



*What's Hot
& What's Not*

Hot & Spicy Consumer Survey Results

Crafted by



kalsec®

Kalsec has been igniting hot & spicy food and beverage innovation for decades. Our hot and spicy ebook, released in 2017, covered everything from the number of people eating spicy food to the exact pepper varieties they prefer. In 2021, researchers revisited those findings to see if anything had changed—and it did. Heat and spice continue to gain traction, but shifts in preferences are revealing new opportunities for manufacturers. The pages that follow cover key changes and new findings that are sure to spark new ideas.

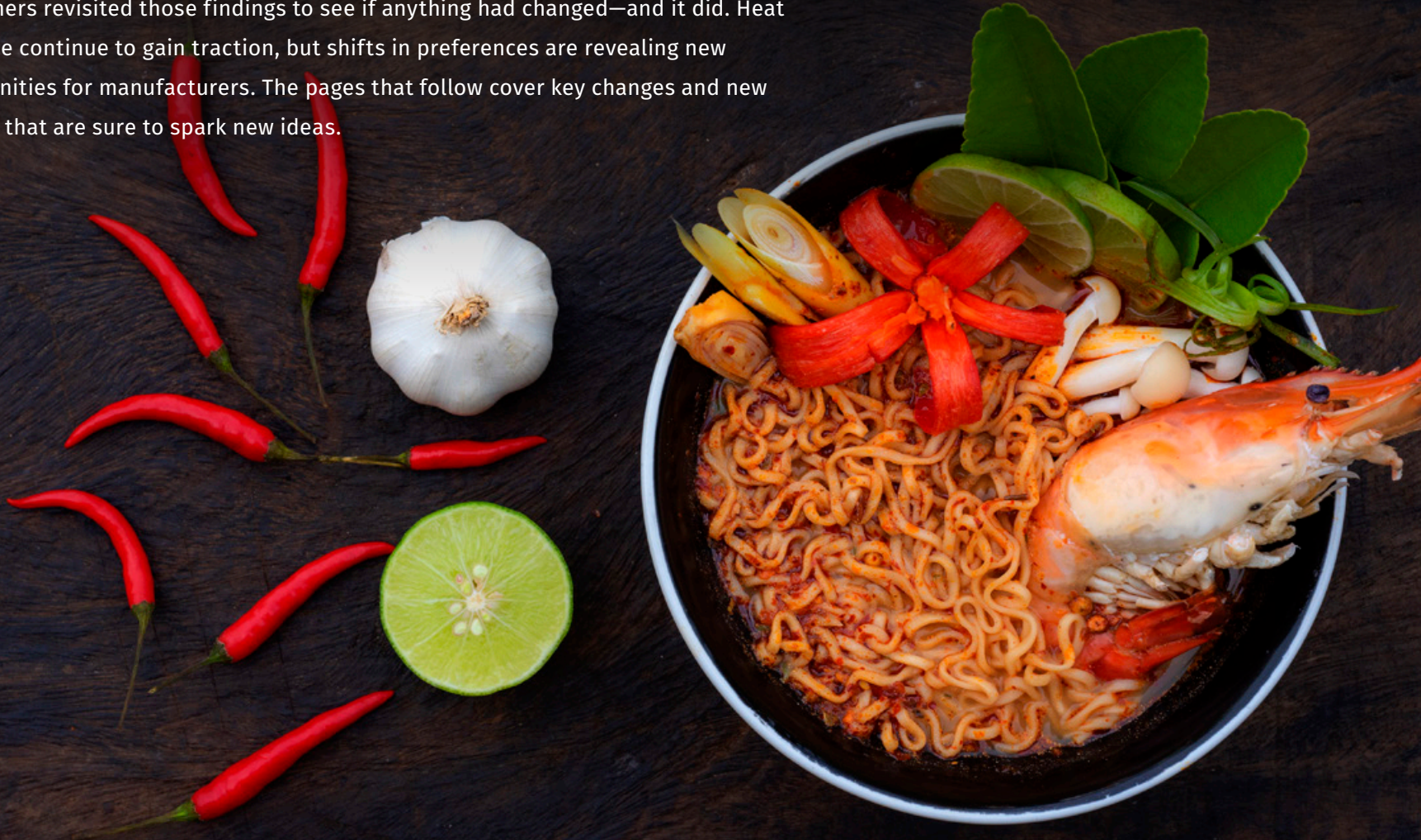


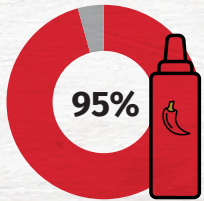
Table of Contents

Global Consumer Attitudes	4
General Perceptions and Behaviors	4
Cuisines, Applications and Flavor Combinations	6
Time and Place	8
Rising and Falling Flavors	9
Rising and Falling Peppers	10
Regional Insights: The Americas	12
Regional Insights: Europe	15
Regional Insights: Asia-Pacific	18
Conclusions/Methodology/About Kalsec	21

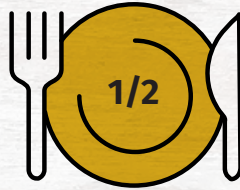
Global Consumer Attitudes

General Perceptions and Behaviors

The demand for spicy foods continues to grow across the globe with consumers becoming more adventurous.



