



THE
MUSHROOM
COUNCIL

MUSHROOM CATEGORY GROWTH OPPORTUNITIES – FINAL REPORT

The Mushroom Council
May 29, 2024



Build a demand-driven growth strategy for the US mushroom market that identifies high-value opportunities for “where to play” and actionable strategies for “how to win”

**The
main
objective**

agenda

- 1 Project context
- 2 Opportunity overview
- 3 Opportunity deep dive
- 4 Appendix: forecast, consumer insights, expert interview synthesis



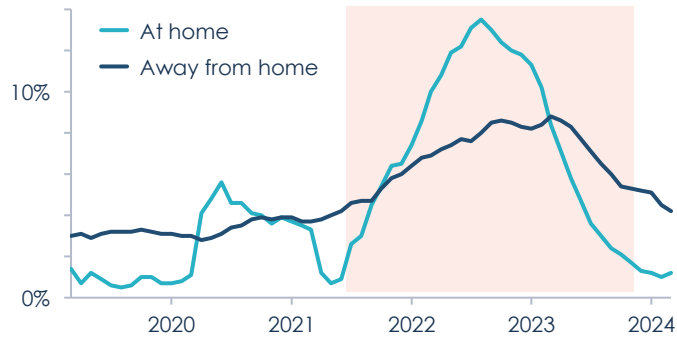
1

Project Context

Today's macro environment is challenging as we remain in the wake of high inflation, squeezing consumers' wallets

The macro environment is affecting consumers

Consumer Price Index: Food (% Change vs. YA)



High interest rates take growing toll as planned apartments, wind farms, shops are scrapped



Paul Davidson
USA TODAY

Published 12:01 a.m. ET May 15, 2024 | Updated 12:23 p.m. ET May 15, 2024

Which has impacted mushroom sales and quality

*“People **see mushrooms as “wants” not “needs”** and are not purchasing mushrooms as much **due to inflation”***

- Mushroom Retail Sales Expert

*“**Inflation is driving some issues**, we increased our prices and in turn demand fell which caused **quality concerns as the product sat out for longer”***

- Produce Manager, Grocery

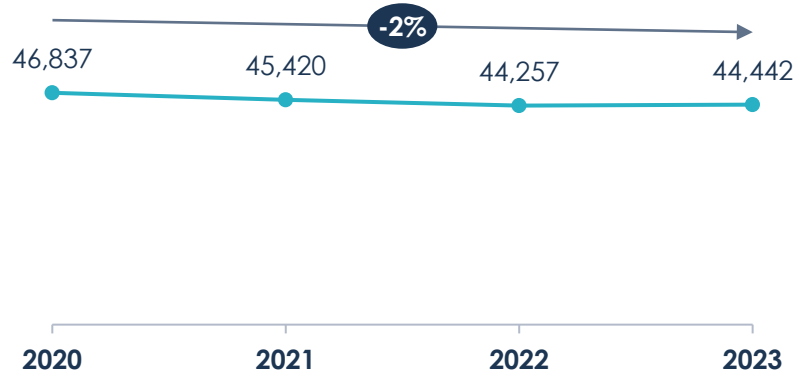
*“**Restaurants aren't even printing menus** because **they are changing prices so often”***

- Foodservice Operator

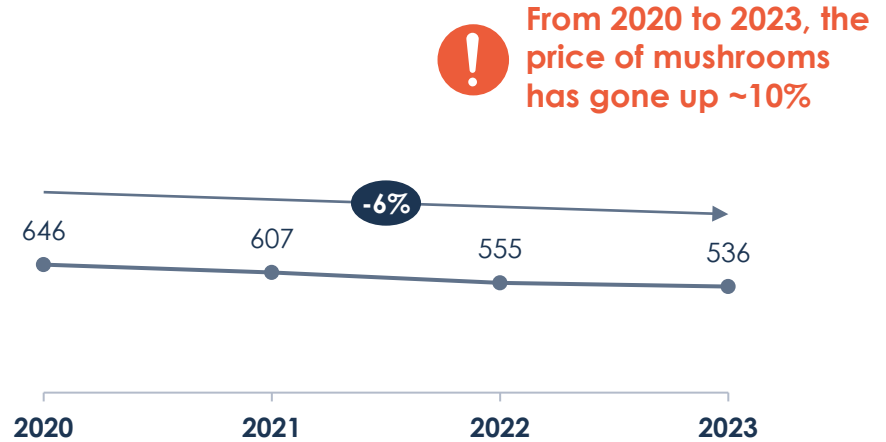
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group; Bureau of Labor Statistics, Consumer Price Index (2024)

The mushroom category has been disproportionately impacted, especially in retail

Retail produce volume (in pounds, millions)



Retail fresh mushrooms volume (in pounds, millions)



NOTE: All produce data is from Circana (2023); retail fresh mushroom data is from TCG analysis
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Beyond macroeconomic challenges, some complexities in the mushroom category are likely contributors to recent declines

The mushroom category has many complexities...

Different Mushroom Types

Our survey lists **25** different types of mushrooms from traditional White Button to specialty like Morel and Shiitake.



Naming Inconsistencies

The names of mushroom types can vary, (e.g., browns mushrooms can be “brown”, “cremini”, “crimini”, and “baby bellas”).



Consumers Unaware of Mushroom Claims/Benefits

Despite mushrooms' numerous health benefits, such as B vitamins, consumers often overlook them due to a lack of awareness. Additionally, the multitude of mushroom varieties with differing claims complicates communicating these benefits



Inconsistent Quality

Mushroom quality at retail stores has been an issue recently, and as proven by consumer survey data, the visual appeal is critical for sales



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

However, several positive tailwinds point to opportunities for mushrooms growth

Mushroom category tailwinds

- Macro forces: as inflation comes down, consumers should be less price sensitive and buy more mushrooms again
- Consumers continue to be increasingly interested in health & wellness, where mushrooms are advantage (e.g., Vitamin D)
- Americans are still dining out, especially higher income consumers at expensive full-service restaurants²
- Mushrooms are sustainable to grow, & could further benefit from the sustainability trend
- Mushrooms are trending online with Lion's Mane supplements rise in popularity, as well as "mushroom aesthetic" for home decor

healthline

16 Superfoods That Are Worthy of the Title

15. Mushrooms

Some of the most common varieties of edible mushrooms are button, portobello, shiitake, cremini and oyster mushrooms.

Mushrooms contain vitamin A, B6 and other foods (15)

ScienceDaily

Your source for the latest research news

Mushrooms magnify memory by boosting nerve growth

Date: February 10, 2023

Source: University of Queensland

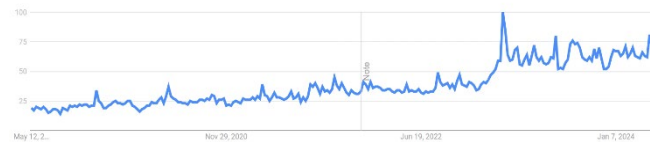
Summary: Researchers have discovered the active compound from an edible mushroom that boosts nerve growth and enhances memory.



"We are not seeing many problems for mushrooms. I'd be surprised to hear if mushrooms aren't performing well [in foodservice]."

- Foodservice Distributor

Lion's Mane Google Trend – Past 5 Years

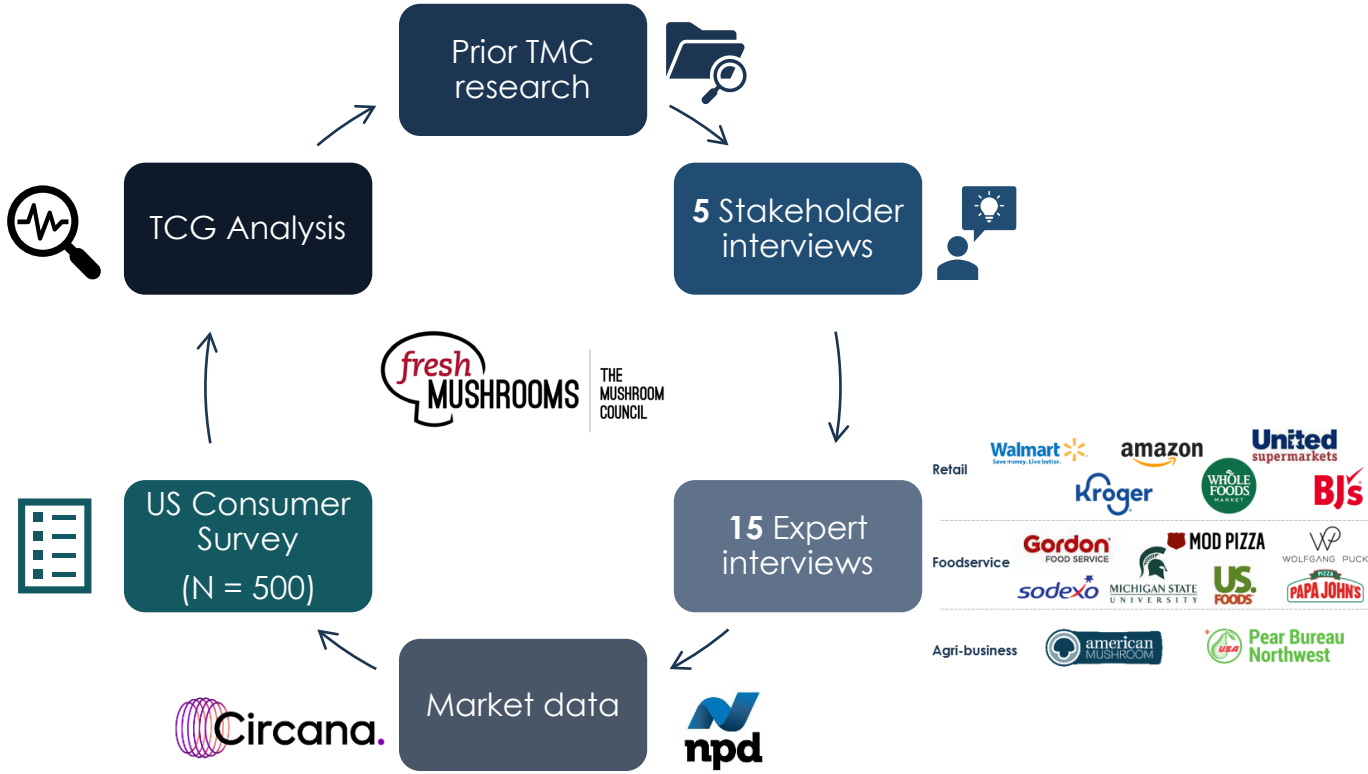


Mushroom Aesthetic



1. US Gallup Report 2018 [Snapshot: Few Americans Vegetarian or Vegan \(gallup.com\)](#), 2. [People say they worry about inflation. Their restaurant spending might show otherwise | WUNC](#)
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

We collaborated with the Mushroom Council team to identify and quantify key opportunities to accelerate mushroom volume growth



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

2

Opportunity overview

**There is no silver bullet that
will change the course of mushroom growth....**

Instead, a coordinated effort of multiple parties across execution levers will be required in order to accelerate growth

Education & Communication

- **Drive recipe & menu inspiration:** educate and inspire consumers to use mushrooms in more recipes, better linking mushrooms to key complements, while expanding usage across more dayparts. Accelerate foodservice partnerships, inspiring and supporting operators in boosting menu penetration
- **Elevate category equities & relevance:** strengthen awareness of core value proposition (theme: nutritious way to elevate your day); better embed into key tentpole seasonal traditions (e.g., like avocados in Cinco de Mayo) and weekly routines (Mushroom Monday)
- **Drive awareness of health benefits:** elevate awareness of key benefits (e.g., brain/heart/bone health, immunity) that mushrooms deliver

Product & Packaging

- **Lean into rapidly growing mushroom types/ forms:** capitalize on emerging demand for brown & specialty mushrooms and champion emerging formats (e.g., supplements, coffee, mushroom-based snacks), which provide an equity halo to the total category
- **Contemporize & expand packaging:** Innovate packaging to better align with emerging consumer demand (e.g., greater availability of smaller packs at lower price points, expand availability of sustainable packaging)

Go to Market

- **Accelerate distribution in growing channels:** capitalize on rapidly growing demand within specific emerging channels (e.g., online retail, lodging/ hospitality, recreation) across retail & foodservice
- **Improve visual appeal:** enhance attractiveness at the shelf, working with retailers to deploy supply chain & merchandising best practices, ensuring mushrooms look fresh and high quality in stores

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Growth opportunity upside estimate and rationale (I of II)

KEY

- Education & Comms
- **Product & Packaging**
- Go to Market

	Potential Upside (by 2028)	Opportunity Rationale
1 Drive recipe & menu inspiration	27M - 39M pounds	<ul style="list-style-type: none"> • Purchasing mushrooms in order to “make a specific recipe” is one of the top purchase drivers for mushrooms (43% of consumers) • New recipes should reinforce key mushroom pairing with key complements (e.g., pizza, meat, pasta, burger) and encourage expansion into different dayparts beyond dinner (~70% of current consumption is for/with dinner). • Just 10% believe retailers are perceived to be effective in providing mushroom recipe information/inspiration; today, inspiration primarily requires more active consumer involvement (e.g., internet searches, YouTube)
2 Elevate category equities & more deeply embed into consumer routines / traditions	46M - 67M pounds	<ul style="list-style-type: none"> • Consumers have relatively low awareness of the core value proposition of mushrooms (theme: nutritious way to elevate your day) • Compared to some other categories, mushrooms are not particularly strongly embedded in consumer routines (e.g., grilling season, Mushroom Monday). The success of avocados with the Super Bowl and Cinco de Mayo provides a best-in-class example
3 Drive awareness of health benefits	39M - 57M pounds	<ul style="list-style-type: none"> • 63% prioritize offering healthy food options for themselves and their families • Many people think mushrooms are generically healthy and nutritious (57% and 54% respectively), but few know a specific reason why (specific health benefits have lower awareness with little differentiation) • A substantial proportion of consumers indicate that heart health, brain health, and boosting immunity are important benefits when consuming mushrooms. That said, the majority of consumers are unaware of the specific functional benefits of mushrooms

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Growth opportunity upside estimate and rationale (I of II)

KEY
• Education & Comms
• Product & Packaging
• Go to Market

	Potential Upside (by 2028)	Opportunity Rationale
4 Lean into rapidly growing mushroom types/forms	45M - 54M pounds	<ul style="list-style-type: none"> In retail by 2028, brown mushrooms are projected to surpass white button mushrooms in dollar sales, growing at 3.3% (CAGR from '23 to '28). In foodservice, brown mushrooms have a smaller presence, but are expected to grow at an even faster rates, about 6% for \$ sales and volume Specialty mushrooms are growing at the fastest rate, especially in foodservice (\$ sales expected to grow at 10.5% CAGR from '23 to '28) Foodservice consumers tend to eat a wider variety of mushrooms today, and will require a broader assortment available at retail to replicate foodservice experiences at home
5 Contemporize & expand packaging	21M - 30M pounds	<ul style="list-style-type: none"> Consumers are frustrated by rising food prices and only 35% see mushrooms as a good value Among the top reasons why people haven't purchased recently were rapid spoilage (26%) and perceived low quality (23%). A smaller pack size could entice consumers looking for a lower price option, or those looking to reduce food waste Only 36% believe that mushrooms are offered in convenient packaging/ formats Reduce plastic use: only 29% of believe mushrooms are doing a good job on sustainability
6 Accelerate distribution in growing channels	22M - 27M pounds	<ul style="list-style-type: none"> In retail, the online channel is the fastest growing, with a projected 7% volume CAGR from 2023 to 2028. This small channel holds significant potential for future growth Mass and club retail channels are expected to grow the most in terms of absolute dollars, at \$50M+ each from 2023 to 2028, especially with brown mushrooms In foodservice, the largest absolute \$ growth is expected with white mushrooms in FSR & QSR. But the overall fastest growth is in Lodging, Casinos, and Recreation
7 Improve visual appeal	27M - 39M pounds	<ul style="list-style-type: none"> The most selected reasons for NOT purchasing mushrooms recently involved visual issues: "They go bad (i.e., rot) too quickly" (26%); and "They do not look like they are high quality" (23%) Consumers buy mushrooms because they look good. In retail, 41% of consumers agreed they bought mushrooms because they "looked fresh". Similarly, in foodservice, the top scoring purchase driver was "they looked delicious" Only 18% agree there is clear signage in the mushroom section

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



3

Opportunity deep dive



Generate Recipe & Menu Inspiration

"To succeed with chefs, you want to show versatility and share creative ideas. We don't want to be told what to do with mushrooms, **we want to be inspired**"

- Chef at a college/university

Opportunity Description

Inspire chefs/home cooks with recipes to reinforce associations with key complementary foods (e.g., meat, pizza, pasta, burgers) and expand into underpenetrated dayparts (e.g., breakfast). Foster partnerships with foodservice operators and industry organizations to highlight the versatility and culinary potential of mushrooms

Upside Potential ('23-'28 growth):
27-39 million lbs.

Critical Levers: Marketing, Partnerships

Rationale

- When asked why they bought mushrooms, 43% of mushroom consumers said, "**I wanted to make a specific recipe**", second only surpassed by "they were on my shopping list"
- New recipes **should reinforce key complements** (e.g., pizza, meat, pasta, burgers) and ideally **bring expansion into different dayparts** (~70% of occasions with mushrooms are dinner, while ~6% are breakfast, ~22% are lunch)
- Just 10% believe retailers effectively provide mushroom recipe information, **highlighting the need for better in-store/packaging inspiration**
- Nearly half of recent mushroom consumers (47%) **turn to online searches for recipe inspiration, making it the top information source for their food decisions**
- Consumers who know how to use **mushrooms in lots of different recipes are 21% more likely to consume white button mushrooms regularly** (monthly or more often)

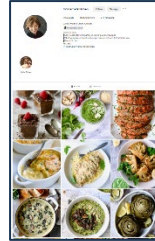
Execution Thoughtstarters

Actions for TMC

- Continue educating consumers on mushroom preparation and recipe inspiration (online – print & video formats; weekly ads; POS recipes)
- Strengthen associations with top complements (pizza, pasta, meat, burgers)
- Drive mushroom consumption in underpenetrated dayparts (e.g., breakfast / eggs)
- Continue partnering with foodservice operators to drive menu penetration (especially with core complements). Develop LTO/seasonal cadence of offerings when certain mushrooms are in season

Actions for Growers/Distributors

- Diversify shelf-space in stores
- Collaborate with retailers to grow value-add / deli mushroom options (e.g., stuffed, grill ready, flash frozen)



Note: Q71, Q16, Q77, Q89
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Pre-planned recipes are a key driver of mushroom purchase at retail

Top reasons for purchasing mushrooms at the store (retailer)

% selected



Strengthening associations with “hero” complements will be critical in driving routine consumption

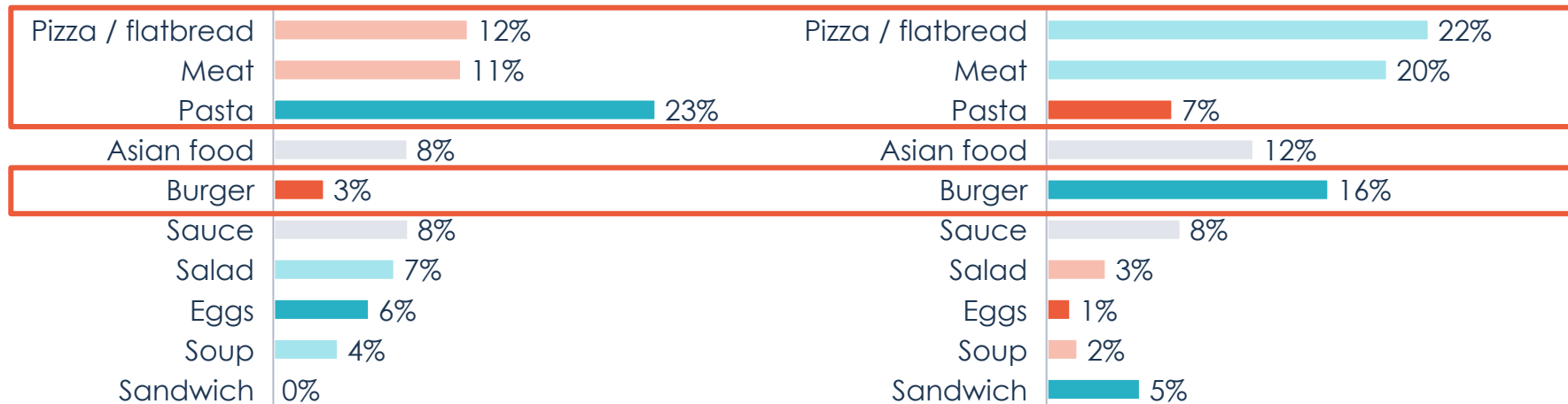
Top meal complements – Ranked by Total

% selected

● 140+ Index to Total ● 120+ ● <80 ● <60

Retail

Foodservice



Retail skews: Used in pasta (23%, 151), salads (7%, 135), and eggs (6%, 160)

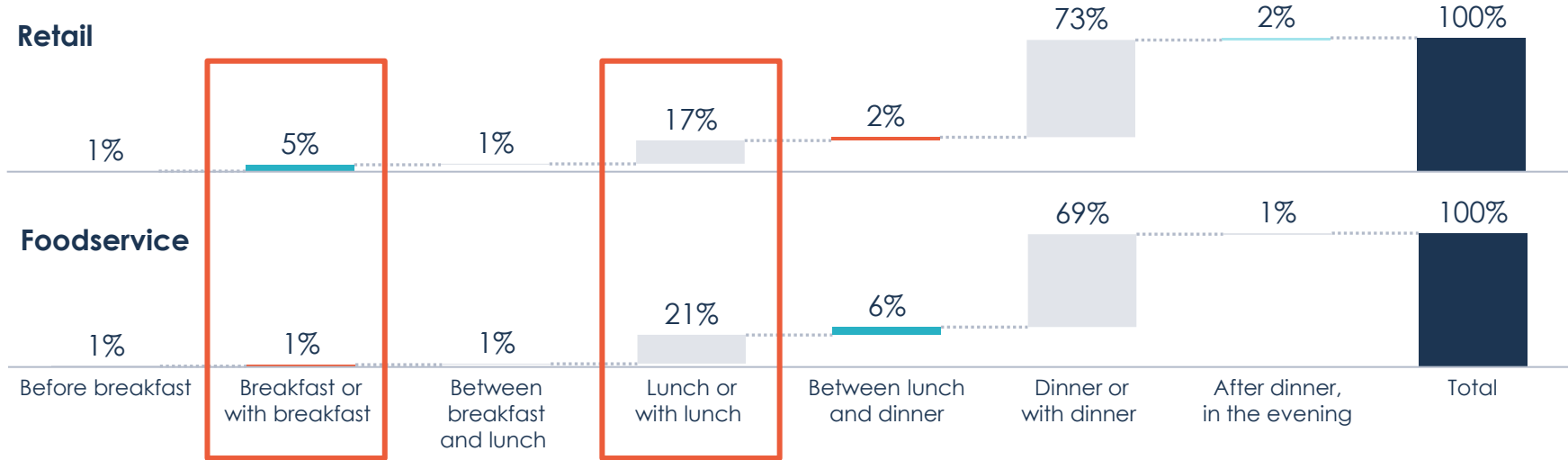
Foodservice skews: Used in pizza/flatbread (22%, 131), meat (20%, 127), and burgers (16%, 169).

