

BEEF UP OUR SCHOOL LUNCH WITH CHEESY BEEFSTEAK BAKE!



Mid-Iowa Youth Beef Team

Middle School Division
Representing Benton and Marshall Counties
6th, 7th and 8th Grades

Advisors:

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1. Introduction

The Mid-Iowa Youth Beef Team is a group of young people from east-central Iowa, ages 12-18, training to promote the beef industry. We all are beef producers ourselves, and have a vested interest in educating ourselves and the public about the many positive attributes of producing, purchasing and consuming beef.

Earlier this year, we became very alarmed when a group supported by the Humane Society of the United States (HSUS) invited the foodservice directors from every school district in Benton County to a workshop focusing on the development of “meatless meals.” Leaders from our local agricultural commodity organizations responded swiftly, and none of the schools who participated are pursuing meatless meals options.

Still, we believe it is important to continue to promote beef in a positive fashion in our schools, which is why we chose to market a school-lunch entrée.

Team members are:

Jillian Hanson, 6th grade, Union Community School District
Olivia Hanson, 8th grade, Union Community School District
William Kroneman, 8th grade, Benton Community School District
Natalie Nichols, 7th grade, West Marshall Community School District

We would like to thank the following individuals for their assistance:

Mrs. Tina Hanna, Foodservice Director, Union Community School District,
La Porte City, Iowa

Mrs. Jane Svestka, Foodservice Director, Benton Community School District,
Van Horne, Iowa

Mrs. Amy Clark, Foodservice Director, West Marshall Community School
District, State Center, Iowa

1. Product

We selected a recipe for a school-lunch entrée that contains beef. We renamed the recipe from “Philly Cheesesteak Casserole” to “Cheesy Beefsteak Bake” to make it more appealing to students. Following the guidelines provided by the school foodservice directors who we interviewed, we adapted the recipe to foodservice specifications.

We chose this entree because it:

- Includes a 2.66-oz. portion of lean beef.
- Incorporates several vegetables with the beef, which are important for developing a balanced school lunch.
- Falls within the USDA nutritional requirements for school lunches, and can easily be a part of a balanced school lunch.
- Fits within and cost specifications for school lunches.
- Utilizes a flavorful cut of beef that is different and more “high-end” than the typical ground beef that usually is used in school lunches.
- Is a delicious recipe that we believe will be received as a premium treat by school-lunch diners.

CHEESY BEEFSTEAK BAKE

Serves: 16 students, 120 g per serving

84 g panko bread crumbs
2.25 tsp. garlic powder
2.25 tsp. onion powder
3 lb. (1,360 g) raw sirloin steak, thinly sliced
3 cups sliced green bell pepper
3 cups sliced onion
3 cups sliced fresh mushrooms
1.5 tsp. salt
1.5 tsp. black pepper
56 g light/reduced-fat cream cheese
228 g reduced-fat provolone cheese, sliced

1. Preheat the oven to 375°F. Spray a 12" X 16" baking pan with nonstick spray.
2. In a large bowl, mix bread crumbs, .75 tsp garlic powder, and .75 tsp. onion powder together.
3. Prepare meat and vegetables. Meat should be sliced on RED cutting board only. Vegetables should be sliced on GREEN cutting board only.
4. Bring a large skillet sprayed with nonstick cooking spray to medium-high heat. Add steak, bell pepper, onion, mushrooms, salt, black pepper, and remaining .50 teaspoon of garlic and onion powders. Cook and stir until steak is 145°F for at least 15 seconds.
5. Transfer to a large bowl, thoroughly drained any excess liquid. Add cream cheese, and stir until thoroughly mixed or melted. Transfer to the baking pan, and smooth out the top.
6. Sprinkle with seasoned bread crumbs. Cover pan with foil, and bake for about 20 minutes, or until hot and bubbly.
7. Remove foil, and top with sliced cheese. Bake for an additional 10 minutes.
8. Until serving, keep at hot hold temperature of 135°F.
9. Dived recipe into 16 servings, 120 grams each.
10. Serve equal portions with a flat spatula so melted cheese stays on top.

Recipe adapted for foodservice from: *Hungry Girl*, Winter 2020, Meredith Corporation, 1716 Locust Street, Des Moines, IA 50309-3023.

