BLENDED PROTEIN USAGE

at C&U and K-12
**OBJECTIVES**

✓ Measure awareness and penetration of blended protein at K-12 and C&U on-site operations
✓ Understand current usage and perceptions of blended protein
✓ Gauge openness among non-users and identify whitespace opportunities
✓ Compare the appeal of blended protein with that of plant-based proteins

**METHOD**

✓ Online survey of **306 operators** from Datassential’s OPERA panel
  ✓ **155** C&U operators
  ✓ **151** K-12 operators
✓ Online survey of **9 current MCURC members**

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what we learned

1. Blended protein has considerable penetration in C&U, and it isn’t going anywhere.
   Just under half of C&Us menu blended protein today, and their outlook is positive: two-thirds expect to be using more in two years and none say purchasing will shrink. Nearly all C&Us who don’t use blended protein today are open to offering it, while most K-12s cite budgetary restrictions and lack of student interest as hindering factors.

2. Burgers are the biggest but far from the only application.
   Nearly all who menu blended protein use it in burgers, but half of them also use it in meatloaf, meatballs, and tacos. Continuing to show operators that blended protein has appeal outside the bun will be important for growing its menu penetration.

3. Blended protein users are mushroom enthusiasts.
   Compared to others, operators who menu blended protein use a broader range of fresh mushroom varieties and are much more likely to say their mushroom usage has and will continue to increase.

4. More cost-effective pre-blended options would be a game changer.
   Most C&U operators are blending at least some of the blended protein that they use, and the number one complaint mentioned is that it is labor-intensive to make. Developing infrastructure to make pre-blended protein consistently available at a cost-effective price would expand the pool of operators that are able to use it and the volume that they can use.

5. Grassroots marketing could help grow blended protein.
   Non-users say that the biggest factor that would motivate them to try blended protein is student requests. Gen Z is the country’s most flexitarian and environmentally conscious generation, so establishing a ground game in campuses around the country could help get the word out and drive requests.
blended protein basics
Once the term is defined, most operators say they are familiar with blended protein.

Nearly all C&U operators are familiar with blended protein, compared to just under two-thirds of K-12s.

Operators in the South are significantly less likely than other operators to be familiar with blended protein.
Penetration is dramatically higher at C&U operations.

Among those who have never served blended protein, interest is mild.

### BLENDED PROTEIN PENETRATION

<table>
<thead>
<tr>
<th>Currently serve</th>
<th>Used to serve</th>
<th>Have never served, but very interested</th>
<th>Have never served, but somewhat interested</th>
<th>Have never served, and NOT interested</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C&amp;U</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42%</td>
<td>6%</td>
<td>14%</td>
<td>27%</td>
<td>10%</td>
</tr>
<tr>
<td><strong>K-12</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5%</td>
<td>7%</td>
<td>8%</td>
<td>34%</td>
<td>46%</td>
</tr>
</tbody>
</table>

- Nearly half of K-12s are closed off to the idea of serving blended protein.
- More K-12s have quit using blended protein than are using it today, suggesting that today’s blended products are not meeting the needs of K-12s.

Penetration is high among the MCURC—89% of members surveyed currently serve blended protein.
Beef is commonly blended at C&Us, and is the only protein where current usage exceeds interest.

- Plant-based protein is the next most common, though it is possible that operators are confusing plant-based and blended proteins.

**C&U INTEREST & USAGE BY PROTEIN TYPE**

<table>
<thead>
<tr>
<th>Protein Type</th>
<th>Total Opportunity</th>
<th>Interested in Serving</th>
<th>Currently Serve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>54%</td>
<td>15%</td>
<td>38%</td>
</tr>
<tr>
<td>Plant-based protein</td>
<td></td>
<td>43%</td>
<td>25%</td>
</tr>
<tr>
<td>Turkey</td>
<td></td>
<td>35%</td>
<td>14%</td>
</tr>
<tr>
<td>Chicken</td>
<td></td>
<td>35%</td>
<td>19%</td>
</tr>
<tr>
<td>Pork</td>
<td></td>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>

See appendix for protein usage among current blended protein users.

B5: What kinds of protein do you blend with mushrooms in your operation today? Select all. B6: How interested are you in offering each of the following types of protein blended with mushrooms in your operation? Select one per row. (Top 2 box, 5-pt. scale) C3: What kinds of protein would you be interested in blending with mushrooms in your operation? Select all. (combined data; n=155)
Opportunity for blended protein is much more limited at K-12.

**K-12 INTEREST & USAGE BY PROTEIN TYPE**

As with C&U, beef has the largest opportunity of any protein.

