

Grassfed and Blended:

A progressive culinary effort to bring regenerative and humane, plant-forward dining to college and university foodservice.



College Foodservice Matters a Lot

College foodservice plays an outsized role in creating change in the restaurant industry and delivering benefits to our food system. Every day, college dining halls work to serve, shape, and meet the taste of students in almost every community. Taken as a whole, college foodservice represents just under 10% of the entire U.S. restaurant industry.

College foodservice also is the place where the most important innovations often happen in the restaurant industry. In serving students every day,

Harvest Table Culinary Group and other college foodservice operators constantly seek out new and innovative ways to offer food that is good tasting and also reflects the values and expectations of tomorrow's leaders. That includes widespread concerns about how food choices affect our environment and animal welfare as well as our health.

Over the past decade, that focus has turned towards protein, with the growing recognition that animal proteins have a larger impact on the planet

than most plant-based choices. The choices we make about what types of protein to eat, and in what amounts, have an outsized impact on our planet compared to most other food choices.

Conventional livestock production also is the largest user of antibiotics in the U.S., with the sector using more antibiotics to produce meat, poultry, eggs, and dairy than are used to treat people. And, more farmland is dedicated to producing animal feed, mainly corn and soy, than is used to grow food for people.



Plant Forward

Serving smaller portions of much better

The plant-forward culinary strategy—developed over a decade ago in the foodservice industry—has guided college and university foodservice operators to reduce the amount of red meat, and the carbon and water footprint, of the meals they serve.

Plant-forward is a culinary strategy that shifts the portions of animal- and plant-based foods in a meal or on the menu, keeping meat on the menu while serving

up smaller amounts of much better meat such as pastured and grassfed meat, poultry and eggs.

While foodservice operations have emphasized serving less meat, few have successfully realized the benefits from offering pastured and grass-fed meats, citing concerns about cost and the culinary skill needed to cook grassfed meats.





In 2019, the Harvest Table Culinary Group and Changing Tastes decided to take on this challenge for the foodservice industry.

Harvest Table worked to develop new and delicious ways to use plant forward culinary approaches while keeping better meat on the menu, and replacing all conventionally produced beef with locally raised, grassfed beef.

Harvest Table's decision to take on this challenge for the foodservice industry along with Changing Tastes grew out of the values of its culinary leaders who are dedicated to turning fresh, local, and sustainably-sourced ingredients into authentic food experiences.

Harvest Table's creative team of culinary experts is dedicated to food literacy and flavor discovery through a shared commitment to cultivating strong communities and connecting to local culture.

Harvest Table and Changing Tastes piloted this approach in the 2019 Winter and Spring semesters at several of its east coast college dining locations, including Wake Forest, Georgetown, Elon, High Point Universities and the University of Rochester, a diverse set of campuses and students and where hamburgers are menu mainstays.

The results were exceptional and provide a new model that other college and university foodservice operations can adopt.

Harvest Table was able to entirely switch over its beef purchases to locally raised, grass-fed meat without any impact to its operations, including managing costs through recipe innovations.

Most students across all campuses considered the change to smaller portions of grass-fed meat to be either the same or better as prior approaches and continued to eat meat just as often.

The switch also aligned with their values and concerns about food choices.

The use of grass-fed meat also delivered substantially better benefits to the local food system, animal welfare and the environment.

Taking a closer look at how Harvest Table and Changing Tastes made the plant-forward change to grass-fed meats and how the change affected the student diners, operations, the environment, and the local food system can provide valuable advice for making the same change to your program.

It also can remove any concerns about risk, since Harvest Table has shown it can successfully make this important change in some of the nation's largest and most visible college dining programs.

Taking on the Grassfed Challenge

Switching from commodity, feedlot to locally raised grassfed beef delivers a host of environmental and health benefits, especially as a part of a plant-forward culinary program. Beef also makes up a significant share of food purchases, with hamburgers a perennial favorite on campuses, and the switch can deliver a substantial boost to local food systems, a next step after local sourcing for produce.

Students also put a priority on better raised meats, with well over half of all students considering animal welfare and the avoidance of antibiotics in livestock production to be important, on par with other top environmental concerns.

But culinary and operational challenges have stood in the way of tackling the beef challenge.

Grassfed cattle gain weight more slowly than feedlot beef. That's because the cattle eat grass, their traditional food, and also spend more of their time grazing in pastures and walking around. In doing so, they help restore soil health and biodiversity, and in well managed pastures even sequester carbon dioxide.

