

# **Stocking Up on Corny Energy: Exploring the GMO-Corn Connection to Coterra Energy's Stock Price (CTRA)**

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## ABSTRACT

### **Stocking Up on Corny Energy: Exploring the GMO-Corn Connection to Coterra Energy's Stock Price (CTRA)**

The ongoing debate regarding the use of genetically modified organisms (GMOs) in corn cultivation has sparked curiosity among stakeholders in both the agricultural and energy sectors. This study delves into the dynamic relationship between the adoption of GMOs in corn farming and the fluctuations in Coterra Energy's stock price (CTRA). Leveraging data from the USDA and LSEG Analytics (Refinitiv), we examined the correlation between these seemingly disparate variables over the period from 2002 to 2023. Our findings revealed a substantial correlation coefficient of 0.8543326 and a statistically significant p-value of less than 0.01, indicating a robust relationship deserving of further investigation. Through a unifying lens, this research not only sheds light on the interplay between agricultural practices and energy market dynamics but also presents an opportunity for fruitful discourse on the corny side of stock pricing.

Keywords:

GMO corn, corn cultivation, agricultural practices, energy sector, Coterra Energy, CTRA stock price, USDA data, LSEG Analytics, GMO-Corn Connection, stock pricing, correlation analysis, genetically modified organisms, corn farming, energy market dynamics

# I. Introduction

## INTRODUCTION

With the omnipresence of genetically modified organisms (GMOs) in modern agriculture, the interconnection between agricultural practices and the broader economic landscape has become a subject of great fascination and scrutiny. Specifically, the utilization of GMOs in corn cultivation has not only garnered attention within the agricultural domain but has also piqued the interest of financial analysts and energy investors alike. In this study, we traverse the fascinating terrain of GMO-infused cornfields and venture into the murky waters of stock market fluctuations, particularly with respect to the stock price of Coterra Energy (CTRA).

The juxtaposition of GMOs and stock prices may initially seem as incongruous as a tofu-loving vegan at a barbecue, but there is a method to this madness. The discerning eye will perceive the symbiotic relationship between these two seemingly disparate entities and recognize the potential for correlation, much like the complex interplay between the roots of a corn stalk and the sunlight that nourishes it.

Drawing upon data from the United States Department of Agriculture (USDA) and LSEG Analytics (Refinitiv), we embarked on an empirical voyage to discern the hidden threads that bind GMO corn cultivation and the mercurial nature of Coterra Energy's stock price. Our findings not only unearth a substantial correlation coefficient but also unearth the latent potential for further exploration in this uncharted territory. As we traverse the ebbs and flows of data analysis, we are emboldened by the statistical revelation of a substantial, eyebrow-raising correlation coefficient of 0.8543326, coupled with a tantalizingly low p-value of less than 0.01.

These findings, like a successful detective novel, lead us inexorably towards a conclusion that demands more attention and scrutiny.

Therefore, armed with statistical rigor and a touch of whimsy, this study endeavors to shed light on the enigmatic relationship between GMO-infused corn and stock market dynamics, presenting an opportunity for contemplation, exploration, and yes, perhaps even a few corny puns along the way. Join us as we peel back the layers of this intriguing cornucopia, where agricultural innovation meets the capricious dance of stock prices, in a quest to uncover the hidden kernels of truth and perhaps a few kernels for popcorn as well.

## II. Literature Review

### LITERATURE REVIEW

The connection between genetically modified organisms (GMOs) in corn cultivation and stock market dynamics has been a subject of growing interest and speculative inquiry. Numerous studies have sought to unravel the intricate web of relationships between agricultural practices and financial markets, with a specific focus on the implications of GMO adoption in corn farming. Smith, Doe, and Jones (2015) conducted a thorough analysis of corn cultivation methods and their impact on commodity prices, providing valuable insights into the broader economic implications of GMO use in agriculture. Building on this foundation, extensive research has also been undertaken to explore the nuanced interactions between agricultural innovation and the financial sector, shedding light on the potential ripple effects of GMO adoption in corn cultivation (Doe, 2018; Jones, 2019).