Note: Q50 - Most recent occasion where mushrooms are used as an ingredient to a dish or as a topping or garnish. (Only top 10 choices shown)
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

There is a significant opportunity to expand mushroom consumption in underpenetrated dayparts (e.g., breakfast / lunch)

Top mushroom role in meal occasions % selected

● 140+ Index to Total ● 120+ ● <80 ● <60



Retail skews: More common during breakfast (5%, 168) and after dinner, in the evening (2%, 135)

Foodservice skews: More common between lunch and dinner (6%, 140)

Note: Q49a
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Retailers are not doing a good job at providing recipe ideas for consumers; instead, people are looking for recipe ideas from the Internet, word of mouth, or social media

Areas where retailers do a very good job when it comes to mushrooms

% selected

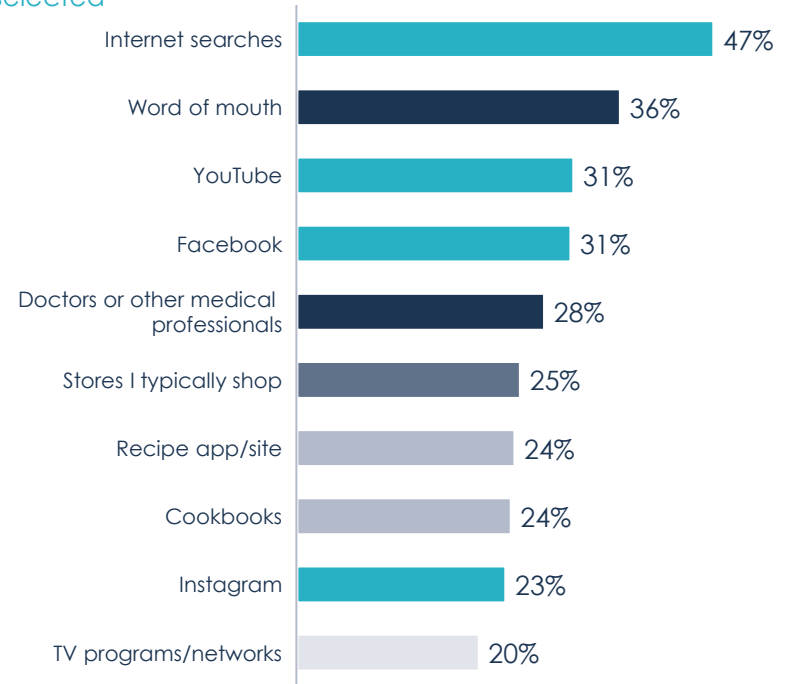
Bottom 10 retail areas (% selected)

It is easy to tell the difference between types of mushrooms (29%)
There is a wide assortment of mushrooms (27%)
There are low prices for mushrooms (27%)
Organic mushrooms are always in stock and available for purchase (20%)
There is clear signage in the mushroom section (18%)
There are great deals/promotions on mushrooms (14%)
There is useful info. regarding the nutritional benefits of mushrooms (13%)
There is useful info. regarding how to use mushrooms in recipes (11%)
There is useful info. regarding how to cook/prepare mushrooms (8%)
There is useful info. regarding the sustainability of mushrooms (7%)

In-store signage / labeling

Top 10 information sources for recipes / food choices

% selected



Note: Q77; Retail display is Wegmans in Syracuse NY March 2024
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Elevate Category Equities & Relevance

Opportunity Description

Strengthen consumer awareness of the core mushroom value proposition (theme: nutritious way to elevate your day). Drive relevance by more deeply embedding into key tentpole seasonal traditions (e.g., like avocados for Cinco de Mayo) and weekly routines (e.g., Mushroom Monday)

**Upside Potential ('23-'28 growth):
46-67 million lbs.**

**Critical Levers: Marketing, Retail –
Promotion/Display**

Rationale

- **Consumer have relatively low awareness of the core value proposition of mushrooms** (theme: nutritious way to elevate your day)
- **Only 3% of consumers noted that mushrooms are great to eat during specific times of year**, highlighting relatively weak association with key events/traditions
- Compared to some other analogous categories, **mushrooms have a significant opportunity to strengthen associations with specific seasonal eating routines** (e.g., similar to avocados for Cinco de Mayo, sliders for Superbowl)

Execution Thoughtstarters

Actions for TMC

- Strengthen association with key seasons / traditions (e.g., July 4th, Grilling Season, Indigenous Peoples Day). Cross-merchandise with other seasonal favorites
- Continue bolstering awareness of “Mushroom Monday” to drive consumer association with routine eating occasion
- Elevate awareness of core mushroom category value proposition (theme: nutritious way to elevate your day)
- Learn from top reaching mushroom/perishable content (e.g., performance by channel)

Actions for Growers/Distributors

- Reinforce category positioning
- Coordinated seasonal display/promotion (e.g., grilling season) and Mushroom Monday promotions



**39th Annual
Mushroom
Festival in
Kennett Square,
Pennsylvania**

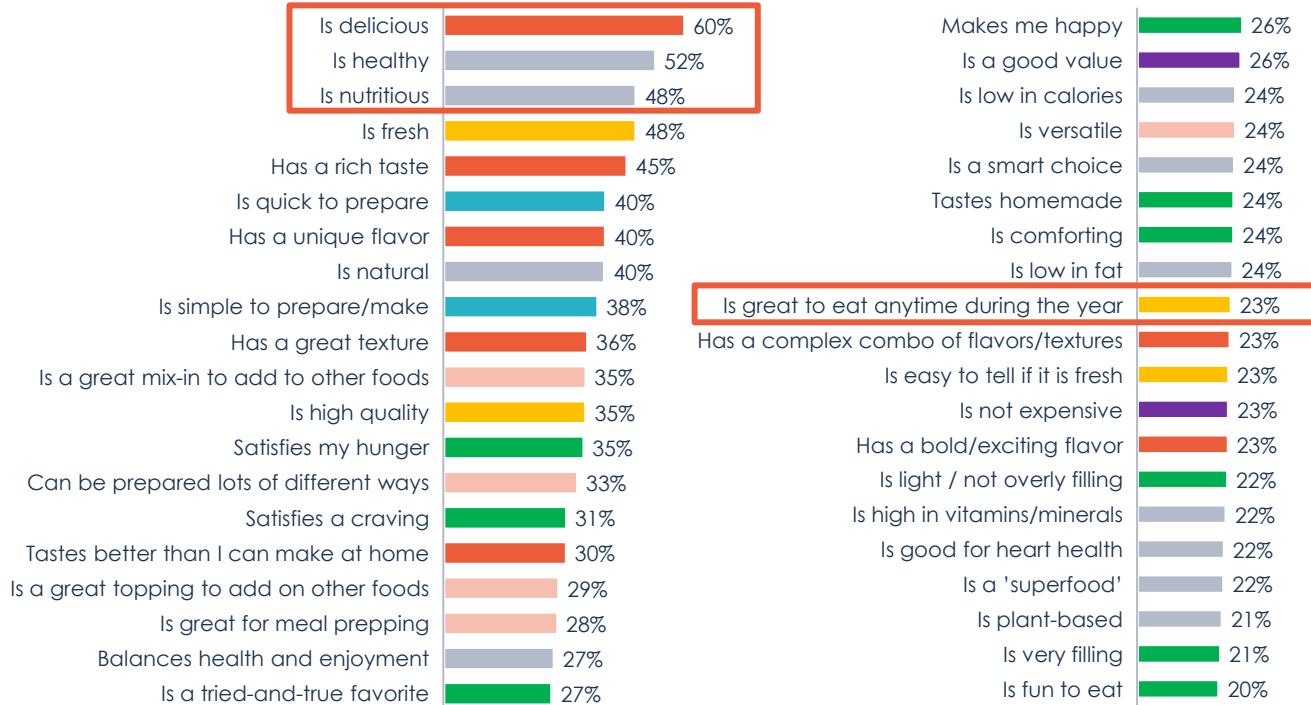


Note: 1: Circana, Q16, Q75, Q77, Q85; [Mushroom Festival](#); [Gilroy Garlic Festival](#) - Community Festival, [Food Festival](#) ([gilroygarlicfestivalassociation.com](#))
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

There is a significant opportunity to strengthen consumer awareness of the mushroom category core value proposition

Top 40 mushroom benefits sought % that agree benefit is important

Core theme: nutritious way to elevate your day



! Only 3% selected "Is best during certain seasons of the year"

Note: Q65
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Best-in-class analogous categories have been successful in elevating category relevance by strengthening associations with key seasons/traditions

Avocados/guacamole focused on driving relevance and associations with Super Bowl / Cinco de Mayo



Opportunity to continue strengthening mushroom associations with key eating seasons/traditions (e.g., emphasize signature dish for most relevant holidays)





Drive Awareness of Health Benefits

Opportunity Description

Educate consumers on the specific functional benefits that mushrooms deliver (e.g., brain health, immunity boost, bone health, heart health), with clear linkage to “reason-to-believe” / mushroom attributes.

**Upside Potential ('23-'28 growth):
39-57 million lbs.**

**Critical Levers: Marketing,
Packaging**

Note: Q16, Q75a, Q77, Q85
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Rationale

- 63% **prioritize offering healthy food options for themselves and their families**
- **Many people think mushrooms are generically healthy and nutritious** (57% and 54% respectively), and 44% believe they are high in vitamins/minerals, **but few know a specific reason why** (i.e., mushrooms deliver B vitamins, Vitamin D, or immunity boosting benefits)
- A substantial proportion of consumers indicate that **heart health, brain health, and boosting immunity** are important benefits when consuming mushrooms. That said, the majority of consumers are unaware of the specific functional benefits of mushrooms
- Just 13% believe **retailers effectively provide useful information about the nutritional benefits of mushrooms**

Execution Thoughtstarters

Actions for TMC

- Focus on communicating the most relevant functional health benefits that mushrooms are advantaged in delivering (e.g., brain health, strong bones, immunity boost, heart health). Clearly support each core health benefit with “reason to believe”
- Target leading edge health-centric consumers with targeted digital/print media
- Partner with healthy lifestyle influencers / nutritionists
- Champion health authority approved recipes

Actions for Growers/Distributors

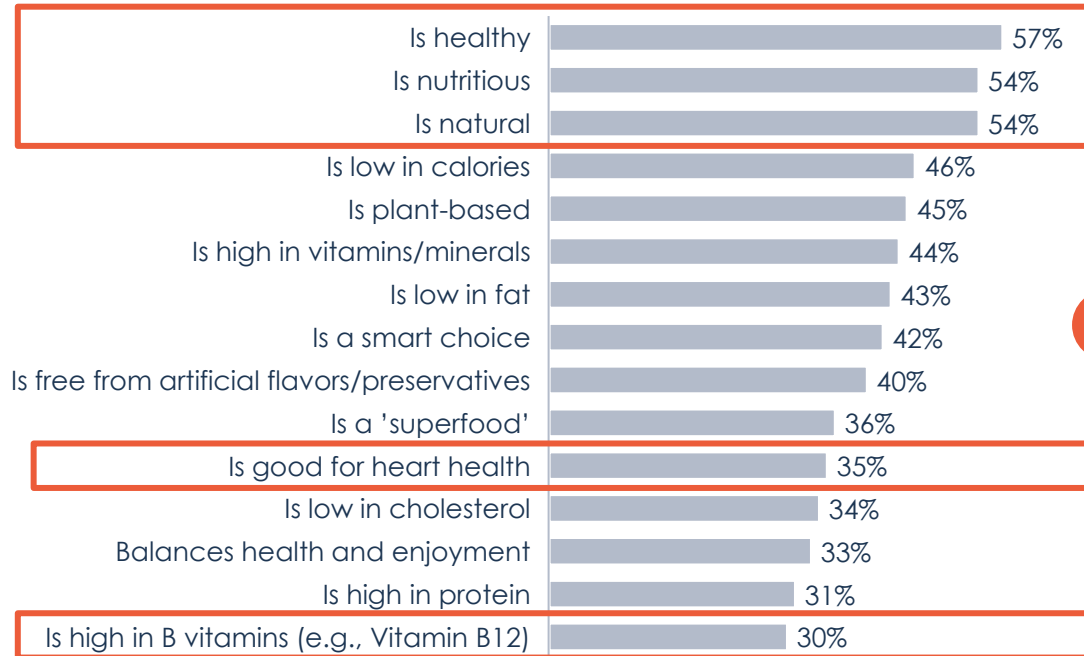
- Emphasize core health benefits on packaging (e.g., labeling, QR codes)



Many consumers see mushrooms as generically healthy and nutritious, but have muddled perceptions of the specific functional benefits mushrooms deliver

Top 15 health attributes delivered well by mushrooms

% that agree



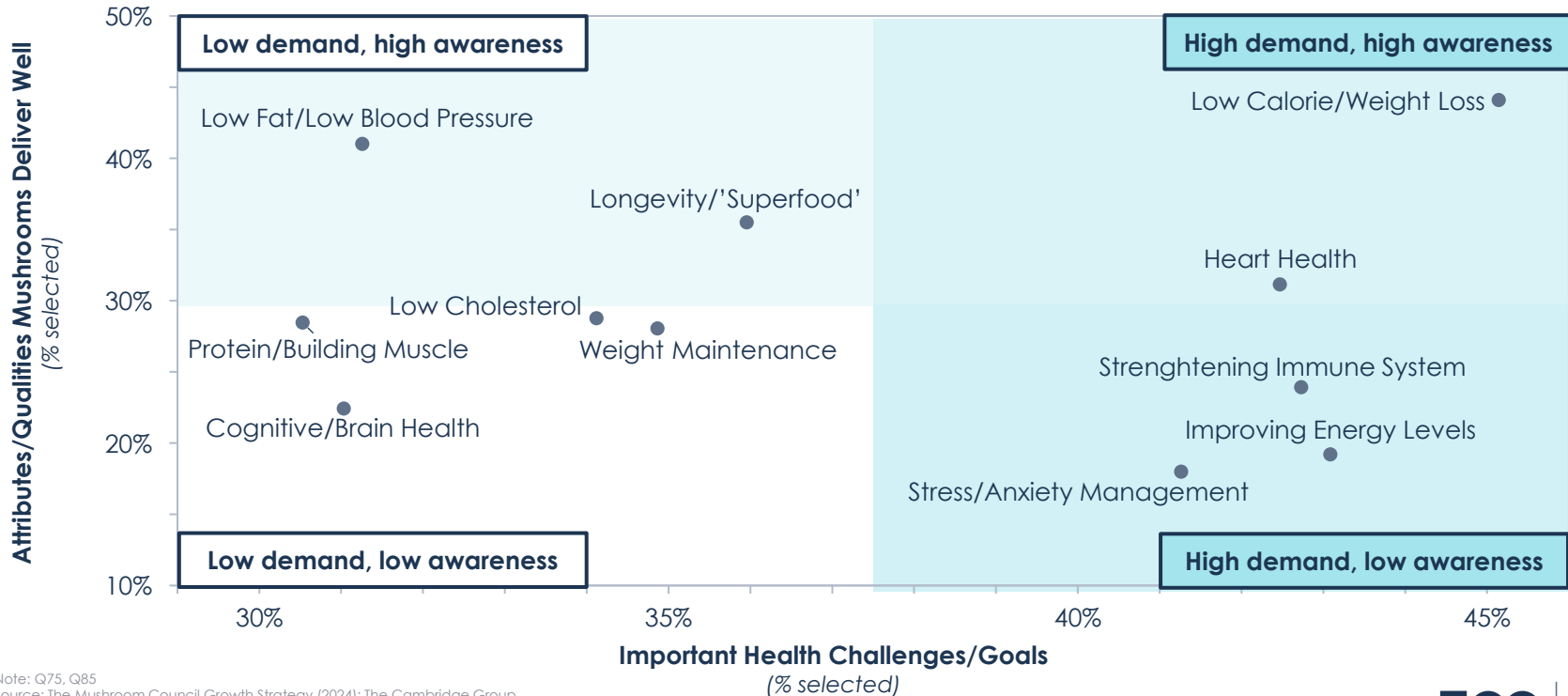
Only 26% selected “Is high in Vitamin D”, ranked 45th of all attributes

Note: Q75a "Based on your own perceptions, which of the listed qualities/attributes do the following mushrooms do a very good job of delivering?"
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

The majority of consumers are not aware of key health benefits that mushrooms deliver, even for health goals that are very important to them

Important Health Goals x Mushroom Attribute Delivery

% selected



Note: Q75, Q85

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Consumers generally do not believe that retailers are helpful in providing useful information re: the nutritional benefits of mushrooms

Areas where retailers do a very good job when it comes to mushrooms

% selected

In-store signage / labeling

Bottom 10 retail areas (% selected)

It is easy to tell the difference between types of mushrooms (29%)

There is a wide assortment of mushrooms (27%)

There are low prices for mushrooms (27%)

Organic mushrooms are always in stock and available for purchase (20%)

There is clear signage in the mushroom section (18%)

There are great deals/promotions on mushrooms (14%)

There is useful info. regarding the nutritional benefits of mushrooms (13%)

There is useful info. regarding how to use mushrooms in recipes (11%)

There is useful info. regarding how to cook/prepare mushrooms (8%)

There is useful info. regarding the sustainability of mushrooms (7%)



Note: Q77; Retail display is Wegmans in Syracuse NY March 2024
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Lean into rapidly growing types and forms

Opportunity Description

Capitalize on emerging demand for brown (cremini and portobello) & specialty mushrooms.

Champion emerging formats (e.g., supplements, coffee, mushroom-based snacks), which provide an equity halo to the total category

Upside Potential ('23-'28 growth):
45-54 million lbs.

Critical Levers: Product, Innovation, Merchandising

Rationale

- **In retail by 2028, brown mushrooms are projected to surpass white button mushrooms in dollar sales**, growing at 3.3% (CAGR from 2023 to 2028). In foodservice, brown mushrooms are expected to grow at even faster rates (~6%)
- **Specialty mushrooms are growing at the fastest rate**, especially in foodservice (~10.5% expected growth rate)
- **Foodservice consumers tend to eat a wider variety of mushrooms today**, so consider opportunities to build upon this momentum and explore how to translate this into retail shopping behaviors
- **Emerging formats (e.g., supplements, coffee)** are expected to grow rapidly and have the ability to help provide trend/health halo impacting the entire category

Execution Thoughtstarters

Actions for TMC

- Provide clear linkage (and coverage) of recipe inspiration / preparation guidance by mushroom type
- Evaluate and disseminate retail shelving/merchandising best practices (e.g., % distribution allocated to mushroom type, mushroom section organizing construct)

Actions for Growers/Distributors

- Continue expanding growing capacity for emerging mushroom types (e.g., brown, specialty)
- Expand partnerships with value-add product manufacturers focused on sourcing locally / American. Emphasize product traceability
- Consider ways to make mushrooms more convenient for chefs (e.g., value-add products)



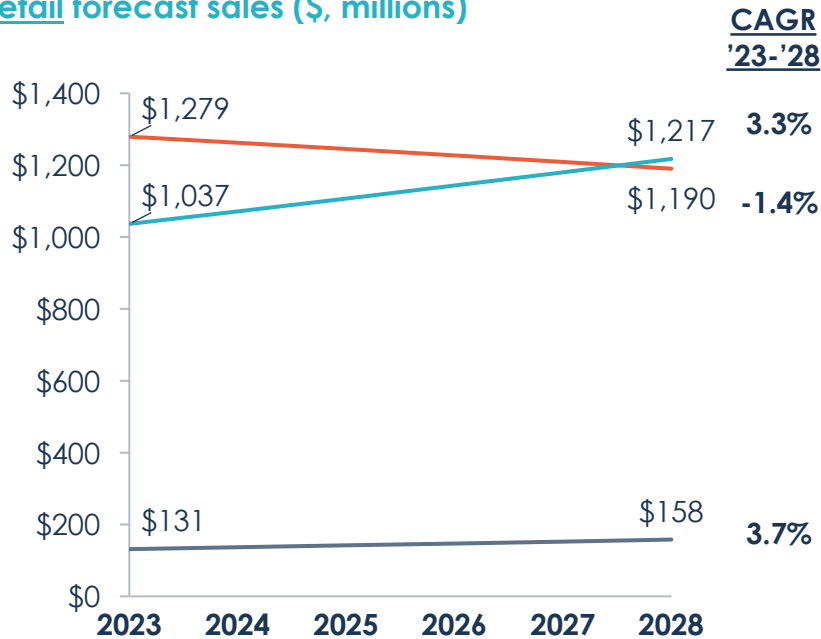
Note: Q81a, Q81c
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

By 2028, brown mushrooms at Retail are expected to exceed white button mushrooms in dollar sales

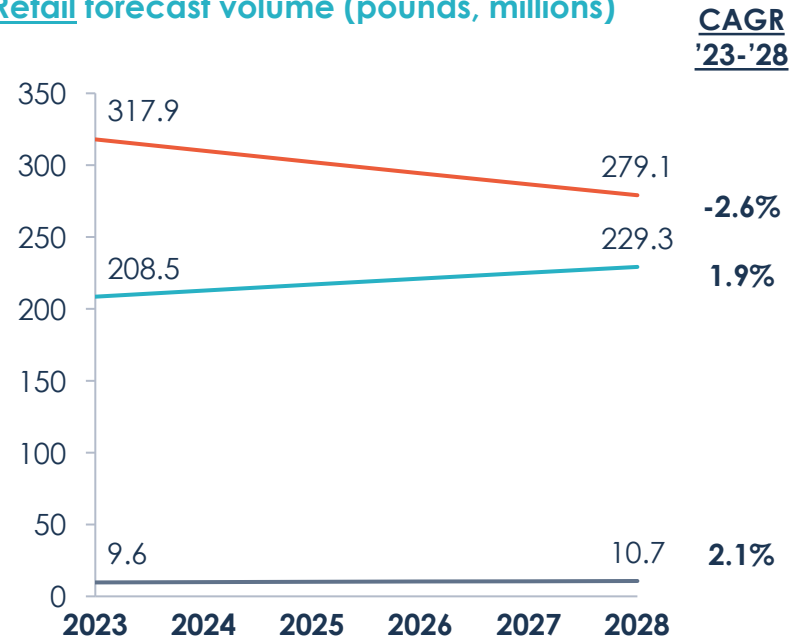
Preliminary



Retail forecast sales (\$, millions)



