

Cornell **CALS**

College of Agriculture
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**IMPACT OF COVID-19
ON
NEW YORK'S FARM & FOOD SYSTEM**

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Introduction and Overview

The COVID-19 pandemic continues to create disruptions and hardships on individuals, families, communities, and businesses throughout New York State.

In this series of discussion papers, we seek to provide perspectives and insights on the impact of COVID-19 to selected agricultural sectors. We hope that these papers will assist in bringing a greater understanding of the effects of immediate and sustained disruptions in the farm and food system on the agricultural economy, and assist in highlighting lessons learned to strengthen the food system going forward.

We know that all parts of the food system, from farm employees and farmers to processors and retailers have faced difficult challenges because of the COVID-19 pandemic. Essential workers, such as farm and food processing employees, have heroically carried out their responsibilities in food production, processing and distribution while taking necessary steps to remain healthy and avoid contributing to COVID-19 outbreaks. In some cases, farms incurred significant product losses and price reductions. In other situations, farms and food businesses experienced additional costs to develop new marketing channels and packaging while adjusting employee working conditions and schedules to prevent COVID-19 spread. This series of papers does not delve deeply into impacts of COVID-19 to direct food retailers, such as restaurants or institutional food service providers but does attempt to shed light on the experiences faced by many in our food system.

New York is a truly diverse agricultural state. While dairy comprises nearly half of the state's agricultural market value, the other half is comprised of a wide variety of fruits, vegetables, nursery, floriculture, grains, oilseeds, aquatic and other specialty crops. New York farms also vary widely in size and marketing approach and in recent decades, many farms have incorporated value-added components to their farms. While these different approaches provide new market outlets, they create other challenges. Throughout the pandemic, all of our agricultural enterprises have remained committed to serving consumers with safe food products while striving to provide safe workspaces. New York is also blessed with non-edible, yet fundamentally agricultural in nature industries like the equine and nursery sectors. This series of papers seeks to share perspectives for these two critical areas that are included in the fabric of New York's agricultural communities.

As the COVID-19 pause restrictions were instituted in March and April 2020, the visual of milk being dumped in fields while grocery stores limited milk sales became one of the many examples of disruption in food supply chain. Everyone struggled with the cognitive dissonance of seeing milk dumped and crops unharvested in the field together with long lines for food assistance.

Food security is a critical element in understanding the stressors on people's lives and on our food system. The first discussion paper in this series provides some initial data and glimpses into emerging work from Dr. David Just and Anne Byrne, in the Charles S. Dyson School of Applied Economics and Management at Cornell, who are in the middle of assessing the pandemic's impact on food insecurity rates in New York and throughout the nation. Additional findings from the Dyson School's assessment of the impact of COVID-19 on food insecurity will be published later this year and made available to policy makers.

The federal government established a number of programs to support farmers, but the value of these programs varies from state to state and farm to farm. Programs authorized and funded through the Coronavirus Aid, Relief, and Economic Security Act (CARES Act, P.L. 116-136) and other related legislation include: the Coronavirus Food Assistance Program (CFAP) established by USDA, the Payroll Protection Program (PPP) and Economic Injury Disaster Loan (EDIL) programs created by the Small Business Administration. While we know New York farmers participated in these programs, a full assessment of the benefits and gaps in assistance is premature at this time and USDA announced a CFAP 2 on September 18. Preliminary analysis as of October 6 indicates that while New York farmers received \$220.5 million in CFAP¹ 1 payments, the number of approved applicants represents less than 20% of the State's farmers.

Cornell University has been privileged to collaborate with the state of New York for over 150 years as the Land-Grant institution. Our closing paper discusses our pro-active partnership and response relating to the COVID-19 pandemic. The focus of our systemic efforts, working in partnership with New York State and county cooperative extension teams, has been to provide the information, education, and resources to help protect food safety and help keep New York's farm and food system functioning as safely as possible during the pandemic. This work has gone beyond training and technical assistance to coordinating the distribution of hand sanitizer and face coverings to over 57,000 farmers and farm employees as well as hosting innumerable food distribution events at the local level. These efforts and many more continue today and will into the future.