95% of consumers enjoy hot and spicy food at a heat level of mild or above.

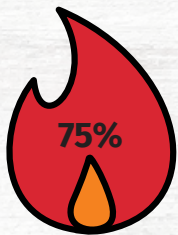


Nearly 1/2 of respondents are willing to try any foods or flavors—an increase of nearly 10% from 2019.

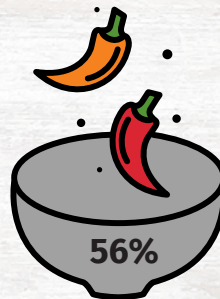


3 out of 5 consumers have reported they are eating spicier foods today compared to a year ago.

For consumers, heat is seen as a way to improve flavor. But they don't just want it hot, they want to know where the heat comes from.



Almost 3/4 of consumers say most foods taste better with some level of heat.



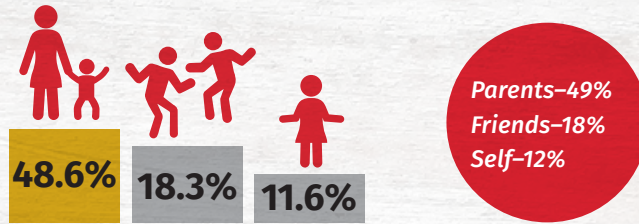
56% agree the source of heat is key to them.

INSIGHT

Specifying the **source of heat** on the package can help tap into consumer appeal.

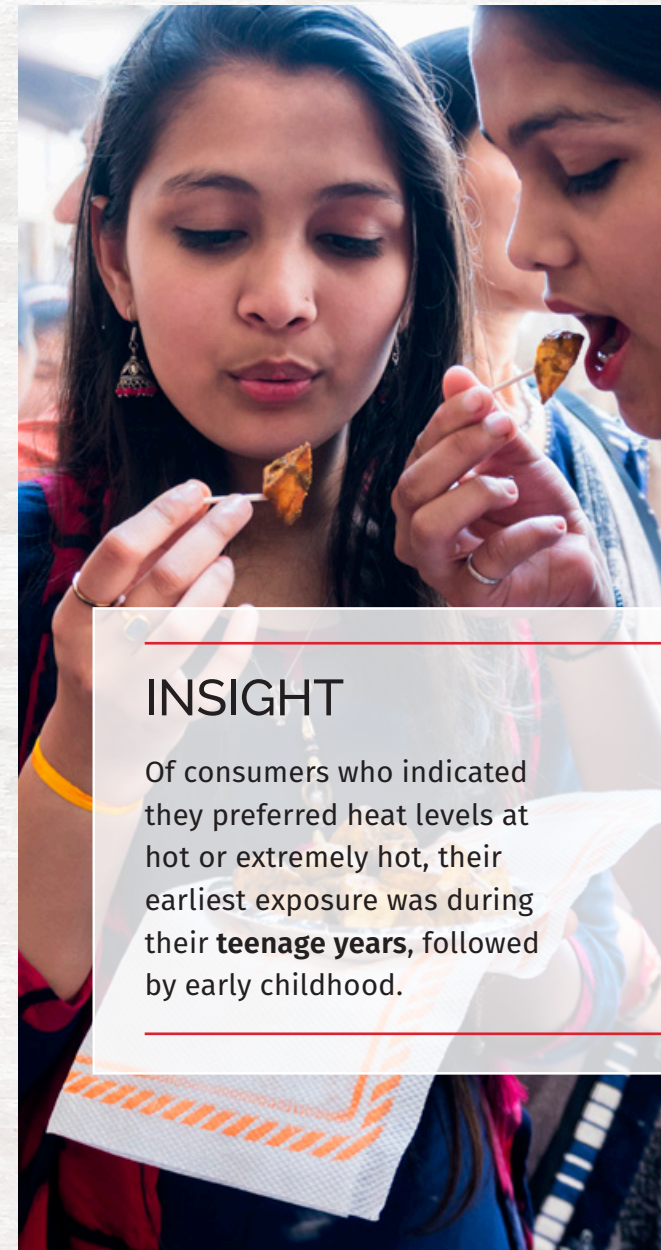


Globally, **parents are the most common influence** for spicy flavors in a person's diet followed by friends and then themselves. Most consumers had their earliest exposure to spicy foods during their teenage years.



