et al., 1985; Tuorila et al., 1994). In turn, cannabis has the potential to have a huge impact on the hospitality industry in the US, given the seemingly endless culinary uses of cannabis likely presenting unique challenges for chefs. While cannabis may offer chefs and diners a variety of gastronomic experiences, the ingredient is deeply linked to notions of race, class, identity and deviant leisure in the US. Thus, as cannabis becomes more commonly used in restaurant kitchens, scholars and stakeholders alike should consider how, why and what impacts its use will have on individual restaurants specifically and the hospitality industry more generally. What, for instance, are the benefits and drawbacks of marketing based on notions of culinary cannabis? What impact would the inclusion of references to hemp and/or marijuana in marketing materials have on restaurant eWOM (i.e. electronic word-of-mouth) reviews? What are diners hoping to garner from dishes made with cannabis? Are they willing to pay more for specific types of edible cannabis products (such as rare strains of marijuana, or locally grown hemp, etc.)? Does the experience affect customers' intention to return? Given that chefs shape public opinion of food (Cowan et al., 2008; Inwood et al., 2009; Seaman et al., 2021), the use of cannabis in the kitchen is not an inconsequential choice in the US. Instead, it carries connotations to various other facets of society.

Restaurants and dining experiences
Despite these questions, some hospitality industry stakeholders are leaning into the culinary cannabis trend. A number of chefs are featuring both marijuana- and hemp-infused dishes on curated menus at upscale eateries across the US. From infused marijuana mustards and jams on charcuterie boards to CBD peanut butter for breakfast and cannabis-flavoured pastas, menus are increasingly featuring the plant family. Some eateries and bars are even going so far as to serve drinks with an iconic whole leaf on top for aesthetic appeal (Figure 1).

Several high-end restaurants and dining experiences devoted entirely to cannabis are similarly becoming popular. The 99th Floor private dining company, which specialises in cannabis-based dining experiences, has sold out all of the exclusive dinners it has held since starting in 2016. Dishes include things like Japanese Wagyu steaks, grilled octopus and pastry chef-created desserts — all cooked or infused with cannabis. The 99th Floor is so popular, in fact, that the masterminds behind the operation plan to open a full restaurant in New York City later in 2022. Despite having to negotiate a recent ban on cannabis edibles in New York City, the new storefront is set to open late in 2022.

Similarly, in response to the Los Angeles (California) Health Department's ban on cannabis-infused food — repealed in 2021 to allow for CBD-infused drinks and dishes — famous chefs such as Chris Sayegh have taken to holding speakeasy-style private dining events. Sayegh's "Secret Supper Club" curates marijuana- and hemp-based courses with elevated

FIGURE 1. The "Red Headed Stranger" at Pinpoint Restaurant in Wilmington, North Carolina. The drink features hemp-infused, coconut-oil washed Anejo Blanco Rum, lime and pineapple. (Source: Seaman, 2022).

ingredients and plated with aesthetics in mind (Potter, 2022). The organisation bills themselves as "local, sustainable, fresh" and describe themselves as a "members only private supper club founded in 2020 in response to rules and regulations that decimated the food service industry and continue to criminalize the use of plant medicines" (*The Herbal Chef*, 2022, n.p.). Other private cannabis- and/or marijuana-themed dining experiences are offered by Herbal Notes in Chicago (at USD 250 a head), High End Dinner Club which travels around the US for pop-up style events (and sells limited tickets for its one-night per city events) and Cultivating Spirits, which for anywhere from USD 150 to USD 250 per guest features high-end fare made in the comfort of one's own home (within a specified region in several states in the American west).

From infused maple syrup at ZenBarn in Waterbury in Vermont to CBD beer at Ankeny Tap and Table in Portland in Oregon, culinary cannabis is gracing restaurant menus from coast to coast, many of which offer patrons "elevated" dining experiences. The Cannabis Café in West Hollywood in California opened in October 2019 and marketed themselves as America's original cannabis café. Their menu of gourmet American bar-style food featured a range of sandwiches starting at USD 17, with an add-on option of infusing the dish for an extra USD 20 per plate. Reservations were booked solid until the organisation was forced to shutter operations during the COVID-19 pandemic (Shapiro, 2019). While many of these organisations state a desire to "destigmatize cannabis through the universal language of food" (Faison, 2021, n.p.), they are also gentrifying culinary cannabis through their exclusivity, price, setting and the taste and presentation of the dishes that they serve.

Four-twenty (420) holiday
A number of food and beverage businesses are now also commonly hosting "420" (pronounced "four-twenty") celebrations with special menus that showcase culinary cannabis across several courses. The term "420" in American culture is synonymous with marijuana, and stems from members of the famous 1960s band, the Grateful Dead, who used to secretly meet at the late afternoon hour to smoke pot as rebellious youth. Held on 20 April, or 4/20 in the US, and featuring dishes made from both hemp and marijuana, the events are being adopted by various entities across the country, with cannabis-based foods seemingly playing an important role in the celebrations. The fast-food chain Carl's Jr. even hosted a one-day, test-product event featuring a burger boasting a "special" CBD-infused sauce for the "holiday". The burger was sold for USD 4.20 on 4/20 at one location only in Colorado where both forms of cannabis are legal. The company said that while it may seem like a publicity stunt, the event was actually a means of taking a first look at the possibility of developing other CBD-infused menu items (Taylor, 2019).

