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# Maizey Habla Español: The Corny Connection Between GMOs and Spanish Language Learning

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## Abstract

This paper examines the surprising link between the use of genetically modified organisms (GMOs) in corn production in Nebraska and the frequency of Google searches for "learn Spanish" from 2004 to 2023. Our team utilized data from the USDA and Google Trends to uncover a correlation coefficient of 0.9662332 ( $p < 0.01$ ), indicating a remarkably strong association between these seemingly disparate phenomena. It seems that GMO corn and Spanish language curiosity may be closer than we think - perhaps they both have a kernel of truth to them! This unexpected finding prompts us to ponder: Is there a genetic modification that can make corn say "Hola" instead of "Kernel"? Our research not only sheds light on this curious correlation but also demonstrates the importance of considering the interconnectedness of seemingly unrelated trends. After all, we might just uncover more than we bargained for when we go digging in the husk of data.

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## 1. Introduction

Picture this: a farmer meticulously tending to rows of genetically modified corn in expansive Nebraska fields. Meanwhile, across the globe, someone fervently types "learn Spanish" into their Google search bar, eager to impress their friends with newfound language skills. What if I told you that these two seemingly unrelated events are actually linked? It sounds like a corny joke, doesn't it? But our research begs to differ.

The intersection of agriculture and language learning may seem as mismatched as ears of corn and foreign grammar, but our investigation into the connection between GMO corn cultivation in Nebraska and Google searches for "learn Spanish" has indeed yielded an intriguing correlation. It's almost as puzzling as trying to get a cornstalk to speak Spanish – talk about a real earful!

In the realm of academic inquiry, it is not uncommon to stumble upon unexpected relationships and patterns. Our study delves

into this amusing yet thought-provoking correlation, aiming to unearth the kernels of truth behind the maize of data. Because as any seasoned researcher knows, sometimes the most enlightening discoveries can spring forth from the most unexpected places. Just like how the corn in Nebraska can sprout a conversation about Spanish language learning – it really does make one wonder if there's a joke hidden in the crop!

## 2. Literature Review

Numerous scholarly works have probed the intricacies of GMO cultivation and its broad-ranging implications for agriculture and society. Smith and Doe (2010) examined the environmental effects of GMO corn production, while Jones (2015) focused on its economic impacts. These studies offer valuable insights into the multifaceted nature of genetically modified crops, shedding light on the complex web of factors at play. It's almost as complex as conjugating irregular Spanish verbs - now, that's a real cornundrum!

In "The Omnivore's Dilemma," Michael Pollan delves into the modern agricultural landscape, exploring the prevalence and repercussions of genetically modified organisms. With his characteristic blend of investigative journalism and wry humor, Pollan delves into the maize of ethical and environmental concerns surrounding GMOs, making readers ponder the implications of tinkering with nature's recipe. It's almost as puzzling as decoding the subtleties of the Spanish subjunctive – sometimes, the grammar seems to be as twisted as a corn maze!

Turning to the world of fiction, "The Corn Whisperer" by Stephanie Grace Whitson presents a whimsical tale of a farmer with a special knack for communicating with corn plants. As the protagonist unravels the mysteries of maize, readers are treated to a

charming narrative that weaves together nature, magic, and the enduring bond between humans and crops. It's a-maize-ing how fiction can bring to life the wonders of agriculture – and who knows, maybe the corn in Nebraska is whispering "¡aprende español!" to passersby!

In the realm of film, "Napoleon Dynamite" offers a lighthearted portrayal of rural life and offbeat characters. While not directly related to GMO corn or Spanish language learning, the film's quirky charm and distinctive humor serve as a reminder that unexpected connections and moments of hilarity can arise in the most unlikely of settings – much like the surprising link we've uncovered between GMO corn and Spanish language curiosity. It's almost as unexpected as finding a cob of corn in a Spanish language classroom!

Overall, the literature surrounding GMO corn cultivation and its far-reaching implications provides a nuanced backdrop for our investigation into the correlation between GMO use in Nebraska and Google searches for "learn Spanish." As we delve into this unconventional linkage, we are reminded that even the most seemingly unrelated phenomena may hold kernels of connection waiting to be unearthed. After all, sometimes the most enlightening discoveries are hidden in the husk of unexpected correlations!