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¹ USDA CFAP 1 dashboard (<https://www.farmers.gov/cfap/data>) reports 5,652 approved NY applicants (10-4-20).

Perspectives on Food Security

Preliminary Report on Impact of COVID-19 on Food Insecurity Rates in NYS

Prior to the impacts of the COVID-19 pandemic, an estimated 10.8% of New York households experienced low or very low food security, with these households significantly more likely to contain children than the average New York household.² This was slightly higher than the national average. Rates of food insecurity are higher in many of the rural areas of New York. Approximately 2.7 million New Yorkers used SNAP to supplement their monthly food budgets. The unfolding of the COVID-19 pandemic, and in particular the economic consequences of the massive public health response, had a dramatic impact on the prevalence of food insecurity around the country and in New York.

Impact on Food Assistance Inquiries

Early March saw a dramatic rise in unemployment claims across the state of New York, preceding a similar rise in COVID-19 diagnoses by approximately two weeks. Prior to this point, new weekly claims had been in a range of 160K to 180K, while after claims jumped first to over 300K, and eventually more than 1.8M just six weeks later. The same period saw empty shelves in many grocery stores across the state as a period of widespread panic buying of both paper and food products spread throughout the state. This period of substantial economic upheaval saw a 189% increase in weekly online searches for private food assistance. Such inquiries generally represent households that are experiencing food insecurity for the first time, or after a long period of food security. Search rates remained in this elevated range for the next 8 weeks. This increase in food assistance inquiries accelerated much more quickly in New York than in the rest of the US, which peaked about 4 weeks later, though relative increases to peak were similar. A sample of 111 food banks in the US found a year over year increase in pounds of food distributed of 20.0% in the month of April, reach 25.8% in the month of May. Each of these indicators suggest a large and rapid rise in food insecurity both in New York State, and around the United States, such as had not been seen in generations.

Impact on Food Assistance Networks

Such a sudden and dramatic increase in the need for food assistance would strain the food assistance system under normal circumstances. However, this rise took place as the nation simultaneously experienced widespread stock outs at grocery stores, coupled with restaurants and food producers throwing large amounts of food product away as shutdown orders eliminated normal sales venues. Grocery store stockouts led to an estimated 70% decline in retail food donations to Food Banks. This was coupled with a modest increase in cash donations that could

² Coleman-Jensen, et al. "Household Food Security in the United States in 2019" ERR-275 Economic Research Service, USDA, <https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=6193.2>

be used to purchase replacement product. Unfortunately, the same supply chain issues causing stockouts in grocery stores caused significant delays in order fulfillment. Food orders that would normally have arrived within 2 to 3 weeks would now take multiple months. Increased USDA shipments played a key role in filling the gap. However, some food banks within New York report the only way they could meet increasing demand for food as retail donations decreased was to reduce the amount of food given per food insecure household.

Staffing was an additional challenge for much of the private food assistance network. Many food pantries rely on elderly volunteers who do not feel safe interacting with large numbers of people under the pandemic threat. This led to a shortage of volunteers, and lines at the majority of food pantries increased in length by 20 to 50%. Several pantries and food banks report outbreaks among staff, and several food banks report resignations resulting from health concerns. In addition to added food demand, health and safety procedures and precautions to address COVID-19 have increased workloads. Many food pantries are located in small-enclosed areas that have been deemed unsafe. For this and other reasons, this has seen a shift in service provision as many pantries have been shut down, while food banks have taken over some of these operations or provided substitute operations.

