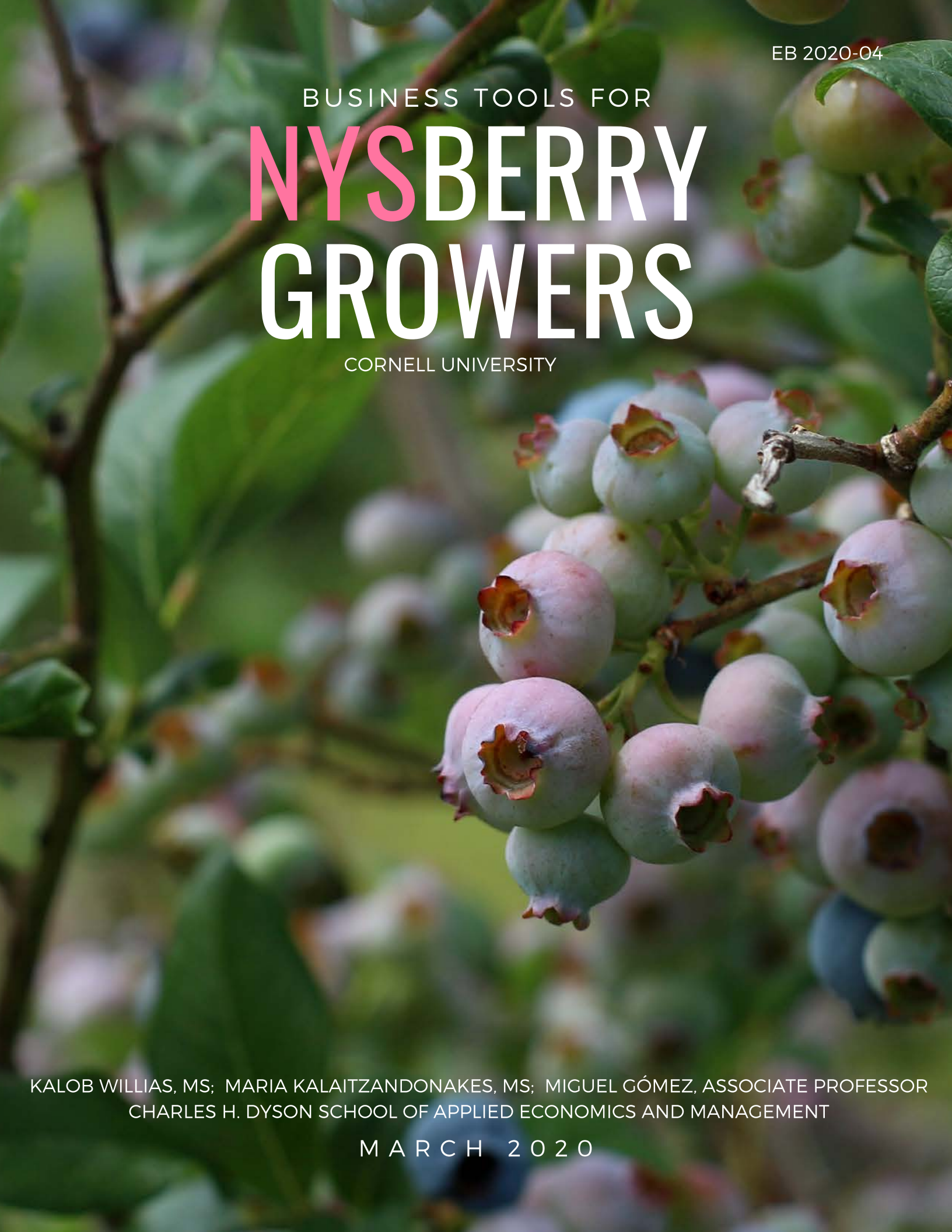

EB 2020-04

BUSINESS TOOLS FOR

NYS BERRY GROWERS

CORNELL UNIVERSITY

KALOB WILLIAS, MS; MARIA KALAITZANDONAKES, MS; MIGUEL GÓMEZ, ASSOCIATE PROFESSOR
CHARLES H. DYSON SCHOOL OF APPLIED ECONOMICS AND MANAGEMENT

MARCH 2020

It is the Policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will assure the continuation of such equality of opportunity.

