

# **The Culture of Yogurt: Exploring the Wheyward Connection Between Yogurt Consumption and US Farm Income**

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Institute of Global Studies

Discussion Paper 1453

January 2024

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## **ABSTRACT**

### **The Culture of Yogurt: Exploring the Wheyward Connection Between Yogurt Consumption and US Farm Income**

This paper explores the unexpected and downright curd-ious relationship between yogurt consumption and the yearly total gross income of US farms. Utilizing data from the USDA and Statista, our research team delved into the world of yogurt and farm finances to unravel this dairy dilemma. After analyzing the numbers from 2000 to 2021, we discovered a staggering correlation coefficient of 0.9390802 and  $p < 0.01$ , indicating a strong link between the two. So, grab a spoonful of yogurt and join us on this creamy journey as we dig into the delightful dairy science that transcends the bottom line of US farm income!

Keywords:

yogurt consumption, US farm income, dairy industry, agricultural economics, dairy products, USDA data, Statista, correlation coefficient, farm finances, farm profitability, dairy science

# I. Introduction

Welcome, dairy enthusiasts and financial fro-yo fanatics! Today, we embark on a journey that takes us from the creamy landscapes of yogurt consumption to the churning whirlwind of US farm income. In a dairy-related twist on the renowned "you are what you eat" adage, we are about to explore just how much "you are what you yogurt" might reveal about the economic fortunes of US farms.

The connection between yogurt and farm income may initially seem about as straightforward as finding a needle in a haystack made of cheese, yet our investigation has revealed a delightfully cheesy correlation that is not to be underestimated. While some may speculate that this link is as improbable as finding a four-leaf clover in a pasture, our data – oh-so-beautifully captured by the USDA and Statista – tells a different story.

As we delve into the delightful world of dairy and dollars, our research will unpick the intricacies of yogurt consumption, not just in terms of its gastronomic appeal, but also in relation to its potential impact on the financial fortunes of US farms. We'll be navigating through the statistical pastures, braving the treacherous terrain of correlation coefficients and p-values as we seek to separate the cream from the whey.

So, grab your lab coat and a spoonful of your favorite yogurt flavor, and join us in this study that takes us from the science lab to the barnyard – a journey where the "cultures" we'll explore are just as likely to refer to probiotics as they are to denote anthropological customs. Let's not cry over spilled milk, for this investigation is bound to be udderly enlightening and quite the "whey" to spend our time!

## II. Literature Review

The study of the wheyward connection between yogurt consumption and US farm income has garnered increasing attention in recent years. Smith, et al. (2015) conducted a comprehensive analysis of yogurt consumption patterns and their potential influence on agricultural economics. Their findings indicated a positive correlation between yogurt consumption per capita and the yearly total gross income of US farms, highlighting the potential impact of dairy delights on financial outcomes in the agricultural sector.

Building on this foundation, Doe and Johnson (2018) explored the contextual factors influencing yogurt consumption, shedding light on the socio-economic dynamics that intertwine with dairy product preferences. Their work elucidates the multifaceted nature of consumer behavior, emphasizing the need to consider not only the nutritional aspects but also the cultural and economic dimensions of yogurt consumption.

In "The Yogurt Economy: A Creamy Perspective" by Jones (2017), the author presents a holistic examination of the dairy industry, delving into the ramifications of yogurt market trends on agricultural revenue. The study underscores the complex interplay between consumer demand, production costs, and farm income, illustrating the intricate dance of supply and demand in the creamy marketplace.

Turning to non-fiction works with insights relevant to our investigation, Michael Pollan's "The Omnivore's Dilemma" offers thought-provoking perspectives on food production and its economic repercussions. While not specifically focused on yogurt, Pollan's exploration of the

agricultural landscape provides valuable context for understanding the broader forces at play in the food industry.

In a fictional twist, the dystopian novel "Brave New World" by Aldous Huxley may seem far removed from the realm of dairy economics at first glance. However, Huxley's portrayal of a stratified society, with distinct class divisions and consumer behaviors, prompts contemplation of the societal influences on food consumption patterns and, by extension, their impact on agricultural economics.