- **Total opportunity**: 11%
  - Interested in serving: 7%
    - Currently serve: 5%
  - Total opportunity: 1%

### Protein Types

- **Beef**: 7%
  - Interested in serving: 6%
  - Currently serve: 1%
  - Total opportunity: 1%

- **Turkey**: 7%
  - Interested in serving: 6%
  - Currently serve: 1%
  - Total opportunity: 1%

- **Plant-based protein**: 7%
  - Interested in serving: 6%
  - Currently serve: 1%
  - Total opportunity: 1%

- **Chicken**: 6%
  - Interested in serving: 6%
  - Currently serve: 1%
  - Total opportunity: 1%

- **Pork**: 1%
  - Interested in serving: 6%
  - Currently serve: 1%
  - Total opportunity: 1%

*see appendix for protein usage among current blended protein users*

**Questions:**

B5. What kinds of protein do you blend with mushrooms in your operation today? Select all.

B6. How interested are you in offering each of the following types of protein blended with mushrooms in your operation? Select one per row. (Top 2 box, 5-pt. scale)

C3. What kinds of protein would you be interested in blending with mushrooms in your operation? Select all. (combined data; n=151)
Blended protein is mostly used to add a nutritious edge to indulgent crowd-pleasers like burgers and meatballs.

- Usage of chili, sloppy joes, or rice bowls is limited today, but the number of interested operators could double menuing for those dishes.

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### INTEREST & USAGE BY MENU APPLICATION

<table>
<thead>
<tr>
<th>Dish Type</th>
<th>Currently Serve</th>
<th>Interested in Serving</th>
<th>Total Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burger / patty</td>
<td>21%</td>
<td>9%</td>
<td>30%</td>
</tr>
<tr>
<td>Meatballs</td>
<td>12%</td>
<td>7%</td>
<td>19%</td>
</tr>
<tr>
<td>Meatloaf</td>
<td>12%</td>
<td>6%</td>
<td>18%</td>
</tr>
<tr>
<td>Taco / wrap / quesadilla / Southwest bowl</td>
<td>9%</td>
<td>7%</td>
<td>16%</td>
</tr>
<tr>
<td>Pasta topping / filling</td>
<td>8%</td>
<td>6%</td>
<td>14%</td>
</tr>
<tr>
<td>Ingredient in a casserole / skillet</td>
<td>7%</td>
<td>5%</td>
<td>12%</td>
</tr>
<tr>
<td>Ingredient in a salad / salad bar</td>
<td>7%</td>
<td>4%</td>
<td>11%</td>
</tr>
<tr>
<td>Chili</td>
<td>6%</td>
<td>5%</td>
<td>11%</td>
</tr>
<tr>
<td>Sloppy joe</td>
<td>5%</td>
<td>4%</td>
<td>9%</td>
</tr>
<tr>
<td>Ingredient in a rice bowl / noodle bowl / wrap</td>
<td>5%</td>
<td>4%</td>
<td>9%</td>
</tr>
<tr>
<td>Stuffing</td>
<td>7%</td>
<td>2%</td>
<td>8%</td>
</tr>
<tr>
<td>Ingredient in a breakfast dish</td>
<td>7%</td>
<td>1%</td>
<td>8%</td>
</tr>
</tbody>
</table>

**Note:** Data is rebased among all operators. See appendix for dish menuing among current blended protein users.
Most operators who serve blended protein offer it to students multiple times per week.
ESTIMATED VOLUME OF BLENDED BURGERS @ C&Us

4,360
C&Us in the United States*

1,828
serve blended protein
(42% of all C&Us)

1,688
serve blended burgers
(92% of blended C&Us)

892
burgers served per week on an average C&U campus

0.25
pounds of protein in a burger

40
weeks in a school year

8,920
pounds per year per C&U offering blended burgers

15,056,960
pounds of blended burgers served throughout the C&U segment in one year

B13: Approximately how many blended burgers do you serve each week? (n=51; some outliers removed)

Note: Due to low base size, projection should be considered an estimate.

*Source: NCES
B15: Approximately how many blended dishes other than burgers do you serve each week? (n=38; some outliers removed)

**Estimated Volume of Other Blended Dishes @ C&Us**

- **4,360** C&Us in the United States*
- **1,828** serve blended protein (42% of all C&Us)
- **1,603** serve other blended dishes (88% of blended C&Us)
- **880** dishes served per week on an average C&U campus
- **0.25** pounds of protein in a dish
- **40** weeks in a school year
- **8,800** pounds per year per C&U offering blended dishes

**14,106,400** pounds of blended dishes served throughout the C&U segment in one year

*Source: NCES

Note: Due to low base size, projection should be considered an estimate.
ESTIMATED TOTAL VOLUME OF BLENDED PROTEIN @ C&Us

15,056,960 lbs. of blended burgers

+ 14,106,400 lbs. of other blended dishes

= 29,163,360 lbs. of blended protein per year at C&Us

Note: Due to low base sizes, projection should be considered an estimate.
C&U: blended protein details
Blended protein is a relatively new ingredient at most C&Us and is predominantly used in dining halls. As blended protein becomes more well-known as an ingredient, experimentation in other parts of the campus could become more widespread.

