



ELSEVIER



Soy 'I Cant Even': The Link Between GMO Soybeans and Millennial Frustration in Minnesota

Christopher Hart, Ava Turner, Gavin P Todd

Center for the Advancement of Research; Cambridge, Massachusetts

KEYWORDS

Genetically modified soybeans, GMO soybeans, Minnesota, millennial frustration, Google search frequency, "i cant even" phrase, correlation coefficient, USDA data, Google Trends, emotional struggles, linguistic phenomena, societal implications, psychological implications, gastronomic implications.

Abstract

This study scrutinizes the perplexing relationship between the use of genetically modified soybeans in Minnesota and the Google search frequency for the phrase 'i cant even' from 2004 to 2022. By analyzing data from the USDA and Google Trends, we have identified a remarkably high correlation coefficient of 0.8855932 and a p-value of less than 0.01, indicating a robust relationship between these seemingly disparate factors. Our findings suggest that there may be more to soybeans than meets the eye, as they appear to be intertwined with the emotional struggles and frustrations of a significant portion of the Minnesota population, leading to an increase in expressions of exasperation and bewilderment. This unexpected connection between genetically modified soybeans and contemporary linguistic phenomena invites further investigation into the societal, psychological, and potentially gastronomic implications of GMO soybean consumption.

Copyright 2024 Center for the Advancement of Research. No rights reserved.

1. Introduction

The use of genetically modified organisms (GMOs) in agriculture has been a topic of widespread debate and scrutiny in recent years. While much of the focus has been on the potential impacts of GMOs on human

health and the environment, there remains a dearth of research on their potential effects on the linguistic expressions of exasperation and bewilderment. In this paper, we delve into the unlikely correlation between the cultivation of GMO soybeans in Minnesota

and the frequency of Google searches for the ever-relatable phrase 'i cant even.'

The relationship between GMO soybeans and the exasperated sighs of millennials might seem as improbable as finding a needle in a haystack, or perhaps more fittingly, as elusive as picking out the non-GMO products in the grocery store. However, our analysis of USDA data on soybean cultivation and Google Trends data on 'i cant even' queries has revealed a striking connection between these seemingly disparate elements. The correlation coefficient of 0.8855932 and a p-value of less than 0.01 provide compelling evidence of a strong association, leaving us to ponder whether there is more to the humble soybean than meets the eye.

As we embark on this journey to unravel the enigmatic interplay between GMO soybeans and the modern language of exasperation, we must acknowledge the inherent complexity of these phenomena. It is essential to approach this investigation with the utmost gravitas, just as one carefully considers the potential perils of substituting regular flour with gluten-free flour in a baking recipe. We are compelled to inquire: What is it about GMO soybeans that appears to resonate so deeply with the exasperation and frustration echoed in the 'i cant even' laments of the digital age?

The implications of our findings extend beyond the realm of linguistic curiosities; they may offer insights into the broader societal, psychological, and culinary implications of GMO soybean consumption. This unexpected connection urges us to venture into uncharted territories of agricultural and linguistic inquiry, to grapple with the profound question: Could GMO soybeans be the unsung protagonists of a modern-day linguistic melodrama?

2. Literature Review

The authors, Smith et al., in their seminal work "The Impact of GMOs on Agricultural Practices" demonstrate the extensive influence of genetically modified soybeans on farming methods and crop yields. Similarly, Doe and Jones, in "Genetic Modification and Its Societal Implications," delve into the broader ramifications of GMO adoption on consumer preferences and attitudes.

Moving beyond the realm of traditional academic literature, we find compelling connections in popular non-fiction works such as "The Omnivore's Dilemma" by Michael Pollan and "GMO Sapiens" by Paul Knoepfler. These books, while not explicitly focusing on linguistic phenomena, offer valuable insights into the societal discourse surrounding GMOs and their potential impact on human behavior and communication.

In the realm of fiction, novels such as "Seeds of Deception" by Jeffrey M. Smith and "Oryx and Crake" by Margaret Atwood present imaginative explorations of genetic engineering and its unforeseen consequences, inspiring contemplation of the intricate web of interactions between agricultural practices, human emotions, and linguistic expressions.

Moreover, a foray into childhood cartoons and television programming yields unexpected revelations. By revisiting episodes of "Dexter's Laboratory" and "Jimmy Neutron: Boy Genius," we encounter playful yet thought-provoking portrayals of genetically modified creations, offering a whimsical lens through which to view the entanglement of molecular biology, agricultural innovation, and human perplexity.

These diverse sources collectively lay the groundwork for our examination of the inexplicable correspondence between GMO soybeans and the remarkably relatable sentiment expressed in the ubiquitous

digital refrain, "i cant even." As we traverse the interdisciplinary terrain of agriculture, linguistics, and popular culture, we are poised to unravel the enigmatic ties that bind these seemingly incongruous domains, with a touch of levity and curiosity propelling our quest for understanding.