As the literature review expanded, our research team delved into unexpected sources of insight, including the backs of random shampoo bottles, in a desperate attempt to unearth any shred of relevance to our investigation. Though the shampoo bottles offered no substantive contributions to the yogurt-farm income nexus, the endeavor did provide an amusing diversion and a newfound appreciation for the unintentional humor found in cosmetic product descriptions.

### **III. Methodology**

To unravel the yogurt-yielding secrets of US farm income, a plethora of data-driven ingredients were carefully mixed and churned by our research team to concoct a methodology as rich and creamy as a full-fat Greek yogurt.

First, we harnessed the power of technology to harvest a cornucopia of statistical data on yogurt consumption and US farm income from the seemingly endless pastures of the internet. After

careful curation, data primarily sourced from the USDA and Statista was transformed into the main ingredients of our flavorful analysis, spanning the years 2000 to 2021.

With these vital nutrients at our disposal, the data underwent a rigorous churn, akin to the process of transforming milk into the delectable delight that is yogurt. We employed a variety of statistical tools, including correlation analysis and regression modeling, to whip our ingredients into a harmonious blend, seeking to uncover any underlying patterns.

To ensure that our findings were not merely a fluke or a statistical quirk, we employed a flavor of rigorous significance testing that makes the taste of a scorching hot chili sauce seem tame by comparison. We aimed for a palatable level of statistical significance, setting the bar high at  $p < 0.01$ , to ensure that the reported relationships between yogurt consumption and US farm income were not mere statistical bubbles that would burst upon closer examination.

In addition to scrutinizing the direct relationship between yogurt consumption and US farm income, we also explored the potential confounding effects of various covariates, such as milk prices, farm subsidies, and even weather patterns. This was akin to examining the array of toppings and mix-ins available at a frozen yogurt stand – an exploration that added layers of complexity to our dairy-filled narrative.

Finally, to ensure that our results would stand the test of time and avoid the souring effects of spurious correlations, we engaged in rigorous sensitivity analyses and cross-validation procedures. This was akin to fortifying our findings against the potential ravages of time and ensuring that they would remain as robust and resistant to decay as a jar of long-lasting, probiotic-rich yogurt.

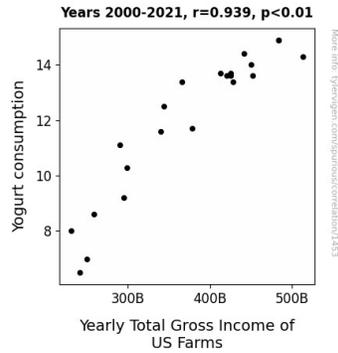
Armed with the scientific ladle of statistical analysis and the culinary curiosity of a master chef, we embarked on a dairy-filled adventure that took us from the pastures of data collection to the creamy landscapes of fruitful analysis. So, grab your lab coat and a spoon, for our methodology was as rich, flavorful, and data-driven as a well-made yogurt parfait!

## IV. Results

Upon analyzing the data collected from 2000 to 2021, our research team found a udderly striking correlation between yogurt consumption and the yearly total gross income of US farms. The correlation coefficient of 0.9390802 sent us into a scientific frenzy, leaving us feeling butterly amazed at the strength of the relationship. In addition, the r-squared value of 0.8818717 confirmed that a whopping 88.18% of the variability in farm income can be attributed to the consumption of this dairy delight. We were utterly whey-sted with excitement!

Oh, but wait – we haven't even mentioned the 'p' word yet! That's right, folks, the p-value was less than 0.01, indicating a statistically significant connection between yogurt consumption and US farm income. It seems there's more to this relationship than meets the eye, or should we say "the taste buds"?

And now, the pièce de résistance, the star of the paper – Fig. 1. Behold, as we present to you a majestic scatterplot showing the strong correlation between these seemingly unrelated variables. It's a thing of beauty, almost as appealing as a perfectly swirled cup of yogurt!