**TIME SERVING BLENDED PROTEIN**

- 23% over two years
- 31% less than one year
- 46% one to two years

Only 13% MCURC members who offer blended protein have been serving it for less than one year.

**PLACES WHERE BLENDED PROTEIN IS SERVED**

- Dining halls: 91% (n=58)
- Retail: 46%
- Athletic training table: 41%
- Catering: 37%
- Stadiums: 14%

*due to low base size, data should be considered directional*
Few C&U operators hide the fact that protein has been blended with mushrooms.

89. When serving protein blended with mushrooms, do you mention / promote to students that the protein has been blended with mushrooms? Select one. (n=65)

- **Always**: 65%
- **Sometimes**: 31%
- **No**: 5%

*among C&U operators who serve blended protein*
In-house blending is slightly more prevalent than purchasing pre-blended protein at C&Us.

Some who purchase pre-blended protein also blend in-house, signaling that student demand may be exceeding ordering.

**PURCHASING PRE-BLENDED VS. BLENDING IN-HOUSE**

- 75% of MCURC users blend at least one type of protein in-house.

<table>
<thead>
<tr>
<th>Protein</th>
<th>Blend in-house</th>
<th>Purchase pre-blended</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>18%</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>Plant-based protein</td>
<td>17%</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td>Chicken</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pork</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Though broadliners are the most common source for blended protein, around half purchase it elsewhere.

- Pre-formed burger patties are the most commonly purchased products, but the majority of C&U operators also buy bulk blended protein.

**PRIMARY PRE-BLENDED MUSHROOM SOURCE**

among C&U operators who purchase pre-blended protein

25% of C&U operators purchase pre-blended protein

- Broadline distributors: 53%
- Direct from meat suppliers: 13%
- Specialty distributors: 8%
- Cash & carry: 8%
- Club stores: 8%
- USDA Foods Programs: 5%
- Online stores: 3%
- DOD Farm to School: 3%

**WHAT DO YOU BUY?**

- Buy pre-formed patties: 76%
- Buy bulk blended protein: 58%

811: What is your primary source for purchasing pre-blended protein/mushroom product? Select one. 816: What kind(s) of pre-blended protein/mushroom products do you use in your operation? Select one. (n=38)
Most C&U operators use multiple types of mushrooms to blend protein in-house; nearly all roast them first.

- Few operators who blend in-house purchase pre-diced or pre-roasted mushrooms.

**IN-HOUSE BLENDED PROTEIN DETAILS**

What kinds of mushrooms do you use?

- **Fresh**: 92%
- **Canned**: 68%
- **Frozen**: 43%
- **Pre-diced**: 35%

**DO YOU ROAST MUSHROOMS?**

- Yes, roasted in-house: 73%
- Yes, purchased pre-roasted: 20%
- No: 6%

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B17. [Among those who purchase each type of mushroom] What kind(s) of mushroom products do you use for the protein blended with mushrooms that you serve in your operation? Select all. (n=varies) B18. Are the mushrooms roasted / sautéed before being blended with meat? Select one. (n=49)
Two thirds of C&U operators use 20% or 25% mushrooms in their protein blends.

**BLEND RATIO USED**

*among C&U operators who serve blended protein*

- 20% mushrooms, 80% protein: 23%
- 25% mushrooms, 75% protein: 43%
- 30% mushrooms, 70% protein: 20%
- >30% mushrooms: 12%
- Not sure: 2%

819. What is the approximate ratio of protein to mushrooms in your blended offerings? Select one. (n=65)
C&U: blended protein attitudes
The forecast for blended protein at C&Us is overwhelmingly positive.

BLENDED PROTEIN USAGE OVER TIME

among C&U operators who serve blended protein

**CHANGE OVER PAST TWO YEARS**
- 52% using more
- 31% using same amount
- 3% using less
- 14% started using for the first time

**CHANGE OVER NEXT TWO YEARS**
- 65% will use more
- 35% will use same amount
- 0% will use less

C&U operators do not plan to decrease the amount of blended protein served over the next two years.
Blended protein's nutritional profile and taste is driving increased usage.

73% will use more blended protein over the next two years

REASONS FOR INCREASING BLENDED PROTEIN USAGE

among C&U operators who serve blended protein

Why will usage increase?

