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COMMENTARY

Toward a more profitable value chain for New York state onions

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Abstract
For many years, New York onion growers enjoyed a leadership position in the U.S. onion supply due to a combination of advantages, including unique soil and climate conditions and proximity to large, diverse markets. However, trends suggest that these advantages are disappearing as global competitors offer comparable, but lower-cost, undifferentiated onions. As a result, the current production and marketing approaches of New York onion growers are not particularly effective. New York onion growers are presently competing in a race with each other and growers in other regions to produce high volumes of cheap commodity onions. The question thus becomes: Can onion producers continue this race, in which they seem unable to win because the competition is so fierce? Onion growers in New York state wish to understand onion-marketing dynamics in the U.S. and especially in New York state. By learning more about the market for onions, they may discover a new competitive advantage based on the strategy of differentiation, which could increase their value among all stakeholders of the value chain.

In this commentary, I present a summary of a report I have written entitled "Analysis of the U.S. Onion Industry with a Focus on New York State Issues," and I make the case that New York state's onion growers have an opportunity to reverse their fortunes.

Keywords
onion industry, market strategy, price analysis, New York state, muckland production, *terroir*

The *Terroir* of New York "Black Dirt" Onions

New York is endowed with a special organic soil naturally high in sulfur, and, along with reasonably good weather and knowledgeable growers, the yellow onion grows very well in the state. In France, we refer to this as *terroir* (pronounced "tahr-wah"), a concept that encompasses all of the microclimate and soil conditions along with the history, codes of practice, and traditions that link a food to its place of production (see Figure 1). For Americans, Champagne or Roquefort cheese are well-known

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examples of products with *terroir*. But *terroir* exists all over the world. Some places with unique weather patterns, soils, and historical traditions have advantages in efficiently producing specialty crops and value-added foods over other areas. In France we have the Roscoff pink onion of Brittany, which, because of its fresh eating properties and beautiful color, has a protected designation of origin (PDO) label given to the growers by the European Union. The Roscoff onion has been highly prized by cooks even in the United Kingdom and beyond for over a century. The U.S. has many examples of specialty product areas that are branded, including viticultural areas and certain vegetables such as your famous Vidalia onion-growing region in Georgia. The *terroir* is a sign of the richness and diversity of the foods we eat and the way we produce them.

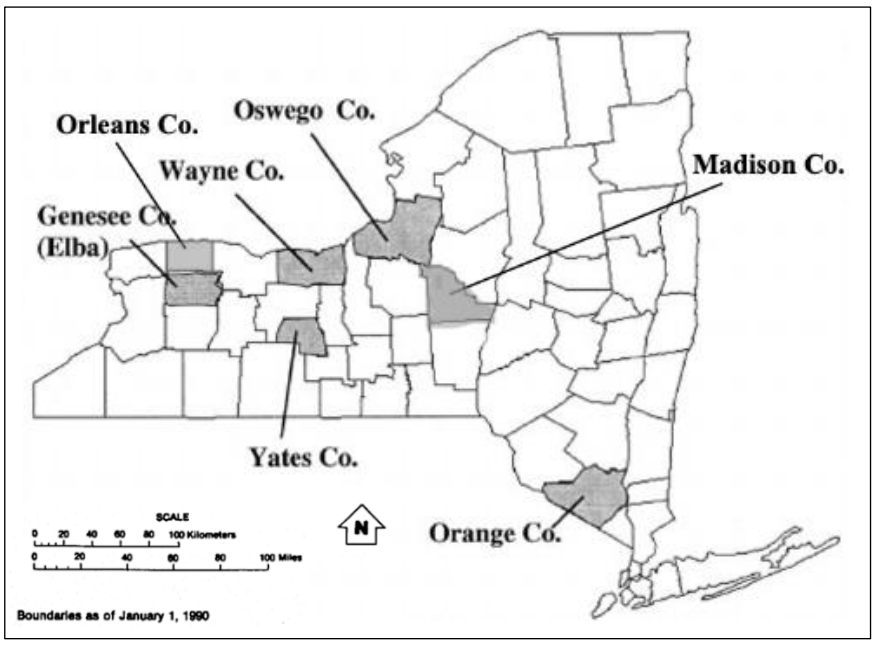
In my recent one-year stint in New York state as a visiting scholar at Cornell University, I learned about the *terroir* of New York's famous black dirt onion. Onions in the state are primarily grown on muck (organic) soils found in five counties: Orange, Oswego, Genesee (Elba), Wayne, and Yates (see Photo 1 and Map 1). Onion production also exists on a smaller scale in Madison, Orleans, and Steuben counties. The muck soils were formed as the mile-thick Laurentian Ice Sheet retreated 12,000 years ago, creating a landscape pocked with depressions that filled with meltwater. Aquatic plants flourished and decayed over the millennia and formed vast mucklands, which early European settler farmers discovered was ideal for growing certain vegetables: onions, celery, and potatoes. Known colloquially as "black dirt," these areas are among the most productive and lucrative farmland in the Northeastern United States.