INTRODUCTION

The New York State Berry Growers Association (NYSBGA) commissioned the research team of Dr. Miguel Gómez from Cornell's Dyson School of Applied Economics and Management to conduct economic and market research for the benefit of berry growers in New York State (NYS). Since the beginning of 2018, this research team has been aggregating existing knowledge, working with board members of the NYSBGA, and visiting and surveying NYS berry farmers in efforts to better understand and analyze berry growth and the berry market.

The team has developed two tools for berry growers in New York state: an interactive production cost analysis tool and a competitive analysis. The production cost tool allows NYS farmers to calculate their production costs for specific berries and compare them to the costs of a representative farm in NYS. The competitive analysis uses a SWOT framework (strengths, weaknesses, opportunities, threats) to examine the NYS berry industry with its primary competitors.

This document details the findings of these two projects. Information on how to find referenced documents is included in each section. If you have any questions or comments please feel free to reach out to Dr. Gómez's research group via mig7@cornell.edu.

New York State BERRY GROWERS ASSOCIATION

CORNELL UNIVERSITY FOUNDED A.D. 1865

PROJECT 1: PRODUCTION COST ANALYSIS TOOLS

Through discussions with farmers at the beginning of this research two things became evident. First, because of scale and the number of different crops produced by the average farmer, most NYS berry farmers find it difficult to disentangle production costs for their berries from those of their other crops. Second, if they were able to identify these costs there was little in the way of benchmarks to help them understand areas in which they could improve. To address these two issues, we developed a set of three production cost analysis tools – one for strawberries, one for blueberries, and one for raspberries. They are available on Dr. Gómez's website:

http://gomez.dyson.cornell.edu/research-projects.php

These tools were distributed via the leadership of the NYSBGA to its members. Along with the three tools, which took the form of Microsoft Excel documents, the research team created an instructional video that describes how to use the tools and interpret the results.

This video can be found on YouTube:

https://www.youtube.com/watch?v=APAQ4-tIcWQ&t=117s.

The main objective in creating these tools was to help farmers to think in a methodic way about the costs incurred by specific production practices and then compare them to their perceived benefits. They also help farmers identify production practices which they are performing efficiently, and those upon which they could improve. The method for the development of these tools, instructions on how to use them and interpret the results, and discussion of some of their limitations are included below.

METHODS

Information used to develop for the three tools comes from strawberry, blueberry, and raspberry enterprise budgets prepared by Daniel Welch, an extension associate in Cornell's Charles H. Dyson School of Applied Economics and Management. These budgets included labor use, machinery use, frequency, and wage rates for main production activities – i.e. irrigation installation, ground preparation, fertilization, irrigation, pest management, harvest, etc. As the budgets are a few years old, the research team validated data for the key variables with NYS berry farmers through a series of phone interviews and farm visits and made small adjustments as necessary.

Once data were established for labor use, machinery use, frequency, and wage rates for each production activity, they were used to generate production cost benchmark standards for NYS strawberries, blueberries, or raspberries in NYS. A series of questions were then formulated for any given berry grower to answer and then compare to the benchmarks.

Production activities are divided into "pre-production year" and "production year" activities, which allows for separate analyses of the different growth periods of a berry crop. An assumptions sheet is also included that shows the derivation of the values for the representative grower in each of these time periods. These assumptions were generated using a combination of conversations with farmers and the original enterprise budgets.

HOW TO USE THE TOOLS

The first sheet in each of the three Excel workbooks is a simple instructions page that lays out how to use these tools. These instructions are listed below.

To use the production cost analysis tools:

1. Answer the questions about your production practices in the blue "Questionnaire" tab.

2. Examine the green "Report Card" tabs for a comparative analysis of your production practices and those of the representative NYS farm.

3. See the orange "Assumed Production Practices" tab to clarify any questions about what assumptions this representative NYS farm is using.

The instructional video referenced above walks through how to do this with the blueberry tool. As the tools are all structured similarly this video is useful for all three tools. The video also describes some important features, methods, and limitations of these tools.