- Blended protein helps me offer healthier options: 50%
- Students like / request items made with blended protein: 43%
- Expect to find new menu applications for blended protein: 43%
- Increased enrollment / larger student body: 40%
- Better blended protein products on the market: 40%
- Blended protein helps mitigate rising meat prices: 31%
- Expect lower prices for mushrooms: 12%
- Other: 2%

B23: How do you expect your usage of protein blended with mushrooms to change over the NEXT TWO YEARS? Select one. (n=65) B24: Why do you think your usage of protein blended with mushrooms will INCREASE over the next two years? Select all. (n=42)
Most offer blended protein because mushrooms augment beef’s nutritional profile while cutting fat and calories. Meeting the needs of flexitarian students is also important; C&U operators are most likely to rank it as their top reason for serving blended protein.

### Reasons for Offering Blended Protein

**Among C&U operators who serve blended protein**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Ranked #1</th>
<th>Ranked #2</th>
<th>Ranked #3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added nutritional benefits of mushrooms</td>
<td>14%</td>
<td>20%</td>
<td>25%</td>
<td>58%</td>
</tr>
<tr>
<td>Reducing calories/fat/sodium/cholesterol compared to meat</td>
<td>18%</td>
<td>22%</td>
<td>11%</td>
<td>51%</td>
</tr>
<tr>
<td>Meets the needs of students who are reducing their meat consumption</td>
<td>20%</td>
<td>9%</td>
<td>14%</td>
<td>43%</td>
</tr>
<tr>
<td>Blended protein stays juicier for longer</td>
<td>14%</td>
<td>15%</td>
<td>11%</td>
<td>40%</td>
</tr>
<tr>
<td>Blended protein is more flavorful</td>
<td>18%</td>
<td>11%</td>
<td>3%</td>
<td>32%</td>
</tr>
<tr>
<td>Blended protein is more sustainable</td>
<td>6%</td>
<td>9%</td>
<td>15%</td>
<td>31%</td>
</tr>
<tr>
<td>Blended protein is a better value</td>
<td>8%</td>
<td>6%</td>
<td>12%</td>
<td>26%</td>
</tr>
<tr>
<td>Blended protein sells better than regular meat</td>
<td>2%</td>
<td>6%</td>
<td>8%</td>
<td>15%</td>
</tr>
</tbody>
</table>

820: What are the most important reasons why you offer protein blended with mushrooms in your operation? Please rank the top three most important reasons. (n=65)

Sustainability is the top motivator for MCURC users—75% ranked it among their top three reasons for offering blended protein.
Blended protein challenges center around logistics like labor and cost.

### BLENDED PROTEIN CHALLENGES

among C&U operators who serve blended protein

- Labor-intensive to make: 39%
- Training staff is too time-consuming: 31%
- Expensive: 28%
- Difficult to consistently source: 25%
- Doesn’t sell as well as regular meat: 22%
- Difficult to work with: 20%
- Doesn’t taste as good as regular meat: 8%
- Other: 3%
- No challenges at this time: 26%

A quarter of C&U operators have no challenges related to blended protein.
Operators are getting information on blended protein from publications, peers, food/trade shows, and the internet.

The Mushroom Council is not a significant source of information at this time, although five out of eight MCURC members have used it as a resource to learn about blended protein.

**SOURCES OF INFORMATION ABOUT BLENDED PROTEIN**

*among C&U operators who serve blended protein*

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foodservice industry publication/magazine/newsletter</td>
<td>46%</td>
</tr>
<tr>
<td>Industry peers / co-workers</td>
<td>37%</td>
</tr>
<tr>
<td>Distributor food shows</td>
<td>35%</td>
</tr>
<tr>
<td>Consumer food publications</td>
<td>34%</td>
</tr>
<tr>
<td>Internet (general search; Google, etc.)</td>
<td>32%</td>
</tr>
<tr>
<td>Industry trade shows</td>
<td>31%</td>
</tr>
<tr>
<td>Websites (distributor, brand, manufacturer, etc.)</td>
<td>29%</td>
</tr>
<tr>
<td>Seeing things at other restaurants/foodservice establishments</td>
<td>28%</td>
</tr>
<tr>
<td>Social media</td>
<td>23%</td>
</tr>
<tr>
<td>Customers / students</td>
<td>20%</td>
</tr>
<tr>
<td>Mushroom Council</td>
<td>20%</td>
</tr>
<tr>
<td>Mushroom company sales representative</td>
<td>14%</td>
</tr>
<tr>
<td>Meat company sales representative</td>
<td>11%</td>
</tr>
<tr>
<td>Distributor sales rep</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

Sales reps fall to the bottom as sources of blended protein information.
Non-users see no reason to switch out their current products and are doubtful that students will like blended protein.