What makes New York black dirt onions taste special

Photo 1. Black Dirt Soil in New York State

Photo by Philippe Jeanneaux.

Map 1. Locations of Muck (Black) Soil in New York State (by County)



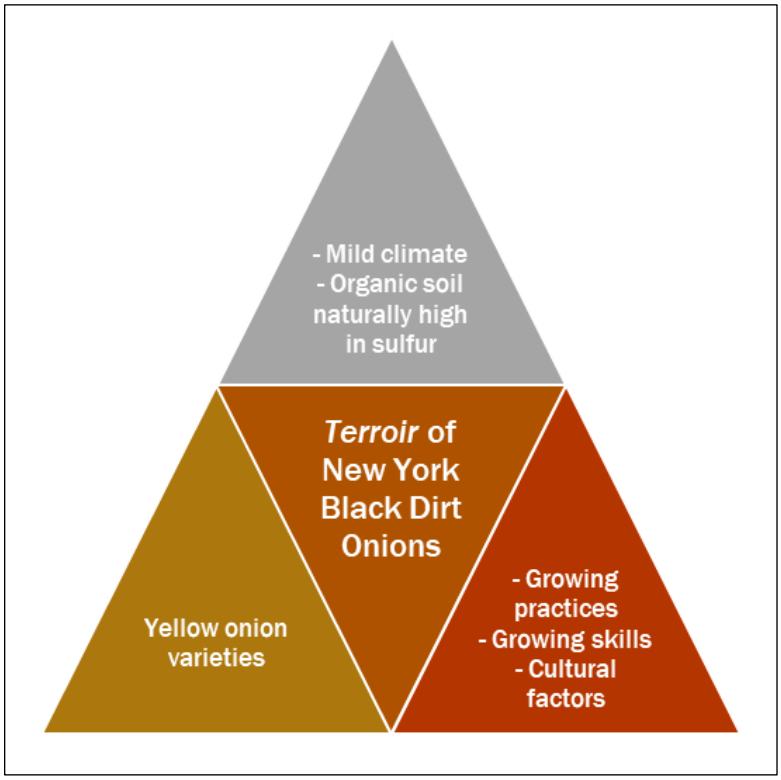
is the high sulfur content of the soil and thus of the onions. Growing in thousands of years' worth of composted vegetation increases the pyruvic acid levels in the onions, resulting in a bold, pungent taste when raw. The high sugar and low water content yields a pleasantly sweet and a slightly spicy flavor when the onion is cooked. The growing season is limited, and so black dirt onions have a natural seasonal availability. Therefore they are not common; they are very special—just like Brittany's Roscoff onion. My conceptualization of New York's black dirt onion *terroir* is found in Figure 1.

New York's Black Dirt Onion in a "VUCA" World

Despite its advantages, New York state black dirt onion production is in a major decline. Indeed, the situation for all U.S. onion growers is challenging in an increasingly "VUCA" world—a world that is simultaneously volatile, uncertain, complex, and ambiguous. Onion growers, depending on their geographic location, have developed different strategies to deal with increasingly tough competition. In Idaho, Oregon, and Washington state, large growers have chosen to develop a price competitiveness advantage. In contrast, others have built a differentiation strategy based on a premium branded onion linked to *terroir*, such as the Vidalia onion industry in Georgia. A third group of onion growers has not chosen between these two strategies; this group has not collectively and locally established a shared vision that takes their strengths, weaknesses, threats, and opportunities into account. By default, this group is taking the low-price route.

I suggest that this is the case for the New York onion industry. The problem is that the state's onion growers are not cost competitive, and their position in the marketplace has declined. In 2002—21 years ago—114 farms of more than 5 acres in the state produced 11,400 acres of onions. However, in 2017, only 50 onion growers with more than 5 acres produced 95% of onion production, with 6,400 acres. During this time, the number of growers and the acreages have been cut approximatively in half.