HOW TO INTERPRET THE RESULTS

After answering the series of questions in the "Questionnaire" tab, results will be populated automatically in the "Report Card" tabs. The three report card tabs present analyses of 1) pre-production year costs, 2) production year costs, and 3) wages and use rates. Each report card tab has two sections. The first is a graphical analysis that compares, in bar graph format, the production costs by activity of the farmer who filled out the questionnaire to those of the representative NYS grower. The second section presents the same information in numeric format, and also provides values showing the dollar-per-acre differences in costs as well as the percentage differences in costs for each production activity. A pre-production report card might look like Figure 1 and Figure 2 below.

FIGURE 1: EXAMPLE OF THE GRAPHICAL ANALYSIS SECTION OF A PRE-PRODUCTION YEAR REPORT CARD FOR BLUEBERRIES.

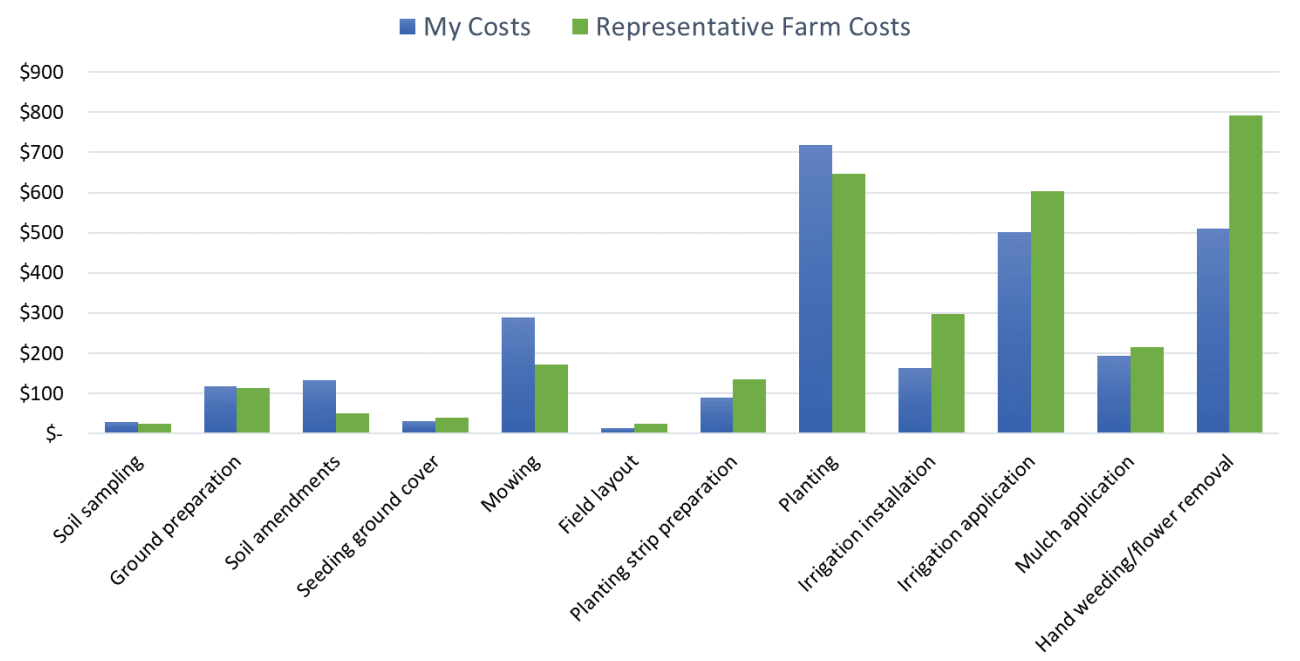

FIGURE 2: EXAMPLE OF THE NUMERICAL ANALYSIS SECTION OF A PRE-PRODUCTION YEAR REPORT CARD FOR BLUEBERRIES.

Activity	My Cost ($/Acre)	Representative Farm Cost ($/Acre)	Difference $	Difference %
Soil sampling	$29.33	$25.00	$4.33	8%
Ground preparation	$117.08	$114.38	$2.71	1%
Soil amendments	$134.00	$50.50	$83.50	45%
Seeding ground cover	$32.33	$39.88	-$7.54	-10%
Mowing	$289.50	$172.34	$117.16	25%
Field layout	$14.67	$25.00	-$10.33	-26%
Planting strip preparation	$89.33	$135.00	-$45.67	-20%
Planting	$717.33	$646.50	$70.83	5%
Irrigation installation	$163.00	$299.00	-$136.00	-29%
Irrigation application	$502.03	$602.80	-$100.77	-9%
Mulch application	$193.33	$215.06	-$21.73	-5%
Hand weeding/flower removal	$510.00	$792.00	-$282.00	-22%

*** Negative values here mean your costs are lower than industry averages.**

HOW TO INTERPRET THE RESULTS, CONT.

