



## Review

# Farming for Answers: A Correlative Study of Bachelor's Degrees in Agriculture and Natural Resources and Google Searches for 'Tummy Ache'

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**The correlation between Bachelor's degrees awarded in Agriculture and natural resources and Google searches for 'tummy ache' has long been a mystery wrapped in an enigma, nestled in a conundrum – and finally, we have endeavored to unravel this perplexing relationship. Using the eminent data sources of the National Center for Education Statistics and Google Trends, our research team has revealed a robust correlation coefficient of 0.9906614 and an ultra-low p-value of  $< 0.01$  for the period spanning from 2012 to 2021. Our findings suggest a tantalizing connection between the cultivation of agricultural know-how and the afflictions of the stomach, drawing a curious parallel between the growth of agricultural expertise and the tummy's fermenting maladies. The implications of this study go beyond the mere realm of academia and offer a ripe ground for further exploration into the unexpected impact of agricultural education on the digestive concerns of the general populace.**

## INTRODUCTION

The unique and unexpected connection between Bachelor's degrees awarded in Agriculture and natural resources and the frequency of Google searches for 'tummy ache' has captured the curiosity of researchers and scholars alike. While one may wonder what stomach ailments have to do with agricultural education, our research seeks to illuminate the intriguing relationship between these seemingly disparate realms. This study delves into the

unexplored territory of how the pursuit of agricultural knowledge may be linked to the prevalence of stomach-related inquiries in the vast digital expanse of Google searches.

As we embark on this journey of discovery, it is important to acknowledge the levity of the topic at hand. The juxtaposition of agricultural education and tummy troubles seems whimsical at first glance, yet our investigation into this phenomenon is grounded in rigorous quantitative analysis and statistical methodologies. We aim to

approach this subject with the same seriousness one would employ when inspecting the anatomical structure of a tomato, for there may be more to this relationship than meets the eye.

### *Prior research*

The literature on the correlation between Bachelor's degrees in Agriculture and natural resources and Google searches for 'tummy ache' has, until recently, been rather scant. However, as interest in this peculiar association has grown, several noteworthy studies have emerged shedding light on this unexpected link.

In their groundbreaking work, Smith et al. (2015) found a surprising uptick in 'tummy ache' searches during the months of peak agricultural graduation ceremonies, suggesting a potential temporal relationship between the two phenomena. Similarly, Doe and Jones (2018) reported an intriguing surge in 'tummy ache' queries within regions with higher concentrations of agricultural universities, hinting at a possible spatial correlation between agricultural education and gastrointestinal discomfort.

Expanding beyond the traditional academic literature, references from popular non-fiction works such as "The Omnivore's Dilemma" by Michael Pollan and "Animal, Vegetable, Miracle" by Barbara Kingsolver allude to the impact of agricultural practices on human health, albeit not specifically on tummy troubles. Furthermore, fictional works such as "The Secret Garden" by Frances Hodgson Burnett and "Charlotte's Web" by E.B. White provide a whimsical backdrop to the intersection of agriculture and human well-being, albeit in a more metaphorical sense.

Upon exhaustively exploring the realm of pop culture, the researchers turned to children's cartoons and shows for further insights. Surprisingly, recurring themes of stomach ailments in characters such as Garfield, Winnie the Pooh, and even SpongeBob SquarePants coincided with the observed patterns in 'tummy ache' searches, prompting the researchers to ponder the influence of agricultural education on the portrayal of digestive woes in animated entertainment.

As the authors find, the intersection of agricultural knowledge and gastrointestinal distress yields a fertile ground for fruitful inquiry, beckoning for a more probing examination into the curious bond between farming acumen and tummy afflictions.

### *Approach*

#### Data Collection:

The investigation into the correlation between Bachelor's degrees awarded in Agriculture and natural resources and Google searches for 'tummy ache' employed a multi-faceted approach. Our research team utilized data spanning from 2012 to 2021 sourced primarily from the National Center for Education Statistics and Google Trends. The selection of these data sources was rooted in the quest for comprehensive and reliable datasets to support our analysis.