“ Using comfort and nostalgic flavors with heat is a great way to capture consumers in today's market, especially for those who are new to the heat scene and uncertain of where to begin. ”

—Joseph Gwisdalla, Market Research Specialist

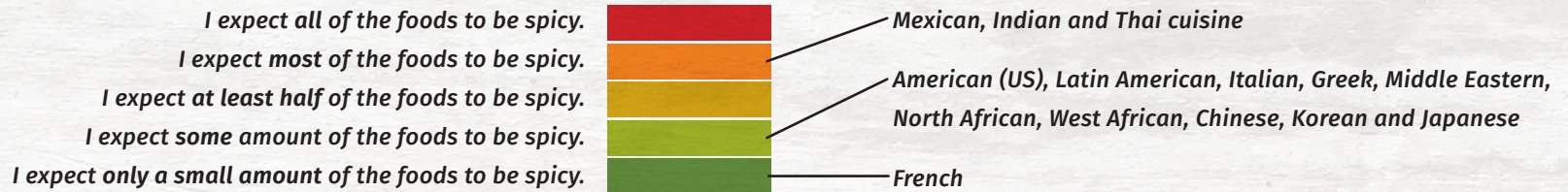


INSIGHT

Of consumers who indicated they preferred heat levels at hot or extremely hot, their earliest exposure was during their **teenage years**, followed by early childhood.

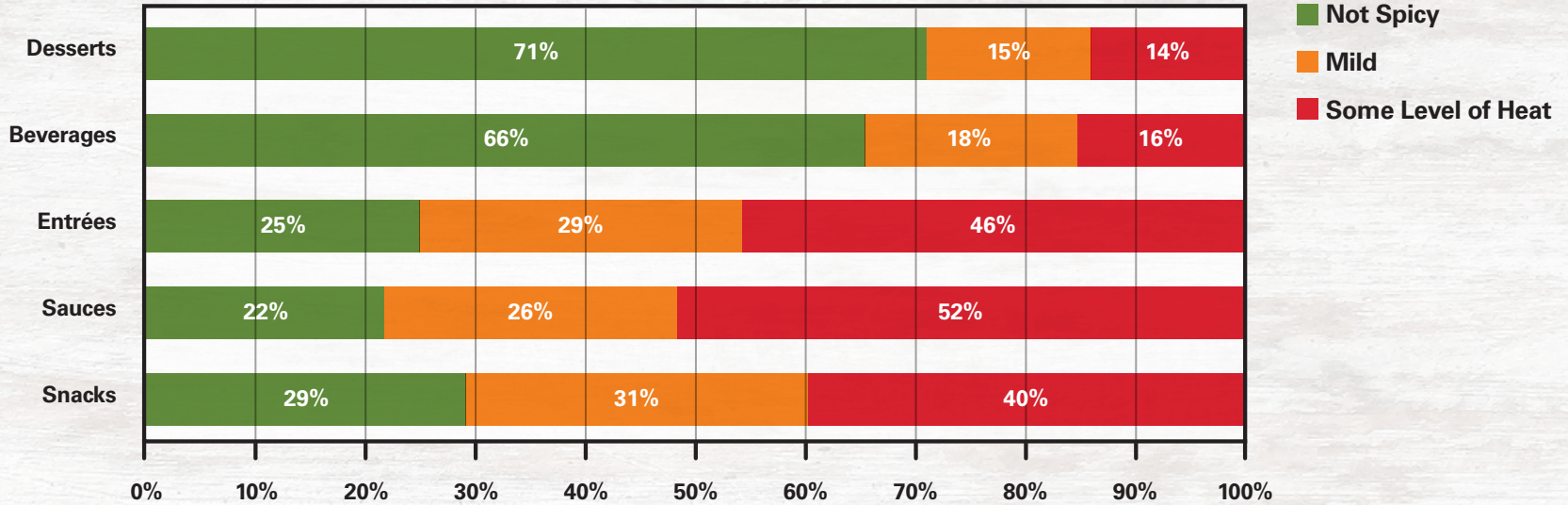
Cuisines, Applications and Flavor Combinations

Different cuisines have different heat expectations. **Mexican, Indian and Thai** rank as the cuisines most expected to be spicy.