Retail forecast volume (pounds, millions)



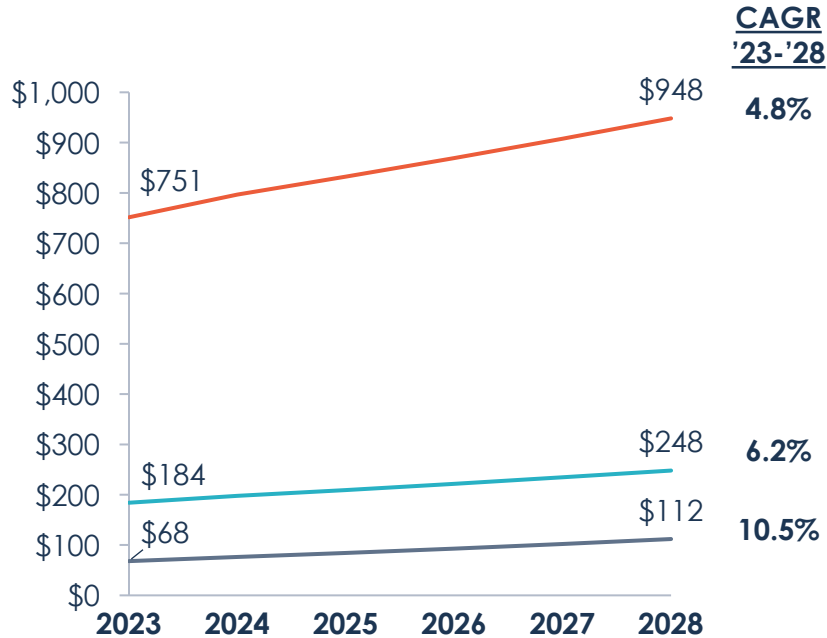
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

In Foodservice, brown and specialty mushrooms are expected to continue gaining share of volume and retail sales

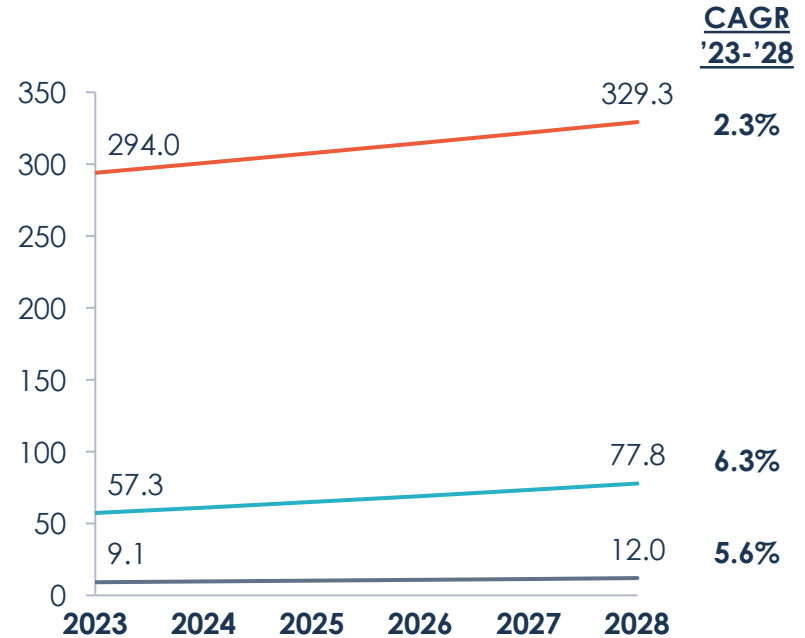


Preliminary

Foodservice forecast sales (\$, millions)



Foodservice forecast volume (pounds, millions)



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Foodservice consumers tend to eat a wider variety of mushrooms, highlighting an opportunity to help consumers better replicate restaurant experiences at home

Top 10 mushroom varieties eaten regularly (e.g., once a month or more)

% selected

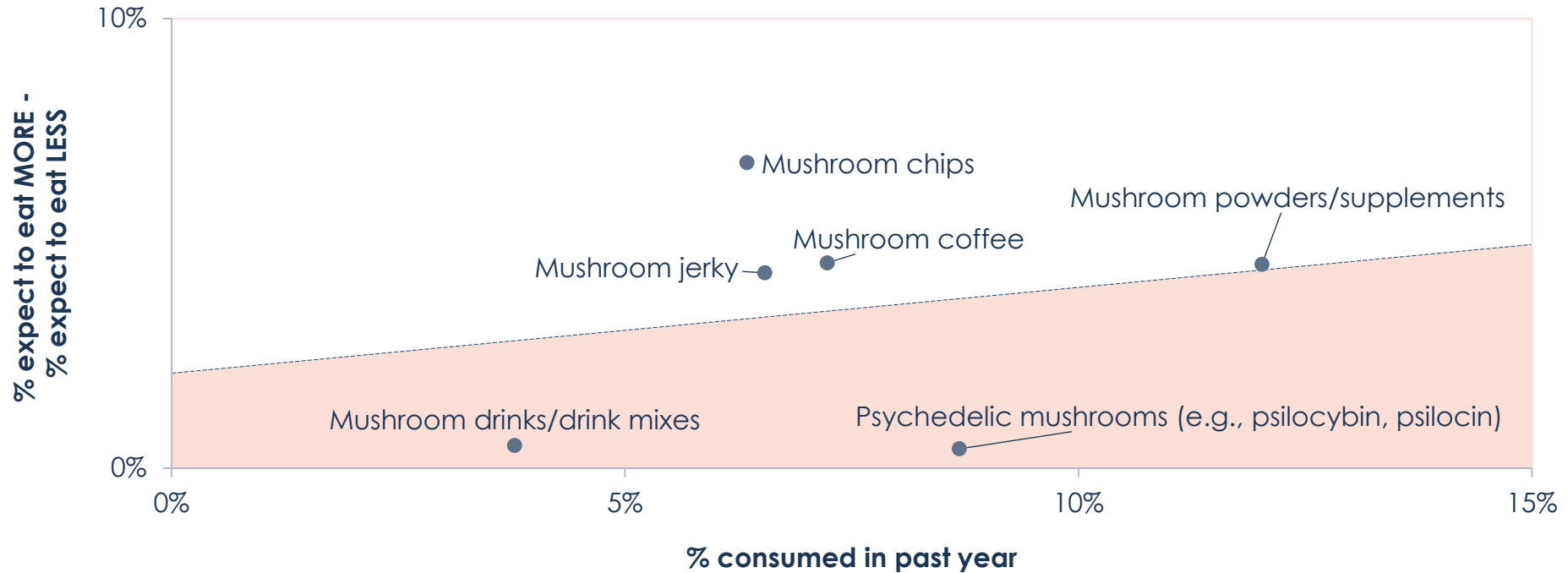
Variety	Total	Retail	Foodservice
White button	59%	61%	56%
Portobello	56%	53%	59%
Cremini (Brown or Baby Bella)	35%	31%	39%
Shiitake	20%	17%	23%
Oyster	11%	9%	14%
Truffle	8%	7%	10%
Porcini	7%	3%	10%
Wild mushroom	5%	3%	7%
Chanterelle	5%	4%	7%
Lion's Mane	5%	5%	5%

Note: Q26b
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Emergence of innovative formats have the potential to provide an equity halo (trendy, healthy) that can benefit the broader category

Non-traditional mushrooms you expect to eat more of next year vs. consumption last year

% selected



Note: Q81b; Q84a, Q84b

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Contemporize & expand packaging

Opportunity Description

Consider innovating packaging to better align with emerging consumer demand: greater availability of smaller packs at lower price points, more sustainable packaging (e.g., reducing plastic in packaging)

Upside Potential ('23-'28 growth):
21-30 million lbs.

Critical Levers: *Innovation, Packaging, Merchandising*

Rationale

- Consumers are increasingly frustrated by rising food prices as evinced by recent changes in the Consumer Price Index (CPI). For mushrooms specifically, **only 35% of consumers believe mushrooms are delivering good value**
- **Consumers are frustrated by mushroom packaging particularly around spoilage.** Among non-mushroom buyers, the top reasons were rapid spoilage (26%) and perceived low quality (23%). **Smaller pack types** may help in reducing the incidence and amount of spoilage
- **Only 29% of consumers believe mushrooms are doing a good job of delivering sustainability**

Execution Thoughtstarters

Actions for TMC

- Emphasize the sustainability of the mushroom growing process
- Gather and disseminate information regarding consumer perceptions of packaging sustainability

Actions for Growers/Distributors

- Consider expanding distribution of smaller pack types and/or loose/bulk mushrooms that can help with lower absolute price point and reduced spoilage / packaging waste
- Increase emphasis on sustainable packaging materials (e.g., bio-degradable, no plastic, etc.)
- Invest in product traceability, telling the story of where the mushrooms came from (e.g., origin story via QR code)

Meet the mushroom that could one day replace plastic



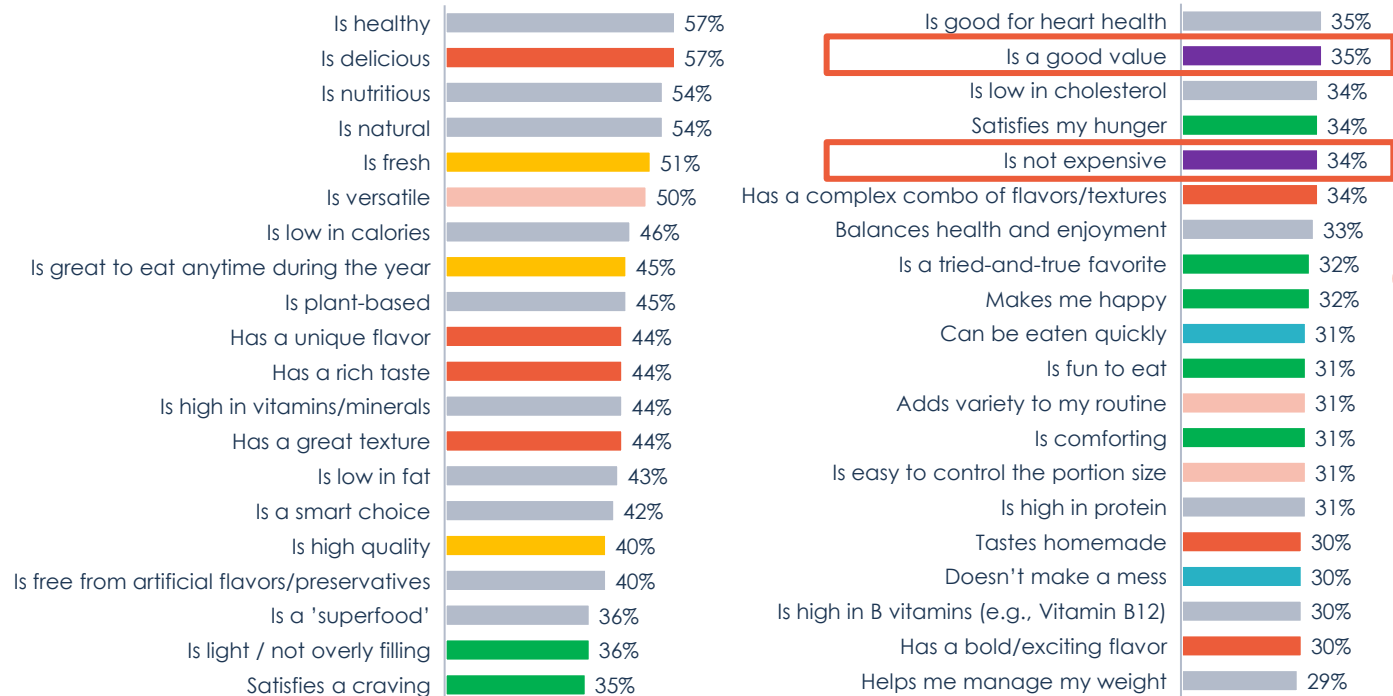
[The Verge Article](#)

Emergence of more sustainable packaging alternatives



The mushroom category has ample room for improvement when it comes to perceptions of value and sustainability

Top 40 mushroom qualities/attributes delivered well % that agree



The 41st attribute is "Is sustainable" highlighting the gap in perceptions of the environmental friendliness of the mushroom category

Note: Q75a "Based on your own perceptions, which of the listed qualities/attributes do the following mushrooms do a very good job of delivering?"
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Innovations in packaging (e.g., smaller packs) may help with consumer pain points around spoilage / food waste

Top reasons for NOT purchasing mushrooms in past month

% selected



! Sliced white buttons are similar color to sliced brown mushrooms



Note: Q12; Photo from a Kroger-owned Mariano's store in Illinois, Spring 2024
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Accelerate Distribution in Growing Channels

Opportunity Description

Capitalize on rapidly growing demand within specific emerging channels. While big box retailers and restaurants represent the majority of current sales, online retail, as well as lodging, hospitality, and recreation are growing at a much faster pace

**Upside Potential ('23-'28 growth):
22-27 million lbs.**

Critical Levers: Supply Chain

Rationale

- In retail, the **online channel is the fastest growing**, with a projected 7% volume CAGR from 2023 to 2028. The **Mass & Club** channels are also outpacing industry growth
- **In foodservice, the overall fastest growth is in Lodging, Casinos, Recreation** as well as other foodservice channels beyond restaurants

Execution Thoughtstarters

Actions for TMC

- Dive deep on needs and pain points of buyers in emerging channels (e.g., online, lodging, etc.) in order to identify opportunities to better capitalize on these rapidly growing channels
- Synthesize and disseminate best practices of online produce e-commerce

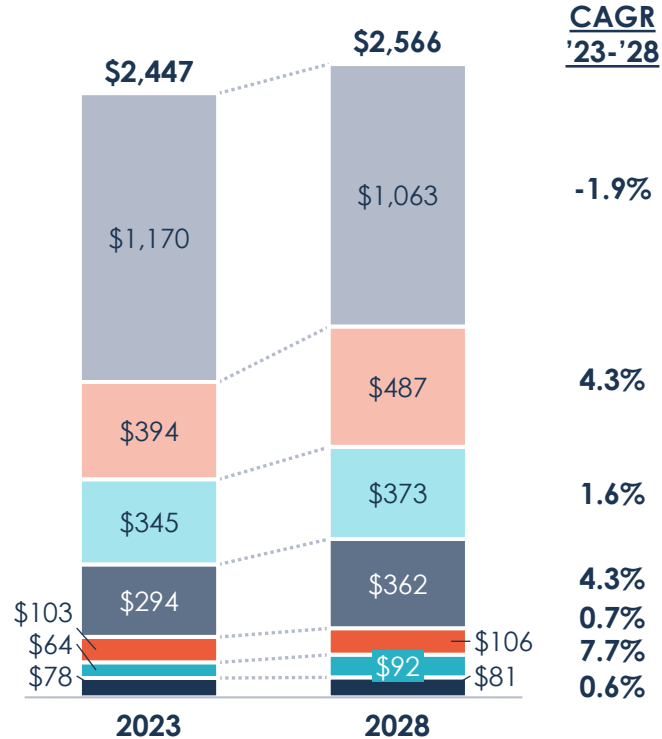
Actions for Growers/Distributors

- Dedicate additional sales resources to emerging channels to better participate in growth
- Work with e-commerce retailers to optimize the online shopping experience for mushrooms

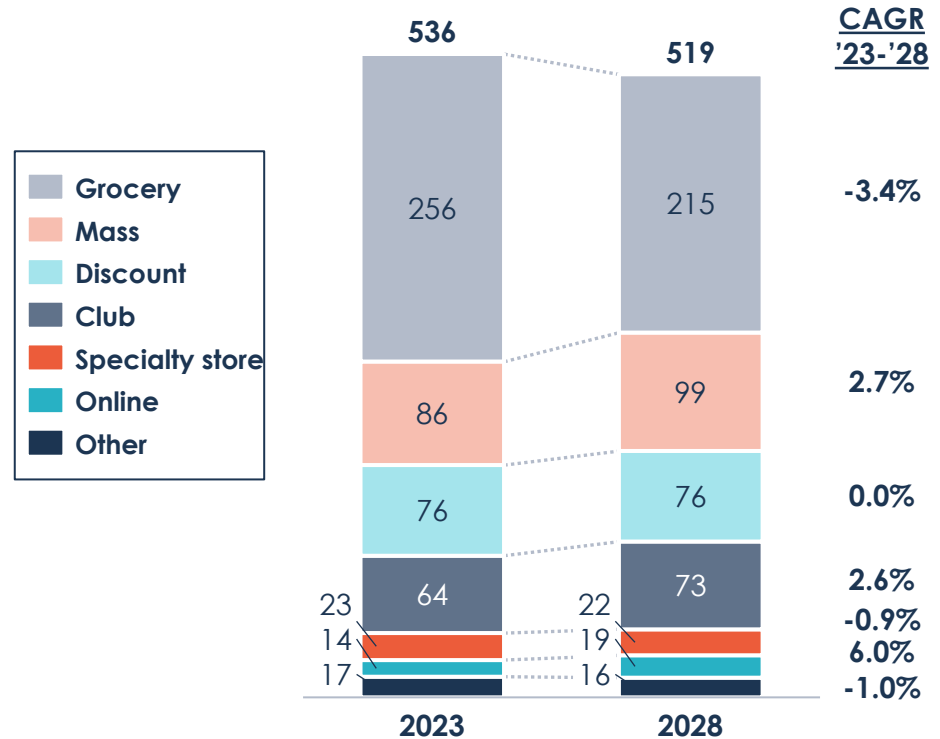


Within Retail, the highest mushroom growth rate is anticipated in the Online channel, with Mass and Club leading expected absolute dollar growth (I of II)

Retail forecast sales (\$, millions)



Retail forecast volume (pounds, millions)



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Within Retail, the highest mushroom growth rate is anticipated in the Online channel, with Mass and Club leading expected absolute dollar growth (II of II)

\$ Dollar Absolute Growth 2023 – 2028 (in \$ millions)

		White	Brown	Specialty
	<u>2028 \$ growth</u>	-\$89	\$181	\$26
Grocery	-\$106			
Mass	\$93			
Discount	\$28			
Club	\$68			
Specialty store	\$4			
Online	\$29			
Other	\$3			

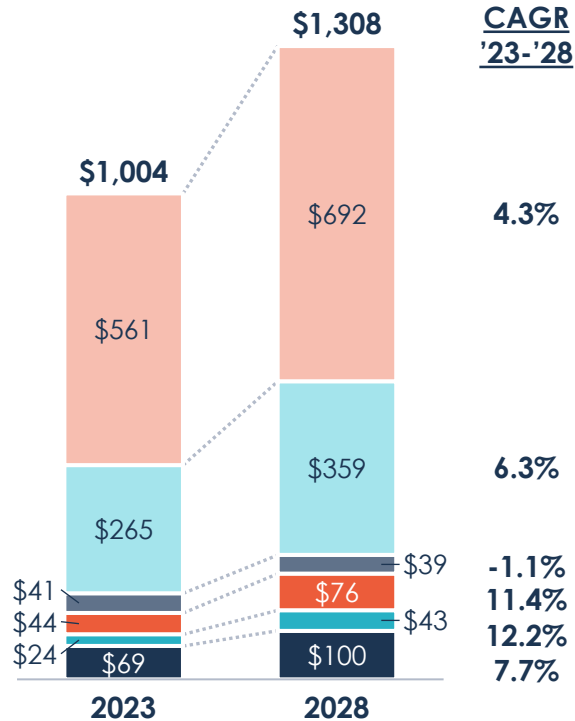
\$ Dollar CAGR from 2023 - 2028

		White	Brown	Specialty
	<u>CAGR '23 to '28</u>	-1.4%	3.3%	3.7%
Grocery	-1.9%			
Mass	4.3%			
Discount	1.6%			
Club	4.3%			
Specialty store	0.7%			
Online	7.7%			
Other	0.6%			

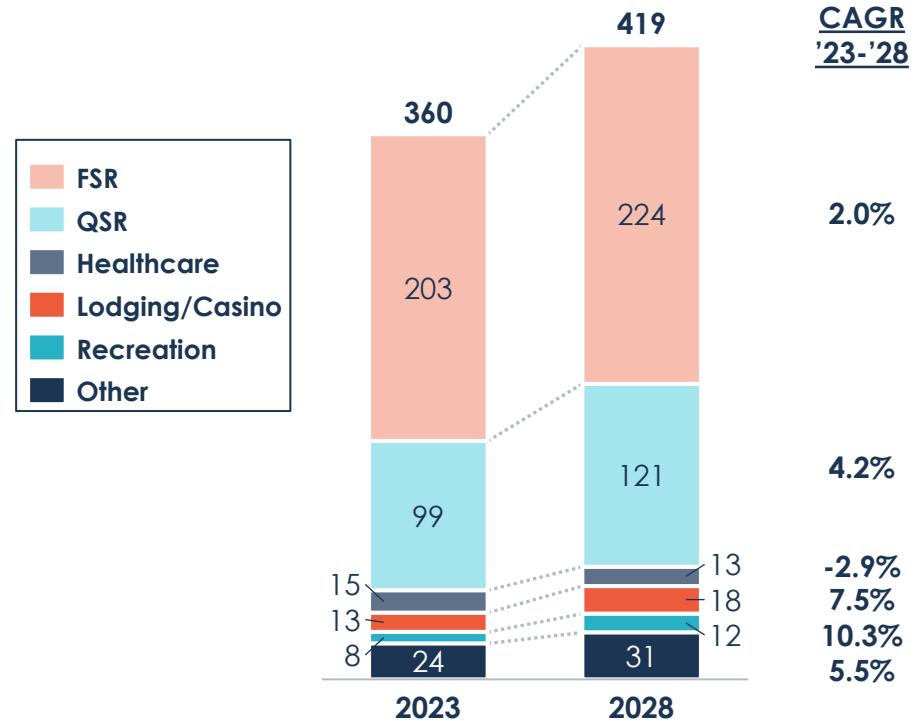
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Within Foodservice, the highest growth rate is anticipated in Lodging/Casino, Recreation, and Other channels (I of II)

Foodservice forecast sales (\$, millions)



Foodservice forecast volume (pounds, millions)



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Within Foodservice, the highest growth rate is anticipated in Lodging/Casino, Recreation, and Other channels (II of II)

Preliminary

\$ Dollar Absolute Growth 2023 – 2028 (in \$ millions)

		White	Brown	Specialty
	<u>2028 \$ growth</u>	\$197	\$64	\$44
FSR	\$131			
QSR	\$94			
Healthcare	-\$2			
Lodging/Casino	\$32			
Recreation	\$19			
Other	\$31			

\$ Dollar CAGR from 2023 - 2028

		White	Brown	Specialty
	<u>CAGR '23 to '28</u>	4.8%	6.2%	10.5%
FSR	4.3%			
QSR	6.3%			
Healthcare	-1.1%			
Lodging/Casino	11.4%			
Recreation	12.2%			
Other	7.7%			

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Improve Visual Appeal

Opportunity Description

Enhance attractiveness at the shelf, working with retailers to deploy supply chain and merchandising best practices, ensuring mushrooms look fresh and high quality in stores. This is especially important as visual appeal is a critical purchase driver

Upside Potential ('23-'28 growth):
27-39 million lbs.