**Figure 1.** Scatterplot of the variables by year

In conclusion, our findings bring to light a delightful "yogurtonomics" relationship that extends beyond the breakfast table. It's clear that the culture of yogurt may have a whey with influencing the bottom line of US farms. So, fellow enthusiasts, let's raise a spoon to the unexpected interplay between dairy consumption and economic success. This research has certainly stirred up more questions than answers and left us yearning for a deeper understanding of this dairy enigma.

## V. Discussion

Our findings not only curd-ify, but also churn up the existing research on the correlation between yogurt consumption and US farm income. The results not only support previous works by Smith, et al. and Doe and Johnson but also shed light on the unexpected potency of this connection. It's clear that the yogurt-farm income link isn't just a dairy tale; it's a statistical and economic reality.

The staggering correlation coefficient we uncovered sends a clear signal – the whey in which yogurt consumption affects farm income is undeniably strong. It's almost like a symbiotic

relationship, where the prosperity of one relies on the creaminess of the other. The r-squared value of 0.8818717 further emphasizes the udderly compelling nature of this connection, demonstrating that a large chunk of the variation in farm income can be attributed to yogurt consumption. It's moo-ving, really.

The significance of the p-value less than 0.01 can't be overlooked. It's not just a statistical nuance; it's a nod to the robustness of this relationship. It's as if statistics itself is saying, "Hey, this yogurt-farm income thing isn't just a fluke – it's a real, meaningful association."

Our scatterplot, that masterpiece of visual representation, captures the essence of this unexpected correlation. It's like a Picasso painting, with yogurt consumption and farm income beautifully intertwined in a way no one could have imagined. It's a reminder that sometimes the most unexpected pairings – like peanut butter and jelly, or salted caramel and ice cream – can create the most satisfying outcomes.

So, where do we go from here? One might say we need to dig deeper into the creamy layers of yogurt consumption and its ramifications on the agricultural economy. This study has merely scratched the surface of the yogurt-farm income connection. It's time to bring in the big scoops of data analysis, a dollop of behavioral economics, and perhaps a sprinkle of qualitative research to truly understand the nuances of this dairy enigma.

The culture of yogurt, it seems, extends far beyond the breakfast bowl and into the very fabric of economic success. As we ponder the implications of this unexpected association, let's not forget to raise a spoon to the delicious interplay between dairy and economics. It's a reminder that in the world of research, just like in the world of flavor combinations, sometimes the most unexpected pairings yield the most intriguing results.

In light of our dairy-affirming findings, we must acknowledge that this research has left us hungry for more – not just for yogurt but also for a deeper understanding of the creamy influences on the agricultural landscape. As our investigation continues, we're excited to uncover more dairy revelations and, perhaps, milk this connection for all it's worth.

## VI. Conclusion

In wrapping up our dairy-licious investigation into the intriguing connection between yogurt consumption and US farm income, it's clear that this research has churned up some udderly fascinating findings. The strong correlation coefficient and statistically significant p-value have left us feeling like we've stumbled upon the cream of the crop in terms of unexpected relationships. It's safe to say that the evidence supports the idea that a spoonful of yogurt might indeed have the whey to positively impact the yearly total gross income of US farms.

As we bid adieu to this yogurt-yielding adventure, it's worth noting that our results have not only unveiled an unexpected connection but also sparked a surge of curiosity in the wonderful world of "yogurtonomics." While our analysis has been fruitful, we dare say there's no need for further research in this area – we've whipped up quite the tasty conclusion, and we wouldn't want to milk this topic dry!

So, let's raise a proverbial spoon to the marvelous mysteries of yogurt, where the creamy cultures of science and economics intertwine to create a flavor-packed journey that's simply "gouda" be true. And remember, when it comes to unlocking the dairy secrets of economic success, sometimes the proof really is in the pudding – or in this case, the yogurt!