As an example, the analysis presented above in Figure 1 and Figure 2 suggests that this particular farmer incurs significantly lower costs per acre than the representative farmer in their hand weeding and flower removal processes, but significantly higher costs in their mowing processes. From here it is important that a farmer add context to the analysis by reviewing the "Assumed Production Practices" in the orange tab. As mentioned above, the intent of these tools is to help farmers analyze their production practices and identify areas in which they are performing well and areas in which they may be able to improve their practices and increase their margins.

Just because this analysis tells the farmer that their mowing costs are 25% higher per acre than those of a representative farmer does not mean the farmer should make drastic changes to their mowing practices. Though it does suggest there may be some cost savings to be had, the difference may also be a result of geographical or business structure differences between their farm and the representative farm. Here we emphasize that it is important to use these tools as starting points. After initially reviewing the report cards, a farmer ought to understand their implications by thoughtfully reviewing the assumed production practices, and then researching or speaking with other growers about certain production practices they think they could improve upon.

LIMITATIONS OF THE TOOL

With an industry as diverse in practices as berry growing, it is important to consider the limitations to any efforts at general analysis. First and foremost, every farm is different and every farmer is different. Economies of scale may make a large difference in a farmer's ability to lower costs, as will their reasons for farming.

Second, it is important that the assumed production practices not be considered agronomic advice, as that is not what they are intended to be. The Cornell FarmNet and Cornell Cooperative Extension services are great sources for agronomic consulting.

Instead, these tools are intended to help growers think about their production practices as they relate to berries, and identify areas in which they may be able to cut costs.

Lastly, these tools intentionally do not examine input costs of items such as fertilizer, pesticides, or plants. The reason for this is two-fold. First, input prices can vary widely depending on a variety of factors, e.g. quantity purchased, time of year purchased, or which products a farmer is accustomed to using.

Secondly, we felt that adding this level of complexity would make it more difficult for individuals to retrieve simple, actionable ideas from the tool. With an industry as diverse in practice as berry growing, it is important to consider the limitations to any efforts at general analysis. First and foremost, every farm is different and every farmer is different.

With all this in mind, we hope you find the tools useful and profitable to your berry growing efforts, and that you feel free to reach out with any questions or recommendations for improvement.

PROJECT 2: A NYS COMPETITIVE ANALYSIS

A second goal of the project was to evaluate how competitive the NYS berry industry is compared to other states in certain key metrics, including several aspects of production and marketing. The leadership of NYSBGA was particularly interested in an evaluation in order to improve statewide and individual production and marketing decisions.

This section outlines the methods of analysis used and then presents key findings in SWOT format for NYS blueberries, strawberries, and raspberries individually and then for the NYS berry market as a whole.

METHODS

Secondary data were collected from relevant academic research and the United States Department of Agriculture's (USDA) Economic Research Service (ERS). Key variable categories included acreage, yields, prices, imports, exports and consumption. Data were obtained for the U.S. as a whole and for individual states over the last 20 to 30 years where available. These variables were obtained for blueberries, strawberries, raspberries, and blackberries. For the most part, the same set of variables was available for each of the berries, with the notable exception of blackberries for which little data was available. Because of the lack of blackberry data, a formal SWOT analysis was not conducted, but the available data is summarized in the "New York State Berry Industry Competitive Analysis - Facts and Figures" available from the New York State Berry Growers Association:

https://www.nysbga.org/berry-growers

These data were analyzed graphically and statistically. Key findings are compiled in the SWOT analysis that is reviewed here for convenience:

SWOT ANALYSIS

A SWOT analysis is a strategic planning framework common in business settings that outlines the strengths, weaknesses, opportunities and threats of a particular organization, industry or project. It describes:

Strengths – Internal factors that make an organization stronger or better than competition

Weaknesses – Internal factors that make an organization weaker or worse off than competition

Opportunities – External factors that are favorable or provide a potential competitive advantage

Threats – External factors that are unfavorable or have the potential to harm an organization

The SWOT analyses presented below represent a careful analysis of all available data. Unless otherwise stated, the SWOT analyses compare the NYS berry industry to the U.S. berry industry. Further details on the claims and logic found in the SWOT analyses are provided in the additional document titled "New York State Berry Industry Competitive Analysis - Facts and Figures", which presents findings in both written and graphical form. We have included this document separately in order to keep the current document brief as the "Facts and Figures" document includes almost 70 pages of graphs, tables and discussion. Careful study of the current document alongside the "Facts and Figures" document will provide the best planning insight for individual farmers or industry players.

NYS SWOT ANALYSIS: BLUEBERRIES

STRENGTHS

NYS blueberry growers have experienced stable growth in prices of 6.1% over the last ten years. As of 2016, NYS growers received the second highest prices of all other states except for Florida, whose elevated prices are due to the extended growing season that allows them to sell fresh berries for premiums when other leading states cannot. NYS's high prices are attributable to some degree to their successful development of experiential purchasing channels such as farmers markets and U-pick operations where people are willing to pay more because of the way the purchasing experience makes them feel.

WEAKNESSES

NYS blueberry acreage accounts for only 1.0% of the US total, whereas Maine, Michigan, Georgia, and New Jersey collectively account for 71.1% of US acreage in somewhat even amounts. While U.S. blueberry acreage has increased 12% annually over the last four years, NYS acreage has increased at only 3.75% over the same period, with nearly zero growth in years before that. Similarly, NYS blueberry yields come in amongst the lowest, and are 1/5 or 1/6 of the highest yielding states or 1/3 of states like New Jersey and Michigan which experience similar weather conditions as NYS. These facts are likely due somewhat to the farm structure of many NYS berry growers, who have smaller acreage and a larger number of crops, and thus prevents the efficiencies of scale experienced by larger farms with just a few – or even one – crop.

OPPORTUNITIES

U.S. blueberry consumption has increased by 10% annually over the last ten years while also enjoying relatively low volatility in demand. It currently comprises 17% of the average U.S. consumer's berry consumption. Export demand has increased steadily over the same period, during which time Canada has taken the lion's share of exports. NYS growers are in a great geographic position to develop export relationships with Canadian buyers and should consider developing dried blueberries for this market as export prices for this product have increased substantially over the last ten years. Lastly, NYS producers may benefit from efforts to understand New Jersey, Maine, and Michigan production practices, as they experience a similar climate yet have yields three times as much as NYS. If NYS growers could improve their yields blueberries could generate on average $4,200 more revenue per acre than would strawberries for NYS growers.

THREATS

While U.S. blueberry demand has increased by 10% annually over ten years, NYS production has only increased by 5%. Most of the increasing demand during this time has been met by increases in production from other leading states and imports to the US from Canada and Chile. Although the higher prices NYS growers enjoy are great, if producers cannot keep up with demand, consumers may shift away from NYS berries if favor of berries from states that can meet their quantity and timing needs.

	HELPFUL	HARMFUL
INTERNAL	**Strengths** • Second highest prices by state • Experiential purchasing premiums	**Harmful** • Low and stagnant acreage • Low and stagnant yields • Large number of crops per farm
EXTERNAL	**Opportunities** • Stable growth in U.S. demand • Proximity to Canada for export • Export of dried blueberries • Understand Michigan, Maine and New Jersey production • Higher relative value per acre	**Threats** • Increasing imports to meet U.S. demand • Increasing production in major states • Lower prices from other states

NYS SWOT ANALYSIS: STRAWBERRIES

STRENGTHS

Strawberries make up 75% of the typical U.S. consumer's berry consumption, however 70% of that consumption is fulfilled by California and Florida. Unlike these states, however, NYS is close not only to the major northeastern markets of the U.S., but also Canada, who is the primary importer of US strawberries. Additionally, unlike California and Florida, production in NYS is on small farms that each produce various crops and allow for growers to collect direct to consumer price premiums through marketing channels such as U-pick operations, farm stores, farm stands, and farmer's markets.