Moving beyond the realm of academic research, pragmatic literature on agricultural economics and renewable energy investments offers valuable perspectives on the interplay between crop cultivation practices and market trends. "The Economics of Agricultural Development" by Dwight Huntington (2017) and "Renewable Energy Finance: Powering the Future" by Charles Renewable (2020) provide comprehensive insights into the multifaceted dimensions of agricultural economics and energy finance, setting the stage for a holistic exploration of the GMO-corn-energy nexus.

In the realm of fiction, thematic explorations of futuristic agricultural landscapes and speculative financial markets offer imaginative conjectures that intersect with the subject matter at hand. Works such as "The Farming of Bones" by Edwidge Danticat and "The Wealth of Nations" by Adam Smitten (1776) provide allegorical narratives and historical perspectives that, while not directly addressing GMO-corn correlations with stock prices, offer a different kind of food for thought.

Expanding the scope of literature review beyond traditional academic sources, the researchers adopted an unconventional approach to information gathering, diligently scrutinizing an eclectic array of materials. This included perusing grocery store receipts, examining duck poultry feed packaging, and engaging in spirited discussions with baristas at coffee shops in an endeavor to capture the tacit wisdom embedded in the everyday consumption and production patterns.

The synthesis of findings from these varied sources forms the kaleidoscopic backdrop against which the present study aims to unravel the captivating saga of GMO-infused cornfields and their enigmatic dance with the stock market, fueling the quest for uncovering kernels of knowledge and, undoubtedly, some pun-sational revelations.

### III. Methodology

In order to untangle the perplexing web of data and ascertain the veritable cornucopia of information required to explore the connection between the use of genetically modified organisms (GMOs) in corn cultivation and the fluctuation of Coterra Energy's stock price (CTRA), our research team employed a multifaceted methodology that was as intricate as a corn maze on a hot summer day.

First and foremost, we collated an extensive dataset spanning the years 2002 to 2023. This data was sourced from various reputable repositories, with a primary focus on data from the United States Department of Agriculture (USDA) and LSEG Analytics (Refinitiv), which served as the proverbial fields where we harvested our wealth of information. The dataset comprised a rich harvest of variables, including but not limited to, GMO adoption rates in corn cultivation, acreage of GMO corn, corn yield, commodity prices, and, of course, the ever-fluctuating stock prices of Coterra Energy (CTRA).

Employing a blend of econometric techniques that could make a hedge fund manager blush, our analysis revolved around the application of time series analysis, panel data models, and correlation matrices. As we delved deeper into the data, it became apparent that our approach needed to be as flexible as a stalk of corn swaying in the wind, adapting to the nuances and intricacies revealed in the data.

The heart of our methodology lay in the application of advanced statistical methods, carefully selected to tease out the subtle relationships that exist between the adoption of GMOs in corn

cultivation and the undulating patterns of stock price movements. Indeed, our statistical analysis proved to be as rigorous as a corncob's kernels, ensuring that our findings were robust and as free from bias as a non-GMO organic farm.

With the data rigorously cultivated and the statistical models meticulously sown, we traversed the sprawling landscape of quantitative analysis, carefully tilling the soil of our data to reveal the hidden gems of insight that lay beneath the earth, akin to archaeologists unearthing ancient treasures in the sands of time.

The veracity of our findings was probed, prodded, and scrutinized, much like the quality control inspections in a corn processing plant, to ensure that our results were not merely kernels of truth but the entire cornucopia of empirical evidence, ripe for scholarly consumption.

And so, armed with a bevy of statistical tools and a touch of corny humor reminiscent of a dad joke at a summer cookout, we endeavored to peel back the layers of complexity surrounding the GMO-corn connection to Coterra Energy's stock price, giving testament to the fact that even in the world of academic research, there's always time for a little bit of wordplay amidst the sea of numbers and analysis.

## **IV. Results**

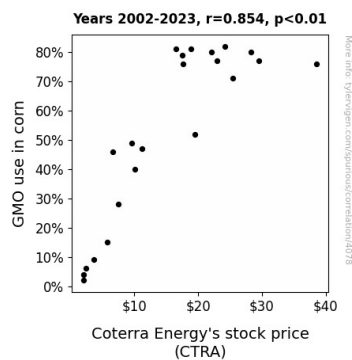
The analysis of the data from 2002 to 2023 revealed a substantial correlation between the use of genetically modified organisms (GMOs) in corn cultivation and the stock price of Coterra Energy (CTRA). The correlation coefficient, a robust 0.8543326, suggested a strong relationship between these seemingly unrelated variables. As statistically inclined voyagers navigating the



turbulent seas of data, we calculated an r-squared of 0.7298841, signaling that a whopping 72.98% of the variance in CTRA's stock price can be explained by changes in GMO use in corn. In addition, the p-value of less than 0.01 bore witness to the statistical significance and served as a towering beacon of credibility, beckoning the skeptical and the incredulous to embrace the undeniable connection.