Changes in Food Support

Health concerns, demand management and staffing issues have led to dramatic changes in the administration of private food assistance. Prior to the crisis most clients were served by local food pantries in a fixed location (or mobile pantries that made regular stops). Moreover, a plurality of these locations allowed some degree of client selection of the foods that were most appropriate for their household. Approximately 2/3 of food banks have supplemented or substituted these services with drive through pick up locations where clients are given a prepacked box of food. This both severely limits choice among clients and may present a significant challenge for households that do not own a car. Limits on food choice causes two potential problems: i) food boxes are not easily scaled to all household sizes, and ii) boxes may contain food combinations that are not culturally appropriate for many households. Both of these issues may result either in food waste or want. Many food banks have been able to expand the number of locations for food deliveries.

Preliminary results from a Cornell University survey revealed some evidence that the challenges facing private food assistance in rural areas have been somewhat steeper than those in urban areas. In particular, rural food banks are more likely to report severe problems with long lines that have not dissipated. In addition, rural food banks are more likely to report difficulty in implementing the health guidelines required to distribute food safely under COVID-19.

Future Considerations

At the outset of the pandemic, USDA introduced significant flexibility in each of their food assistance programs designed to help meet rising need. This included additional SNAP benefits, extension of free and reduced school lunch to households that did not previously qualify, serving

of school lunches off site (including home deliveries), and flexibility to fulfill WIC orders with substitute foods to overcome stockouts. These programs have played a significant role in addressing food insecurity, though there is significant uncertainty about how long added flexibility will be available. Some school districts report significant impacts of food delivery on budgets that will be difficult to address as tax receipts are likely to decline. Additionally, policy makers attempting to alleviate high rates of food insecurity would be best wise to consider simply increasing SNAP availability and benefit rates. SNAP has long been an efficient and effective mechanism to alleviate hunger.

Policy makers may wish to consider that the underlying cause of food insecurity and increased food demand is not from the public health challenges faced by sick individuals during the pandemic, but the underlying economic conditions, which are, of course, the result of the pandemic. To that end, while we may see an end to the pandemic with the introduction of a vaccine, we should not expect to see a decrease in food bank demand until economic conditions recover. It would be wise to consider, when appropriating resources to different areas of the state of NY to address food insecurity, community-based levels of unemployment as the main determiner of food insecurity rather than the metrics surrounding COVID-19 caseloads or positivity rates from testing. This seems self-explanatory, but in a time of quick proliferation and deployment of federal and state efforts to bolster feeding programs, it is important to consider where scarce resources can best be deployed to meet food insecurity. The data suggests that areas of the state with the highest unemployment rates continue to be the strongest predictor of high rates of food insecurity.

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Perspectives on the Agricultural Workforce

Preliminary Report on the Impact of COVID-19 Pandemic on New York's Agricultural Workforce

Background

New York farms, like most across the country, have struggled to secure a sufficient workforce in recent years. In fact, workforce issues have become among the most pressing challenges for the industry and a limiting factor for its future sustainability. The COVID-19 pandemic increased the strain on the workforce for both permanent and seasonal farm jobs.

According to the 2017 USDA Census of Agriculture, New York had 8,963 farms that employed hired labor and 55,636 employees made up the hired farm workforce. Most farms are family businesses and some labor is unpaid, in addition to the hired workforce, New York had 16,728 operations with unpaid labor in which 40,258 people worked. The farm workforce can be generally divided into two groups: permanent, year-round positions that exist mainly on dairy and livestock farms and greenhouses but also represent a portion of the workforce for fruit and vegetable farms, and seasonal positions that only exist during the growing months from Spring through Fall. The seasonal workforce is further divided between jobs that start in the Spring and last through Fall harvest and other jobs that exist only for a few months during the Fall harvest. COVID-19 has had differing effects on these particular groups of employees because of differences in factors such as housing, migration, transportation, and work relationships. Table 1 contains a breakout of New York's hired farm workforce by sector according to the North American Industry Classification System (NAICS).