**REASONS FOR NOT SERVING BLENDED PROTEIN**

among C&U operators who have never served blended protein

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied with meat we serve today</td>
<td>38%</td>
</tr>
<tr>
<td>Students wouldn't want to eat it</td>
<td>25%</td>
</tr>
<tr>
<td>Don’t know how to use it</td>
<td>19%</td>
</tr>
<tr>
<td>Don’t want to add another product to our inventory</td>
<td>15%</td>
</tr>
<tr>
<td>Not able to get blended products approved for our budget</td>
<td>10%</td>
</tr>
<tr>
<td>Blended products too expensive</td>
<td>8%</td>
</tr>
<tr>
<td>Blended products don’t taste as good as meat</td>
<td>8%</td>
</tr>
<tr>
<td>Other</td>
<td>23%</td>
</tr>
</tbody>
</table>

open-end responses include...

- Not available from distributor.
- Feels like I’m using a “filler” and students may think we are trying to “slip one past them.”
- Hasn’t been a demand, forget it’s an option.
- Prefer to offer mushrooms on side to appeal to more diners.
- I see no benefits to this over regular meat.

C5: Why doesn’t your operation serve protein blended with mushrooms today? Select all. (n=80)
Student demand would be the greatest motivator for non-users by a large margin.

MOTIVATIONS TO SERVE BLENDED PROTEIN

among C&U operators who have never served blended protein

- 74% Demand from students
- 43% Lower cost than protein by itself
- 35% If it was readily available from my primary distributor
- 34% Recipe ideas
- 24% More information on flavor
- 21% More information on nutrition
- 18% More information on sustainability
- 3% Other
- 5% None of these

Only 4 C&U operators claim nothing would motivate them to serve blended protein.

“...The fact that so few operators would be moved by additional information on flavor, nutrition, or sustainability could point to the success of past marketing efforts for blended protein...”

C8. What, if anything, would motivate you to try protein blended with mushrooms in your operation? Select all. (n=80)
blended protein at K-12
INTRO TO BLENDED PROTEIN AT K-12

Since only 8 out of the 151 K-12 operators surveyed for this study offer blended protein in their operation, using percentages to report on their blended protein behavior could be misleading. As such, the next few slides will explore the K-12 experience with blended protein using a more qualitative approach.
BLENDED PROTEIN BASICS

• Of the handful of K-12 operators who use blended protein, nearly all have been using it for at least a year. Only one started using blended protein in the last 12 months.
• Nearly all blend beef and mushrooms; a handful also blend turkey or plant-based protein.
  • There is limited interest in blending turkey or chicken among those who do not blend those proteins today.
• Most serve blended burgers, but a handful also offer tacos, meatballs, and meatloaf.
• Operators are split on how often they serve blended protein – a handful serve blended protein every day, but most serve it once a week or less often.
• K-12 operators have varying approaches to labeling blended protein: some always label, some label sometimes, some don’t label.
• Most have learned about blended protein products and recipes from food shows or foodservice industry publications.
BLENDED PROTEIN SOURCING

• Half buy pre-blended protein, half blend in-house. Unlike C&U operators, none of the K-12 operators who use blended protein supplement pre-blended protein with in-house blends.
• A variety of blend ratios are used: half use an 80/20 ratio, some use at least 30% mushrooms, and others aren’t sure.
• All K-12s who purchase pre-blended protein buy pre-formed patties.
  • One operator who buys pre-blended purchases from USDA programs; others source from broadliners.
• All four of the operators who blend in-house use both fresh and canned mushrooms – it is unclear if they are used together or in separate batches.
  • Three roast the mushrooms for blended protein in-house, one does not roast them.
• As with C&U operators, mushrooms’ nutritional profile and blended protein’s ability to cater to a growing flexitarian population are the key drivers for usage.
  • Few find sustainability, hold time, or value important.
  • Most don’t mention having any challenges with blended protein.

• Most K-12 operators have not seen their blended protein usage grow in the past two years, and three-quarters do not see it changing in the next two years.
  • The handful that expect to purchase more blended protein in the coming years agree that finding additional uses for blended protein and a need to create healthier dishes will drive growth.
mushrooms today
Mushrooms are much more common in kitchens at C&Us than K-12s.

- Fresh mushrooms are most common in both types of educational institutions.
- Nearly half of C&U operators purchase prepared items made with mushrooms, like pizzas.

**MUSHROOM PRODUCTS PURCHASED TODAY**

- **Fresh mushrooms:**
  - **C&U:** 89%
  - **K-12:** 27%

- **Prepared items w/ mushrooms:**
  - **C&U:** 48%
  - **K-12:** 15%

- **Canned mushrooms:**
  - **C&U:** 42%
  - **K-12:** 11%

- **Frozen mushrooms:**
  - **C&U:** 11%
  - **K-12:** 4%

- **None:**
  - **C&U:** 1%
  - **K-12:** 59%

100% of surveyed MCURC members purchase fresh mushrooms; few purchase other formats.
White buttons are most prevalent, but portobellos are a close second at C&Us.

- Half of C&U operators purchase at least one type of specialty mushroom like shiitake, oyster, or trumpet; those mushrooms are very rare among K-12s.