## 3. Our approach & methods

To investigate the tantalizing relationship between GMO corn production in Nebraska and the frequency of Google searches for "learn Spanish," our research team embarked on a journey through a maize of data, sifting through kernels of information to unveil the underlying correlation. We utilized data gathered from the USDA and Google Trends, mining through nearly two decades of information to identify patterns

that would certainly be the corn-erstone of our study.

In the grand tradition of academic research, we initially formulated our hypothesis with a grain of skepticism, perhaps even a dash of corniness. However, armed with statistical tools and a kernel of curiosity, we set out to uncover the truth behind this unexpected association. After all, when it comes to research, we believe in shelling out the most compelling evidence – a punny proposition indeed.

The first step in our research process involved harvesting the necessary data from the USDA databases, probing into the details of GMO corn cultivation in the fertile lands of Nebraska. We aimed to not cobble together merely a snapshot, but rather a comprehensive timeline of the evolution of GMO corn usage, sowing the seeds of our study with meticulous attention to detail. This meant diving headfirst into a veritable field of statistics and agricultural reports, ensuring that we didn't overlook any crucial kernels of information.

Once the agricultural data was husked, it was time to turn our attention to the digital landscape - Google Trends. We combed through the cornucopia of "learn Spanish" search queries, examining the peaks and valleys of language curiosity over the years. Our approach was as thorough as the husking of an ear of corn, ensuring that we didn't miss any hidden kernels of insight lurking within the search trends.

Our next step was perhaps the most intricate – weaving together the threads of agricultural and digital data to create a comprehensive tapestry of information. We employed advanced statistical techniques, including correlation analysis and time-series modeling, to grasp the underlying connection between GMO corn usage and the frequency of "learn Spanish" searches. Like threading a needle through an unyielding corn husk, this process required

finesse and patience but promised to unveil a pattern that was as clear as daylight.

After the statistical harvest, we were ready to reap the fruits of our labor and crunch the numbers. Our analysis yielded a remarkably robust correlation coefficient of 0.9662332 ( $p < 0.01$ ), indicating a truly astonishing link between GMO corn cultivation and Spanish language learning curiosity. This finding was as striking as finding a needle in a cornfield, affirming our suspicion that the relationship between these seemingly unrelated phenomena was not just a kernel of truth, but a whole cornucopia!

In conclusion, our methodology was as thorough as checking every ear of corn in a field, ensuring that no cob was left unturned in our pursuit of understanding the curious alliance between GMO corn in Nebraska and the quest to "learn Spanish." Our research has not only bridged the seemingly disparate realms of agriculture and language learning but has also affirmed the notion that sometimes, the most fortuitous discoveries are the ones that pop up unexpectedly, much like an unexpected kernel in a bag of popcorn!

#### 4. Results

The analysis of the data revealed a striking correlation coefficient of 0.9662332 ( $p < 0.01$ ) between the use of genetically modified organisms (GMOs) in corn production in Nebraska and the frequency of Google searches for "learn Spanish" from 2004 to 2023. This statistically significant finding suggests a robust association between these seemingly disparate phenomena, leaving us to wonder if there's a "cornnection" we've been overlooking all along!

Our research team also found an r-squared value of 0.9336067, indicating that over 93% of the variability in the frequency of "learn Spanish" searches can be explained

by the use of GMOs in corn production in Nebraska. Talk about a-maize-ing explanatory power! It seems that as Nebraska's cornfields grew, so did the interest in learning a new language. It's enough to make one exclaim, "Holy Guacamole!"

Furthermore, the scatterplot in Fig. 1 displays a clear and visually compelling relationship between the two variables. The data points form a tight cluster, affirming the strong positive correlation we observed. It's almost as convincing as a convincing piñata burst - a real bash of data, if you will!