WEAKNESSES

(Note that the most recent data available comes from 2012 and before). As California and Florida increase their acreage by 3% annually to meet demand, other producing states have decreased acreage by 3.2% annually. Though NYS strawberry acreage has not decreased, it has also not increased, showing virtually zero long-term growth. NYS strawberry growers experience some of the lowest yields of all states, and while most states increase yields by about 1% annually, NYS yields are decreasing at about 5.1% per year. Furthermore, the harvest window for NYS strawberry growers is not optimal, forcing them to sell during peak supply and thus fetching the lowest prices of the year. These facts suggest that strawberries generate on average $4,200 less revenue per acre for NYS growers than do blueberries.

OPPORTUNITIES

Strawberries are the most mature of all berry markets in the US. Though long-term growth in consumer demand and grower prices have been low – 2% each – they have experienced the lowest volatility of all berries, making them a low-risk, lower-return option for berry production. Also, NYS growers should become familiar with production practices of strawberry growers in Wisconsin, Michigan and Pennsylvania, who have roughly double NYS yields with comparable climatic conditions. Similarly, though geography likely precludes attaining yields similar to those of California, the fact that they are 25 times higher than those of NYS suggests that there may be something to learn from growers of the Golden State.

THREATS

Consumers are highly likely to shift away from strawberry consumption and towards consumption of other berries as the price of strawberries increases, whereas this effect is not as strong with other berries. Also, while California and Florida dominate domestic strawberry production, Mexico exports 550 million pounds, or 16% of US consumption, to the U.S. annually, making it the second largest producer of U.S. consumed strawberries next to California. Additionally, these three locations experience much longer harvest windows than NYS and many other states. The domination of production and harvest timing effectively make these three players – though primarily California – price and trend setters in the US strawberry market that are forcing other producing states either out of production or into niche markets.

	HELPFUL	HARMFUL
INTERNAL	**Strengths** • Proximity to Canada and Northeast markets • Experiential purchasing premiums	**Harmful** • Low and stagnant acreage • Low and decreasing yields • Short, non-optimal harvest window • Lowest revenue/acre of berries in NYS
EXTERNAL	**Opportunities** • Stable growth in U.S. consumer demand • Stable growth in U.S. grower prices • Understand Wisconsin, Michigan, and Pennsylvania production • Understand California production	**Threats** • High demand elasticity • Mexico, California and Florida acreage and yields • Mexico, California and Florida harvest windows

NYS SWOT ANALYSIS: RASPBERRIES

Note: Because of minimal production in all other states, data was only available for California, Oregon, and Washington, making analysis of internal aspects of the SOWT analysis – strengths and weaknesses of NYS – difficult.

STRENGTHS

Though data is not available for NYS prices, it is reasonable to assume NYS raspberry growers enjoy price premiums similar to other berries through experiential purchasing in marketing channels such as U-pick operations, farmer's markets, etc. NYS is also ideally positioned to meet the consumption demands of Canada, which is by far the number one importer of fresh and frozen US raspberries.

WEAKNESSES

NYS raspberry acreage and production are small enough that the USDA has not collected NYS data, which illustrates the lack of market sway NYS growers have and the importance of niche markets.

OPPORTUNITIES

Though raspberries only comprise 8% of the average U.S. consumers' berry purchases, they have experienced the fastest growing demand amongst berries by far. U.S. consumption of raspberries has grown 18% annually over the last ten years, and 30% annually over the last four years. These demand increases are correlated with, and likely one reason for, yield increases of 9.8% annually over the last four years. Amongst major west-coast production states, we see that raspberries offer higher revenue per acre than blueberries, but lower than strawberries and that these revenues are rapidly increasing and volatile. U.S. demand seems to have increased so quickly that production has been unable to keep up, allowing Mexico to supply 33% of U.S. raspberry consumption. Though Mexico has climatic advantages over many U.S. states, any producing U.S. state has a home-court advantage to be considered through the use of "Local", or "Product of the USA" branding and comparatively lower shipping costs.