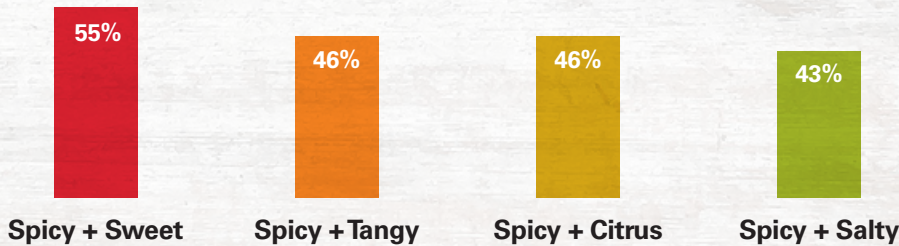
The level of preferred spiciness fluctuates based on the application type, with **sauces, entrées and snacks** showing the most preference.

Level of Spiciness Preferred in Each Category



While sweets ranked low in the above chart, consumers ranked a sweet flavor as one of the most interesting pairing options with heat.

Top Flavor Combinations Globally

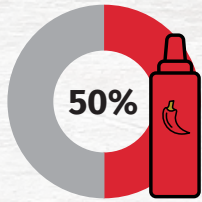


Percentage of global consumers who reported interest in trying the above flavor combinations.



Time and Place

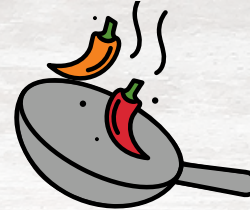
Globally, consumers enjoy spicy foods and beverages 2-3 times a week, with the majority preferring evening hours. This happens both at restaurants and at home.



At restaurants, 50% of consumers choose a spicy option, and there is a high likelihood they will order a side sauce to increase the level of heat.



Premade spicy foods are popular, with nearly 55% of consumers preferring this option.



65% of consumers choose a spicy meal when cooking at home—nearly 14% more than 2019. More than 66% of home cooks prefer to make those foods from scratch.

Regions throughout the globe have variations in how much and when consumers prefer heat.



Consumers in APAC enjoy spicy foods 4-5 times a week.



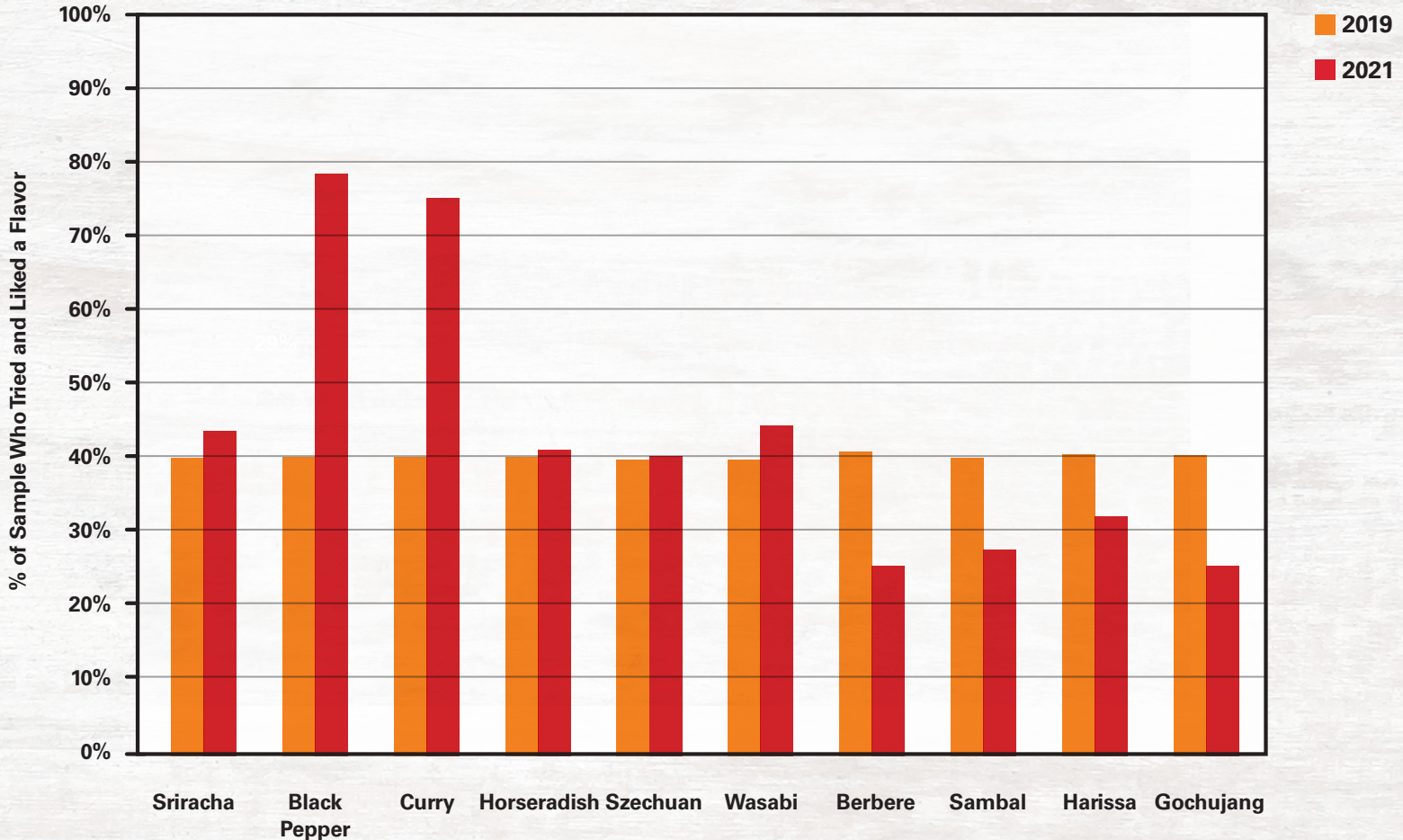
In the Americas, the afternoon is the most preferred time to consume spicy foods and beverages.