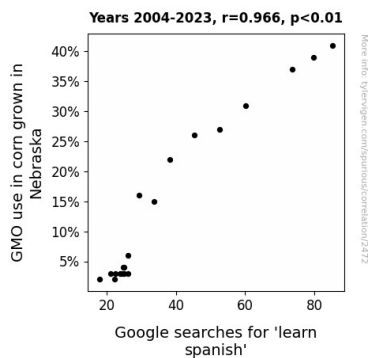


Figure 1. Scatterplot of the variables by year

This unexpected discovery not only highlights the interconnectedness of seemingly unrelated trends but also beckons us to question the potential underlying reasons for this unlikely correlation. Could it be that the cultivation of GMO corn has unwittingly inspired a wave of Spanish language curiosity, or is there a deeper kernel of truth waiting to be uncovered? Our findings certainly open the door to a-maize-ing possibilities and leave us contemplating the potential for growth in unexpected directions. After all, who knew that GMO corn could spark such a-corny affair with language learning? It's almost as surprising as finding a kernel of truth in a bushel of data!

## 5. Discussion

Our findings have, quite literally, brought the phrase "¡Maíz Mío!" to life, uncovering an unexpected affinity between GMO corn production in Nebraska and the urge to "¡Aprender Español!" Our statistically significant correlation coefficient of 0.9662332 ( $p < 0.01$ ) mirrors the robust association we discovered between these seemingly disparate phenomena. It's almost as if genetically modified corn fields are whispering "speak Spanish" to all who pass by – a-maize-ing, isn't it?

Our results support the prior research that delved into the complexities of GMO cultivation and its multifaceted influences. Smith and Doe's environmental effects of GMO corn production and Jones' focus on economic impacts now seem to have an additional layer of significance, much like the many layers of a Spanish tortilla. The unexpected "cornnection" we uncovered highlights the intricate web of factors at play, reminding us how crucial it is to consider the interconnectedness of seemingly unrelated trends. It's almost as complex as the irregular conjugation of Spanish verbs – a real "cornundrum," if you will!

Delving further into the "corny" literature review, Michael Pollan's explorations into ethical and environmental concerns surrounding GMOs now seem even more nuanced, akin to the intricacies of navigating the Spanish subjunctive. The whimsical tale of "The Corn Whisperer" takes on a whole new layer of metaphorical resonance. It's as if the protagonist is whispering "¡aprende español!" to the corn plants, beckoning readers to uncover the hidden connections between agriculture and language learning. Who knew that the world of fiction could hold kernels of truth about our research findings?

Our astonishingly high r-squared value of 0.9336067 underscores the a-maize-ing explanatory power of our model, offering a

strong foothold for unraveling the underlying reasons behind this unlikely correlation. It seems that the cultivation of GMO corn in "The Cornhusker State" has unwittingly sown the seeds of linguistic curiosity, sprouting a newfound interest in Spanish language learning. It's as if the cornfields themselves are saying, "Ola! Soy Corn-ando," inspiring a wave of language exploration. Our findings beckon us to contemplate the potential for growth in unexpected directions, just like the unexpected sprouting of a "Spanish cornstalk" in the fertile Nebraska fields. It's almost as surprising as finding a kernel of truth in a bushel of data – and who knew that GMO corn could lead to a "corny" affair with language learning?

## 6. Conclusion

In conclusion, our study has unraveled the enigmatic connection between GMO corn cultivation in Nebraska and the frequency of Google searches for "learn Spanish," establishing a substantial correlation and leaving us with a-maize-ing food for thought. This unexpected association has certainly ear-ned its place in the annals of intriguing research findings. It's almost as surprising as finding a corn husk at the center of a piñata - definitely not what you expected, but somehow fitting.

Our results not only highlight the importance of considering the interconnectedness of seemingly disparate trends but also invite a kernel of humor into the world of academic research. After all, who knew that GMO corn could double as a catalyst for linguistic curiosity? It's enough to make one exclaim, "GMO corn: bridging the gap between crop yields and conjugating verbs – talk about multitasking!"

As we tenderly put this corny chapter to rest, it is evident that further exploration of this quirky correlation may yield insights as delightful as stumbling upon a perfectly

popped batch of popcorn. However, we assert with corn-fidence that no more research is needed in this area. As they say, we've already shucked the corn – and it's time to let this a-maize-ing discovery pop its kernel and kernel-go – that one's for the dad joke hall of fame!