And, just like people who eat healthier diets and exercise more, then gain less weight. So, growers have to care for them for a longer time and their meat can cost more.

With a different and healthier diet, grassfed beef also is leaner and contains different fats. This includes more omega-3 fatty acids that reduce inflammation and are also found in fish and seafood, and fewer omega-6 fatty acids which are

also found in corn and soy oil and can cause inflammation.

This also means the meat tastes and cooks differently, requiring new recipes and culinary skills. Without those, the results may not taste as good. In some instances, faced with leaner grassfed meat, operations have even taken to adding more beef fat back into their grassfed ground meat.

So, Harvest Table and Changing Tastes designed a pilot to take on these challenges – head on – and show that larger operations can successfully make the switch entirely off of feedlot and onto grassfed beef.

Here's what we did and what we found.

Grassfed Beef

13.86 kg of CO₂e per lb.

Pastured regenerative beef can even be carbon negative

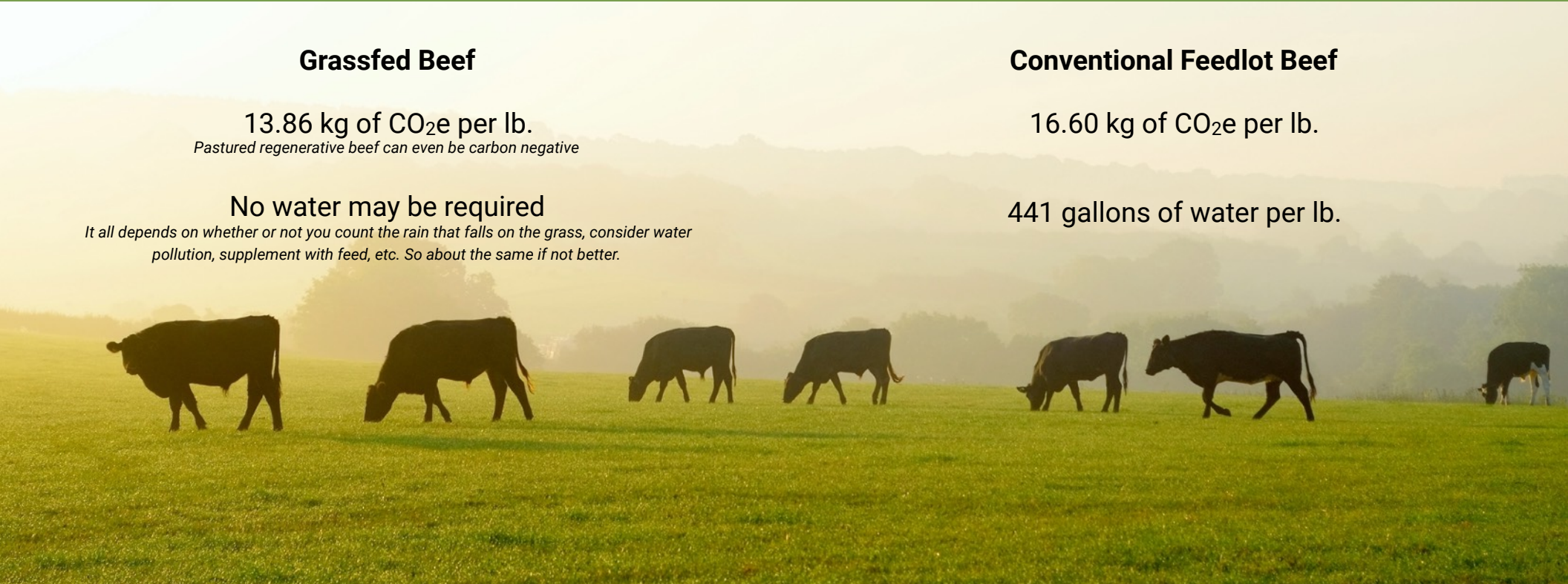
No water may be required

It all depends on whether or not you count the rain that falls on the grass, consider water pollution, supplement with feed, etc. So about the same if not better.

Conventional Feedlot Beef

16.60 kg of CO₂e per lb.

441 gallons of water per lb.



HARVEST TABLE

CULINARY GROUP

Harvest Table and Changing Tastes set out to prove that it's possible to successfully switch large college foodservice operations entirely off of conventional beef and onto local, grassfed.