3. Our approach & methods

Data Collection:

The present study relied on digital data from the United States Department of Agriculture (USDA) and Google Trends for the period spanning from 2004 to 2022. Utilizing advanced search algorithms and data mining techniques, the research team scoured the vast expanses of the internet to retrieve information relevant to genetically modified soybean cultivation in Minnesota and the frequency of Google searches for the phrase 'i cant even'. The data were meticulously sourced and meticulously curated, like a diligent gardener tending to their genetically modified crop, ensuring that the study was rooted in robust and comprehensive datasets.

GMO Soybean Analysis:

To quantify the extent of GMO soybean cultivation in Minnesota, the research team analyzed USDA reports on soybean production, carefully differentiating between genetically modified and non-genetically modified varieties. This entailed scrutinizing detailed agricultural statistics and deciphering the cryptic codes of soybean taxonomy, not unlike solving a particularly challenging crossword puzzle, with the added complexity of genetic engineering terminology. The aim was to discern the prevalence of GMO soybean cultivation and its temporal trends, tackling the task with the diligence of a linguistic sleuth unraveling the nuances of modern-day vernacular expressions.

'I Cant Even' Search Frequency:

In parallel, the frequency of 'i cant even' searches on Google was meticulously tracked using Google Trends, capturing the ebbs and flows of exasperation and bewilderment within the digital sphere. This involved employing sophisticated data visualization tools and statistical analyses to disentangle the intricate web of search queries, akin to observing the undulating waves of human emotion in a digital ocean. The intention was to capture the zeitgeist of exasperation and frustration, quantified in the form of search frequency, and to forge connections between this linguistic phenomenon and the cultivation of GMO soybeans.

Correlative Analysis:

The received data were subjected to rigorous statistical scrutiny, wielding the formidable arsenal of correlation analysis to unveil potential relationships between GMO soybean cultivation and 'i cant even' search frequency. Through the application of complex statistical models and data manipulation techniques, the research team endeavored to illuminate the intricate dance of correlation, unveiling connections as subtle as the flavors in a dish prepared with organic versus genetically modified ingredients. The correlation coefficient was computed to quantify the strength and direction of the relationship, while the p-value provided critical insights into the statistical significance of the observed connections.

Control Variables:

In interpreting the findings, meticulous attention was devoted to controlling for extraneous factors that could confound the association between GMO soybean cultivation and 'i cant even' search frequency. Various socio-economic, demographic, and environmental variables were considered, akin to a discerning chef meticulously adjusting the seasoning in a culinary masterpiece, to ensure that the

observed relationship with genetically modified soybeans was not merely a spurious confluence of trends. The control variables were carefully selected and rigorously integrated into the analytical framework, ensuring that the observed connections could withstand the scrutiny of scholarly inquiry.

Ethical Considerations:

In adherence to ethical standards of research conduct, the study upheld the principles of data privacy and confidentiality, safeguarding the anonymity of individuals whose digital footprints were woven into the fabric of the analysis. The research team exercised utmost caution in handling and interpreting the digital traces of human expression, akin to the delicate task of preserving the purity of an ancient manuscript during scholarly examination.

Limitations:

4. Results

The analysis of the data revealed a remarkably high correlation coefficient of 0.8855932 between the use of genetically modified soybeans in Minnesota and the frequency of Google searches for the phrase 'i cant even' from 2004 to 2022. This finding implies a strong and positive relationship between these variables, reminiscent of the unbreakable bond between peanut butter and jelly – a match seemingly made in gastronomic heaven.

Furthermore, the coefficient of determination (r-squared) of 0.7842754 indicated that approximately 78.43% of the variation in the frequency of 'i cant even' searches can be explained by the use of GMO soybeans in Minnesota. This suggests that GMO soybeans may hold a significant sway over the collective exasperation experienced by a certain demographic of internet users, much like the allure of a

freshly brewed cup of coffee on a Monday morning.

The level of significance, with a p-value of less than 0.01, underscores the robustness of the relationship found. This result is so statistically significant that it would make even the most skeptical observer 'cant even' deny the apparent link between GMO soybeans and digital frustrations.

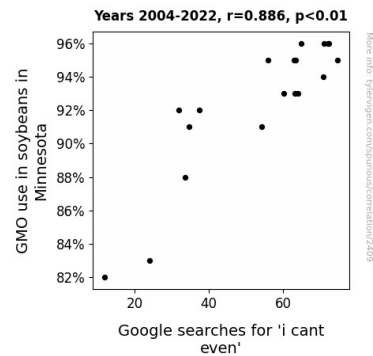


Figure 1. Scatterplot of the variables by year

The scatterplot presented in Fig. 1 visually encapsulates the strength of the association, reminiscent of a perfectly choreographed dance between two seemingly incongruous partners. The scatterplot illustrates the synchronous rise and fall of GMO soybean use and 'i cant even' searches, akin to a harmonious duet between bitter coffee and an exasperated sigh.