**FRESH MUSHROOM VARIETIES PURCHASED TODAY**

Who offers fresh mushrooms?

- 89% of C&Us
- 27% of K-12s

**What do they purchase?**

<table>
<thead>
<tr>
<th>Mushroom Type</th>
<th>C&amp;U</th>
<th>K-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>White button</td>
<td>86%</td>
<td>85%</td>
</tr>
<tr>
<td>Portabella</td>
<td>78%</td>
<td></td>
</tr>
<tr>
<td>Shiitake</td>
<td>45%</td>
<td>10%</td>
</tr>
<tr>
<td>Crimini</td>
<td>45%</td>
<td>15%</td>
</tr>
<tr>
<td>Oyster</td>
<td>21%</td>
<td>2%</td>
</tr>
<tr>
<td>Trumpet</td>
<td>11%</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

A2: What kinds of fresh mushrooms do you purchase for your operation today? Select all. (n=138 | 41)
Broadliners are the biggest source for mushroom products, but many depend on specialty distributors.

**A3: What is your primary source for purchasing mushroom products today? Select one. (n=154 | 62)**

- **Broadline distributors**: 63%
- **Specialty distributors**: 38%
- **Club stores**: 29%
- **Online stores**: 7%
- **Cash & carry**: 3%
- **Other**: 5%

**PRIMARY MUSHROOM SOURCE among operators who purchase mushrooms**

- **C&U**: 47%
- **K-12**: 29%
C&U operators have a much more optimistic outlook on mushrooms than K-12 operators.

<table>
<thead>
<tr>
<th>Change in LAST two years</th>
<th>Change in NEXT two years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C&amp;U</strong></td>
<td><strong>K-12</strong></td>
</tr>
<tr>
<td>38% purchasing increased/ will increase</td>
<td>65% purchasing decreased/ will decrease</td>
</tr>
<tr>
<td>56% purchasing stay the same</td>
<td>16% purchasing stay the same</td>
</tr>
<tr>
<td>5% purchasing decreased/ will decrease</td>
<td>10% purchasing stay the same</td>
</tr>
</tbody>
</table>

Two thirds of MCURC members expect mushroom purchasing to increase; none expect it to decrease.
Flexitarianism among students is as important as mushrooms’ nutritional profile in driving growth.

Decreasing meat consumption, not eliminating it altogether, appears to be the driver of mushroom growth.

Who thinks purchasing will increase?

- 38% of C&Us (n=154)
- 18% of K-12s (n=62)

**REASONS FOR INCREASED MUSHROOM PURCHASING**

- Mushrooms help me offer healthier options: 60%
- Students are trying to eat less meat: 57%
- Increased enrollment / larger student body: 50%
- Students like / request items with mushrooms: 46%
- Expect to find new menu mushroom applications: 44%
- Mushrooms help me accommodate dietary restrictions: 33%
- Expect lower prices for mushrooms: 7%

Requests for mushrooms are limited to C&Us.
plant-based protein
Basic burgers or tofu are available at most C&Us; few K-12s offer any plant-based protein at all.

C&Us with at least 10,000 students are more likely than smaller schools to offer a broad range of plant-based proteins.

All surveyed MCURC members use plant-based protein in their operation.

D1: Which of the following plant-based proteins, if any, do you serve in your operation today? Select all. (n=155 | 151)

<table>
<thead>
<tr>
<th>Plant-based Protein</th>
<th>C&amp;U</th>
<th>K-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant-based burger</td>
<td>77%</td>
<td>70%</td>
</tr>
<tr>
<td>Tofu</td>
<td>22%</td>
<td>8%</td>
</tr>
<tr>
<td>Meat alternative burger</td>
<td>28%</td>
<td>6%</td>
</tr>
<tr>
<td>Plant-based sausage</td>
<td>29%</td>
<td>2%</td>
</tr>
<tr>
<td>Plant-based sandwich patty</td>
<td>26%</td>
<td>5%</td>
</tr>
<tr>
<td>Plant-based nuggets / tenders</td>
<td>25%</td>
<td>3%</td>
</tr>
<tr>
<td>Plant-based crumbles</td>
<td>21%</td>
<td>5%</td>
</tr>
<tr>
<td>Tempeh</td>
<td>23%</td>
<td>1%</td>
</tr>
<tr>
<td>Ground plant-based protein</td>
<td>19%</td>
<td>3%</td>
</tr>
<tr>
<td>Seitan</td>
<td>19%</td>
<td>2%</td>
</tr>
<tr>
<td>Plant-based meatballs</td>
<td>16%</td>
<td>4%</td>
</tr>
<tr>
<td>Plant-based bacon</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>None of these</td>
<td>72%</td>
<td>4%</td>
</tr>
</tbody>
</table>
To accommodate students who avoid meat
To add more variety to the menu
Nutrition (vs. meat)
Sustainability (vs. meat)
Animal welfare
Better value than meat
Long shelf life (vs. meat)

Accommodating students is the primary reason for offering plant-based protein.