Critical Levers: Supply Chain, Merchandising

Rationale

- For people who did NOT purchase mushrooms in the past month at a retailer, the most selected reason was **"They go bad too quickly" (26%)**; and the second was **"The mushrooms I have seen in the store do not look like they are high quality" (23%)**.
- Consumers buy mushrooms because they look good. In retail, 41% of consumers agreed they **bought mushrooms because they "looked fresh"**. Similarly, in foodservice, the top scoring purchase driver was **"they looked delicious"**
- Only 18% of consumers agree that there is clear signage in the mushroom section, **highlighting the opportunity to improve retail merchandising**

Execution Thoughtstarters

Actions for TMC

- Create educational materials (e.g., videos, infographics) to be shared with retailers re: caring for mushrooms (e.g., storage, days until expiration, temperatures) as well as visually appealing mushroom presentation
- Educate consumers on mushroom selection, cleaning, and storage/preservation best practices

Actions for Growers/Distributors

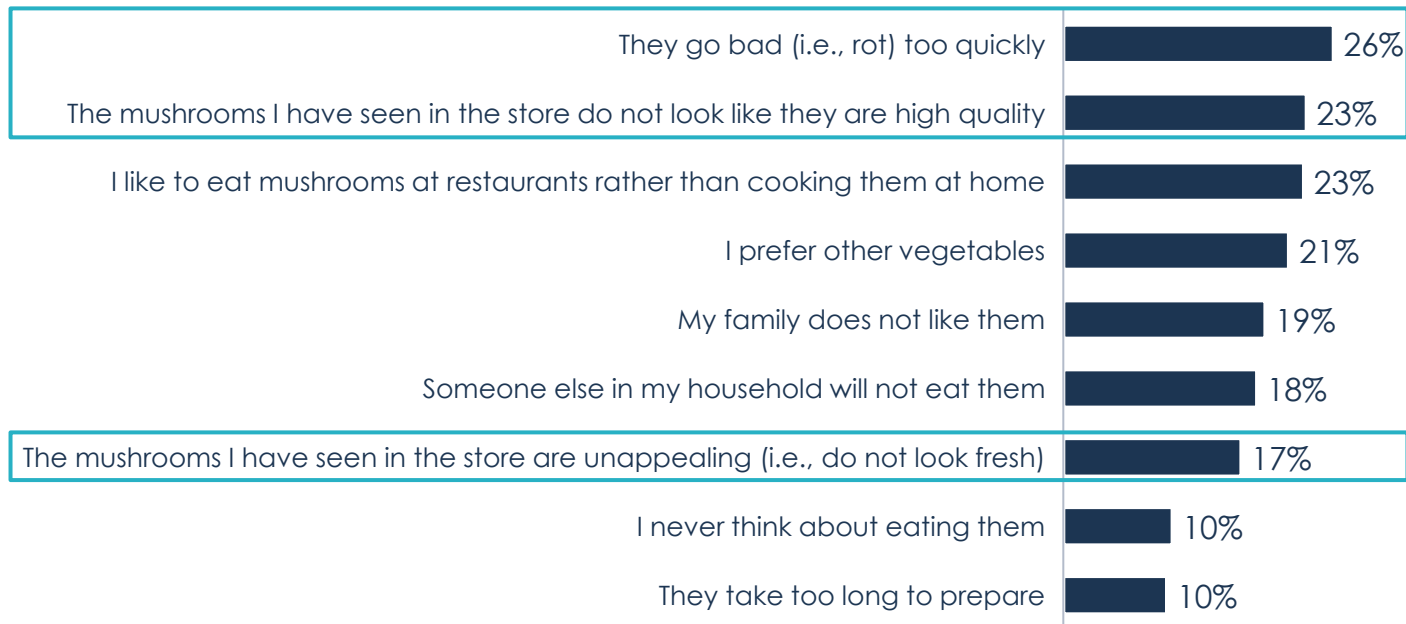
- Identify key points in the supply chain to improve visual appeal / freshness of mushrooms
- Collaborate with retailers to ensure that freshness / visual appeal best practices are being deployed consistently
- Better manage mushroom lead times with integrated inventory management tools
- Provide thought leadership to retailers re: mushroom section signage

Note: Q12, Q65, Q77
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

The top reasons people have NOT purchased mushrooms in the past month are primarily related to visual appeal and perceptions that mushrooms go bad too quickly

Top reasons for NOT purchasing mushrooms in past month

% selected

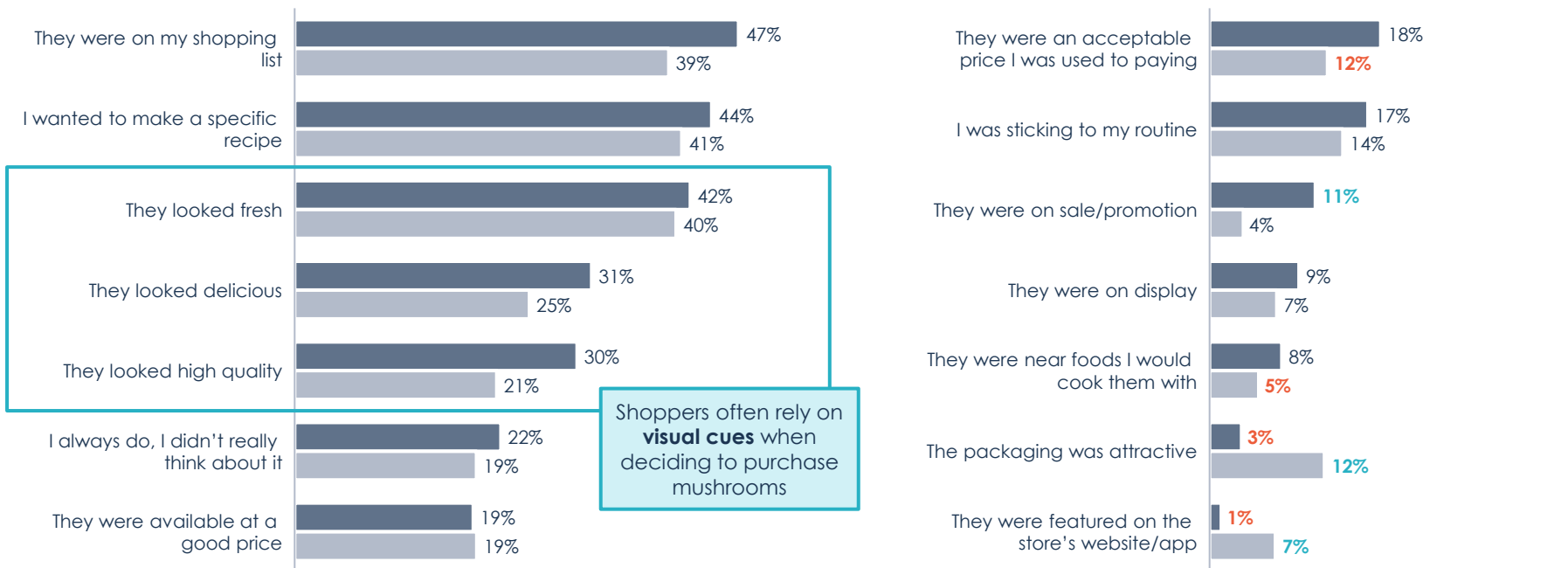


Poor visual appeal in store is a critical barrier for purchase

Visual appeal and perception of quality are critical purchase triggers

Reason for purchasing mushrooms in latest retail trip

% selected, greater than 5%



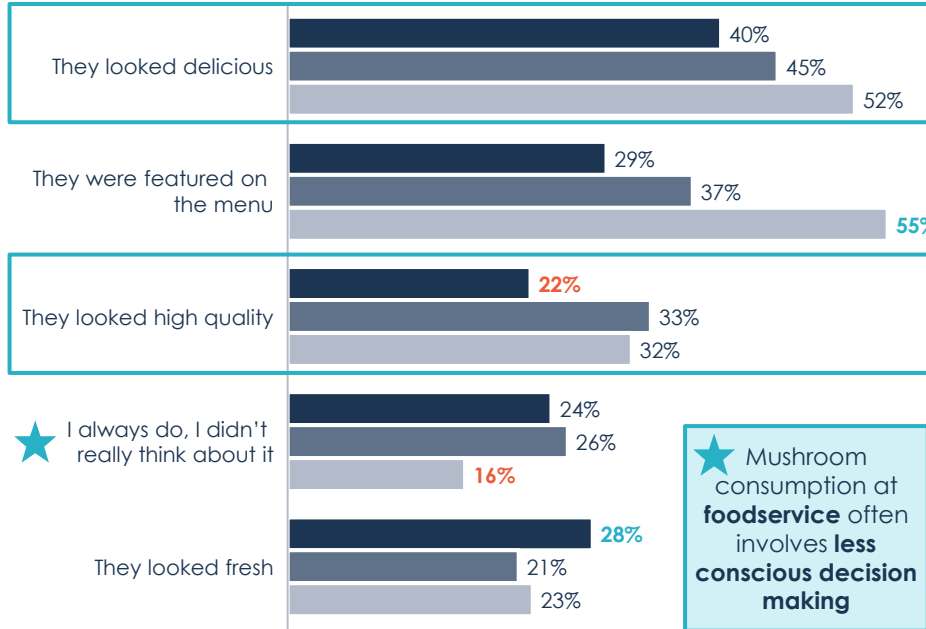
Note: Q71

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

In Foodservice, consumers are also influenced by the “appearance” of mushrooms

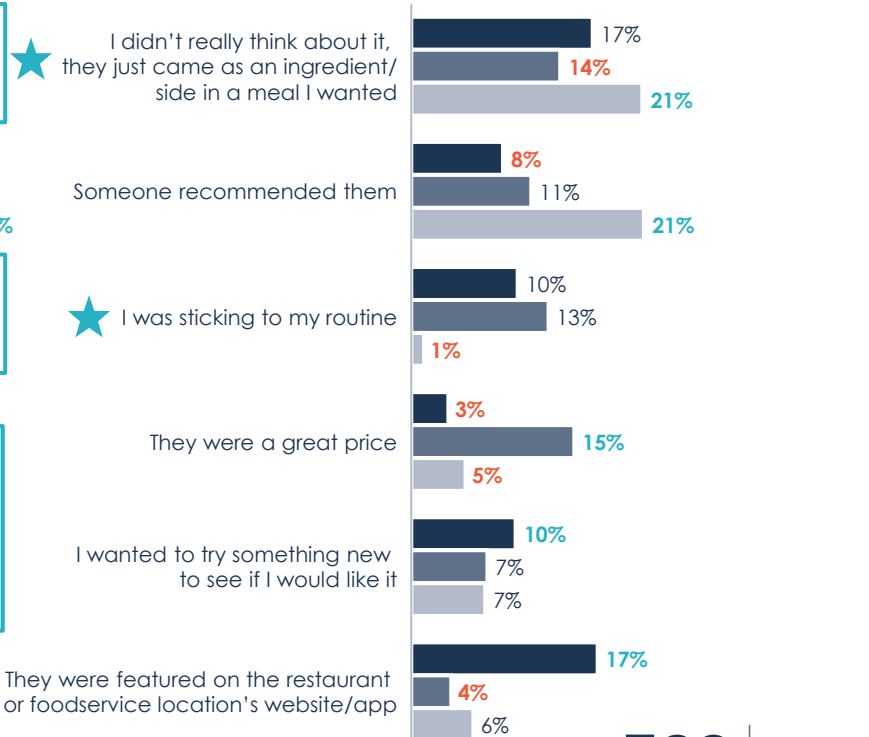
Reason for purchasing mushrooms in latest foodservice trip

% selected, greater than 5%



★ Mushroom consumption at foodservice often involves **less conscious decision making**

■ Fast Food / Fast Casual ■ Casual Dining ■ Fine Dining
Index >120 Index <80



Note: Q71
 Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

With respect to merchandising, consumers indicate that the mushroom section does not have very clear signage

Areas where retailers do a very good job when it comes to mushrooms

% selected

In-store signage / labeling

Bottom 10 retail areas (% selected)

It is easy to tell the difference between types of mushrooms (29%)

There is a wide assortment of mushrooms (27%)

There are low prices for mushrooms (27%)

Organic mushrooms are always in stock and available for purchase (20%)

There is clear signage in the mushroom section (18%)

There are great deals/promotions on mushrooms (14%)

There is useful info. regarding the nutritional benefits of mushrooms (13%)

There is useful info. regarding how to use mushrooms in recipes (11%)

There is useful info. regarding how to cook/prepare mushrooms (8%)

There is useful info. regarding the sustainability of mushrooms (7%)



Note: Q77; Retail display is Wegmans in Syracuse NY March 2024
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

4

Appendix

Project approach

Strategic foundation

- Interview ~5 key internal stakeholders
- Review internal data, past studies and 3rd party mushroom reports
- Develop ingoing hypotheses on mushroom demand

Demand assessment

- Develop survey to understand mushroom buyers' triggers & barriers
 - N=500, 250 ea. retail & foodservice shoppers
- Conduct 1:1 interviews with participants across value chain to understand pain points, best practices & opportunities
 - N = ~5 Retail buyers
 - N = ~5 FS operators
 - N = ~5 Growers/experts
- Synthesize demand insights & opportunities

Market assessment

- Deep dive into market data to understand mushroom usage patterns
- Map mushroom product segments x purchase channels
- Quantify current volume and forecast potential growth across each intersection
- Define initial high priority spaces to pursue

Growth recommendations

- Evaluate demand potential of identified market segments
- Prioritize top market segments to pursue
- Map near- and mid-term paths to driving volume for retail & foodservice
- Create recommendations outlining priority segments, sequencing & upside potential
- Host workshops with key stakeholders

Key Deliverables

Consumer demand profile

Qualitative insights synthesis

Quantified market segments

Market forecast

Recommended growth priorities

Recommended initiatives to drive volume growth

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

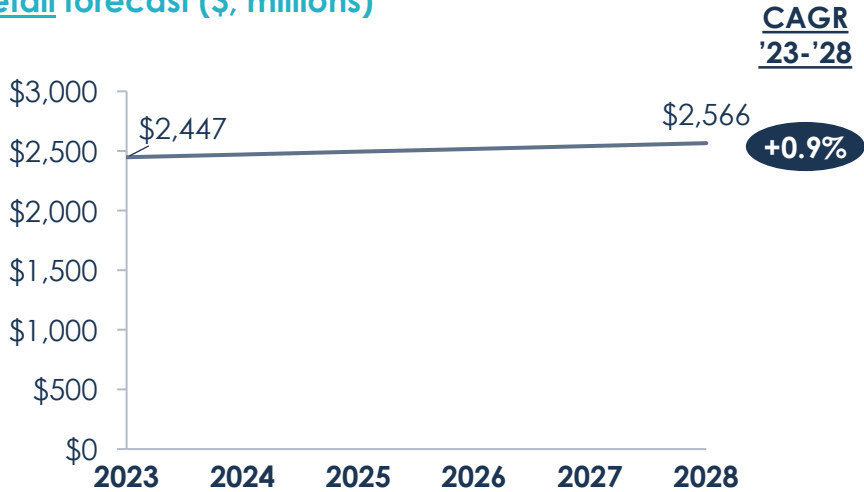


Mushroom landscape and forecast

Looking at mushrooms over the next five years, retail is projecting moderate \$ sales growth with slight volume declines, whereas foodservice is expected to expand

Preliminary

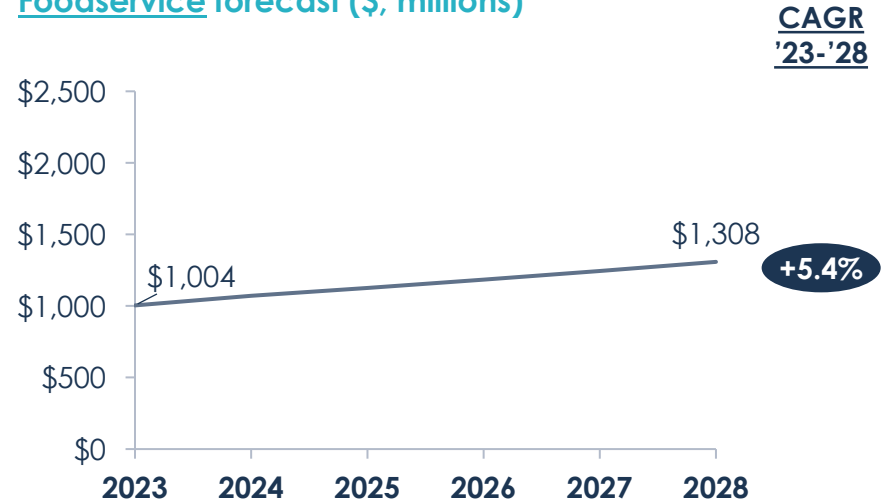
Retail forecast (\$, millions)



Volume (pounds, millions)	2023	2024	2025	2026	2027	2028
	536	533	529	526	522	519

CAGR '23-'28
-0.6%

Foodservice forecast (\$, millions)



Volume (pounds, millions)	2023	2024	2025	2026	2027	2028
	360	371	383	395	407	419

CAGR '23-'28
+3.1%

! NOTE: foodservice dollars are inherently lower (based on wholesale prices), whereas retail dollars are based on consumer prices

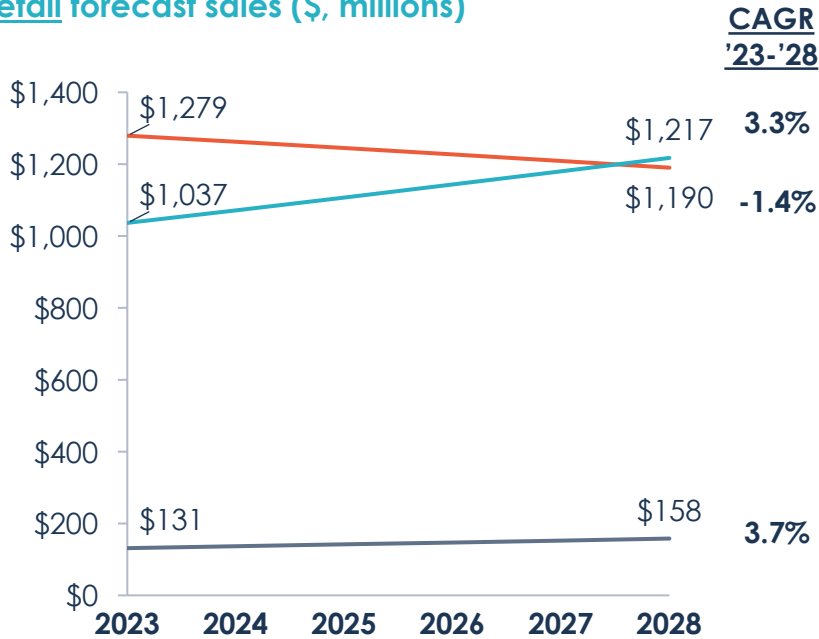
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Retail: By 2028, brown mushrooms are expected to exceed white button mushrooms in dollar sales, but not volume (pounds)

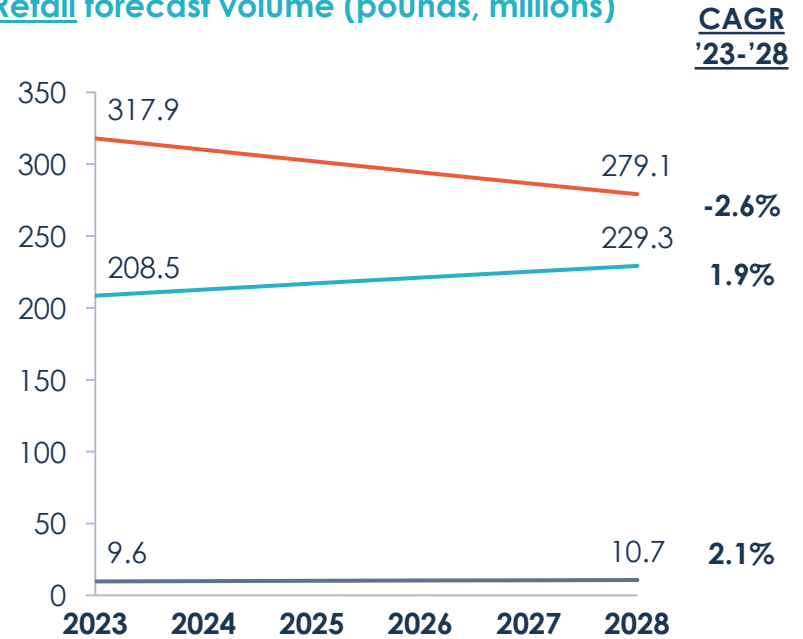
Preliminary



Retail forecast sales (\$, millions)



Retail forecast volume (pounds, millions)