To show that large college and university foodservice operations can make the switch, Harvest Table and Changing Tastes identified and worked across five large college campuses in North Carolina and New York.

In each location, we identified local suppliers of grassfed meat who could provide fresh ground beef in sufficient volumes on a consistent basis both for the pilot and going forward if we succeeded.

We also reworked menus and recipes to accommodate grassfed meat while slightly reducing portions. The culinary teams from each campus developed specific recipes and techniques during a March 2019 workshop.

This included using the increasingly popular "blend" strategy to replace conventional hamburgers with a new burger made with 70% grassfed ground beef and 30% mushrooms. Harvest Table also recruited a student tasting panel to help during the workshop to select the final recipe.

With the high volume of hamburgers Harvest Table planned to serve, the culinary team created a sub-recipe for processing

mushrooms and then roasting them while cooking other dishes, moving away from more labor intensive sautéing.

Also, rather than buying frozen burgers or forming patties in advance, the Harvest Table culinary team developed a set of "scoop and smash" burger recipes that are formed and cooked to order from a larger batch of roasted mushrooms and grassfed prepped each day.

Between April and May 2019, the campuses completely switched over to grassfed beef and cooked to order blended burgers.

Harvest Table and Changing Tastes set out to prove that it's possible to successfully switch large college foodservice operations entirely off of conventional beef and onto local, grassfed beef by using novel culinary strategies paired with a commitment to only sourcing from local producers committed to more sustainable practices.



The Results:

Student attitudes and receptivity to the grassfed blended burgers — and being served less beef overall — were very positive.



After just the first few days of the pilot, we found that student diners thought:

- **It's the Same or Better (which isn't bad).** While awareness and trial of the new Blended Burger is relatively new, most student diners have either neutral or favorable views toward the new burger. In order for the Blended Burger to be successful it will be important to continue to build awareness and trial.
- **If you try it, you'll like it!** Student who did not consume the new burger are more likely to have neutral opinions while, those who did consume it are more likely to report favorable views of the Blended Burger and are more likely to order it in the future, suggesting those that try the Blended Burger enjoy it.
- **It's sufficiently yummy.** Additionally, those who have consumed the Blended Burger were more positive about taste, quality, appearance, and preparation.
- **Actually, quite yummy.** More than half of students who tried the blended burger prefer it to the prior all-beef burger offered.
- **Biggest turn offs** – Vegans and vegetarians still don't want to eat meat but the grassfed blended burger was more effective at reducing the amount of meat students ate than offering vegetarian burgers.
- **Eating our Values.** Those who have tried the Blended Burger are more likely to be incorporating local, organic, and sustainable diets. The majority of consumers indicate that sustainability is important to them, suggesting the Blended Burger could be a good fit.

The results:

Burgers are Popular among College Students (who knew?!)

During the first few weeks of the pilot, student diners ate about the same number of burgers as before.