THREATS

More than other berry crops, raspberries exhibit significant annual swings in yield which cause swings in domestic product for U.S. consumers. This in turn causes U.S. raspberry grower prices to be highly volatile. All told, raspberries are the most volatile berry in terms of yields, consumer demand, and prices. They can be considered the high-risk, high-return alternative to strawberries for NYS Growers, whereas blueberries fall somewhere in between. The reported acreage and yield increases experienced by U.S. raspberry growers are due to California growers, whereas growers in other states experience stagnant or decreasing acreage and yields. California, which currently accounts for 67% of us raspberry production and yields 2.5 times as much as the next state, Florida, will likely continue to increase in market sway and price control, possibly forcing other states out of production or into niche markets. Mexico also presents a threat to small raspberry production states as it consistently increases its exports to meet U.S. consumption needs. Lastly, both California and Mexico enjoy longer growing seasons and better climatic conditions than most U.S. producing states.

	HELPFUL	HARMFUL
INTERNAL	**Strengths** • Proximity to Canada and Northeast markets • Experiential purchasing premiums	**Harmful** • Negligible production on U.S. stage • Lack of U.S. market power
EXTERNAL	**Opportunities** • Highest U.S. demand growth of berries • Strong increases in yields • Strong increases in revenue/acre • Large portion of demand met by imports	**Threats** • High volatility in production, consumption, and price • Increasing California acreage and yield • Increasing Mexican imports

NYS SWOT ANALYSIS: GENERAL BERRIES

STRENGTHS

NYS berry growers generally receive price premiums through their focus on experiential, direct to consumer sales through marketing channels such as farmer's markets, farm stores, and U-pick operations. Barring large investments in technology and acreage, they will need to continue to strengthen their presence in these markets to maintain profitability. Additionally, NYS growers enjoy not only proximity to major markets in the northeastern US, but also proximity to Canada, a leading importer of all US berries.

WEAKNESSES

In general, NYS total berry acreage has been very small and has remained stagnant over the short and long terms. Similarly, NYS berry yields have been amongst the lowest of all states and have either remained stagnant or decreased over the short and long terms. These facts combine in a way such that NYS berry production accounts for a very small portion of the U.S. total – 1% or less for all berries – giving it little to no market influence. These trends are due in part to the nature of NYS berry farms which on small and diversified. This makes it difficult for farmers to focus on berries and increase yields and margins in ways that competing states do, many of which plant larger tracts of berries and fewer crops per farm allowing them to benefit from economies of scale. NYS growers, should work to maintain their niche markets over the long term.

OPPORTUNITIES

U.S. consumption of berries has increased steadily by 2% annually in the short term and 4% annually in the long term. These increases are partially due to consumers increased perception of berries as a "healthy" food. Though grower prices have not seen large increases, revenue per acre has increased steadily over the long term as growers find new ways to increase yields across all berries. Because of stagnation in NYS berry yields, growers should consider investing in understanding the growing practices of other berry producing states in the Northeast United States that experience similar growing conditions. Doing this may help NYS growers to realize increases in revenue per acre they currently do not.

THREATS

As U.S. berry demand rises, increases in imports from other countries – especially Mexico – claim increasingly larger portions of that demand. At the same time, U.S. berry production is consolidating in terms of farm size and number of states involved in production, with California overwhelming all other states in berry production. This consolidation has pushed some states out of production and others into niche markets, a trend that will likely continue. Finally, amongst farm products, berry price growth has been outpaced significantly by price growth in tree nuts and citrus, while keeping up with other fresh fruits and vegetables.

	HELPFUL	HARMFUL
INTERNAL	**Strengths** • Strong experiential purchasing premiums and presence in niche markets • Proximity to Northeast and Canadian markets	**Harmful** • Low and stagnant acreage • Low and stagnant or decreasing yields • Small berry acreage per farm and high numbers of other crops
EXTERNAL	**Opportunities** • Long-term increases in U.S. demand • Long-term increases in value per acre • Understand production in similar states	**Threats** • Increasing imports to meet demand • Consolidation of production • Comparatively low price growth amongst farm products

REFERENCES

ERS, USDA. (2018, September 18). Fruit and Tree Nut Data, Data by Commodity . Retrieved from United States Department of Agriculture, Economic Research Service : https://www.ers.usda.gov/data-products/fruit-and-tree-nut-data/data-by-commodity/