Rising and Falling Flavors

Between 2019 and 2021, there was considerable fluctuation in preference for spicy flavor globally. Each number reflects the rise or fall in the number of people who reported they “tried and liked” the corresponding flavors.

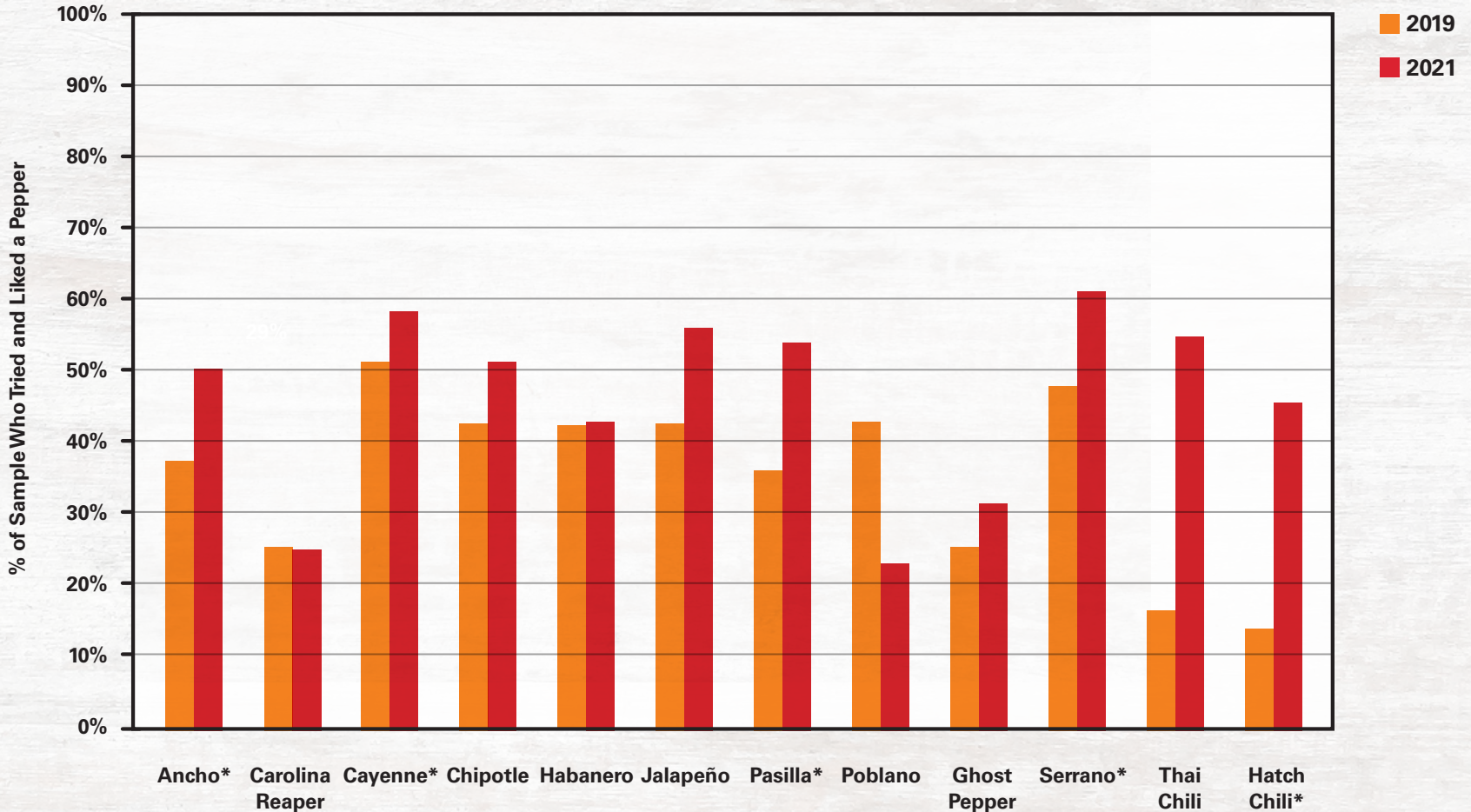
Preference for Spicy Flavor



Rising and Falling Peppers

Pepper types also saw preference changes between 2019 and 2021. Each number reflects the rise or fall in the number of people who reported they “tried and liked” the corresponding pepper.

Preference for Pepper Varietals



A top-down view of a rustic wooden tray filled with various spices. In the center, a silver spoon holds a pile of green dried herbs. To the left, a small bowl contains bright yellow powder. To the right, a larger bowl is filled with a fine, light brown powder. At the bottom, another bowl contains a darker, reddish-brown powder. Scattered around the bowls are whole spices: several red chili peppers, a bunch of cinnamon sticks, star anise, and nutmeg. The background is a dark, textured wooden surface.