Nutrition per serving (1/16 of casserole)

Calories:	195
Total fat:	9.0 g
Saturated fat:	4.3 g
Sodium:	384.5 mg
Carbohydrate:	6.3 g
Fiber:	1.0 g
Sugars:	2.0 g
Protein:	22.0 g

School lunch components per serving

Grain:	1/4
Vegetable:	1
Meat/Meat Alternatives:	4



2. Market Analysis

Target Audience

The primary audience for this project is the school foodservice directors. They are the “gatekeepers” as to what foods ultimately are served on school menus. These professionals are well-versed in meeting the nutritional and budgetary requirements of the menus they develop. While they are open to new ideas, it is important that those ideas fit within the constraints of their compliance requirements.

Foodservice directors also need to create meals that are appealing to students and will not be wasted. In addition, they may need to adjust meals for students with food allergies.

The secondary audience for Cheesy Beefsteak Bake is children in rural Iowa schools, grades K-12, and ages approximately 5-18. Their socio-economic status is approximately one-third upper middle class; one-third lower middle class; and one third low income.

The percentage of students from the three school districts evaluated who receive free or reduced lunch is 28.7% (Benton; 24.8; West Marshall: 32.0; Union: 29.3). For this reason, it is very important that nutrition guidelines for our project fall within the guidelines of a “reimbursable meal,” so the meals qualify for free or reduced reimbursement to the schools.

School-aged children often are influenced by their peers when it comes to school lunch. If their friends or role models bring their lunch from home, they may be more likely to do the same. Similarly, if their friends or role models demonstrate that they like something, other students may be more likely to try it, too.

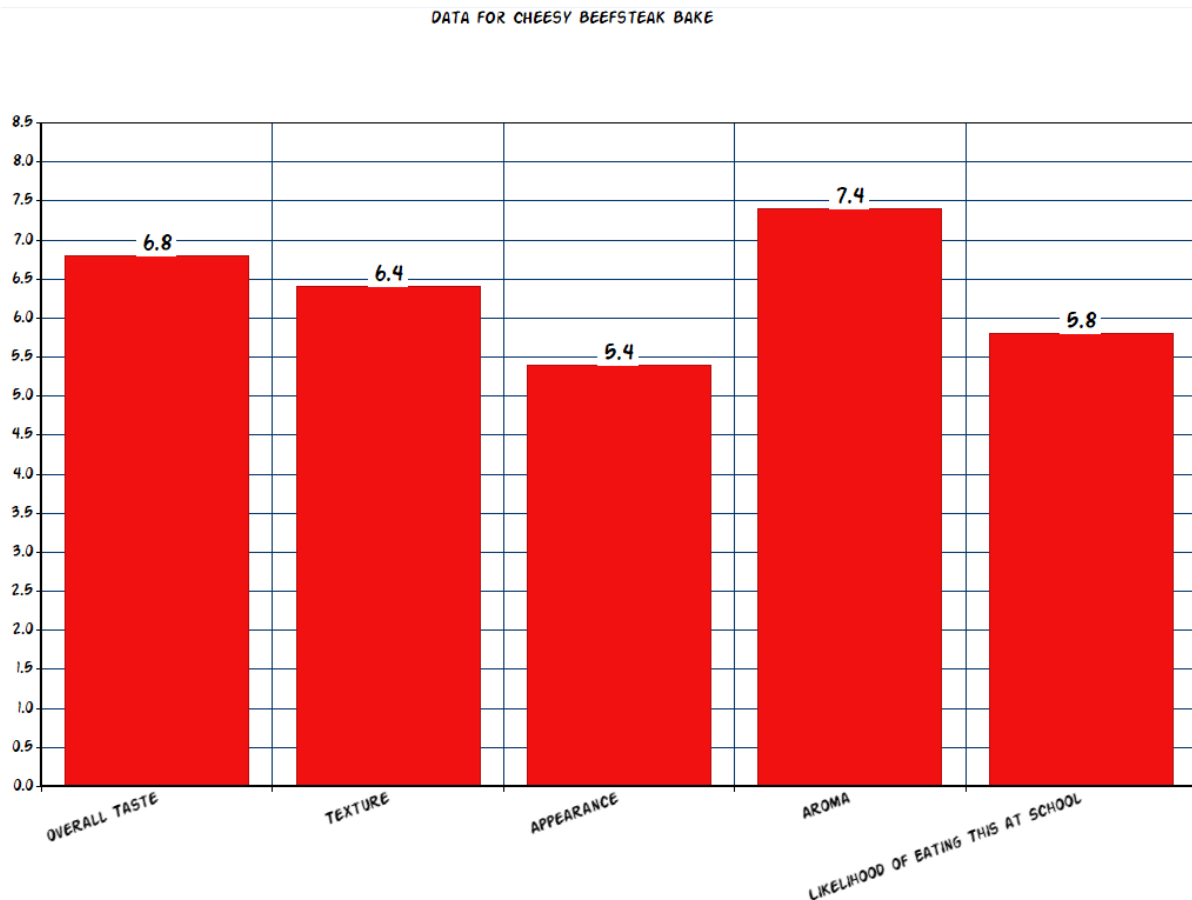
Some children, especially high-school students and athletes, seek meals that satisfy hunger and provide high levels of protein to fuel them throughout the school day, and at after-school athletic practices and competitions.