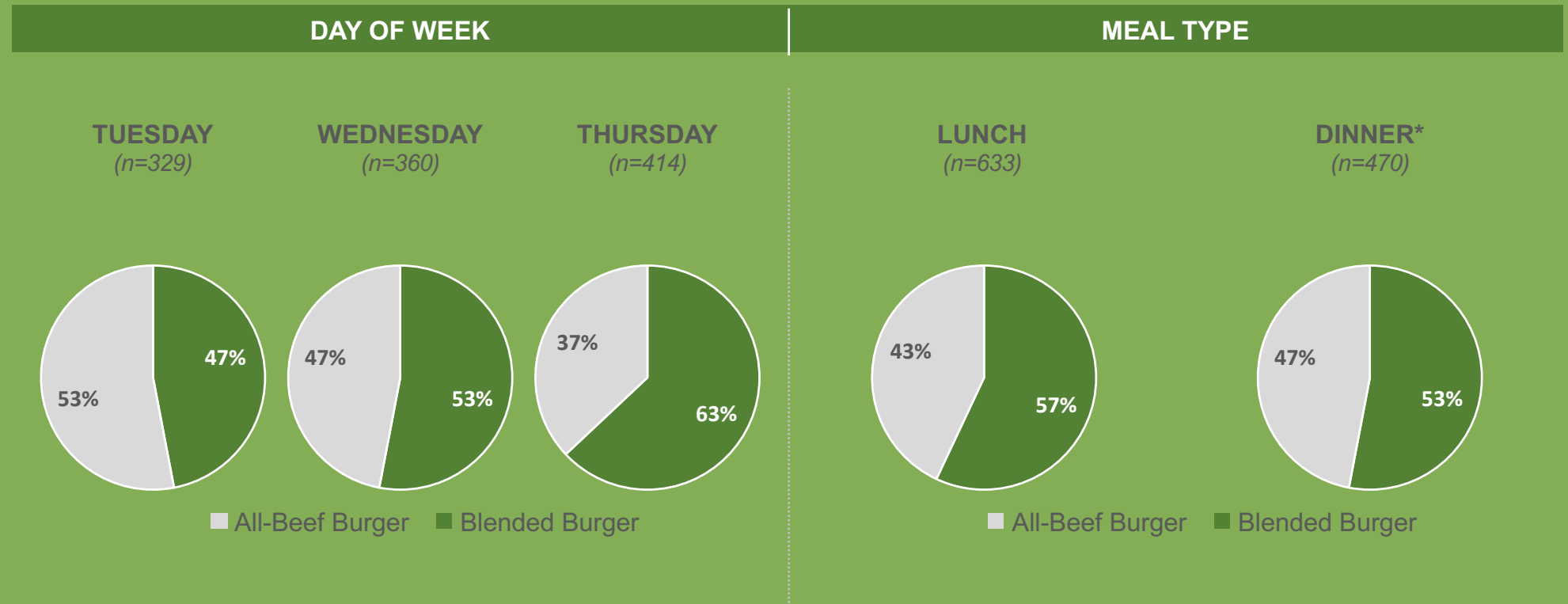
They ate slightly more burgers, by 4%, over the first few weeks after switching to grass-fed beef. But the students across all five

campuses reduced their beef consumption by about 30%.

One thing that we didn't necessarily expect when serving a burger with less meat and more was that it was also substantially more popular with students than any of the plant-

based burgers that had been offered over the prior year, including the Beyond Meat™ burger and a host of other veggie burgers.

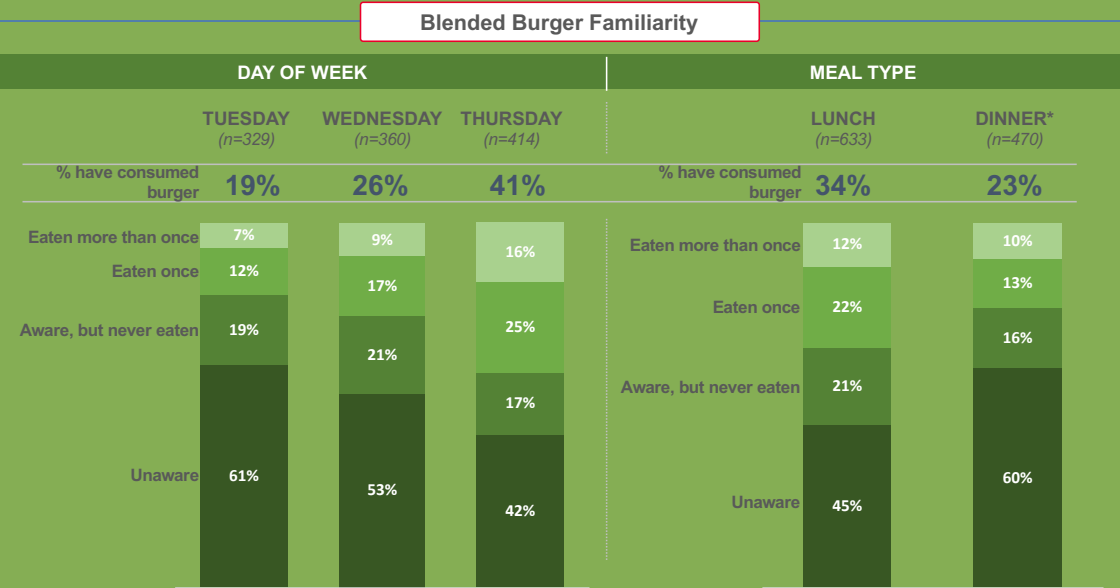
Burger Preference



The results:

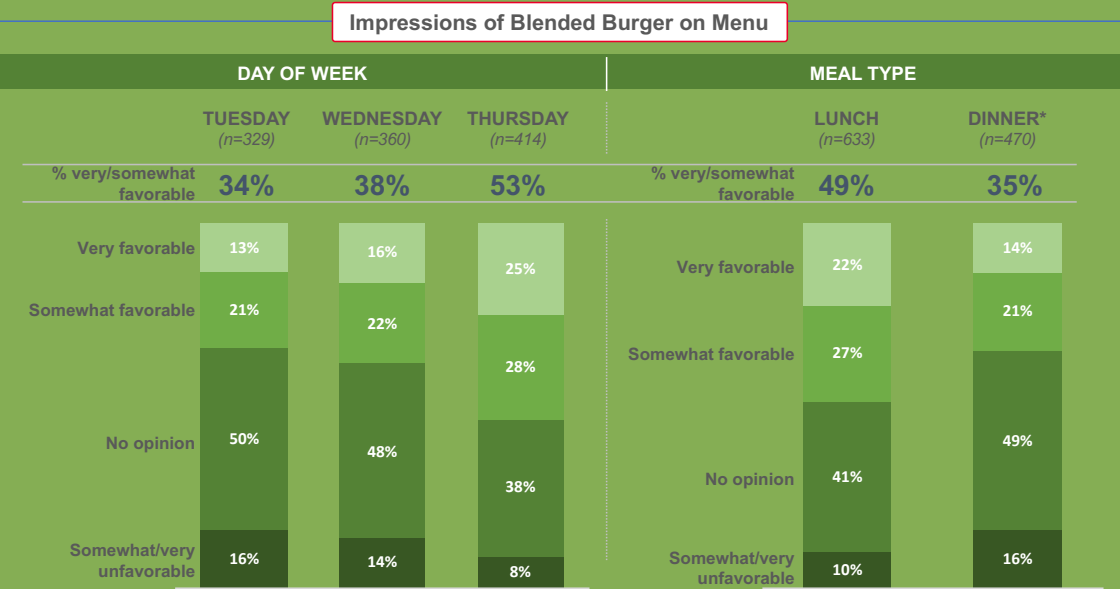
The grass-fed and blended burger was popular among students on every campus

Consumption of the grassfed and blended burger increased each day that it was on the menu, with the burger being most popular at lunch.



Favorable impressions of the grassfed and blended burger also increased over the first three days it was offered, with greater favorability during lunchtime.

By the third day, student diners were more likely to choose the Blended Burger over the all-beef burger it replaced.



The results:

Culinary strategies successfully addressed labor and cost concerns

Labor

The switch to “scoop and smash” scratch cooked grassfed blended burgers had negligible impact on the culinary team and overall labor needs. Harvest Table culinary team’s design of a “scoop and smash” method coupled with the decision to roast mushrooms, both provided substantial labor savings.



Cost of ingredients

In both New York and North Carolina, the blend strategy also helped keep the price of grassfed burgers close to that of conventional burgers. The blend strategy reduced the cost of switching to grass-fed meat by 77% in North Carolina and 62% in New York.



The only thing that changed was the beef patty

93¢
Conventional Meat

\$1.01
Blended Grass-fed

\$1.28
Grass-fed

The results: Delivering on nutrition, environment and values

Outcomes

In the month of April 2019, the grass-fed blend approach:

- Saved 32.8 MT of CO2e across the five campuses
- Saved 583,000 gallons of water
- Avoided 110 acres of corn for animal feed
- Contributed about \$26,400 in local farm revenues
- Contributed about \$46,200 in local economic activity
- Avoided 1.48 billion calories
- Avoid 106 kilograms of fat
- And kept students the same or more satisfied with their burgers.

Conventional Burger

Nutrition Facts	
servings per container	
Serving size	(113g)
Amount per serving	
Calories	330
	% Daily Value*
Total Fat 26g	33%
Saturated Fat 10g	60%
Trans Fat 1.5g	
Cholesterol 90mg	30%
Sodium 85mg	4%
Total Carbohydrate --g	--%
Dietary Fiber 0g	0%
Total Sugars 0g	
Includes --g Added Sugars	--%
Protein 22g	
Vitamin D --mcg	--%
Calcium --mg	--%
Iron 0mg	0%
Potassium --mg	--%