“ Increasing demand for heat does not mean food & drink is getting hotter! Consumers are seeking diverse sources of heat and ingredients from different regions for flavor-packed eating experiences. **”**

—Chloe Stewart, Marketing Manager

Regional Insights—The Americas



Regional Insights—The Americas

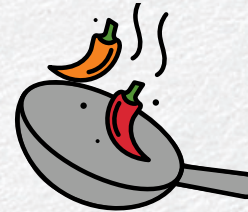
In the Americas, leading reasons for exploring spicy foods include enjoyment, health, sensation, enhancement and challenge. Here are some other statistics and consumer preferences specific to the region:



67% see red as the “hottest” color, followed by green, orange and yellow.



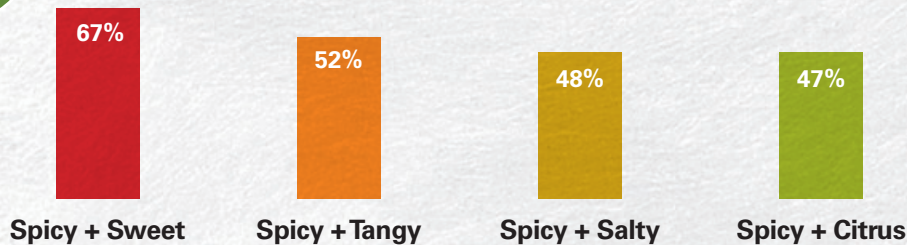
The most popular application is sauces, followed by meat, poultry & seafood and snacks.

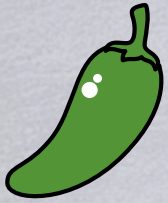


The Americas saw a 42% increase from 2019 when choosing a spicy meal at home, with a vast majority saying they prefer to make it from scratch.