Market Testing

We prepared several batches of Cheesy Beefsteak Bake, and conducted taste panels with K-12 students from our school districts. We asked the students to rate the dish on a 1-5 scale for Taste, Texture, Appearance, Aroma, and Likelihood of Eating Again. We also asked for each participant's age, and the number of days a week they typically eat school lunch. Finally, we showed them a serving size of the dish, and asked them to rate whether they thought it was Too Much, Too Little, or Just Right.

A total of 32 students completed the taste panel. The average participant age was 11.4 years, and respondents ate school lunch an average of 4.1 times per week. They rated the serving size as: Too Much, 21.8%; Too Little, 37.5%; and Just Right, 53.1%. This led us to believe it was a reasonably fair serving size.

Following are the taste panel results:



Some of the comments we heard were:

“This would be like gourmet school lunch!”

“Are we really going to have this? Because I would eat it!”

“I would eat a LOT of this.”

Some of the younger children did not like the vegetables mixed with the meat. The most appealing part of the entrée was the Aroma. The least-appealing part of the entrée overall was the Appearance.



Cost Analysis

Cost per recipe

Bread crumbs:	\$	0.24
Garlic powder:		0.03
Onion powder:		0.04
Sirloin steak:		19.11
Bell pepper:		.33
Onion:		.20
Mushrooms:		.45
Salt:		.01
Pepper:		.02
Cream cheese:		.64
Provolone cheese:		3.33

TOTAL:	\$	24.40

Cost per serving -- \$1.53

Most school districts in Iowa strive to provide school lunches at a cost of about \$1.25 per meal, but foodservice directors have the authority to “flex” meal costs up to about \$2.00 per meal. They are allowed to “flex” their weekly and monthly budgets to create an average daily meal cost. At \$1.53 per serving, this entrée can be accompanied by the additional, required fruit, vegetable and milk servings and still stay below the target price of \$2.00. For most school districts, this day’s meal would need to be scheduled with some less-costly meals within the week’s or month’s menu plan to balance the school’s meal budget.

The foodservice directors we interviewed mentioned that they might make some modifications to fit their systems better. Some ideas were:

- Substitute less-costly, shredded beef for the steak.
- Utilize government-subsidized American cheese instead of the Provolone.
- Make their own bread crumbs.
- Substitute a pre-cooked steak product that is already sliced, for easier preparation.

If any of these changes were made, the nutritional analysis and cost would need to be recalculated. Some of these changes also may affect the taste and appeal of the recipe.

4. Marketing Plan

Environment

The environment for school foodservice directors is their offices within the school, where they build menus, order supplies and complete reports. It is important to meet with them at their offices to maximize their time.

The environment for students is the school cafeteria, where they eat every day; and the rest of the school building, where lunch options can be promoted.

Marketing Campaign

Our marketing campaign to school foodservice directors would be a one-on-one, relationship-building effort. We would meet with these professionals at a time that is convenient for them, and come well-prepared to propose our menu item. To make their jobs easier, we would arrive prepared to share the recipe, preparation instructions, nutrition information, food safety instructions, and approximate cost.

Our marketing campaign to students contains three elements:

- **Posters** to display throughout the school building, to inform students about the exciting new entrée on an upcoming school menu.
- **Table Tents** containing similar information, which can be placed on every lunch table where students dine.
- **A School Announcement Script** to be read over the school intercom by the student body president (a role model among students) creating awareness and excitement about Cheesy Beefsteak Bake.

All of these elements will use the slogan, “Beef Up Our School Lunch!”

Poster:

Beef Up Our School Lunch With Cheesy Beef Steak Bake!



Eat school lunch on Friday, March 28 to try the Cheesy Beefsteak Bake! It is delicious and full of nutrients as well!

Table Tent:

Beef Up Our School Lunch With Cheesy Beef Steak Bake!