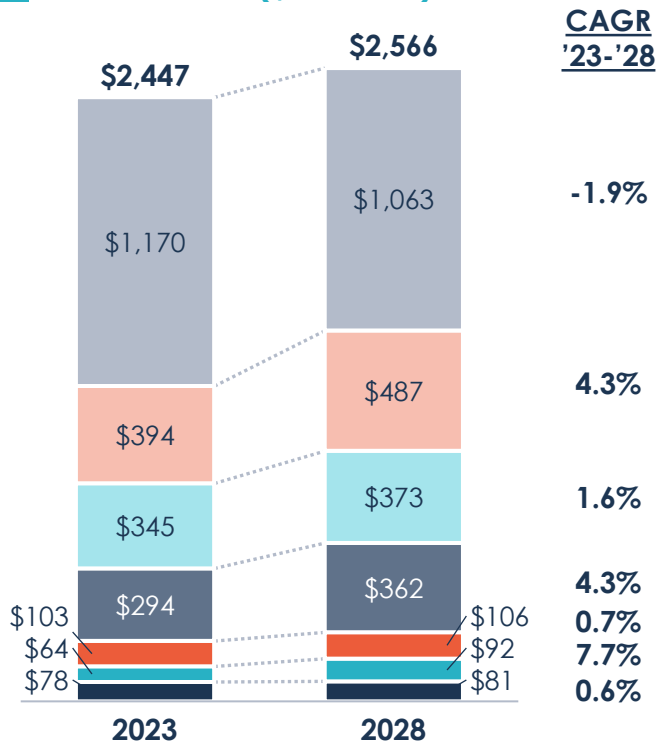


Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

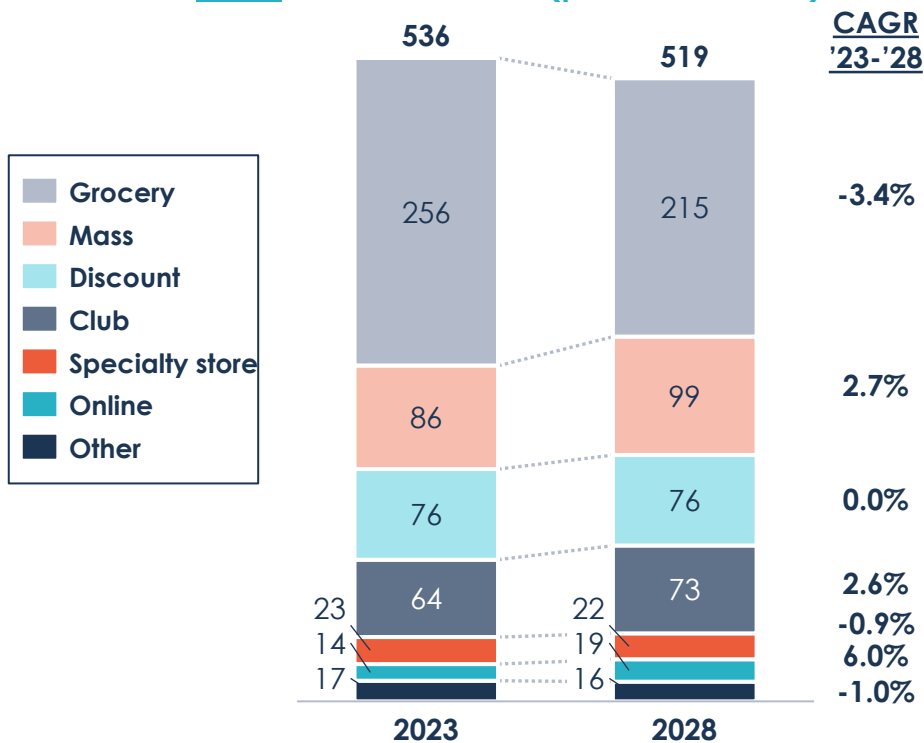
Retail: Within retail sub-channels, the highest mushroom growth is anticipated in Online, Mass, and Club retailers

Preliminary

Retail forecast sales (\$, millions)



Retail forecast volume (pounds, millions)



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Retail: Together the forecast highlights several areas to lean into brown mushroom growth in mass, club and online sales channels

Preliminary

\$ Dollar Absolute Growth 2023 – 2028 (in \$ millions)

		White	Brown	Specialty
	<u>2028 \$ growth</u>	-\$89	\$181	\$26
Grocery	-\$106			
Mass	\$93			
Discount	\$28			
Club	\$68			
Specialty store	\$4			
Online	\$29			
Other	\$3			

\$ Dollar CAGR from 2023 - 2028

		White	Brown	Specialty
	<u>CAGR '23 to '28</u>	-1.4%	3.3%	3.7%
Grocery	-1.9%			
Mass	4.3%			
Discount	1.6%			
Club	4.3%			
Specialty store	0.7%			
Online	7.7%			
Other	0.6%			

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Retail: The retail volume forecasts highlight opportunities for brown in Mass and Club as well as highest growth in Online

Preliminary

Volume Absolute Growth 2023 – 2028 (in pounds)

		White	Brown	Specialty
	2028 vol. growth	-38,825,322	20,785,586	1,059,114
Grocery	-41,077,198			
Mass	12,318,929			
Discount	-58,487			
Club	8,862,635			
Specialty store	-972,717			
Online	4,749,128			
Other	-802,911			

Volume CAGR from 2023 - 2028

		White	Brown	Specialty
	CAGR '23 to '28	-2.6%	1.9%	2.1%
Grocery	-3.4%			
Mass	2.7%			
Discount	0.0%			
Club	2.6%			
Specialty store	-0.9%			
Online	6.0%			
Other	-1.0%			

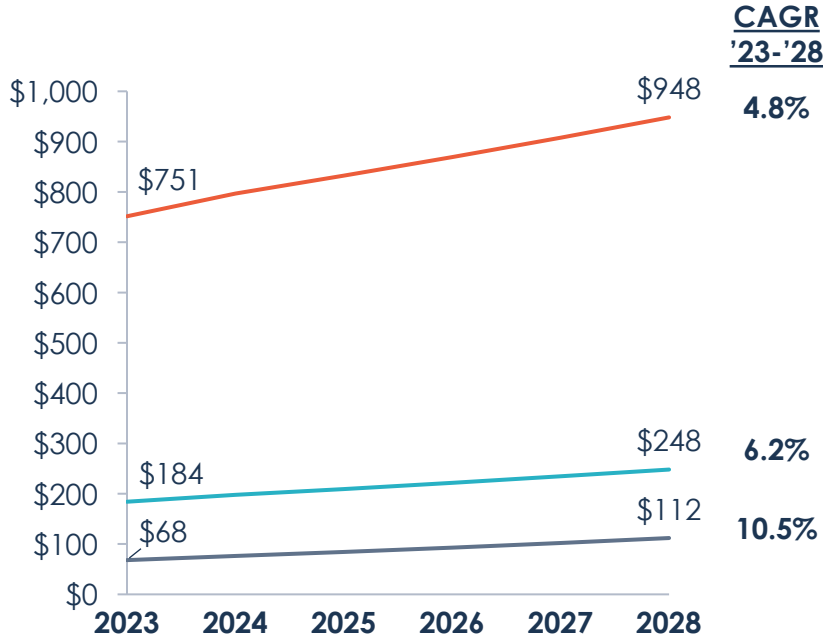
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Foodservice: While white mushrooms are growing in dollars and pounds in foodservice, brown and specialty mushrooms are growing faster rates

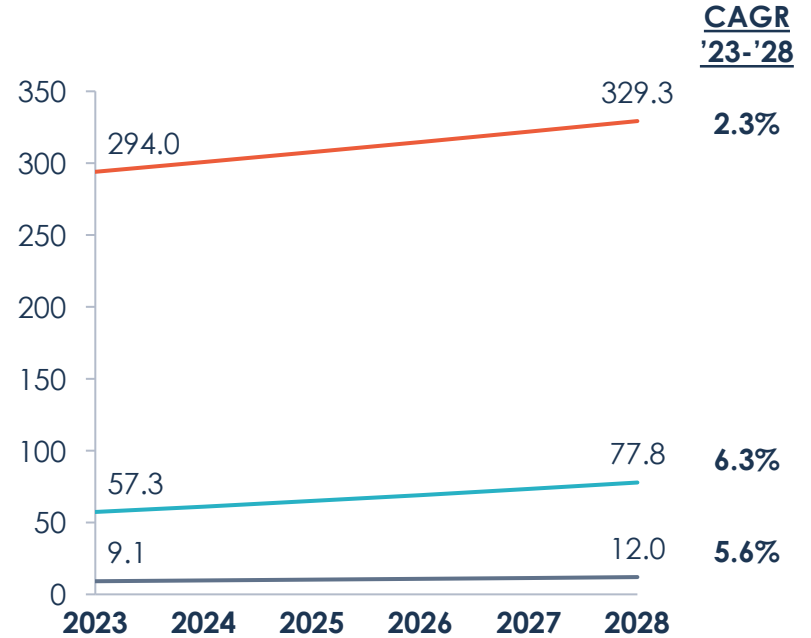


Preliminary

Foodservice forecast sales (\$, millions)



Foodservice forecast volume (pounds, millions)

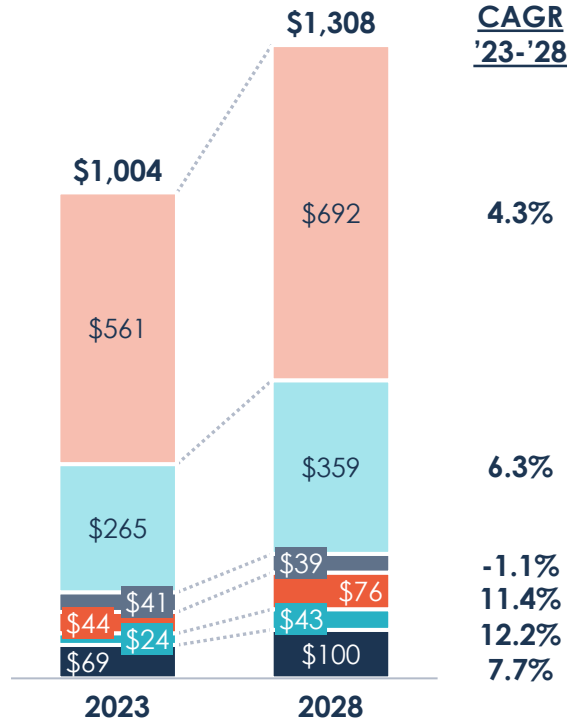


Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

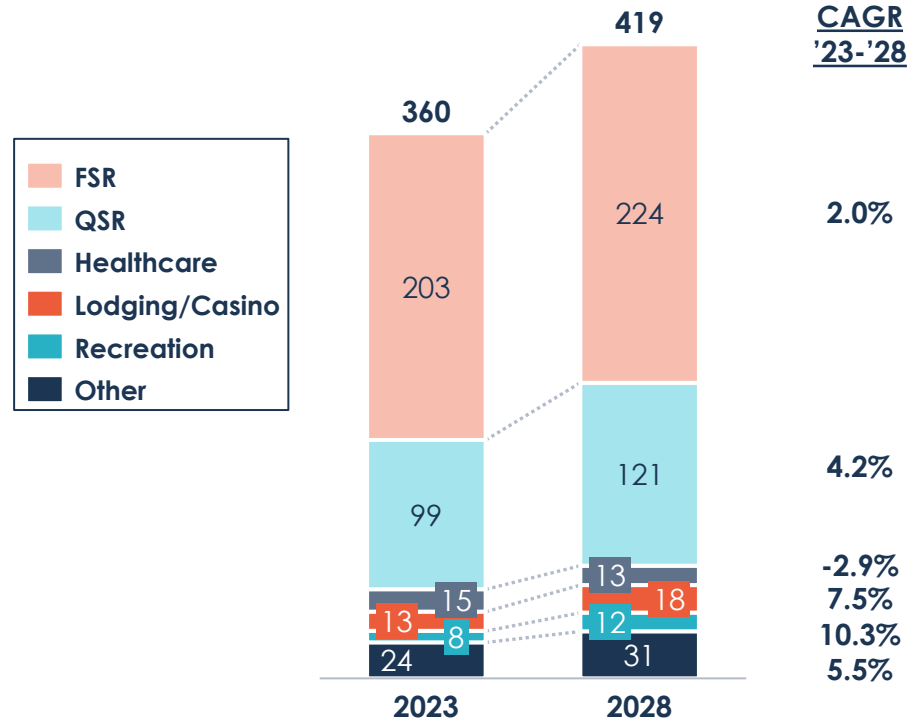
Foodservice: Within foodservice sub-channels, the highest growth is anticipated in Lodging/Casino and Recreation

Preliminary

Foodservice forecast sales (\$, millions)



Foodservice forecast volume (pounds, millions)



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Foodservice: As opposed to Retail, the highest absolute dollar growth in Foodservice is white mushrooms in QSR/FSR, however highest growth is in Specialty

Preliminary

\$ Dollar Absolute Growth 2023 – 2028 (in \$ millions)

		White	Brown	Specialty
	<u>2028 \$ growth</u>	\$197	\$64	\$44
FSR	\$131			
QSR	\$94			
Healthcare	-\$2			
Lodging/ Casino	\$32			
Recreation	\$19			
Other	\$31			

\$ Dollar CAGR from 2023 - 2028

		White	Brown	Specialty
	<u>CAGR '23 to '28</u>	4.8%	6.2%	10.5%
FSR	4.3%			
QSR	6.3%			
Healthcare	-1.1%			
Lodging/ Casino	11.4%			
Recreation	12.2%			
Other	7.7%			

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Foodservice: The foodservice volume forecast shows an opportunity for white button mushrooms in QSR and FSR, and in Recreation (especially for Brown/ Specialty)

Preliminary

Volume Absolute Growth 2023 – 2028 (in pounds)

		White	Brown	Specialty
	<u>2028 \$ growth</u>	35,363,561	20,545,321	2,874,185
FSR	21,024,845			
QSR	22,279,144			
Healthcare	-2,059,376			
Lodging/ Casino	5,486,121			
Recreation	4,814,483			
Other	7,237,850			

Volume CAGR from 2023 - 2028

		White	Brown	Specialty
	<u>CAGR '23 to '28</u>	2.3%	6.3%	5.6%
FSR	2.0%			
QSR	4.2%			
Healthcare	-2.9%			
Lodging/ Casino	7.5%			
Recreation	10.3%			
Other	5.5%			

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

B.1

Consumer Overview

Our mushroom consumer insights are grounded in a robust quantitative survey

Mushroom consumer survey specifications

Sample

- Representative sample of 500 respondents
- Ages 18-65
- U.S. consumers who had **purchased AND eaten mushrooms in past month** from a retailer (e.g., grocery store) OR foodservice establishment (e.g., QSR)

Methodology

- 20-minute online survey
- Fielded in April 2024

Topics covered

- Demographics
- Attitudes and motivations
- Mushroom usage behaviors and volumetrics
- Deep dive on recent mushroom occasion
- Category benefit delivery
- Future behaviors
- Non-traditional mushrooms
- Additional profiling

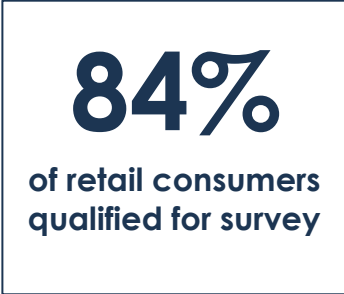


To qualify, consumers must have purchased AND eaten mushrooms in the past month at a store or restaurant

Our analysis is based on a representative sample of recent mushroom consumers

From prior research, we know that mushrooms are consumed often...

...and in this survey, our sample is 500 people who have eaten and purchased at retail OR foodservice in the past month

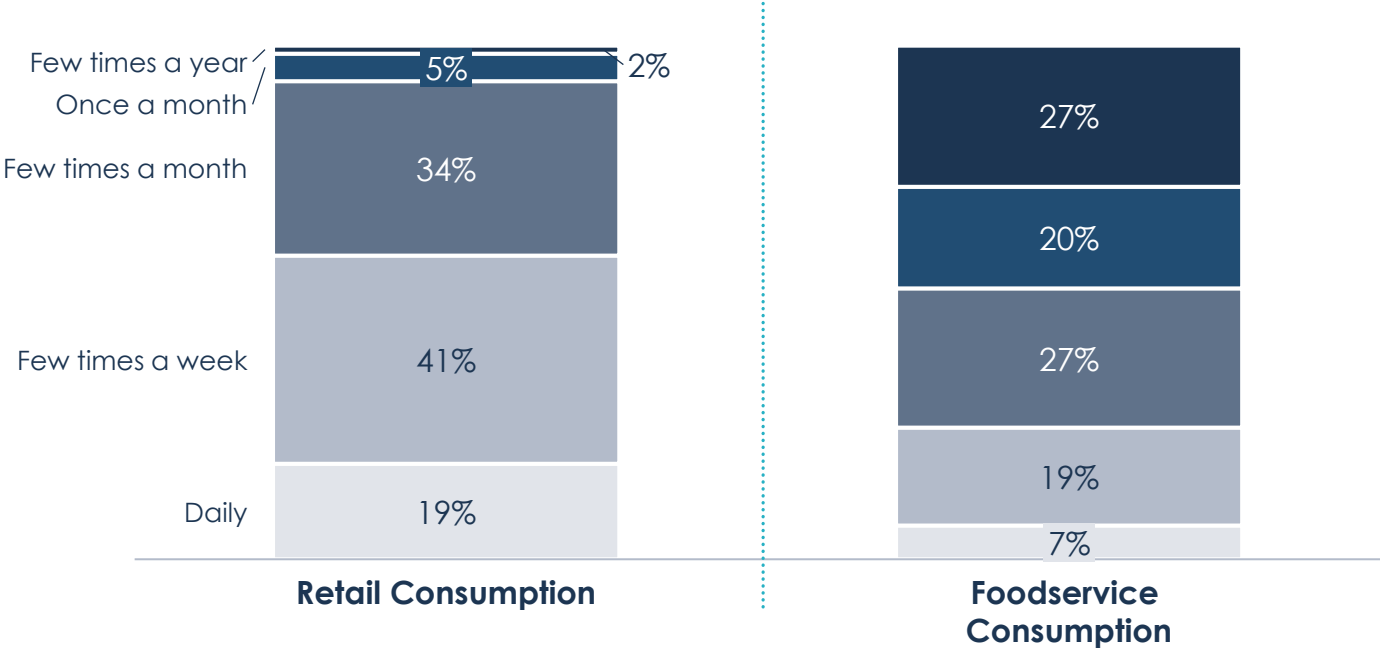


NOTE: Q9a, Q9b, Q11a, Q11b, 1, from The Mushroom Council 2022, titled "Getting to Know Fresh Mushroom Consumers", data from IRI, Household Panel data, All outlets, mushrooms, 52 weeks ending 6/12/2022
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Of past month consumers, retail mushroom occasions are experienced weekly while foodservice occasions are experienced monthly

Consumption frequency

% selected



Note: Q38 (n=273), Q68 (n=252)
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Mushroom eaters exhibit motivational traits centered around cooking and eating fresh, healthy foods; they love mushrooms overall and especially in recipes

Top consumer attitudes

% agree (T2B): Q16 Agree completely or Agree strongly



Note: Q16; Heavy = Q30 (retail purchases) a few times a week or more frequently and/or Q38 (foodservice consumption) a few times a week or more frequently
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

While retail consumers more regularly eat white button mushrooms, foodservice mushroom consumers tend to eat a wider variety of mushrooms

Top 10 mushroom varieties eaten regularly (e.g., once a month or more)

% selected

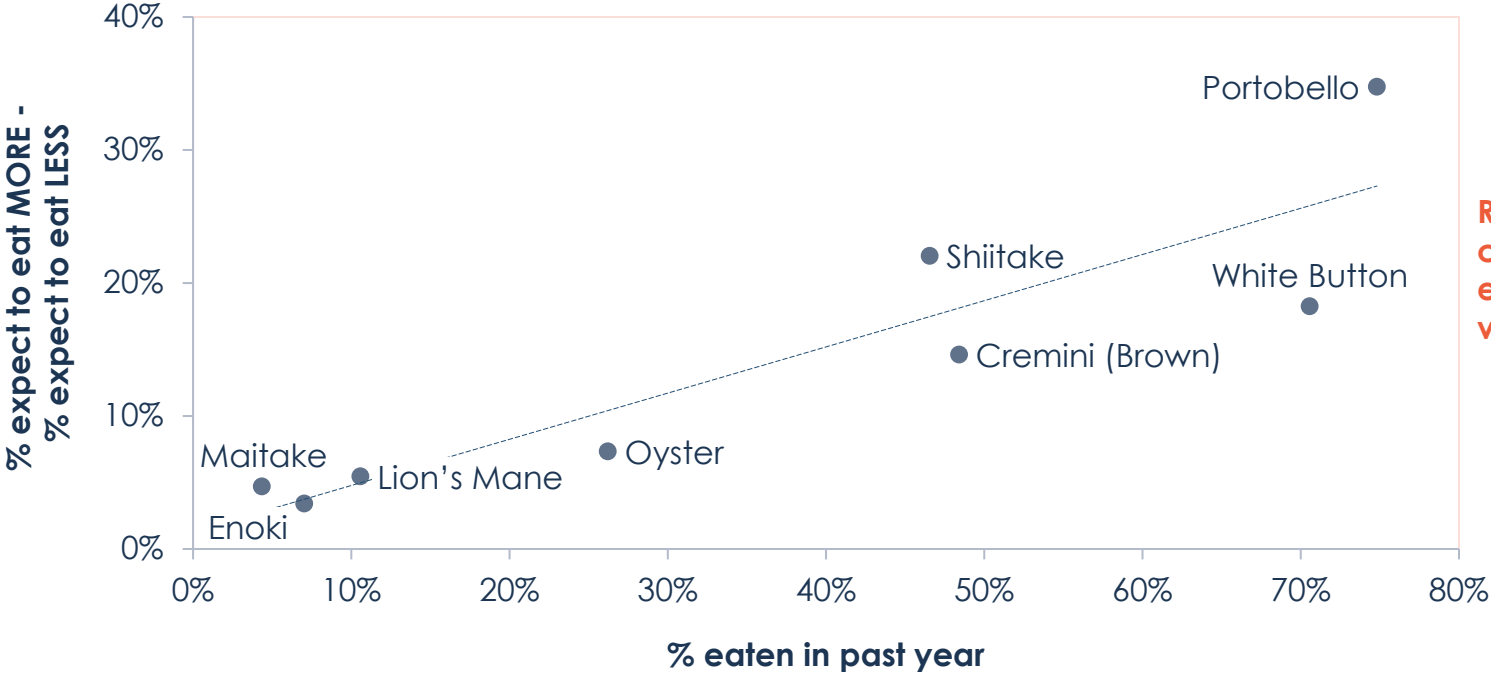
Variety	Total	Retail	Foodservice
White button	59%	61%	56%
Portobello	56%	53%	59%
Cremini (Brown or Baby Bella)	35%	31%	39%
Shiitake	20%	17%	23%
Oyster	11%	9%	14%
Truffle	8%	7%	10%
Porcini	7%	3%	10%
Wild mushroom	5%	3%	7%
Chanterelle	5%	4%	7%
Lion's Mane	5%	5%	5%