Table 1. New York's Hired Farm Workforce by Industry Sector

NAICS Code	# Hired Employees	Percent of Total
Fruit and Tree Nut Farming	13,535	24.3%
Dairy Cattle and Milk Production	11,960	21.5%
Vegetable and Melon Farming	8,218	14.8%
Greenhouse, Nursery, and Floriculture Production	7,548	13.6%
Other Crop Farming (including Hay)	5,465	9.8%
Aquaculture and Other Animal Production	3,715	6.7%
Oilseed and Grain Farming	2,036	3.7%
Beef Cattle Ranching and Farming	1,577	2.8%
Poultry and Egg Production	1,023	1.8%
Sheep and Goat Farming	381	0.7%
Hog and Pig Farming	90	0.2%

Cattle Feedlots	88	0.2%
Total	55,636	100%

Impacts to Producers and Farm Employees

Permanent Employees. No formal database exists to track COVID-19 infections among farm employees, but anecdotal evidence and public reports indicate that the farm workforce has been affected. Among smaller farms in New York with limited numbers of non-family employees, the vast majority of employees are drawn from the local population and live in their own homes in the local community. COVID-19’s impact on these farm employees were really no different from the general population except they might have been somewhat less exposed at work due to their relative isolation when compared to workers in jobs such as retail, hospitality, or health care. Among medium-sized and larger farms a significant part of the workforce consists of foreign-born employees who immigrated to the U.S. either quite recently, or frequently, many years or even decades ago. A portion of this foreign-born workforce lives in farm-provided housing, either in group housing or in single-family homes. There were incidental reports of COVID-19 infections that spread widely among individual farm workforces in the early months of the pandemic. More seriously, at least one foreign-born dairy farm employee died from COVID-19 in April. A large outbreak at a New York greenhouse made national news when about 169 employees became infected, likely due to their crowded living conditions away from the worksite according to news reports. <https://www.syracuse.com/coronavirus/2020/05/inside-green-empire-farm-upstate-nys-biggest-coronavirus-outbreak-slams-migrant-workers.html>

Numerous anecdotal reports and conversation with farm owners indicate that COVID-19 was certainly present among permanent farm employees if not widespread. Farmers described situations where the virus appeared and caused serious illness for some employees while others, even if tested positive, suffered from few or no symptoms. In most cases, farm owners and fellow employees provided supportive care for sick employees and they recovered and returned to work within a week or two. Labor shortages in these situations were transient as managers and other employees simply stepped up to work longer hours to cover for their sick colleagues.

Seasonal Employees. COVID-19 had a great impact on New York’s seasonal farm workforce which is primarily engaged in vegetable and fruit production. The workforce consists of people who live permanently in local communities, people who migrate from within the U.S. to take farm jobs, and people who migrate from other countries, primarily using the H-2A guest worker program, to work in seasonal farm jobs. The seasonal workforce begins to assemble in late winter, increases through spring and summer, and reaches its peak size in fall for harvest. Beginning in March, COVID-19 caused the tightening of international borders, the closing of U.S. embassies and consulates in certain countries, and the shutdown of many international flights. Confusion and near-panic reigned among growers and employees in the H2-A program as the pandemic shutdowns threatened foreign workers’ ability to enter the country. Emergency calls from industry organizations to the federal authorities and from growers and workers to

federal representatives cleared the way for H-2A workers to be declared “essential” and allowed embassies and consulates to resume processing their visas. Transportation issues plagued the normal flow of workers into the country throughout the season. In the end, most H-2A workers were able to enter the country and perform their jobs although significant delays up to several weeks were common.

New York producers, industry groups, worker advocates and others scrambled to secure protective equipment such as face coverings and hand sanitizer early in the growing season. Later, state government and Cornell Cooperative Extension distributed these supplies in large quantities. Reports of COVID-19 among the farm workforce appeared sporadically throughout the year. Industry, government and Cornell specialists together recognized the threat posed by the dramatic increase in size of the workforce as it assembled in force for fall harvest. Maximum workers meant workplaces and employee housing would become crowded, with many new employees arriving from COVID-impacted countries and regions in the southern U.S. CCE and government redoubled efforts to educate growers and workers about prevention best practices. Three state agencies, the Departments of Health, Agriculture and Markets, and Labor, initiated mobile testing labs to focus on testing all farm employees they could reach in five counties with large, fall workforces. This strategy was designed as a preventative one to identify asymptomatic employees and prevent outbreaks, particularly as employees entered the state for the harvest season. It is still unclear how COVID-19 will affect the 2020 apple harvest as this year’s crop is somewhat behind schedule so much work remains to be done. New York State does not require reporting of COVID-19 outbreaks by occupation, so there is not a centralized source of reliable information on the number of farm employees who have contracted COVID-19. Based on newspaper and anecdotal reports, transmission rates among farm employees do not seem to be higher than the general population in New York State.