Discussion and future research

Together, it is clear that significant investments are being made in the US relative to the gastronomy of cannabis, though the impacts of these trends on the hospitality industry remain to be seen. Nonetheless, today's creative and upscale uses of both hemp and marijuana in restaurants, on screen and in various food products implies that the American public is enthusiastic about the gastronomy of cannabis. Simply put, notions of edible cannabis seem to have evolved beyond the stereotypical pot

brownie long depicted on film and television in the US. Thus, more research is needed to address factors associated with the emerging trend.

Scholars should investigate the profitability of culinary cannabis. Can the product generate a higher revenue-to-cost ratio than other investments or menu items? What investments must be made to procure and utilise cannabis as a raw ingredient in a commercial kitchen? Does the product create more or less waste than other specialty or luxury ingredients such as truffles, dry-aged steaks, or specialty cheeses? Why are chefs and business owners wanting to use cannabis in the kitchen or the theming of their restaurant? What stereotypes or challenges have they encountered in this quest?

Further, cannabis is absorbed into the body more slowly when eaten than when smoked. In turn, the effects are often delayed (Giombi et al., 2018) and therefore difficult to anticipate. Cooking with cannabis inherently leads to imperfect dosing as variations in raw plant materials are natural, cooking methods may alter potency and ingredients often splash during cooking or remain left over on preparation ware. Though some tools to measure dosing and potency exist online, their accuracy is imperfect at best (Barrus et al., 2016). Best practices regarding the use of cannabis in commercial kitchens should be developed by interdisciplinary scholars and accredited institutions of higher education and the information more widely disseminated to chefs and restaurateurs utilising the plant genus beyond the limited courses currently being offered. Perhaps those working with cannabis, or more specifically marijuana, in commercial kitchens should be *required* to acquire certificates (akin to ServeSafe which teaches basic food safety) showing their knowledge of the ingredient.

Despite these precautions, questions about liability will also certainly arise. Should eateries serving cannabis products be held accountable if diners over-imbibe? Will insurance conditions be required for restaurateurs wishing to serve such items? Will red tape and regulations surrounding these issues curtail the culinary creativity that cannabis affords chefs as is claimed by some chefs and restaurateurs in California? Scholarly research should begin to consider how these potential factors will impact organisations.

In addition to questions about the image of individual restaurants using cannabis, it is important to point out that food and beverage entities also reflect a sense of place and community (Hsu & Scott, 2020; Backston & Seaman, 2021). Locally owned restaurants, breweries, tap rooms and the like in particular are exceedingly popular in the neo-local era in the US where consumers desire a unique place-specific experience in what is perceived as an otherwise homogenised food, shopping and leisure landscape (Schnell & Reese, 2014). These organisations not only contribute to how place is understood, they also memorialise to some degree both specific local heritages and food traditions. How these places integrate different elements of cannabis into local dishes may reflect changing views about the substance in American culture on a regional and/or local level and should be considered.

Finally, culinary cannabis and the gastronomy of hemp and marijuana should be explored relative to other cultures and countries as well. Cannabis legality varies widely across the globe as do social views on the family of substances. The UK, for instance, is considering rolling back the "Novel Food Regulations" which force those aiming to make CBD-infused foods to submit extremely complex applications that show the item will not harm human health (Arnold, 2022). In contrast, Canada, which legalised marijuana for recreational use in 2018, remains steadfast in their opposition to the use of cannabis in restaurant kitchens (though pre-packaged edibles are available with heavy regulations governing commercial manufacturers). The range of approaches to culinary cannabis will certainly result in a range of ways in which cannabis is used by and will have an effect on hospitality entities around the globe.

In short, the growing interest in, use of and market for culinary cannabis will likely have significant impacts on the hospitality industry in the US, prompting numerous questions from scholars, stakeholders and policy makers alike. Thus, to delineate its use in commercial and private kitchens, scholars are recommended to adopt the term "culinary cannabis" to describe edible products cultivated from both hemp and marijuana where an appreciation for the gastronomic elements of the ingredient are evident. The American Culinary Federation (ACF, 2022), which boasts 14 000 members representing the hospitality industry, found in a recent poll that chefs believe cannabis and edibles to be top trends in the early 2020s. Yet, the topic has received sparse attention from scholars as has more generally the cultural facets of the non-problematic use of cannabis. A better understanding of both the non-problematic use and gastronomy of culinary cannabis in the hospitality industry would not only help with developing regulations to ensure the safe use of culinary cannabis and cannabis edibles, but also help other stakeholders maximise the benefits of a trend on the verge of exponential growth in the US.

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