Note: Q26b
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Consumers expect to eat more portobellos and shiitake next year

Varieties of mushrooms you expect to eat more of next year vs. consumption last year

% selected



Retail and foodservice consumers expect to eat more of similar varieties next year

Note: Q26b; Q80a, Q80b
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

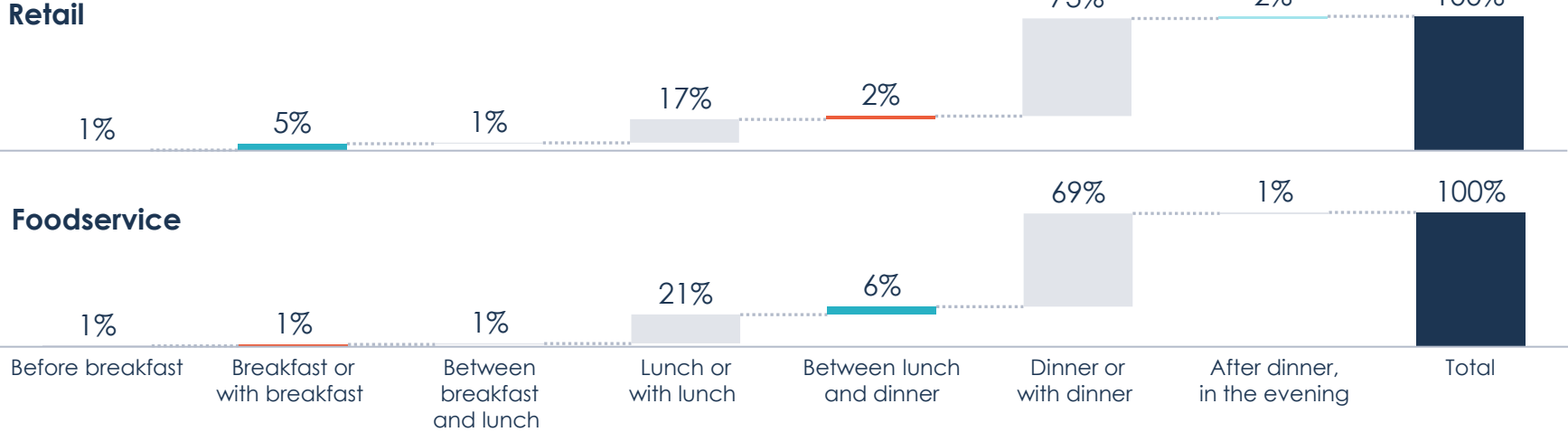
B.2

Eating occasions

Dinner is ~70% of meal occasions with mushrooms, highlighting an opportunity to increase mushroom consumption during breakfast and lunch

Top mushroom role in meal occasions % selected

● 140+ Index to Total ● 120+ ● <80 ● <60



Retail skews: More common during breakfast (5%, 168) and after dinner, in the evening (2%, 135)

Foodservice skews: More common between lunch and dinner (6%, 140)

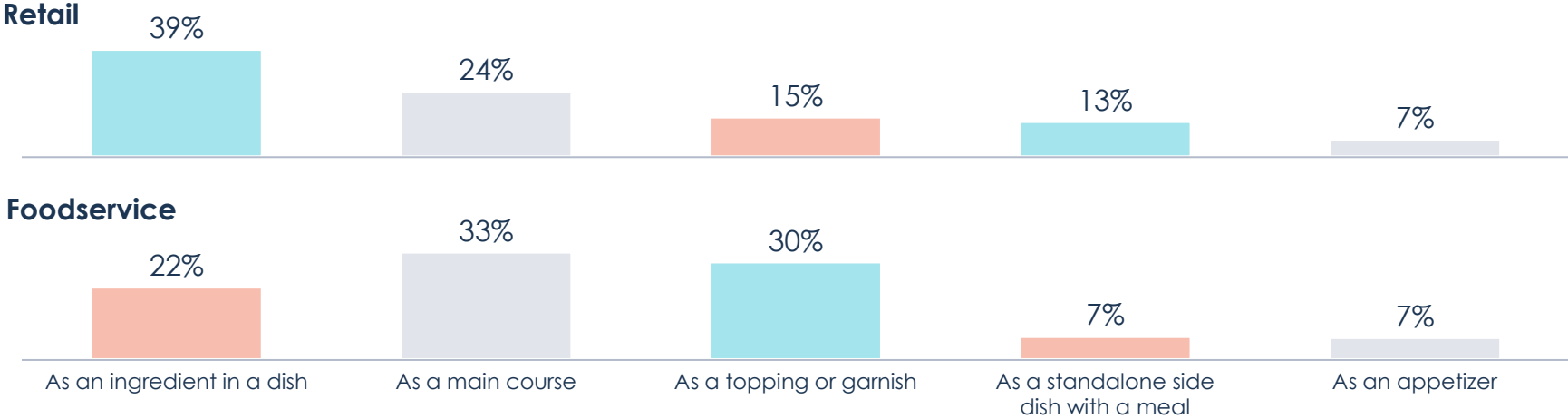
Note: Q49a
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Retail consumers eat mushrooms as ingredients most often, whereas foodservice consumers more often eat mushrooms as a main course or a topping/garnish

Meal occasions in which mushrooms were eaten – Ranked by Total

% selected

140+ Index to Total 120+ <80 <60



Retail skews: More commonly used as ingredient to a dish (39%, 128) and as a standalone side dish (13%, 129),

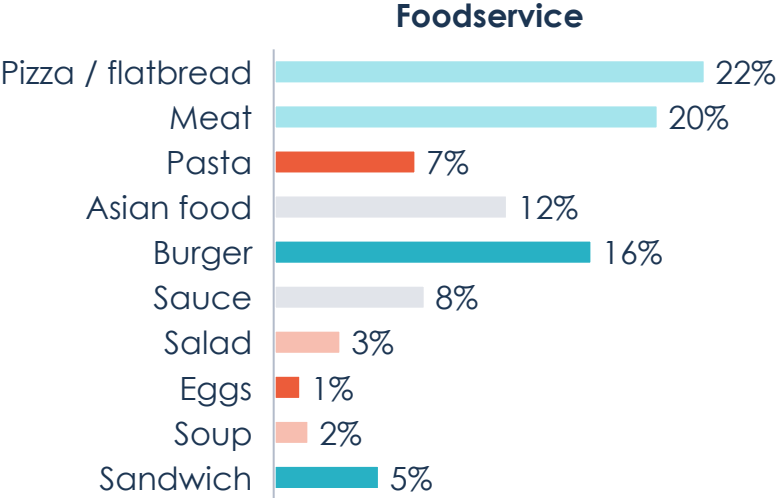
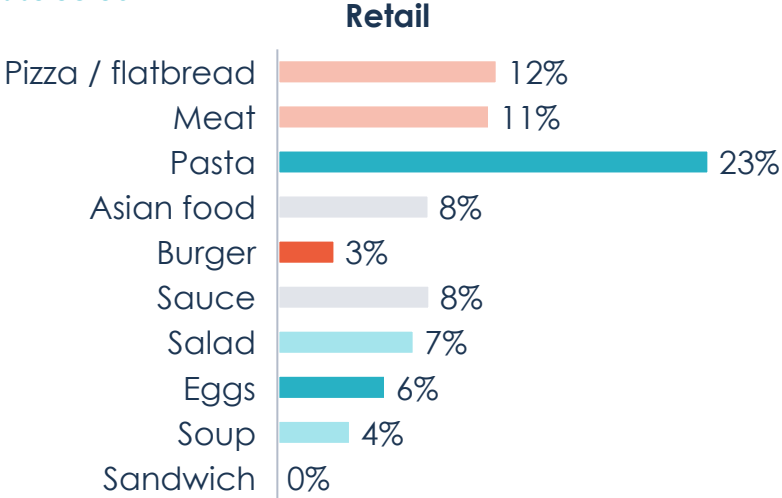
Foodservice skews: More commonly used as a topping or garnish (30%, 134)

Note: Q49b
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Pizza, meat, and pasta are the most common meal complements where mushrooms are used as an ingredient or as a topping/garnish

Top meal complements – Ranked by Total % selected

● 140+ Index to Total ● 120+ ● <80 ● <60



Retail skews: Used in pasta (23%, 151), salads (7%, 135), and eggs (6%, 160)

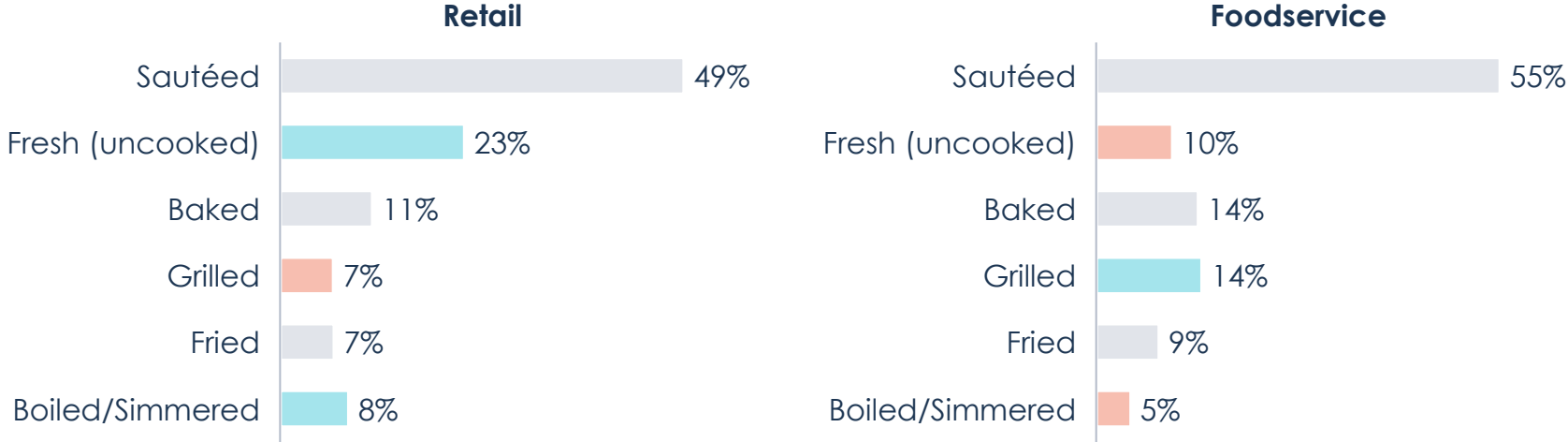
Foodservice skews: Used in pizza/flatbread (22%,131) , meat (20%, 127), and burgers (16%,169).

Note: Q50 - Most recent occasion where mushrooms are used as an ingredient to a dish or as a topping or garnish. (Only top 10 choices shown)
 Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Sautéing mushrooms is the most common preparation method with fresh and baked also common for both retail and foodservice consumers

Top cooking / preparation methods – Ranked by Total % selected

● 140+ Index to Total ● 120+ ● <80 ● <60



Retail skews: Fresh (23%, 137) and boiled/simmered (8%, 128) are common preparation methods.

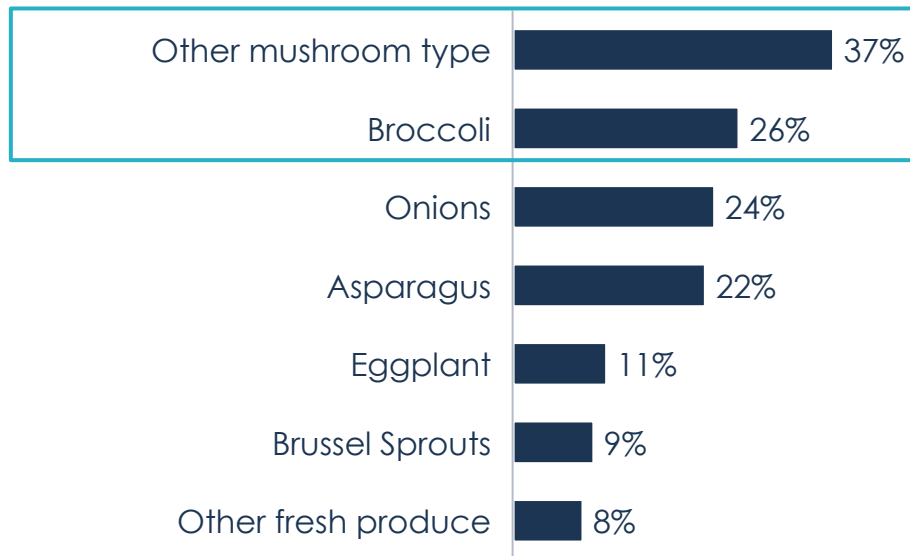
Foodservice skews: Grilled (14%, 137) is popular when ordering at restaurants

Note: Q53 (Only top 6 choices shown)
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Top alternatives to mushrooms considered include of course other mushrooms as well as broccoli and chicken

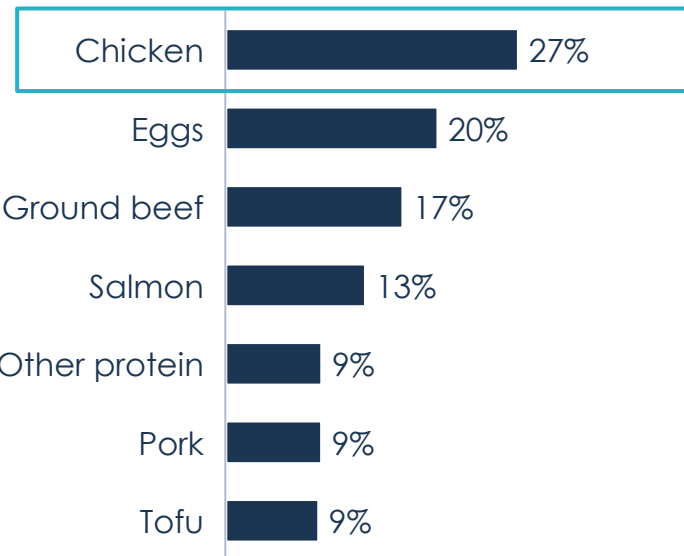
Produce alternatives you would have purchased instead of mushrooms

% selected



Protein alternatives you would have purchased instead of mushrooms

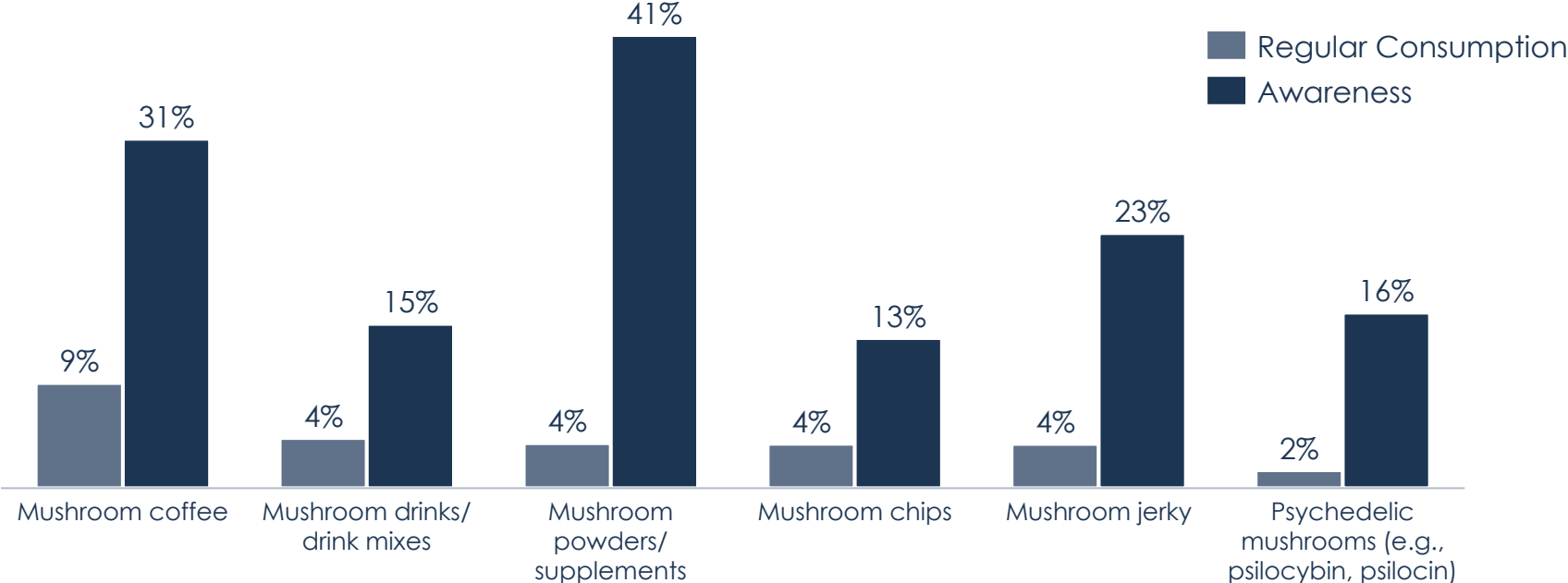
% selected



Note: Q72, other response options were: None (22% selected) and Other (1% selected)
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Preview: There is high awareness across non-traditional products however, regular consumption is concentrated in mushroom powders/supplements

Awareness of non-traditional mushroom products vs Regular consumption of non-traditional mushroom products % selected

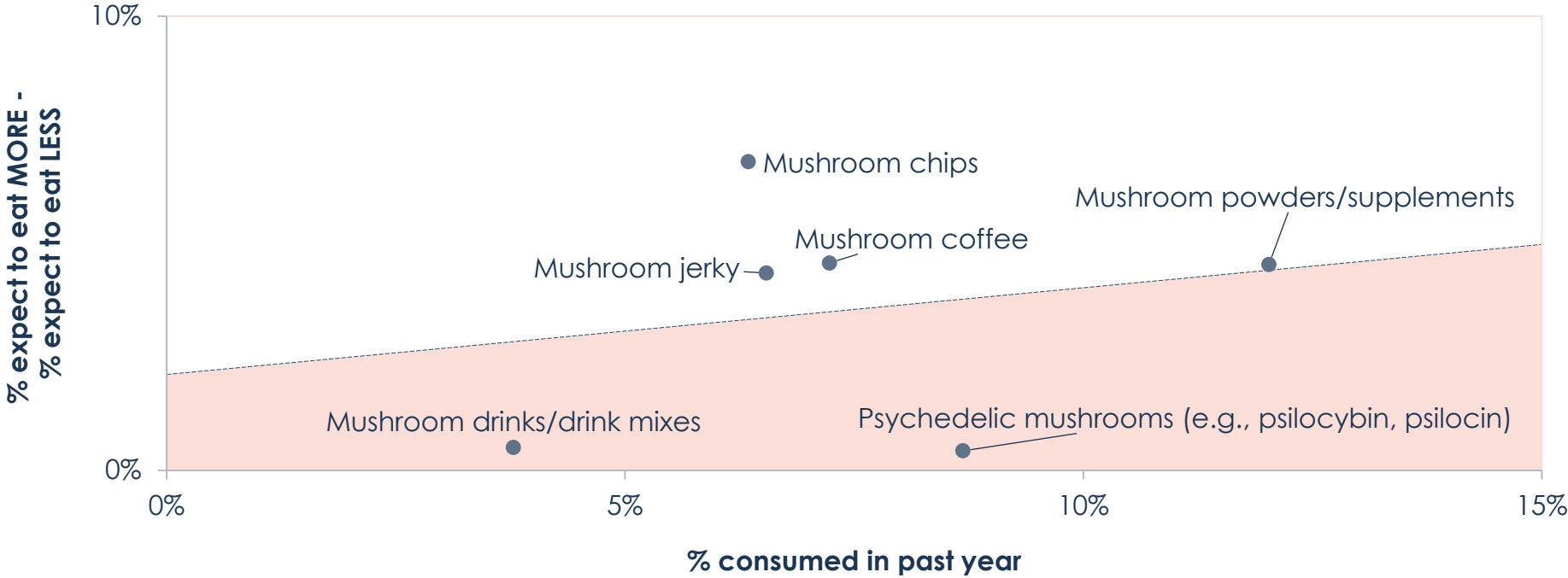


Note: Q81a, Q81c; Regular Consumption refers to once a month or more often
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Preview: Consumers expect to consume more mushroom-based supplements, chips, coffee and jerky in the future

Non-traditional mushrooms you expect to eat more of next year vs. consumption last year

% selected



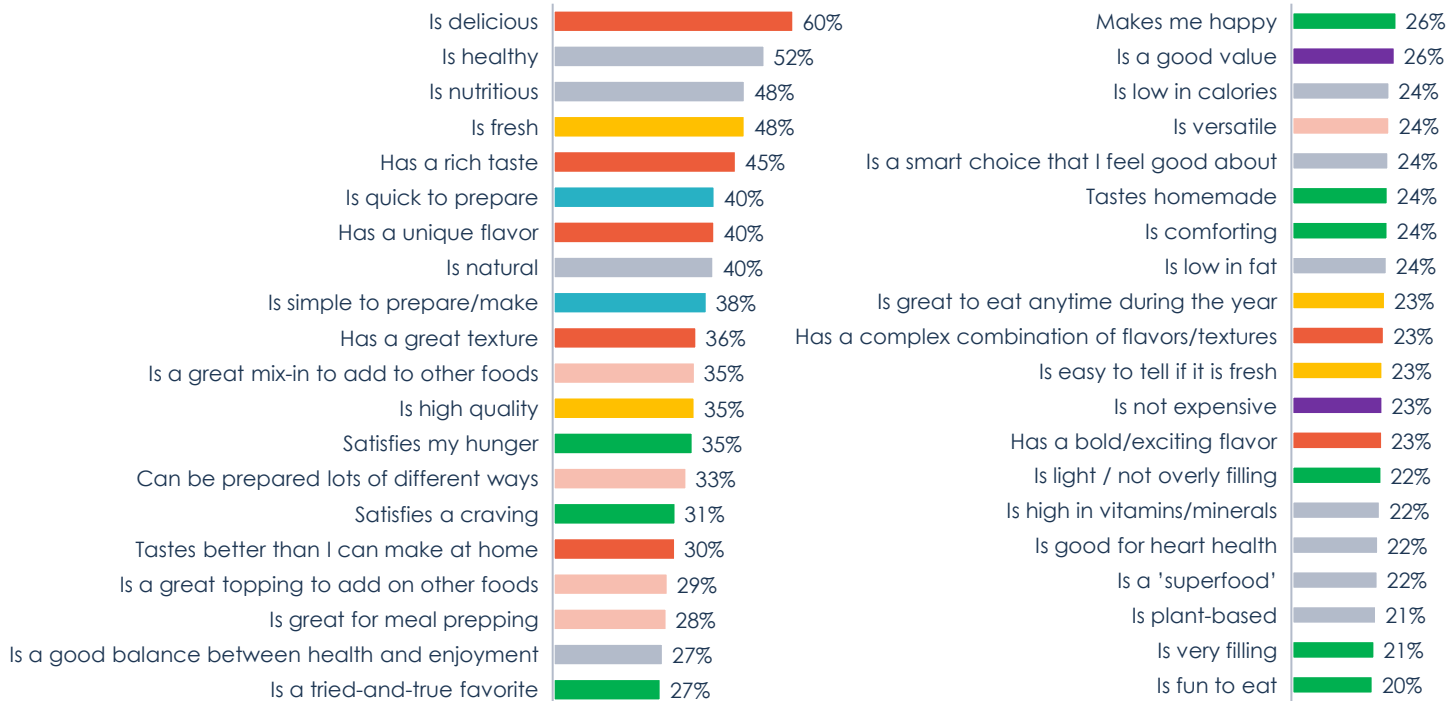
Note: Q81b; Q84a, Q84b
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