Figure 1. The New York Black Dirt (Pungent) Onion *Terroir* Triangle



Unlike U.S. onion production as a whole, the loss of harvested acres has not been fully compensated by a strong yield improvement; for the last 50 years, onion yields per acre have increased more slowly in New York than elsewhere in the U.S. Since 1970, New York has experienced a yield gain of 1.5 cwt/acre/year, compared to the total U.S. yield gain of 5.4 cwt/acre/year (using data from the U.S. Department of Agriculture National Agricultural Statistics Service [USDA NASS]).[1] Over the last decade (2010-2019), the total U.S. onion yield averaged 516 cwt/acre, while it was 304 cwt/acre during the 1970s. In

[1] I drew on several data sources (terminal market, shipping point, etc.) to create the database on which I based my analyses. I can provide the database to any interested reader; contact me at philippe.jeanneaux@vetagro-sup.fr

comparison, the New York onion yield averaged 325 cwt/acre from 2010-2019, while it was 283 cwt/acre during the 1970s.

Some observers have argued that Canada subsidizes its onion growers, causing serious injury to New York growers' ability to obtain favorable prices for their product. I have exhaustively analyzed Canada's export policy and found that there is no evidence to support this allegation. As far as I can tell, there are no subsidies to Canadian onion growers that would alter the price and create an unfair competitive advantage for Canadian exporters.

It is true that Canadian yellow onion imports are direct competition, but there is also secondary and indirect competition coming from sweet onions year-round. And this competition comes from fellow American growers. Because sweet onions are becoming a generic all-purpose onion for fresh eating and cooking, sweet onions now compete with pungent onions. The largest U.S. growers and shippers of sweet onions have established production in Mexico and Peru and have become exporters of onions to the U.S. to meet consumer demand year-round.

New York Black Dirt Onion Growers Are in a Low-Price Trap

To more fully understand the scale and scope of the decline of New York onion production, I conducted an econometric analysis that is included in a report published in the Department of Global Development at Cornell University (Jeanneaux, 2023). My research on price transmission suggests that the drivers of this decline in New York black dirt onion production are imperceptible from year to year, but over time have eroded New York's once-powerful onion industry. In my view, New York onion growers have become links in a supply chain where they sell a generic onion like a commodity.

Using econometric tools and data from USDA Agricultural Marketing Service, my report shows that the yellow onion market in the Northeast U.S. appears to run correctly, without competitive distortions. Growers and handlers try to compete with other onion supply chains that have better productivity and lower production costs. To maintain their onion market shares, New York onion growers generally use a single driver: low price. During the period 2011–2020 in Northeast U.S. region, the retail price of yellow (pungent) onions decreased from US$1.06 to US$0.90 per pound in current prices. However, to reduce the price to consumers, retailers have reduced their share of the value. At the beginning of the period (2010/2011), retailers received about 72% of the total value, and by the end (2019/2020), this portion declined to 63%. Retailers lost nine percentage points on average. Four percentage points have been captured by secondary handlers and five percentage points by first handlers-growers. At the end of the period, when consumers paid US$0.90 per pound, 23 cents went to growers-first handlers, 7 cents to second handlers (packers), and 60 cents to retailers. These results contradict any notion that retailers have increased their profitability at the expense of growers and handlers.

In fact, what retailers are doing is using the well-known "loss leader" strategy. Onions are a staple product in constant demand, but retailers do not use them to make profit; they are selling them at or below cost to attract customers (e.g., via promotional price discounts); they make up for this loss with slightly higher prices on other produce items, like brussels sprouts. But retailers will only accept a certain level of loss, and the net result for New York onion growers is that they are caught in a low-price trap.

Within this low-price trap, there is price volatility, suggesting that there is no volume control in the supply chain. Volatility can lead to asymmetric price transmission (the process by which upstream prices influence downstream prices and vice versa). However, my analysis shows no asymmetric price transmission or market power on either the grower-handler or retailer sides. In the long run, shipping prices, terminal market prices, and retail prices move together. Moreover, I found that shipping prices drive the terminal market price, and the latter drives the retail price. Indeed, first and second handlers operate as if they were price makers—even if it is a low price. A summary of the key findings of my report are found in the Appendix of this article.