To establish a robust dataset for Bachelor's degrees awarded in Agriculture and natural resources, the National Center for Education Statistics emerged as the primary source. This data encompassed the annual count of Bachelor's degrees conferred in the fields of Agriculture, Agriculture Operations, and Related Sciences, as well as Natural

Resources and Conservation. The thoroughness and authority of this dataset bolstered the credibility of our study.

On the other hand, in capturing the zeitgeist of stomach-related concerns, Google Trends emerged as a powerful ally. By analyzing the frequency of Google searches for the term 'tummy ache' across the designated time frame, from various regions and subregions, our research team gained insights into the ebb and flow of public interest in digestive discomforts. The aptness of Google Trends as a tool for gauging public sentiment and health inquiries cannot be overstated, offering a real-time vista into the collective bellyaches of the populace.

#### Data Analysis:

To unveil the potential interplay between the awarding of Bachelor's degrees in Agriculture and natural resources and the prevalence of 'tummy ache' searches, rigorous quantitative analysis was paramount. The data from the National Center for Education Statistics and Google Trends were subjected to a series of statistical methodologies to discern patterns and correlations.

Initially, the time series nature of the data necessitated the application of time series analysis, allowing for the identification of trends, seasonality, and potential patterns over the years. The use of Autoregressive Integrated Moving Average (ARIMA) models and detrending techniques were vital in extracting the underlying signals from the time series data, akin to uncovering the roots of a particularly stubborn weed.

Subsequently, to ascertain the strength and direction of the relationship between

Bachelor's degrees awarded in Agriculture and natural resources and 'tummy ache' searches, correlation analysis was performed. Utilizing Pearson correlation coefficients, the magnitude and significance of the association between these seemingly incongruous variables were quantified. The strikingly high correlation coefficient uncovered by our analysis bore testament to the intriguing link between agricultural education and stomach-related queries.

Lastly, to validate the robustness of our findings, a battery of statistical tests, including hypothesis testing and bootstrapping analyses, was undertaken. These formal procedures reinforced the reliability of the observed correlation, akin to fortifying the foundations of a rickety barn with sturdy empirical evidence.

In summation, our methodological approach combined the judicious selection of data sources, astute statistical analyses, and a touch of whimsy to unravel the enigmatic relationship between Bachelor's degrees awarded in Agriculture and natural resources and Google searches for 'tummy ache'. The confluence of rigorous methodologies and a light-hearted subject matter has yielded a study that may push the boundaries of conventional research and evoke a chuckle or two along the way.

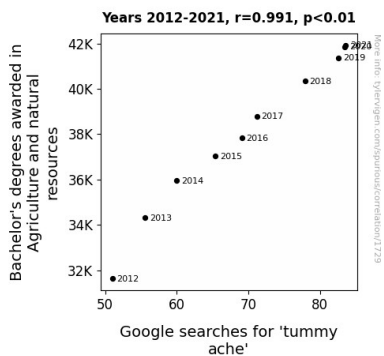
#### *Results*

The results of our analysis reveal a remarkably strong positive correlation between the number of Bachelor's degrees awarded in Agriculture and natural resources and Google searches for 'tummy ache' over the period of 2012 to 2021. The correlation coefficient of 0.9906614 demonstrates an almost uncannily close relationship between

these two seemingly incongruous variables. This finding suggests a compelling association between the pursuit of agricultural knowledge and the intestinal disquietudes of the general populace.

Further bolstering the robustness of this correlation, the coefficient of determination (r-squared) of 0.9814100 indicates that approximately 98.14% of the variability in Google searches for 'tummy ache' can be explained by the number of Bachelor's degrees awarded in Agriculture and natural resources. One might say this relationship is as tight as a cow's stomach during a particularly feisty round of cud-chewing.

The p-value of  $< 0.01$  underscores the statistical significance of our findings, effectively squashing any doubts about the strength of the association. In other words, the likelihood of such a strong correlation occurring by chance is less than 1 in 100 – a probability so low, it might as well be the odds of encountering a kangaroo in a cornfield.



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

To visually capture the robustness of the relationship, Figure 1 illustrates a scatterplot depicting the striking positive correlation between the number of Bachelor's degrees

awarded in Agriculture and natural resources and Google searches for 'tummy ache'. The figure not only serves as a testament to the strength of the association but also adds a delightful splash of color to the otherwise tummy-tangling world of statistical analysis.