Eat school lunch on Friday, March 28 to try the Cheesy Beefsteak Bake! It is delicious and full of nutrients as well!

School Announcement Script

Hello and good morning! This is your student body president, William Kroneman,

[Insert name of student body president] speaking. This week we will be “Beefing

Up” our school lunch with a new lunch menu item, Cheesy Beefsteak Bake! I got

the chance to try this entree and can tell you first hand that it is quite delicious!

It’s also very good for you -- it contains high amounts of zinc, iron, and protein, or

ZIP for short. Please join me in “Beefing Up” our school lunch and try this new

menu item on Friday, March 28.

5. Beef Nutrition

Nutrition Overview

For some students, school lunch may be the most nutritious (or only) meal they receive in a day. That's why a nutritious, delicious beef recipe could be so beneficial as a school lunch entrée. The protein in beef provides significant levels of several of the nine essential amino acids that human bodies cannot produce – they must come from food. These essential amino acids – all of which are readily found in beef -- support tissue development, red blood cell production and immune-system function. Protein is one of the most satisfying nutrients, which means students will feel less hungry for longer in the day.

In addition, brain development is dependent on zinc and iron, which is delivered in highly concentrated quantities in beef. Beef also provides significant levels of choline, selenium, vitamin B6, vitamin B12, phosphorus, niacin and riboflavin, making it an excellent meal choice for young scholars and athletes.

Lean sirloin steak, which is the beef cut used in Cheesy Beefsteak Bake, contains less sodium, more potassium, and more iron than a similar-sized serving of chicken breast. At the same time, it provides tremendous flavor, excellent texture and a more unique eating experience, compared to standard chicken breast.

Nutrition Facts	
Sirloin Roast	
Serving Size: <input type="text" value="2.6"/> oz, cooked (73.7g)	
Amount Per Serving	
Calories 155.1	Calories from Fat 73.7
% Daily Value*	
Total Fat 8.1g	13%
Cholesterol 61.5mg	21%
Sodium 39mg	2%
Potassium 238.3mg	7%
Total Carbohydrates 0g	0%
Dietary Fiber 0g	0%
Sugars 0g	
Protein 19.1g	
Vitamin A 0%	
Vitamin C 0%	
Calcium 1%	
Iron 6.8%	
* Percent Daily Values are based on a 2000 calorie diet.	

Nutrition Facts	
Chicken Breast	
Serving Size: <input type="text" value="0.6"/> breast (72g)	
Amount Per Serving	
Calories 118.8	Calories from Fat 23.4
% Daily Value*	
Total Fat 2.6g	4%
Saturated Fat 0.7g	4%
Polyunsaturated Fat 0.6g	
Monounsaturated Fat 0.9g	
Cholesterol 61.2mg	20%
Sodium 53.4mg	2%
Potassium 184.2mg	5%
Total Carbohydrates 0g	0%
Dietary Fiber 0g	0%
Sugars 0g	
Protein 22.2g	
Vitamin A 0.3%	
Vitamin C 0%	
Calcium 0.8%	
Iron 4.1%	
* Percent Daily Values are based on a 2000 calorie diet.	

Source: nutritionix

Serving Size

Cheesy Beefsteak Bake contains 2.66 ounces lean sirloin steak per 120-gram serving of the prepared recipe.

Storage and Handling

The following food-safety practices are important for the safe preparation and storage of Cheesy Beefsteak Bake:

- Use appropriate-colored cutting boards in recipe preparation. Cut vegetables on GREEN cutting board only. Slice raw beef on RED cutting board only.
- Cook beef to 145°F for at least 15 seconds.
- Before serving, store at a hot-hold temperature of 135°F.
- Promptly cover leftovers and store in refrigerator at 40°F or below for 3-4 days; or freeze at 0°F for 2-3 months.
- Reheat leftovers to at least 165°F before consuming.

Food Allergies

Most foodservice directors at schools have to deal with food allergies in at least a few students. The foodservice directors we interviewed noted that some students may be allergic to the green peppers, mushrooms or dairy products in Cheesy Beefsteak Bake.

To avoid problems with food allergies, standard practice is to publish menus in advance and include a detailed list of ingredients, so parents and older students can check them. Food allergies in students in lower elementary grades often also are known to their teachers and the school staff serving the food, so they can be provided an alternative entrée.

6. Conclusion

We have thoroughly enjoyed this project! We have learned so much about the beef industry and about school lunches. We think that our schools should incorporate more beef in school lunches.