Breaking Out of the Low-Price Trap

I recommend that, like growers in the Vidalia onion region, New York onion growers transition at least a portion of their production from the current unprofitable *supply* chain to a new value-added marketing strategy based on a black dirt soil *terroir* to create a new, more profitable and sustainable *value* chain. The concept of a "value chain" was pioneered by Porter (1985) to describe the complete range of business activities that are required to bring a product or service from conception through the different phases of production, distribution to consumers. As the product moves from one stakeholder in the chain to another, it is assumed to gain value (Hellin & Meijer, 2006). Bloom and Hinrichs (2011) argue that social relationships are critical to the success of value chains. They cannot simply be transactional. There should be a deliberate commitment to non-economic goals in order to establish successful mechanisms of interorganizational coordination.

Stevenson et al. (2011) showed that midscale food value chains are built on three foundations: (1) appropriate volumes of high-quality, differentiated, market-engaging food products, coupled with value-adding stories of people, land, and practices—which are the key local components of the concept of *terroir*; (2) strategic business partnerships based on trusting, transparent, and win-win relationships; and (3) effective supply-chain management and logistics, including product marketing, aggregation, processing, distribution, and accounting. This new approach would require investment and a formal recognition of the shared advantages the New York black dirt onion growers have: unique soil, climate conditions, local onion varieties, history and traditions, and know-how.

From my point of view, the New York Bold onion brand that was cooperatively marketed years ago is actually the best way to differentiate the state's special black dirt onions and turn this situation around. This will require trust-building between growers, handlers, and retailers and a level of transparency through the value chain. But with some of the largest markets for pungent onions in North America just hours away from these growing areas, a collaborative effort between all the stakeholders in this new value chain could reverse all of their fortunes. It is possible that the state of New York could help in branding and marketing and for the USDA to help establish a federal marketing order if the onion growers and handlers decide to work together to develop a collaborative onion brand. This opportunity remains possible as long as there is local production. If New York black dirt onion production disappears, the product is lost forever. There is no substitute for a local product, which is linked to the skills of local producers, its heritage, and its climate and soil.

To illustrate the potential, I conducted two economic impact studies of New York's onion industry. In the first study, I estimated the economic importance of the New York onion industry by modeling a fictitious change in which the onion growers shift production to grain crops such as corn. That is, the farmers stop growing onions and plant corn instead. In this scenario the onion industry would lose US$41 million gross output and 472 jobs throughout the New York economy. Even as it shrinks, the onion industry is a vital contributor to the state.

In a second study, I modeled a scenario in which the existing onion growers market their New York black dirt onion in a branded value chain. In this model, the onion growers work with handlers and retailers to produce and market high-quality onions (the choicest onions each year) at a premium price point for chefs and gourmet culinarians seeking to spice up and sweeten their dishes. For this model, I assume that most of New York state's 7,200 acres of onions are receiving a premium price at the farm gate, which rises by 35% (this is the difference observed between a standard onion and a premium onion such as Vidalia). However, a non-marketable quantity has been considered to reflect reality more accurately, as part of the production does not reach the quality required by customers. In this scenario, growers are able to generate additional gross sales of US$15.2 million and 185 new jobs in the state. Thus, there is the potential for significant new income with a transition to a value-added approach, and there is the potential for significant income loss if the decline on the onion supply chain continues.

In addition to this impact analysis, I have developed a budgeting tool for New York onion farmers to use to help in making the decision to transition a portion of their onions to a new value-added onion brand.[2] In this tool, growers can play with cost and price scenarios to see for themselves whether participating in a new value chain is more profitable.

New York Onion Growers Are Interested in Organizing

In conclusion, my report sheds light on the complexity of the onion industry in the U.S. The analysis at the farm gate and at the scale of the onion industry in New York state shows that there is potential to develop a profitable new value chain. The key challenge is for growers and handlers to believe in their strengths and seize the opportunity.

To that end, a small group of New York onion growers begin meeting in 2020. With the support of the AgriCluster Retention and Expansion (ACRE) project, led by the Thomas A. Lyson Center for Civic Agriculture and Food Systems,[3] these onion growers drafted the following vision statement:

> New York Black Dirt Onion industry will command a special market segment where consumers value a unique product. This segment provides increased profit, protects competitive advantage, and resiliency/vitality/vibrancy/well-being for growers and all constituents/members of the value chain.