ERS, USDA. (2018, August 3). Fruit and Tree Nut Yearbook Tables. Retrieved from United States Department of Agriculture, Economic Reserach Service: https://www.ers.usda.gov/data-products/fruit-and-tree-nut-data/fruit-and-tree-nut-yearbook-tables/#Berries

ERS, USDA. (2018, August 30). The Farm Income Atlas. Retrieved from United States Department of Agriculture, Economic Research Service: https://public.tableau.com/views/IncomeStatementStoryPoint3/Incomestatement?amp&:display_count=no&:embed=y&:toolbar=no&:showVizHome=no

Park, K., & Cook, R. (2018). Blueberries: Is Supply Developing More Rapidly Than Demand? Ithaca: Smart Marketing Newsletter, Charles H. Dyson School of Applied Economics and Management.

Pritts, M., & Heidenreich, C. (2010, Summer). NYS Berry Pricing - Trends, Changes, Challenges. New York Fruit Quarterly, pp. 21-24.

Sobekova, K. (2012). Market Analysis of Fresh Berries in the United States. Theses and Dissertations, University of Arkansas, 517.

Sobekova, K., Thomeson, M. R., & Ahrendsen, B. L. (2012). Market Trends and Consumer Demand for Fresh berries. Applied Studies in Agribusiness and Commerce, 11-14.

Stirk, B. C., Clark, J. R., Finn, C. E., & Bañados, M. P. (2007, April-June). Worldwide Blackberry Produciton. HortTechnology, pp. 205-213.

U.S. Highbush Blueberry Council. (2017). USHBC Annual Report. Folsom: U.S. Highbush Blueberry Council.

Berry Photos. Canva free media.

CORNELL UNIVERSITY FOUNDED A.D. 1865

New York State BERRY GROWERS ASSOCIATION

OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2020-04	Business Tools for NYS Berry Growers		Williams, K., Kalaitzandonakes, M., Gómez, M.
2020-03	Regional Grass Fed Beef Supply Chain		Kalaitzandonakes, M., Gómez, M., and Peters, C.
2020-02	Cost of Establishment and Production of Cold Hardy Grapes in the Chautaqua Region of New York - 2019		Davis, T., Gómez, M., Moss, R., Martin, K., and Walter-Peterson, H.
2020-01	Cost of Establishment and Production of V. Vinifera Grapes in the Finger Lakes Region of New York - 2019		Davis, T., Gómez, M., Moss, R., Walter-Peterson, H.
2019-06	Adapting Your Labor Strategies to New York's Revised Farm Employment Laws		Eiholzer, L., Ifft, J., Karszes, J., and Stup, R.
2019-05	Assessing the Barriers to Increasing Customer Participation and Farm Sales at Farmers Markets: Implications for Marketing Strategy		Schmit T.M., Severson, R.M. & Sawaura, E.
2019-04	Crop Budgets and Cost & Return Studies for Organic Grain in Western New York		Li, J., Gómez, M. & Murphy, J.
2019-03	2018 New York State Berry Market Analysis: Pricing Information of Local Berries		Davis, T., Gomez, M. & Pritts, M.
2019-02	The State of the USDA Inspected Red Meat Harvest & Processing Industry in New York & New England		Waro, M., Kalaitzandonakes, M., Baker, M., Peters, C., Gomez, M. & Conard, M.
2019-01	The State of the Agricultural Workforce in New York		Stup, R., Ifft, J. & Maloney, T.
2018-08	Six Year Trend Analysis New York State Dairy Farms Selected Financial and Production Factors		Karszes, J.
2018-07	Production Agriculture Diversification for Each State in the United States		Tauer, L. W.
2018-06	Dairy Business Summary New York State 2017		Karszes, J., Christman, A., Howlett, A. & Knoblauch, W.

Paper copies are being replaced by electronic Portable Document Files (PDFs). To request PDFs of AEM publications, write to (be sure to include your e-mail address): Publications, Department of Applied Economics and Management, Warren Hall, Cornell University, Ithaca, NY 14853-7801. If a fee is indicated, please include a check or money order made payable to Cornell University for the amount of your purchase. Visit our Web site (*http://dyson.cornell.edu/outreach/#bulletins)* for a more complete list of recent bulletins.