B.3

Benefits & barriers

Consumers turn to mushrooms for both functional and emotional benefits

Top 40 mushroom benefits sought % that agree benefit is important

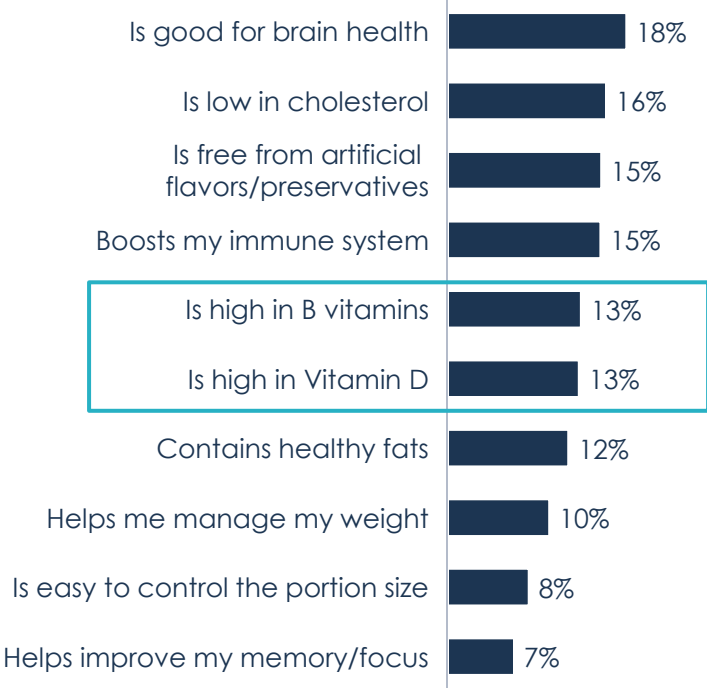
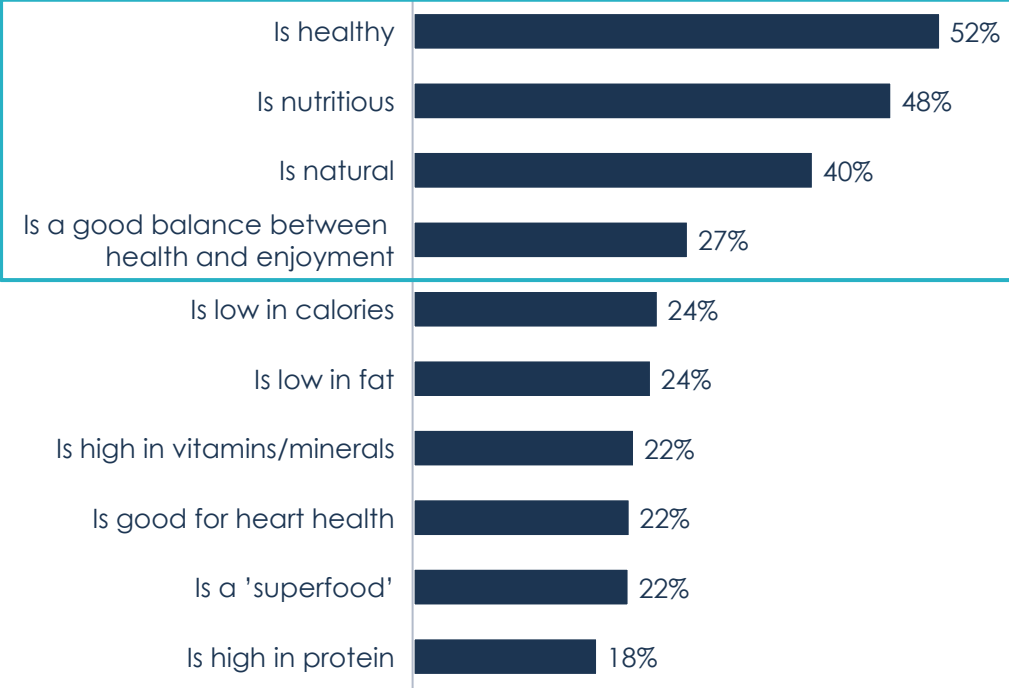


Note: Q65
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Consumers seek out mushrooms as a generally enjoyable, healthy and nutritious, with less focus on specific vitamins or body system benefits

Health and nutrition benefits sought

% that agree benefit is important



Note: Q65
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Retail: appearance is a key reason for purchasing mushrooms in store

Top reasons for purchasing mushrooms at the store (retailer)

% selected

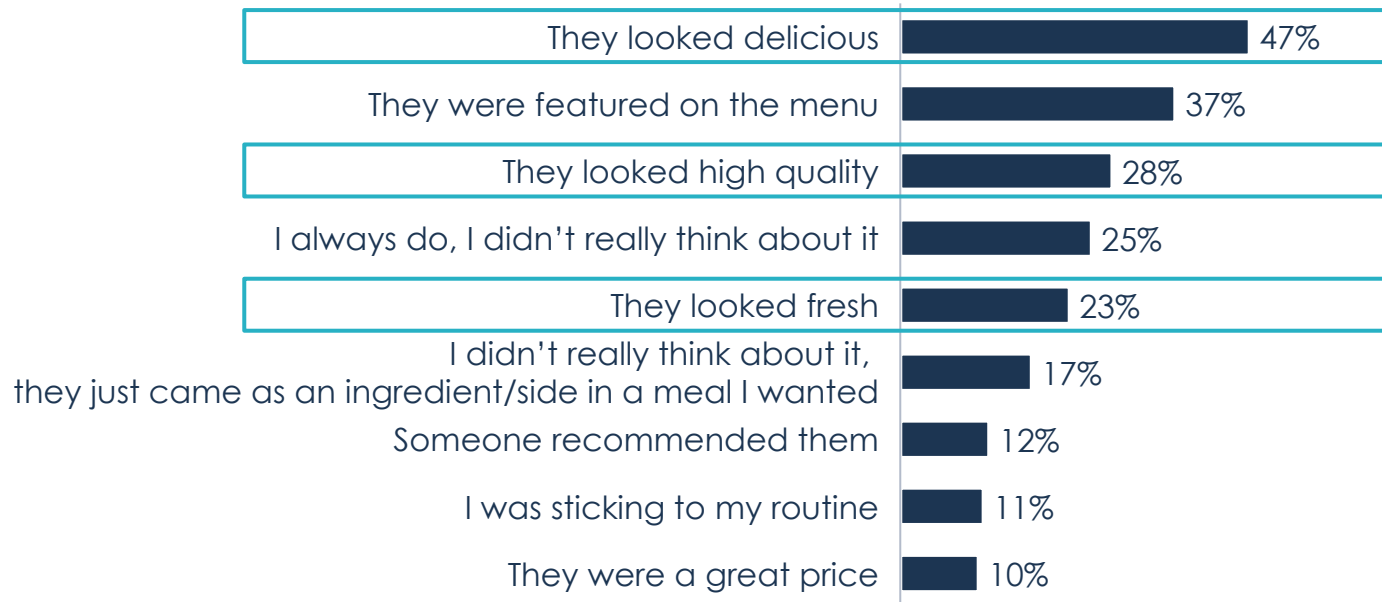


Note: Q71
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Foodservice: similarly, the way mushrooms look are top reasons for purchasing at restaurants, in addition to special menu features & call-outs

Top reasons for purchasing mushrooms at the restaurant (foodservice location)

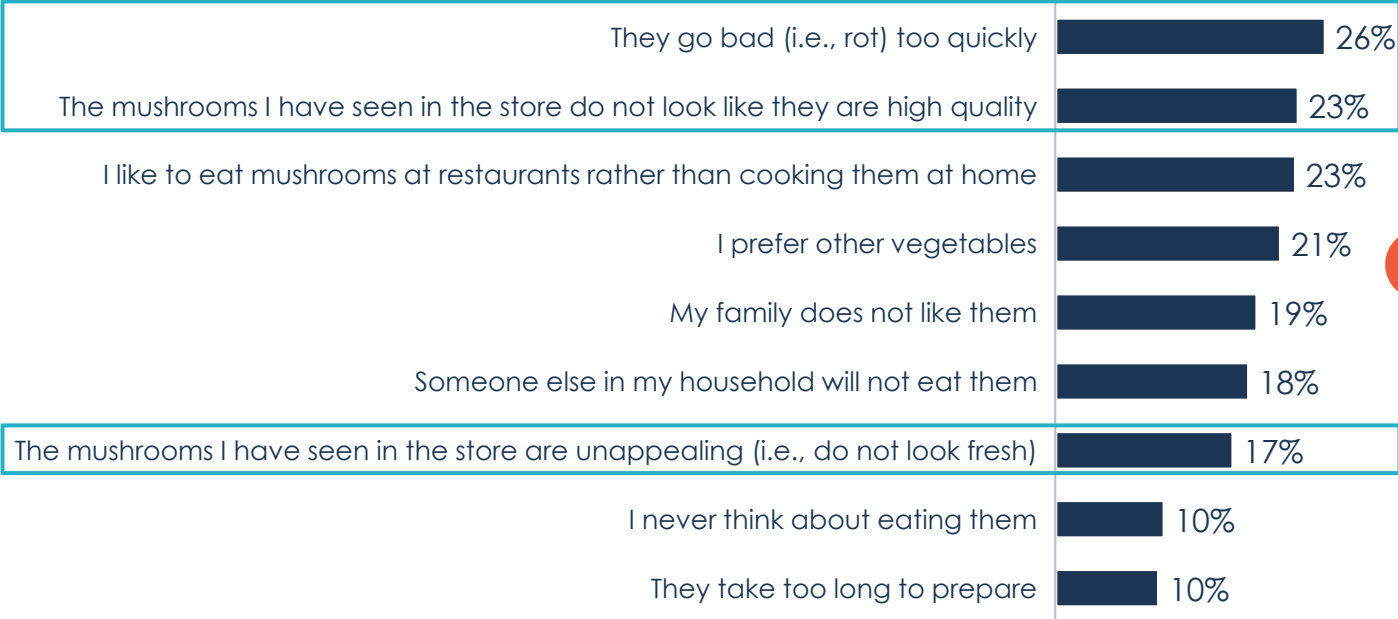
% selected



Retail: The top reasons people have NOT purchased mushrooms in the past month are due to freshness and quality concerns

Top reasons for NOT purchasing mushrooms in past month

% selected



! Quality in store is a barrier for purchase

Note: Q12
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Retail: areas for improving mushroom sales in stores include improved signage and increasing the information available on mushrooms

In-store signage / labeling

Areas where retailers do a very good job when it comes to mushrooms

% selected

Top 10 retail areas (% selected)

- The mushrooms look fresh (55%)
- Mushrooms are easy to find (53%)
- The mushrooms look high quality (44%)
- Mushrooms are always in stock and available for purchase (40%)
- Mushrooms are displayed well (38%)
- The mushrooms have clearly marked prices (36%)
- The mushroom packages have clear labels (35%)
- Mushrooms are available in a variety of sizes or packages (35%)
- There are mushrooms offered in convenient packaging/formats (32%)
- My favorite types of mushrooms are in stock and available for purchase (31%)

Bottom 10 retail areas (% selected)

- It is easy to tell the difference between types of mushrooms (29%)
- There is a wide assortment of mushrooms (27%)
- There are low prices for mushrooms (27%)
- Organic mushrooms are always in stock and available for purchase (20%)
- There is clear signage in the mushroom section (18%)
- There are great deals/promotions on mushrooms (14%)
- There is useful info. regarding the nutritional benefits of mushrooms (13%)
- There is useful info. regarding how to use mushrooms in recipes (11%)
- There is useful info. regarding how to cook/prepare mushrooms (8%)
- There is useful info. regarding the sustainability of mushrooms (7%)

Note: Q77
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



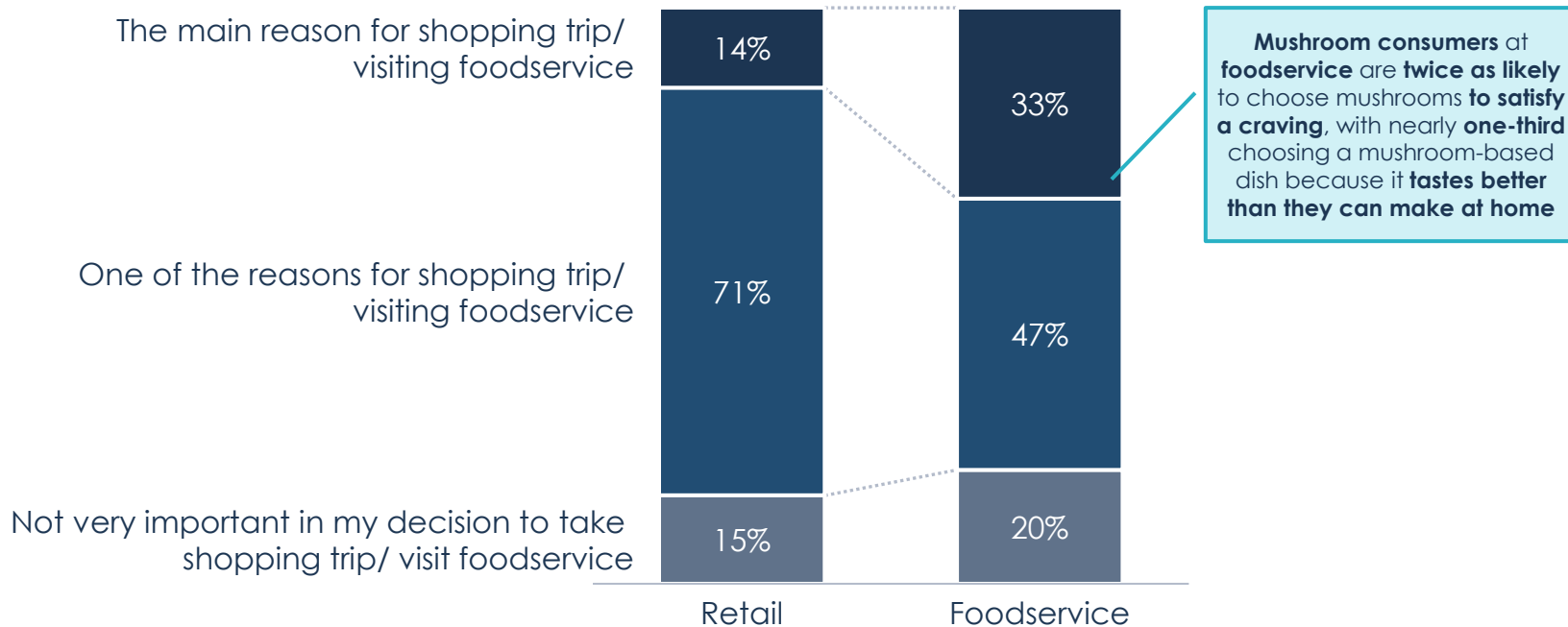
B.4

Mushroom shoppers

Mushrooms are an important reason for a trip to a retail store or a visit to a foodservice operator

Importance of purchasing mushrooms in shopping/eating occasion

% selected

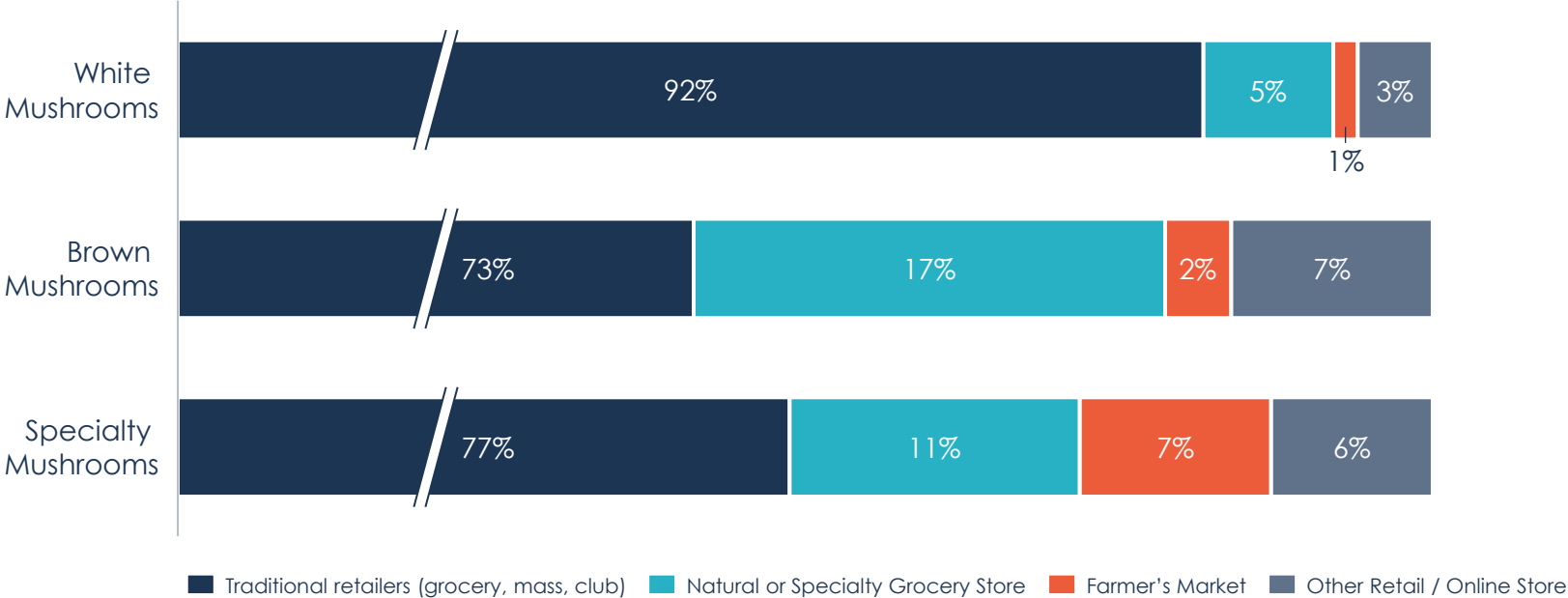


Note: Q70a/b
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Across retail outlets, shoppers purchase White most via traditional grocery whereas Brown and Specialty mushrooms are more frequently bought at alternative retailers

Channel shopped for purchasing mushrooms in latest retail trip

% selected by mushroom type

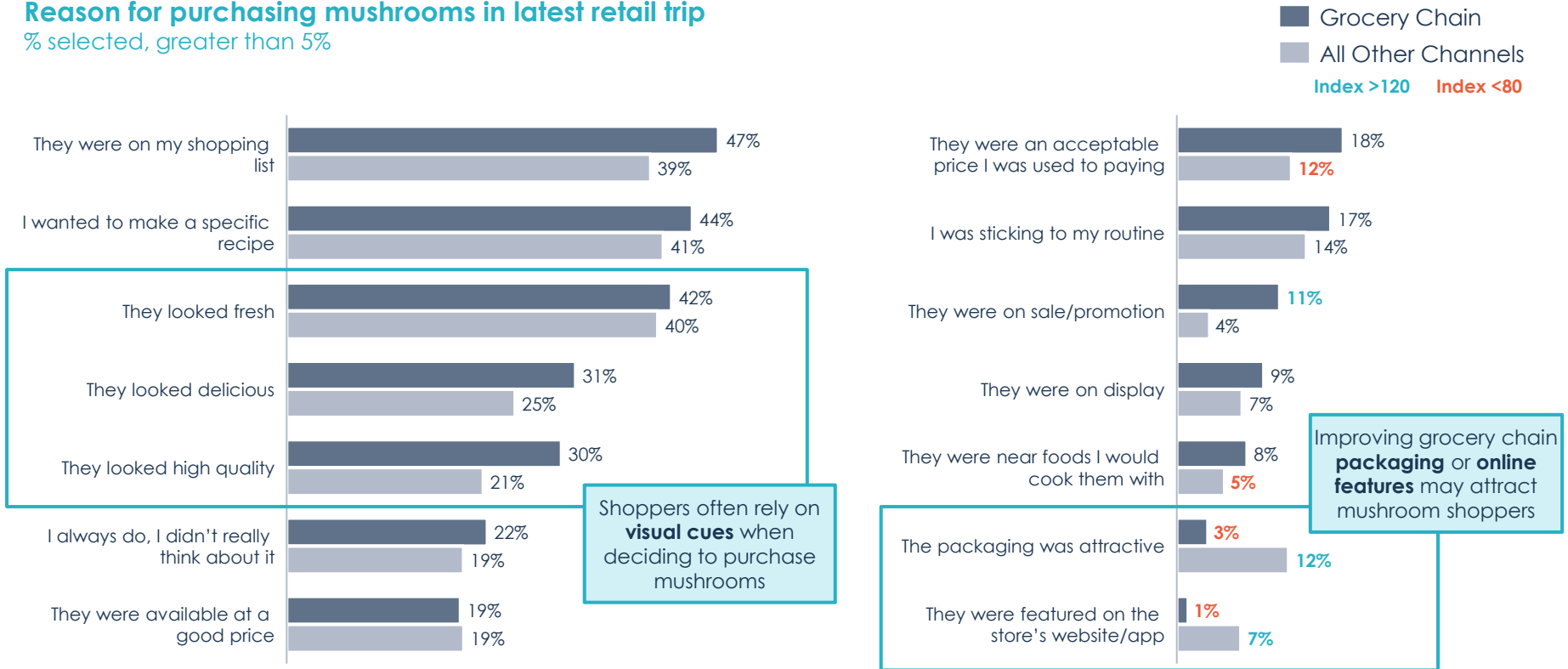


Note: Q69a, retail path assigned; White Mushrooms n=110, Brown Mushrooms n=104, Specialty Mushrooms n=46
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