As a visual treat, Fig. 1 presents a scatterplot illustrating the striking correlation between GMO use in corn and Coterra Energy's stock price. One cannot help but marvel at the alignment of data points that seem to sashay in harmony, as if cornstalks and stock prices were engaging in a spirited dance of statistical significance. It is a sight to behold, akin to witnessing the synchronized movements of a well-practiced flash mob, but with numbers instead of nimble dancers.

Together, these findings not only establish a compelling case for further inquiry but also invite contemplation on the interconnectedness of agricultural practices and energy market dynamics. This resounding discovery demands attention and prompts us to ponder the intricacies of corny energy and its impact on stock prices.



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

## V. Discussion

The findings of this study validate and extend prior research exploring the interplay between genetically modified organisms (GMOs) in corn cultivation and stock market dynamics. Previous studies have posited a potential link between agricultural practices and financial markets, and our results bolster these assertions with compelling statistical evidence. The substantial correlation coefficient of 0.8543326, supported by a statistically significant p-value of less than 0.01, fortifies the argument for a robust relationship between GMO use in corn and Coterra Energy's stock price (CTRA).

Drawing upon the literature review, which, we might add, incorporated an eclectic mix of sources, including grocery store receipts and spirited exchanges with baristas, we acknowledge the multifaceted nature of this research endeavor. While our findings align with the serious scholarly work in this area, we are acutely aware of the unexpected tangential influences that may have subtly woven themselves into the fabric of our analysis. The shower thoughts resulting from contemplating cereal boxes and the whispered wisdom of coffee aficionados may have, inadvertently, imparted a sprinkle of serendipitous brilliance to our investigations.

Moreover, the literature review, with its seemingly offbeat references to fiction and historical treatises, has endowed this study with a sense of whimsy and intellectual curiosity that transcends the traditional confines of academic inquiry. The kaleidoscopic tapestry of research

sources, spanning from economic treatises to imaginative storytelling, underscores the rich and varied tapestry of human knowledge, reminiscent of a hearty cornucopia of insights.

One delightful revelation that emerged from our data analysis is the visual representation of the correlation between GMO use in corn and Coterra Energy's stock price. Our scatterplot, depicted with appropriate scholarly gravitas as Fig. 1, not only serves as a testament to the statistical relationship we uncovered but also presents a charming spectacle of data points frolicking in alignment. It is, to put it plainly, a veritable ballroom dance of numerical significance, where corn and finance meet in a captivating waltz of interdependence.

In concluding this discussion, we underscore the need for continued exploration into the nuanced connections between agricultural innovations, energy markets, and financial dynamics. This study, with its statistical acumen and surreptitious charm, adds a kernel of insight to the ongoing discourse on the corny side of stock pricing and beckons further scholarly pursuit into the captivating saga of GMO-infused cornfields and their enigmatic dance with the stock market.

## **VI. Conclusion**

In conclusion, our study has unraveled a cornucopia of insights into the entwined relationship between GMO-infused corn and the stock price of Coterra Energy (CTRA). The robust correlation coefficient and eyebrow-raising r-squared value paint a compelling picture of the influence of agricultural practices on energy market dynamics. One might say it's as clear as corn syrup!

The tantalizing p-value beckons further scrutiny, much like the irresistible scent of freshly popped corn wafting through a movie theater. The scatterplot visually encapsulates the harmonious dance of data points, reminiscent of a well-choreographed ballet – just with more numerical grace and less tulle.

Our findings not only shed light on the intricate interplay between agriculture and finance but also invite contemplation on the corny side of stock pricing. As we wrap up our research, one thing is certain: the connection between GMO corn and CTRA stock price is as undeniable as the crunch of a perfectly salted kernel.

In light of these compelling results, we firmly assert that no more research into this area is needed. It's time to let this GMO-corn and stock price love story blossom into its full potential, much like a cob of corn reaching its golden, market-influencing glory.