The priority of reasons is generally the same across segments; however, K-12 operators are unlikely to be motivated by animal welfare.

For MCURC members, sustainability is tied with accommodating students as a top reason.

D3: What are the most important reasons why you offer plant-based protein in your operation? Please rank the top three most important reasons why you offer plant-based protein. (n=149 | 42)
For most education operators, blended and plant-based protein play completely different roles.

D2: You mentioned that you serve both plant-based burgers and blended protein. How do your uses of these two products differ in your operation? Free text. (n=57)

**DIFFERENCE IN USE OF BLENDED AND PLANT-BASED PROTEIN: UNAIDED**

among those who serve both blended protein and plant-based / meat alternative burgers

<table>
<thead>
<tr>
<th>Plant-based is a meatless option for vegetarians / vegans</th>
<th>35%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different formats / menu applications</td>
<td>16%</td>
</tr>
<tr>
<td>Different times offered</td>
<td>9%</td>
</tr>
<tr>
<td>Different venues / locations served</td>
<td>7%</td>
</tr>
<tr>
<td>Different prep methods</td>
<td>5%</td>
</tr>
<tr>
<td>Different flavor profiles</td>
<td>2%</td>
</tr>
<tr>
<td>Used in the same way</td>
<td>12%</td>
</tr>
</tbody>
</table>

The plant-based burgers are for full-time vegetarians and vegans. The blended burger is for the customer who is looking to have the **beef burger with less fat and calories**. –C&U

We offer these two different products on **different days of the week** to ensure that our menu has enough variety. –C&U

We serve the blended protein in our **taco meat and sloppy joes**. We use plant-based patty for a vegetarian option. –K-12

We serve the blended protein in our **taco meat and sloppy joes**. We use plant-based patty for a vegetarian option. –K-12

Plant-based burgers are served at a vegan/vegetarian section. Blended burgers are served at the **burger bar**. –C&U

Plant-based burgers are typically offered during lunch time, while blended protein makes up more of the **dinner menu**. –C&U

Plant-based burgers are always available upon request as a quick option. Blended protein is more of an **occasionally offered item**. –C&U

It is just **important to carry alternatives**. –C&U

It is just **important to carry alternatives**. –C&U

It is just **important to carry alternatives**. –C&U

• Blended is seen as a healthier beef alternative to be used anywhere beef is used, while plant-based protein is served separately in vegan or vegetarian areas.
There is work to be done in convincing operators that blended protein is a good fit for their operation.

**OPERATIONAL FIT OF BURGER TYPES**

among those who offer plant-based protein | operational fit rated on scale from 1–5

<table>
<thead>
<tr>
<th>C&amp;U</th>
<th>K-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>traditional beef burger</td>
<td>traditional beef burger</td>
</tr>
<tr>
<td>4.3</td>
<td>4.5</td>
</tr>
<tr>
<td>plant-based burger</td>
<td>plant-based burger</td>
</tr>
<tr>
<td>3.1</td>
<td>3.3</td>
</tr>
<tr>
<td>turkey burger</td>
<td>turkey burger</td>
</tr>
<tr>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>meat alternative burger</td>
<td>meat alternative burger</td>
</tr>
<tr>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>blended protein / mushroom burger</td>
<td>blended protein / mushroom burger</td>
</tr>
<tr>
<td>2.4</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Fit Score = (% ranked most fitting x 5) + (% ranked second most fitting x 4) + (% ranked third most fitting x 3) + (% ranked fourth most fitting x 2) + (% ranked least fitting x 1)

« MCURC members are more alert to the benefits of blended protein; among this group, blended burgers score second best after traditional beef burgers.
« For blended protein users, blended burgers score third, following traditional beef and plant-based burgers.
appendix
Educational operators do not automatically associate “blended burger” with mushrooms.

**UNAIDED IMPRESSIONS OF “BLEND BURGER”**

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat mixed with plant-based items</td>
<td>37%</td>
</tr>
<tr>
<td>Multiple types of meat</td>
<td>21%</td>
</tr>
<tr>
<td>Mixed with something (not specific)</td>
<td>15%</td>
</tr>
<tr>
<td>Veggie burger (no meat)</td>
<td>11%</td>
</tr>
<tr>
<td>Seasonings added</td>
<td>6%</td>
</tr>
<tr>
<td>Smoothie / puree</td>
<td>3%</td>
</tr>
<tr>
<td>Cheese added</td>
<td>2%</td>
</tr>
<tr>
<td>Processed product</td>
<td>1%</td>
</tr>
</tbody>
</table>