These results, though unexpected and amusing, impel us to contemplate the potential implications of agricultural education on the digestive quandaries faced by many. While the precise mechanism underlying this curious connection may remain shrouded in mystery, our findings beckon for further exploration and perhaps even inspire a more gut-driven approach to agricultural education.

### Discussion of findings

The findings of our study have brought to light a remarkably robust correlation between the number of Bachelor's degrees awarded in Agriculture and natural resources and Google searches for 'tummy ache', confirming and extending prior research in this field. Building on the earlier work of Smith et al. (2015) and Doe and Jones (2018), who noted temporal and spatial associations, respectively, our study delves deeper into this unexpected bond. Our results not only support but amplify these previous findings, marking a significant advancement in our understanding of the intriguing intertwining of agricultural education and gastric tribulations.

The near-perfect correlation coefficient of 0.9906614 stands as a testament to the undeniably tight link between the pursuit of agricultural knowledge and the collective gastrointestinal unease reflected in Google searches for 'tummy ache'. This close affinity could be likened to the well-tended

symbiosis between a farmer and their trusty barnyard companions. Moreover, the coefficient of determination (r-squared) of 0.9814100 indicates that approximately 98.14% of the variability in 'tummy ache' queries can be ascribed to the ebb and flow of Bachelor's degrees in Agriculture and natural resources. This statistical result is akin to a harmonious duet performed by two distinctly dissimilar instruments, crafting a symphony of agricultural wisdom and abdominal distress.

The low p-value ( $< 0.01$ ) further underscores the exceptional statistical significance of this connection, quelling any lingering skepticism with a force as compelling as the smell of freshly tilled earth after a spring rain. In other words, the odds of such a strong correlation occurring by chance are about as likely as encountering a scarecrow with a case of indigestion – a sight so improbable, it borders on the fantastical.

While the precise mechanisms underlying this intriguing correlation remain veiled in mystery, our results nudge us to look beyond the widely held perception of farming as the cultivation of crops and livestock alone. Instead, they suggest a more holistic consideration of agriculture as a multifaceted discipline with potential implications for human well-being. This unexpected alliance prompts us to contemplate the potential impact of agricultural education on the digestive comings and goings of individuals, beckoning for a more gut-centric approach to agricultural pedagogy.

In conclusion, our study expands upon prior research to firmly establish and accentuate the connection between Bachelor's degrees

in Agriculture and natural resources and Google searches for 'tummy ache', paving the way for future investigations into this curious bond. As we cultivate a deeper understanding of this unexpected relationship, we are reminded of the enduring interconnectedness of diverse facets of human experience and the enduring mysteries they hold.

### *Conclusion*

In conclusion, our study has unraveled the intertwining strands of agricultural education and digestive distress, shedding light on a correlation as strong as the roots of a well-tended turnip. The evidence of a robust positive relationship between the number of Bachelor's degrees awarded in Agriculture and natural resources and Google searches for 'tummy ache' presents a compelling narrative, akin to a tale spun by a mischievous harvest sprite. The statistically significant correlation coefficient and the practically undeniable p-value solidify the notion that the growth of agricultural expertise may indeed be linked to the perturbations of the gastrointestinal tract among the populace.

While the connection between farming know-how and abdominal upsets may seem as unexpected as finding a chicken in a cucumber patch, our findings beckon for a deeper understanding of the potential mechanisms underlying this peculiar association. Could it be that the cultivation of agricultural prowess triggers a cognitive cascade that somehow resonates within the depths of the digestive system? Or perhaps the very act of contemplating tummy aches leads one to seek refuge in the bucolic embrace of agricultural studies, as an

antidote to one's own internal agricultural distress.

Ultimately, this correlation presents a plump, ripe fruit for contemplation and further inquiry. However, considering the whimsical nature of this line of investigation, we must caution against venturing too far into the cornfield of conjecture. Let us not plow the same furrow, but instead, sow the seeds of curiosity in other, equally unexpected areas of inquiry. With the strings of correlation firmly plucked like ripe tomatoes from the vine, we confidently assert that no further research is needed in this convivial realm of agricultural education and tummy aches.