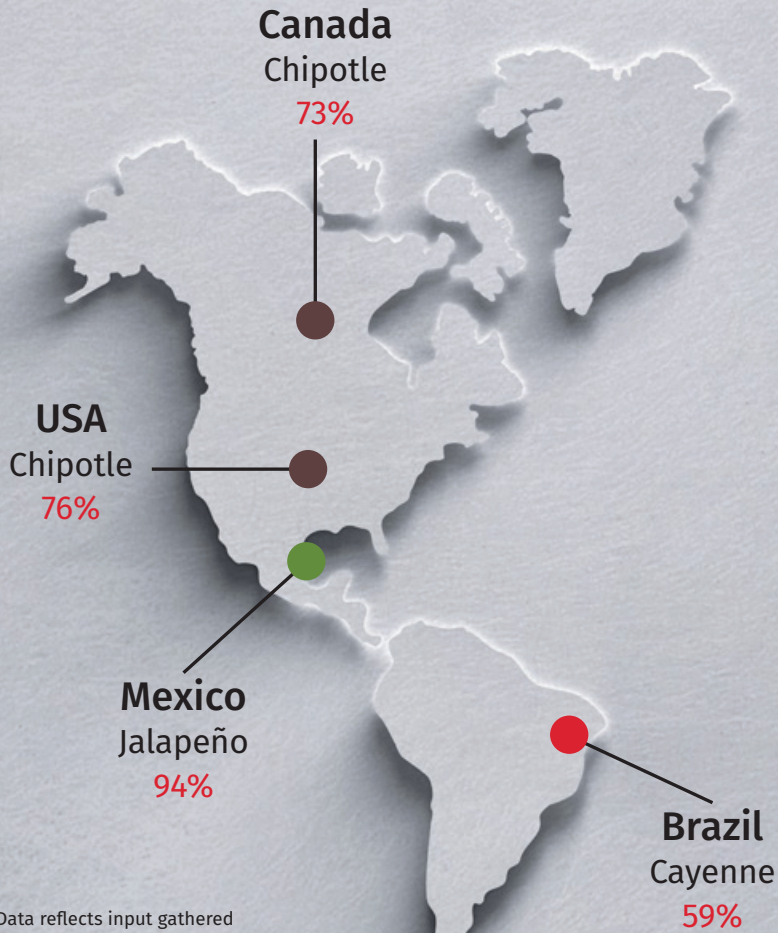


Top Flavor Combinations in the Americas





Overall, the preferred pepper is the Jalapeño in the Americas.



Data reflects input gathered based on a set number of pepper varieties. List was not open ended or all inclusive.

“ Many of us have chalked up the jalapeño as the “has been” of the pepper world, but I would encourage chefs and foodies alike to take a new look. You can ferment, smoke, char or even pickle them for a charcuterie board or a bold and spicy martini. ”

—Chef Anna Cheely



Regional Insights—Europe

Regional Insights—Europe

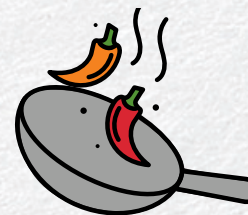
Europeans seek spicy flavors in the spirit of discovery, cleansing, bravery, variety, fulfillment and experimentation. Here are some other statistics and consumer preferences:



72% see red as the “hottest” color, followed by orange, green and yellow.



The most popular application is sauces, followed by meat, poultry & seafood and snacks.



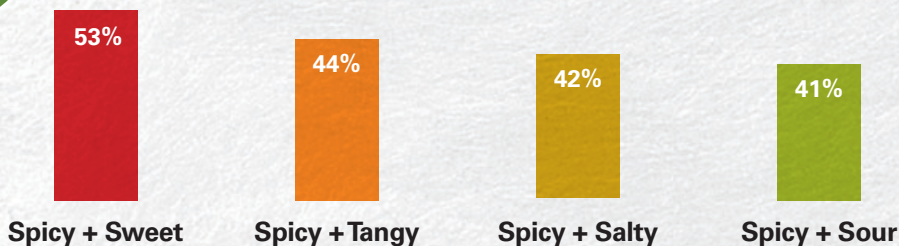
Europe saw a 31% increase from 2019 when choosing a spicy meal at home, with a vast majority saying they prefer to make it from scratch.



Of the ten spicy flavors identified, curry resulted in being the top spicy flavor for Europe.

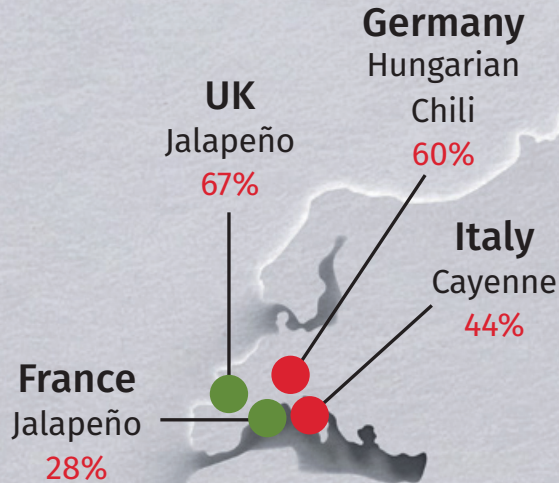


Top Flavor Combinations in Europe





Europe has great variability in pepper preferences.



Data reflects input gathered based on a set number of pepper varieties. List was not open ended or all inclusive.