Lower in Calories,
Saturated Fat &
Cholesterol



Grass-fed and blended

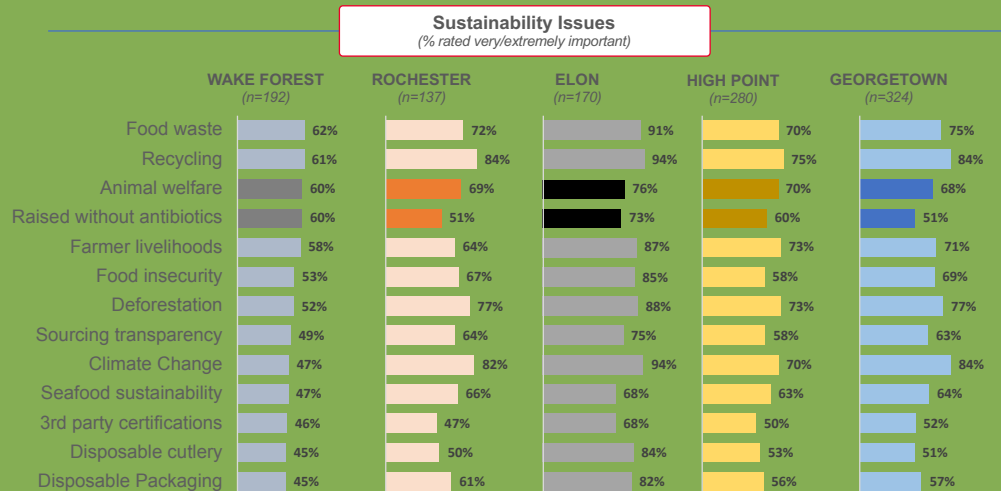
Nutrition Facts	
servings per container	
Serving size	(113g)
Amount per serving	
Calories	260
	% Daily Value*
Total Fat 21g	27%
Saturated Fat 7g	36%
Trans Fat 1g	
Cholesterol 65mg	22%
Sodium 140mg	6%
Total Carbohydrate 1g	0%
Dietary Fiber 0g	0%
Total Sugars 1g	
Includes 0g Added Sugars	0%
Protein 16g	
Vitamin D 0mcg	0%
Calcium 1mg	0%
Iron 0mg	0%
Potassium 99mg	2%

- Grass-fed beef has more omega-3 fatty acids, while grain-fed beef has more oleic acid and different overall fat content and profile.
- Grass-fed beef may contain more than twice the amount of beta-carotene and lutein that is present in conventionally fed beef.
- Vitamin E has repeatedly shown to be higher in grass-fed beef, sometimes at a level that is three times higher than conventional feeding.

Grass-fed meat matches student values.

Student diners also prioritized sustainability as important across all five campuses, with issues of animal

welfare and antibiotic use among the most important to students, about twice as many students thought these were important to those that favored healthier diets.



Alignment with Sustainability Ratings and Standards

Harvest Table's grassfed blended strategy helps colleges and universities align with 3rd party standards such as the Association for the Advancement of Sustainability in Higher Education (AASHE) STaRS (sustainability rating system) and the Real Food Challenge.



AASHE and STaRS food purchasing standards

Local & Community Based

Food can be traced to nearby farms, ranches, boats, and businesses that are locally owned and operated. Supporting small and mid-size food businesses challenges trends towards consolidation in the food industry and supports local economies.

- Ownership: Private or cooperatively owned
- Size: Producing company gross annual sales ≤\$50M
- Distance: 500 miles (800 km) for beef
- Not from an intensive operation (or CAFO)

Humane

Animals have their mental, physical, and behavioral needs met in a low-stress environment and throughout their life are only administered drugs for treatment of diagnosed illness or disease.

- Animal Welfare Approved/Certified (AWA) by A Greener World
- Animal Welfare Approved/Certified Grassfed by A Greener World
- Biodynamic Certified by Demeter
- Global Animal Partnership 4 or 5

Harvest Table's innovative culinary strategy underpinned a successful pilot effort to switch large college dining programs entirely to grassfed meat.

The pilot proves that other operations can follow Harvest Table's lead with confidence about its impact on their foodservice operations, budget, and student diner satisfaction.

The findings are compelling and should give other foodservice operations confidence to follow this same approach to offering delicious, sustainable, local and humane food on campuses across the country.



For more information about the pilot and how to bring this approach to your campus dining program, contact:



Driven by our food-first philosophy, Harvest Table Culinary group brings innovative, authentic and personalized food experiences to life for each unique college and university we serve.

www.harvesttableculinary.com



Changing Tastes, a values-driven consultancy firm that provides business strategy and culinary consulting to Fortune 500 companies, growth stage restaurant and hospitality businesses, investors, and the philanthropic sector.

www.changingtastes.net