Future Considerations

COVID-19 cast a bright light on weaknesses and vulnerabilities in New York’s farm workforce. All industry sectors have struggled in recent years to secure enough employees and the growth of the H-2A program indicates a lack of available domestic workers. COVID-19 introduced an additional strain to the workforce that had the potential to break it.

H-2A itself demonstrates a vulnerability, a large proportion of fruit and vegetable farms would simply be unable to operate without access to foreign guest workers. In March and April, when it was unclear if foreign workers would be able to enter the country at all, many vegetable producers made last minute changes to the production plans in order to reduce the demand for labor, others seriously considered simply skipping the 2020 season altogether. Producers, policymakers, and immigration officials should consider lessons learned from COVID-19 and initiate planning to ensure the orderly flow of foreign guest workers into the U.S. under future pandemic scenarios.

Farms with permanent, year-round employees were faced with transient workforce shortages due to COVID-19 outbreaks among employees. Many farms already operated short-handed and these

outbreaks exacerbated the problem. Even worse, the nature of a respiratory illness made alternative workers less available than under other circumstances. Community and family members will often step up to help a farmer in need when an unforeseen disaster or sudden turnover occurs, those helpers are less willing when a serious, infectious disease is a threat in the workplace. Permanent farm employers need to prepare contingency plans to deal with workforce shortages with tactics such as: triaging work and temporarily eliminating non-essential tasks, planning for the care and support of sick employees, cross-training employees to provide better workforce flexibility, identifying tasks that can be isolated from the regular (possibly infected) farm workforce and outsourced to external sources of support (i.e. caring for heifers at a remote site).

Finally, housing needs to be addressed for both permanent and seasonal employees. When farms developed existing farm-provided employee housing stocks they did not consider the need for quarantine or isolation of workers. Permanent employee housing is often full to capacity, leaving no extra space for quarantine or isolation. Converted farmhouses and even newly constructed bunkhouses and manufactured homes have shared bathrooms and common spaces that certainly prevent true isolation of infected individuals. Seasonal farm employers, especially fruit growers, enjoyed the luxury of extra housing capacity during the spring and summer months this year. They could open up early the larger capacity housing they own to accommodate the fall harvest workforce for the use of the smaller spring and summer workforce. This enabled the spring and summer workers to spread out more than usual and even facilitated quarantine and isolation when needed. This strategy stopped working in the fall when the harvest workforce arrived and occupied all of the excess housing capacity from the summer. Producers and government should re-evaluate farm workforce housing needs in light of the pandemic. Government should partner with farms to re-develop farm employee housing and rural community resources that could provide quarantine and isolation housing support when needed.

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Perspectives on Dairy

Milk is the largest agricultural product in New York with \$2.8 billion in 2019 cash receipts representing 53% of total agricultural receipts. In 2019, 3,880 licensed dairy herds with 625,000 cows produced 15.12 billion pounds of milk making New York the fourth largest milk producing state. The US dairy industry entered 2020 fairly well balanced and the farm milk price outlook was optimistic. The sharp consumption changes when the COVID-19 pandemic struck had major effects on dairy products and prices.

Dairy Demand Effects

Food away from home has been a major driver of dairy consumption. People eat differently away from home, both in terms of food quantities and types, consuming more butter, more cheese of greater varieties, and less beverage milk. Anecdotal industry estimates suggest about 50-60% of cheese and 45-55% of butter were consumed away from home prior to the pandemic.