With technical assistance and financial support from the state of New York and the USDA, I believe the New York black dirt onion growers could achieve this vision. The economic impact analysis alone suggests that the state of New York might consider making investments in assisting the remarkable black dirt onion industry to capture the low-hanging fruit waiting to be harvested. It is clear to me that both taxpayers and onion lovers will benefit.

Acknowledgment

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References

Bloom, J. D., & Hinrichs, C. C. (2011). Informal and formal mechanisms of coordination in hybrid food value chains. *Journal of Agriculture, Food Systems, and Community Development*, *1*(4), 143–156. https://doi.org/10.5304/jafscd.2011.014.016

Hellin, J., & Meijer, M. (2006). *Guidelines for value chain analysis*. Food and Agriculture Organization of the United Nations (FAO). https://www.fao.org/3/bq787e/bq787e.pdf

Jeanneaux, P. (2023). *Analysis of the U.S. onion industry with a focus on New York state issues*. Thomas A. Lyson Center for Civic Agriculture and Food Systems. https://www.lysoncenter.org/general-8

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. The Free Press. (Republished with a new introduction, 1998.)

Stevenson, G. W., Clancy, K., King, R., Lev, L., Ostrom, M., & Smith, S. (2011). Midscale food value chains: An introduction. *Journal of Agriculture, Food Systems, and Community Development*, *1*(4), 27–34. https://doi.org/10.5304/jafscd.2011.014.007

[2] This is an Excel spreadsheet to map out all the possible alternatives for onion growers' choices. If you would like to receive this Excel spreadsheet, please contact the author at philippe.jeanneaux@vetagro-sup.fr.

[3] The Thomas A. Lyson Center for Civic Agriculture and Food Systems (https://lysoncenter.org) is a fiscally sponsored project of the Center for Transformative Action (http://centerfortransformativeaction.org), a nonprofit affiliate of Cornell University.

Appendix. Highlights from the Report *Analysis of the U.S. Onion Industry with a Focus on New York State Issues*

1. The United States is a major onion producer worldwide, producing 3.2 million tons annually.

2. Increased demand for onions and stagnating domestic production in the U.S. led to a trade deficit due to imports from Mexico and Peru. In 2019, U.S. onion imports totaled US$431 million, US$195 million more than exports. The largest growers and shippers of sweet onions in the U.S. have expanded onion production outside the U.S. and have become exporters to the U.S.

3. The top competitors to U.S. onion growers are probably U.S onion growers who control farms in Peru and Mexico.

4. Contrary to popular belief, low-priced Canadian onion exports have not flooded the U.S. domestic market or injured New York State onion growers.

5. The analysis reveals that subsidies (which are significantly low) to the Canadian onion industry have not changed the price or created an unfair competitive advantage for Canadian exporters.

6. In 2019, New York produced 3.2% of domestic onions, compared to 20% in 1960.

7. Based on the data analysis presented in this report, I believe the yellow onion market in the Northeast U.S. runs as it should, without competitive distortions. First and second handlers seem to operate as price makers, even if it is a low price. These handlers compete with other onion supply chains that have better productivity and lower production costs. To maintain their share of the onion market, handlers use a single tool: low price. If there is volatility, it is because growers do not control the onion supply.

8. Contrary to common belief, my research shows that consumer onion prices have not increased, while wholesale buyers and farmers have received slightly higher prices over the past 10 years. The retail price of the yellow globe onion has decreased since 2011 to US$0.90/pound in 2020, a 16% decline. A similar trend has been observed for yellow sweet onion (–10%), even if this onion has a better price than a yellow pungent onion.

9. Because of their cooking flexibility, large Granex sweet onions may be cutting into the demand for pungent onions. The New York onion acts like a commodity rather than a specialty crop. New York onion growers are involved in a cost-competitiveness strategy rather than a differentiation strategy (such as the Vidalia onion industry uses). However, New York growers are neither competitive as they were not on the relevant market.

10. A cost/benefit analysis at the farm gate suggests that, depending on the unique circumstances of individual farms, there is the potential to produce and market premium yellow onions on the remaining onion growers' farms in New York state. Indeed, at the farm gate, turning the black dirt onion business model into a branded premium onion is profitable. An economic impact analysis using IMPLAN™ software shows the importance of the New York onion industry in terms of gross output, labor income, job creation, and value added prices.