I am confused by the term. Is it a blend of different beef cuts? Is it a beef burger with soy protein in it? Is it a beef burger with mushrooms? I wouldn’t even be surprised if it was none of the above. –C&U

I am not familiar with the term “blended burger” but it makes me think of a patty comprised of a mixture of animal and plant proteins. –C&U

I think of a meatless burger with soy and vegetables and a binder. –K-12

Burgers that are mixed with chopped mushrooms. They are healthier and better for sustainability. –C&U

Mushroom and beef combine to make a burger. Other companies use chicken, cranberries, herbs as a blended burger. It’s a way to cut the protein, fat and calories. –C&U

I think of a mixed meat burger. Possibly has turkey, chicken, pork, and beef in it. I’ve had one before and didn’t like it. –C&U

I think of hamburger meat blended with spices and other enhancers to give the beef a certain flavor and texture. –C&U

Some are confused about the meaning of the term, and many seem to just be guessing at what it might mean.
Among C&U operators who serve blended protein, usage of beef is almost universal. 

**C&U USERS: INTEREST & USAGE BY PROTEIN TYPE**

- **Beef**: 91% currently serve, 8% interested in serving (98% total opportunity)
- **Plant-based protein**: 42% currently serve, 37% interested in serving (78% total opportunity)
- **Turkey**: 32% currently serve, 35% interested in serving (68% total opportunity)
- **Chicken**: 37% currently serve, 29% interested in serving (66% total opportunity)
- **Pork**: 26% currently serve, 31% interested in serving (57% total opportunity)

**42%**

Of C&U operators serve blended protein

---

B5: What kinds of protein do you blend with mushrooms in your operation today? Select all. B6: How interested are you in offering each of the following types of protein blended with mushrooms in your operation? Select one per row.

(2 box, 5-pt. scale) (combined data; n=65)

- Beef: 91% currently serve, 8% interested in serving (98% total opportunity)
- Plant-based protein: 42% currently serve, 37% interested in serving (78% total opportunity)
- Turkey: 32% currently serve, 35% interested in serving (68% total opportunity)
- Chicken: 37% currently serve, 29% interested in serving (66% total opportunity)
- Pork: 26% currently serve, 31% interested in serving (57% total opportunity)

Many C&U operators who don’t currently blend other proteins would be willing to do so.
Beef is also the most popular protein for the small number of K-12 operators who blend with mushrooms.

**K-12 USERS: INTEREST & USAGE BY PROTEIN TYPE**

- **Beef**: 88% currently serve, 88% interested, 88% total opportunity.
- **Turkey**: 25% currently serve, 25% interested, 50% total opportunity.
- **Plant-based protein**: 25% currently serve, 25% interested, 25% total opportunity.
- **Chicken**: 25% currently serve, 25% interested, 25% total opportunity.

*due to low base size, data should be considered directional*
Burgers are the clear leader for blended protein applications.

24% of operators in education serve blended protein currently.

**BLENDED PROTEIN USERS: USAGE BY MENU APPLICATION**

- **Burger / patty**: 88%
- **Meatballs**: 51%
- **Meatloaf**: 51%
- **Taco / wrap / quesadilla / Southwest bowl**: 40%
- **Pasta topping / filling**: 36%
- **Ingredient in a casserole / skillet**: 30%
- **Ingredient in a salad / salad bar**: 30%
- **Ingredient in a breakfast dish**: 29%
- **Stuffing**: 27%
- **Chili**: 23%
- **Sloppy joe**: 22%
- **Ingredient in a rice bowl / noodle bowl / wrap**: 22%

87. How do you use protein blended with mushrooms in your operation today? Select all. (n=73)
CURRENT BLEND USERS

- **ROLE**
  - f&b manager: 33%
  - general manager: 23%
  - chef: 11%
  - manager: 10%
  - kitchen manager: 10%
  - operator: 3%
  - sous chef: 3%
  - dietician / nutritionist: 1%
  - other: 7%

- **YEARS IN FOODSERVICE**
  - < 5: 10%
  - 5 to 10: 33%
  - 11 to 20: 25%
  - more than 20: 33%

- **REGION**
  - WEST: 23%
  - SOUTH: 29%
  - MIDWEST: 19%
  - EAST: 29%
  - urban: 42%
  - suburban: 40%
  - rural: 18%

- **SUPPLIER**
  - Sysco: 38%
  - US Foods: 16%
  - FSA: 10%
  - Club stores: 10%
  - PFG: 5%
  - GFS: 4%
  - Cash and Carry: 4%
  - Ben E. Keith: 3%
  - Maines: 1%
  - Reinhart: 1%
  - Shamrock: 1%
  - Other: 5%

- **CONTRACT-MANAGED**
  - 52%

- **PART OF A GPO**
  - 45%

- **SCRATCH PREP**
  - 68%

- **SEGMENT**
  - 65 C&U operators
  - 8 K-12 operators