“ We see these hot trends daily both in the marketplace and from our customers who are seeking authentic, exciting blends which represent consumer palates, such as Indian and Southeast Asian, with different degrees of heat and spice. **”**

—Chef Andrew Bingham

Regional Insights—Asia Pacific



Regional Insights—Asia Pacific

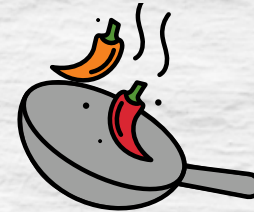
In Asia Pacific, consumers are drawn to health, exploration, tradition, comfort, functionality and warmth. Other statistics and consumer preferences:



70% see red as the “hottest” color, followed by green, orange and yellow.



The most popular applications are sauces and condiments, followed by meat, poultry & seafood.



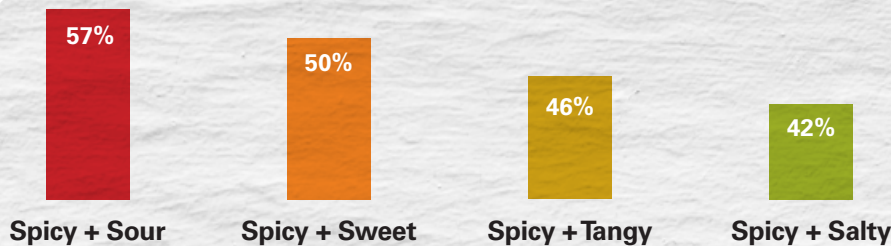
Asia Pacific saw a decline of 7% from 2019 when choosing a spicy meal at home.

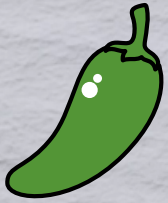


Of the ten spicy flavors identified, curry resulted in being the top spicy flavor for Asia Pacific.



Top Flavor Combinations in Asia Pacific





The Jalapeño has made its way to the APAC, ranking second in overall preference.



Data reflects input gathered based on a set number of pepper varieties. List was not open ended or all inclusive.

“ Across and within the three sub-regions in Asia, the understanding, interpretation and application of chili differs significantly. That’s why dozens of chili varieties are commercially grown to cater to diverse culinary needs. Each has a specific flavor it imparts under different cooking methods. ”

—Adrian Yee, Marketing Director



Conclusions

While preferences for heat and spice continue to gain traction, several new nuances signify big opportunities for food and beverage development. They include specifying the origin of heat on packaging, introducing consumers to heat at an earlier age and homing in on preferred pepper types in different regions of the world. With ever-changing and developing preferences, it is vital to stay current on trends and find ways to meet them with consistency and reliability.

Methodology

Kalsec launched an online survey in November 2021 with a sample size of 6,003. Respondents were not restricted by age, income, sex, ethnicity or education and represented a global market that includes United States, Canada, Brazil, Mexico, United Kingdom, France, Germany, Italy, Australia, China, Thailand and India.

About Kalsec

Kalsec was an early innovator in the extraction of peppers. Our company began when Paul Todd Sr. purchased ten railcar loads of Carolina Long Chiles below market price. With so much raw product at his fingertips, Paul Todd Jr. took the opportunity to explore ways to extract capsicum from the peppers. In partnership with Hungarian flavor chemist, Dr. Maria Mauritz, Kalsec pioneered the very first extraction of peppers and the use of gas chromatography for the analysis of those extracts.

Today, we offer one of the broadest portfolios of pepper extracts and heat management solutions along with a team dedicated to helping you develop a culinary sensory experience. Our chefs and food scientists will work with you, side-by-side, to achieve the exact flavor and heat sensation you desire. Whether that means capturing the flavor of jalapeño without the heat, or developing the exact right blend of spices to add the flavor of pho to a potato chip, we'll help you achieve product perfection.

Crafted by Kalsec™

Our expertly crafted ingredients combine naturally sourced materials with insights and technical expertise. This unique combination has positioned us as the trusted partner food and beverage manufacturers turn to for quality, reliability and consistency. Whether it is snacks, beverages, bakery, meat and poultry or sauces and dressings, we are your partner for creating innovative solutions to food and beverage challenges.

To learn more, visit kalsec.com.

Products listed may not be available in all regions.

This information is believed to be accurate and reliable. We cannot anticipate all conditions under which this information may be used. Users are advised to make their own tests to determine the safety and suitability of each product for their own purposes. We disclaim all warranties of any kind, whether express or implied, including warranties and merchantability or fitness for a particular purpose or both. We make no warranty that the use of our products or this information, alone or in combination with other products, is not an infringement of any patents, trademarks or other intellectual property.



This company meets the highest verified standards of social and environmental performance, transparency, and accountability. Certified B Corporations™ (B Corps™) are for-profit companies that use the power of business to build a more inclusive and sustainable economy.