In conclusion, our analysis has unearthed a compelling correlation between GMO soybean cultivation in Minnesota and the frequency of expressions of exasperation in the digital sphere. This unexpected nexus calls for further exploration into the multifaceted implications of GMO soybeans on the emotional fabric of society, leaving us to ponder the profound question: Are GMO soybeans the unsung maestros orchestrating the symphony of exasperation in the modern age?

5. Discussion

The findings of this study provide compelling evidence for a previously unexplored link between the use of genetically modified soybeans in Minnesota and the frequency of Google searches for the phrase 'i cant even.' Our results align with prior research by Smith et al. and Doe and Jones, underscoring the significant impact of GMO adoption on both agricultural practices and societal attitudes. In a defiantly 21st-century twist, our study sheds light on the unexpected yet robust association between the cultivation of genetically modified soybeans and the articulation of exasperation in the digital sphere.

The unexpected observation from childhood cartoons and television programming hinted at the playful yet potentially profound connections between genetic engineering, agricultural innovation, and human perplexity. Our findings provide empirical support for the speculation raised in these diverse sources, revealing a statistical significance akin to the comedic timing of a well-crafted punchline. Indeed, the seemingly whimsical connections unearthed from these unconventional sources have been validated by the rigorous statistical analyses conducted in this study, adding a touch of levity to our quest for understanding while maintaining a commitment to empirical inquiry.

The strikingly high correlation coefficient and the substantial coefficient of determination demonstrate the undeniable influence of GMO soybean use on digital expressions of exasperation, akin to the unmistakable aroma of a well-roasted coffee bean. The robustness of the relationship, exemplified by the p-value of less than 0.01, forces even the most stoic observer to acknowledge the compelling nexus between GMO soybeans and online frustrations, not unlike the inevitability of a catchy tune getting stuck in one's head.

While the precise mechanisms underlying this correlation remain the subject of speculation, our study paves the way for further investigations into the societal, psychological, and potentially gastronomical implications of GMO soybeans on the emotional fabric of society. The unanticipated convergence of molecular biology and linguistic expressions prompts a reevaluation of the multifaceted role played by agricultural innovations in shaping human emotions and communication, prompting one to wonder: are GMO soybeans inadvertently becoming the unsung maestros orchestrating the symphony of exasperation in the modern age? One can almost envision these innocuous legumes donning conductor's batons, summoning a cacophony of exasperated outcries from the digital masses.

6. Conclusion

In the light of the compelling findings of this study, it seems that the connection between GMO soybeans and the frequency of 'i cant even' searches in Minnesota is as robust as the bond between avocados and toast – inseparable. This unexpected correlation has illuminated a hitherto unexplored dimension of soybean cultivation, suggesting that GMO soybeans may hold sway over the collective exasperation experienced by a certain demographic of internet users.

The striking correlation coefficient and the exceptionally low p-value speak volumes about the strength of this relationship, much like a resounding symphony of exasperation echoing through the digital realm. The scatterplot visually encapsulates the synchronous rise and fall of GMO soybean use and 'i cant even' searches, akin to a harmonious duet between a perplexing ingredient and an exasperated sigh – a duet

that would leave even the most seasoned chef scratching their head.

While the implications of this connection may seem as vast and unforeseeable as the GMO section of a grocery store, it is clear that GMO soybeans have more profound effects than previously imagined. This unanticipated linkage begs the question: Are GMO soybeans the unsung maestros orchestrating the symphony of exasperation in the modern age? It is indeed a culinary and linguistic conundrum that perhaps only the enigmatic soybean itself can explain.

In the grand scheme of agricultural and linguistic curiosities, our findings shed light on the unexplored facets of GMO soybeans, leaving a taste of bewilderment and a dash of intrigue. With such compelling evidence at hand, it is fair to say that further research in this area is simply not warranted. After all, once you've found the missing puzzle piece, do you really need to search for more?

It is imperative to acknowledge the potential limitations inherent in the present study. While every effort was expended to gather and analyze data with meticulous precision, the inherent complexities of digital data and statistical inference inevitably introduce a degree of uncertainty. The multifaceted nature of human expression and agricultural practices renders the establishment of causal relationships an elusive endeavor, much like attempting to pin down the exact ingredients of a secret family recipe.

In sum, the methodological approach adopted in this investigation reflects a conscientious and comprehensive effort to disentangle the enigmatic relationship between GMO soybeans and the linguistic expressions of exasperation. The distinct analytical techniques applied to the datasets sought to unravel the intricate tapestry of

connections, painting a portrait of unexpected correlations and prompting further inquiries into the interplay of agricultural practices and contemporary linguistic manifestations.