For retail shoppers, being on the list is a key driver of mushroom purchase... visually appealing selection and perception of quality are critical in-store triggers

Reason for purchasing mushrooms in latest retail trip

% selected, greater than 5%



Shoppers often rely on **visual cues** when deciding to purchase mushrooms

Improving grocery chain **packaging or online features** may attract mushroom shoppers

Note: Q71
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Recall: mushroom improvement areas in stores include improved signage and increasing the information available on mushrooms

In-store signage / labeling

Areas where retailers do a very good job when it comes to mushrooms

% selected

Bottom 10 retail areas (% selected)

- It is easy to tell the difference between types of mushrooms (29%)
- There is a wide assortment of mushrooms (27%)
- There are low prices for mushrooms (27%)
- Organic mushrooms are always in stock and available for purchase (20%)
- There is clear signage in the mushroom section (18%)
- There are great deals/promotions on mushrooms (14%)
- There is useful info. regarding the nutritional benefits of mushrooms (13%)
- There is useful info. regarding how to use mushrooms in recipes (11%)
- There is useful info. regarding how to cook/prepare mushrooms (8%)
- There is useful info. regarding the sustainability of mushrooms (7%)

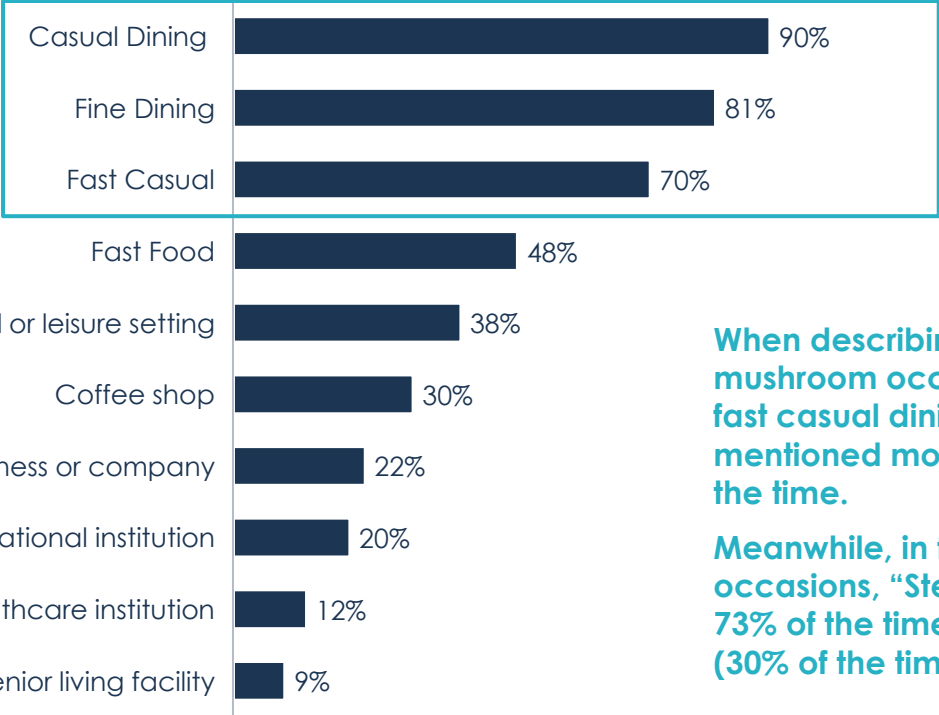


Note: Q77; Retail display is Wegmans in Syracuse NY March 2024
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

In foodservice, shoppers more often mushroom dishes at casual/fast casual dining and fine dining, often because they are featured on menus or look delicious

Foodservice locations in which consumers have eaten mushrooms in past year

% selected



When describing a recent mushroom occasion, in casual and fast casual dining “Pizza” is mentioned most frequently, 23% of the time.

Meanwhile, in fine dining occasions, “Steak” is mentioned 73% of the time, followed by pasta (30% of the time)

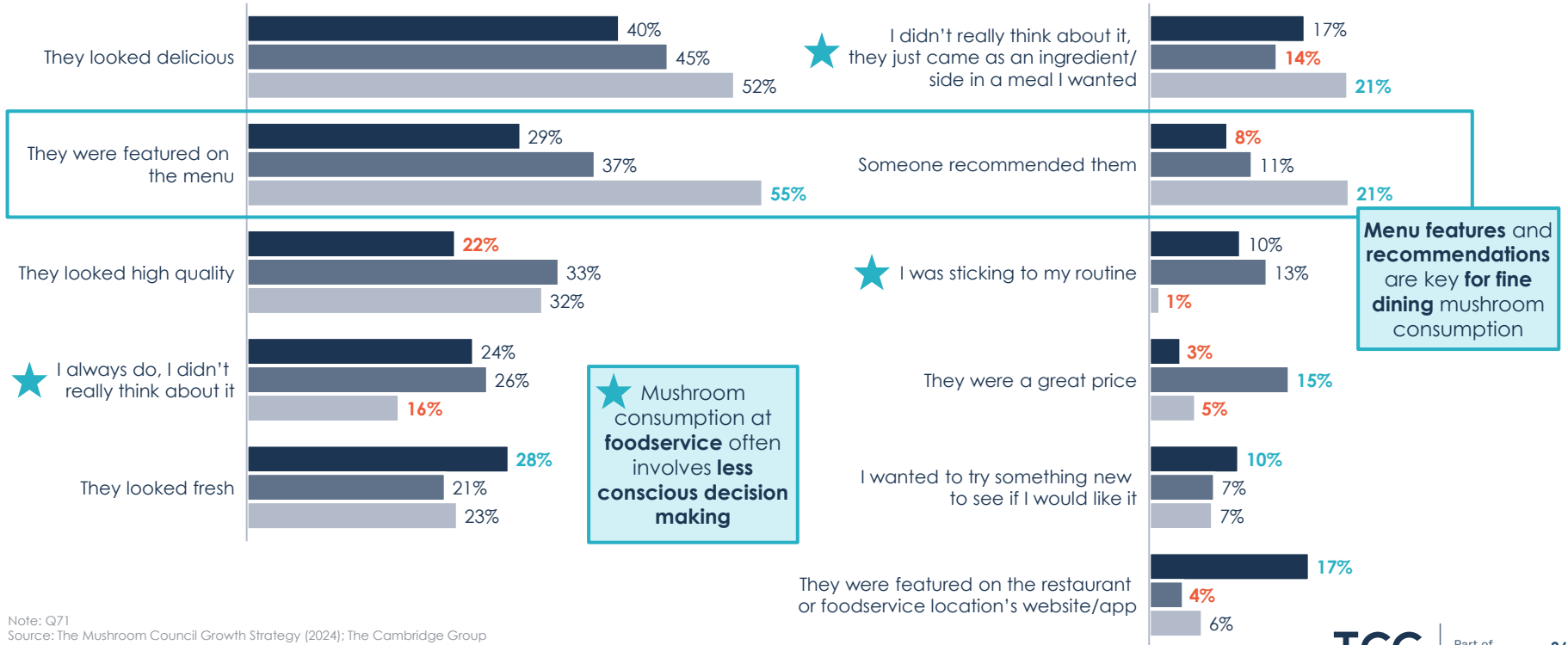
Note: Q38 not selected “I don’t purchase mushrooms at this type of store” or “I don’t shop at this type of store”, Base = PM foodservice mushroom consumers, Q46, Q69b
 Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Foodservice consumers are routinely influenced by others or make subconscious decisions to eat mushrooms; appearance remains important across channels

Reason for purchasing mushrooms in latest foodservice trip

% selected, greater than 5%

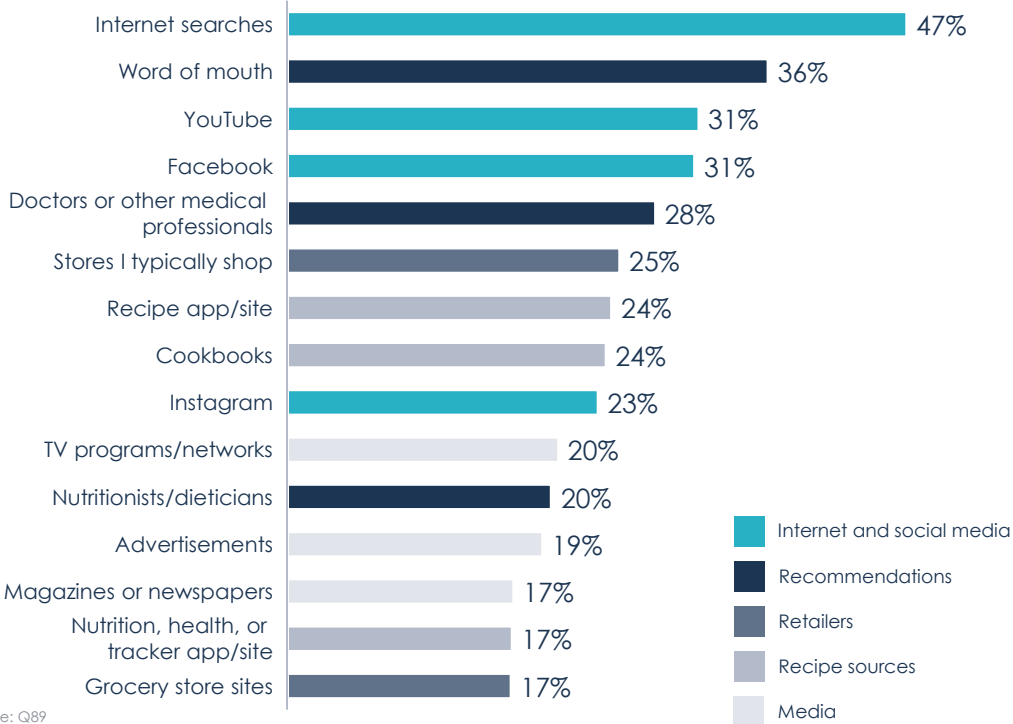
Fast Food / Fast Casual Casual Dining Fine Dining
 Index >120 Index <80



Note: Q71
 Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

What sources of information are important for people when making food decisions?

Top 15 information sources for nutrition, recipe, food decisions % selected



Note: Q89
Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Consumers most frequently rely on **internet and social media sources** to inform eating decisions

Recommendations are frequently leveraged, especially from friends, family, and trained professionals

Consumers **rarely leverage foodservice locations** (e.g., fast food, full-service) or **celebrities** to influence dietary decisions



Expert interview synthesis

Methodology: stakeholder and expert perspectives provide hypotheses to explore

Approach background

- As part of The Mushroom Council growth strategy project, The Cambridge Group **interviewed stakeholders and experts across the mushroom value chain** to discuss:
 - Mushroom performance
 - Knowledge gaps
 - Pain points & challenges
 - Growth opportunities
- Conversations spanned **growers, retail buyers, foodservice operators, and agri-business experts**
- The synthesized output of these interviews reveal initial opportunities to discuss and key hypotheses to continue to explore through the remainder of the work

Interviewees represent the following organizations



Most interviewees agreed that mushrooms face challenges regarding freshness and inflation, but also see opportunities for growth

Preliminary

Mushroom challenges and strengths

Challenges

Category headwinds

- Macro forces: economic uncertainty and inflation are tightening household and foodservice budgets
- However, pricing pressures remain especially for conventional which can be harvested using Dutch style farming technology
- Poor inventory management driving lower quality / freshness on shelf, and consequently losing shelf space
- Shift in consumer interest to specialty / exotic mushrooms, posing a challenge to agaricus bisporus growers
- Consumers are seeking convenience are cooking less often

Strengths

Category tailwinds

- Macro forces: as the economy improves, consumers will be less price sensitive and buy more mushrooms again
- Vegetarians are a small (~5% of US adults) but consistent market, and mushrooms are a non-animal source of important nutrition (B vitamins, Vitamin D, etc.)
- Consumers continue to be interested in new levels of health & wellness, of which mushrooms have some unique benefits (e.g., Vitamin D)
- Mushrooms are sustainable to grow, & could further benefit from the sustainability trend

From these discussions, several key opportunities emerged

Preliminary and based on what we heard

Expert perspectives on key opportunities

	Test/Learn New Social Media Techniques	Drive Interest and Increase Usage	Improve Freshness via Education	Expand Penetration and Presence in Secondary Locations [Retail]	Grow Mushroom Penetration [Food Service]
Description					
	<p>Learn from top reaching mushroom content and test other social media best practices from other perishables</p>	<p>Increase interest in mushrooms to boost usage occasions through recipe inspiration, in-person sampling, etc.</p>	<p>Improve mushroom quality and freshness through education on how to select, clean, and prepare mushrooms</p>	<p>Advocate for the expanded placement of mushrooms within additional store locations, such as the meat counter</p>	<p>Enhance the presence and utilization of mushrooms in food service channels</p>

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Deep Dive 1: Test/Learn New Social Media Techniques

Description

Learn from current top reaching mushroom content and best-in-class perishables, building upon existing social media presence by testing and learning from new techniques

"Moms all over America were buying ingredients to make Gigi Hadid's favorite pasta. How can mushrooms be in the next viral dish?"

- Industry expert



Example Executions

- Learn from **top reaching mushroom content** (e.g., performance by channel (e.g., TikTok, Instagram), conventional vs. exotic, targeting)
- Learn from **best-in-class perishables** with broad-reaching social presence to encourage consumer usage (e.g., avocados, eggs)
- Consider **new campaign ideas**, potential ideas:
 - Shift **nutritional language** to be more benefit-oriented (brain health, etc.) instead of molecules (e.g., Vitamin D)
 - Embrace the **European fondness for mushrooms** & their origins (e.g., creminis from Italy; white buttons from France)
 - Emphasize the **sustainable production** of mushrooms, which sets them apart

Potential Risks

- May require additional funding for broader campaigns or partnering with wider reaching influencers and possibly low ROI
- For a unified effort across growers, would require coordination across participating growers

Value Chain Impacts



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Deep Dive 2: Drive Interest and Increase Usage

Description

Increase interest in mushrooms to boost usage occasions, such as through recipe inspiration or in-person demos / sampling to share how delicious mushrooms are when prepared right

“I think *in-person demonstrations are the missing piece to selling more mushrooms.*

These mostly stopped during the pandemic, but they help people get over pre-conceived notions about mushrooms”

- Retailer

Example Executions

- **Showcase new ways/recipes** to cook with various mushrooms; share in weekly ads, POS recipes to take home, online / social
- **Strengthen associations with specific eating occasions/routines** (e.g., Mushroom Monday, mushroom burger, etc.). Seek pairings with natural complements
- **Promote interest in grilling season.** Cross-merchandise with other grilling favorites
- **Bring back in-person demonstrations:** sampling in store/markets, consider pairing with well-funded categories (e.g., a mushroom “crab cake” with wine tasting)

Potential Risks

- Higher costs to execute live demonstrations, plus cost of developing and sharing out new recipes
- Harder to get wide reaching influence/awareness
- Challenging execution, especially on the retail side which is unlikely to be a unified effort across growers

Value Chain Impacts



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



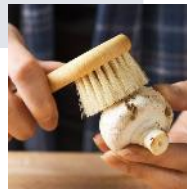
Deep Dive 3: Improve Freshness via Education

Description

Increase overall freshness and quality in retail and foodservice through education on how to select and care for mushrooms and/or educating on fresher looking varieties

*“People think the brown substrate is dirt and **don’t know to brush or trim the stems.** I go into [foodservice] accounts and see mushrooms bobbing in water.”*

- Foodservice distributor



Example Executions

- **Educate consumers** on how to clean and cook mushrooms (e.g., pamphlets or signage near the mushrooms displays or circulate on social media)
- **Educate produce managers** (retail & foodservice) on how to care for mushrooms (e.g., a quick video on storage temperature, days until expiration, etc.)
- **Educate consumers on brown mushrooms which are appealing for longer** than white button mushrooms (e.g., taste profile, recipe inspiration)

Potential Risks

- Challenging to make this a unified effort across growers, as some are already providing this educational support to customers
- Shifting produce mix toward fresher looking varieties may be difficult or expensive
- Cost of creating materials and content and distributing it to the right audiences

Value Chain Impacts



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Deep Dive 4: Expand Penetration and Presence in Secondary Locations [Retail]

Description

Explore opportunities to introduce mushrooms into additional store locations for both traditional mushroom varieties and convenient mushroom innovations

*"We've had **success with our pre-stuffed mushrooms**. We offer multiple flavors: spinach mozzarella, gouda, etc. These are **in the ready-meals section** of the store and consumers can just pop them the oven."*

- Retailer



Example Executions

- **Diversify current placement of mushrooms in store** (e.g., showcase burger-sized portobellos at the butcher counter as a meat alternative)
- **Create innovations that diversify shelf space** in stores, example executions:
 - Re-visit **pre-made stuffed mushrooms**, learning from successful launches
 - Create newer products like **pre-marinated mushroom kebabs** for seasonality and sold in the meat counter for more shelf space
 - Develop more convenient **frozen mushroom** offerings leaning into "flash frozen" alleviating freshness woes

Potential Risks

- Investment required to create these newer products and market them
- Requires coordination across the entire value chain
- Consumer adoption of new products, in new store locations with new preparation techniques (like cooking from frozen)

Value Chain Impacts



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group



Deep Dive 5: Grow Mushroom Penetration [Food Service]

Description

Building upon The Blend, consider ways to increase mushroom penetration in foodservice through creative or convenient new offerings

“Pre-made duxelles [French mince] would be a huge win [for chefs]. It’s time-intensive, a pain to make, and it shrinks a lot! A frozen duxelles would probably be seen as more natural”

- Chef



Example Executions

- For existing foodservice partners, further **develop an LTO/seasonal cadence** of offerings especially when certain mushrooms are in season (e.g., summer truffle burgers, spring porcini cakes)
- Further expand **mushrooms in processed meat products** to add moisture and reduce carbon impact. Explore in-house blending solutions or raw pre-blended burger patties
- Consider ways to **make mushrooms more convenient for chefs** (e.g., premade products like duxelles for French recipes, mushroom spreads for sandwiches or flatbreads, mushroom dips like hummus)

Potential Risks




- Investment required to create these newer products and market them
- Requires coordination across most of the value chain
- Chef adoption of new products with new preparation techniques (like from frozen)

Value Chain Impacts



Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Some other opportunities to consider (I of II)

Other Expert Ideas	Description	Potential Risks
 <p>Rename White and Brown Mushrooms</p>	<ul style="list-style-type: none"> Consider renaming white button and brown mushrooms, similar to successful apple varieties like Honeycrisp, Fuji, or Gala Brown mushrooms have four names: brown mushrooms, baby bella, cremini, or crimini which is confusing. "Cremini" has Italian heritage and is more appealing than "brown mushrooms". Similarly, white buttons have a French heritage and were grown under the streets of Paris. They could be renamed to "French button", or similar, to better highlight this history 	<ul style="list-style-type: none"> Risks: likely expensive to create new product labels, leaning into Italian / French branding could raise legal concerns or confuse consumers (e.g., are they imported?) Value chain impacts: growers, distributor, retail/foodservice, consumer
 <p>Revise Packaging to Delight Consumers</p>	<ul style="list-style-type: none"> Include QR codes with recipe ideas, nutritional info, background on the farm where they were grown, etc. Explore ways to make the packaging more enjoyable for consumers: visually appealing or more convenient, perhaps a smaller pack with a lower absolute price point Consider how to revise packaging design to be more sustainable or help mushrooms last longer 	<ul style="list-style-type: none"> Risks: likely very expensive and complex to create new packaging and labels given current process Value chain impacts: growers, distributor, retail, consumer
 <p>Shift Product Mix to Include More Specialty</p>	<ul style="list-style-type: none"> Increase production of portobello mushrooms which are selling out at Whole Foods especially in summer months Participate in the growing Lion's Mane market, which has unique cognitive benefits and are growing in popularity; plus they are too delicate to easily ship overseas (China cannot compete as easily) To further shift product mix, fill the gap in consumers education on the types, tastes, textures, nutritional benefits, water content, etc. of different types of mushrooms 	<ul style="list-style-type: none"> Risks: likely expensive to shift into specialty given existing investment in agaricus bisporus production Value chain impacts: growers, distributor, retail/foodservice, consumer

Source: The Mushroom Council Growth Strategy (2024); The Cambridge Group

Some other bigger bet opportunities to consider (II of II)

Other Expert Ideas



Drive innovation and adoption of new forms

- Break into the popular supplement market, touting the unique health benefits of conventional mushrooms (Vitamin D, B vitamins, etc.). Beyond selling through retail channels, these new products can provide an entry into new/emerging foodservice channels such as juice or smoothie shops that use powders/supplements in their products (e.g., Jamba Juice)
- Consider new alternative forms of mushrooms, like mushroom coffees, or better for you snacking like mushroom jerky or chips

Description

Potential Risks

- **Risks:** likely require significant investment and time to create new products and properly launch them into the market
- **Value chain impacts:** growers, distributor, retail/foodservice, consumer



Optimize Inventory with Technology

- Build Integrated inventory management tool for ordering and showing real-time availability to better manage mushroom lead times, reassuring buyers
- Find ways to more easily integrate into existing apps (like the Whole Foods shopper app) to easily update dietary information and more easily shifting recipe recommendations to match current supply (e.g., Whole Foods currently pushes a lot of portobello recipes and then sells out)

- **Risks:** likely expensive to invest in technology and may take time to roll out
- **Value chain impacts:** growers, distributor, retail/foodservice, consumer



Although these may seem like substantial investments, they are important considerations for longer-term strategic planning



Experts in helping clients profitably grow their businesses



Corporate & Business
Unit Strategy



Innovation +
Design



Mergers &
Acquisitions



Marketing
Strategy



Go-to-market
Activation



Digital
Strategy



Pricing &
Promotion



Organization &
Culture