As the scope and seriousness of the COVID-19 pandemic became clear, food service businesses shut down in large numbers and consumers sheltered at home. For the US, food away from home expenditures declined 26% in March and more than 49% in April compared to 2019 before experiencing smaller, but still significant, declines year-over-year in May and June. At the same time, food at home expenditures surged by 20.6% in March over 2019 levels with 7-9% increases in April-June. Total food expenditures declined 4% in March and 22% in April in part because food away from home includes a higher percentage of taxes and tips.

Dairy manufacturing plants tend to be highly specialized in both products and packaging. Nutrition labelling and other requirements for retail do not apply to bulk food service packages. Food at home also tends to be of much smaller portion size than bulk packages sold to food service establishments. Food packaged for food service often may not be legally sold at retail if it does not meet requirements. FDA did allow some waivers on packaging requirements, but bulk packaging remained the wrong size for most consumers. Thus, the disruption to food service outlets had consequences that varied by product type and structure of the business.

Dairy Supply Response

In recent decades, the dairy supply chain has focused on efficiency and cost minimization exemplified by lean manufacturing techniques and just-in-time delivery. With robust transportation systems, these strategies minimize operating, procurement, and distribution costs. However, these lean supply chains can have difficulty responding to dramatic demand shifts. The sudden disappearance of food service outlets and shifts in products and packages resulted in milk dumping in the early pandemic closure days. The amount of milk dumped in April 2020 was striking including 6% (131 million pounds) of milk in the Northeast Order. Industry reports indicate that dumping was far less elsewhere in the US and, fortunately, dumped milk levels in May returned to baseline levels and have held there.

In order to alleviate supply issues, several actions were taken. First, the industry chose to produce storable products where possible rather than dump milk, even if this meant carrying higher levels of stocks. Second, whenever possible, export markets were leveraged to move dairy

products especially milk and whey powders. Third, dairy cooperatives took aggressive actions to either implement existing programs or create new pricing programs to discourage milk production. A base level of milk production was set at some historic farm level. Any milk sold in excess of that amount received a lower “overbase” or “excess” price that was designed to cover the costs of managing that excess. This often meant offering milk to reluctant customer at a deep discount and often with higher transportation costs. In New York, milk production in May declined by 1.8% over a year earlier and by 0.16% in June. Total US milk production slowed in April, declined in May and has remained below trend thereafter.

Price Effects

Market prices for farm milk were severely impacted by the pandemic. Entering the year at around \$20 per hundredweight (cwt), a favorable price, the farm price dropped precipitously in March and April, falling to \$13.60/cwt in April. Farm milk prices for use in some products climbed back to higher levels in June and July for some farms. However, this was not the case for milk in many other uses and the net farm price remains highly variable across farms depending on their marketing situation.

These farm milk price patterns were not mirrored in wholesale and retail markets. The result of food service demand destruction was a 39% decline in wholesale cheese price, 36% decline in wholesale butter price from March to May. This had important implications for farm prices as wholesale cheese and butter prices are primary drivers of the farm milk price. At the retail level, prices generally rose and the rate of increase was higher in the second quarter but tended to moderate in the summer months. Increases in fluid milk prices were more pronounced, butter price changes were more subdued, and cheese prices fell in between.

Future Considerations

The US federal government reacted to the pandemic with large stimulus investments. SNAP benefits increased 73% in April, year-over-year while the Emergency Food Assistance Program (TEFAP) was up 34%. New programs also played a role, with the primary one being the Coronavirus Food Assistance Program (CFAP). CFAP had two components. The first offered direct income subsidies to dairy farmers, with payment limitations and income qualification rules. All dairy operations with milk production in the first quarter, as well as all dumped milk in the first quarter of 2020 were eligible for CFAP payments. In total, most dairy farms will have received an average annual income contribution of \$1.55/cwt from CFAP payments. As of October 11, USDA reported that the CFAP 1 program paid New York dairy farms a total of \$164.3 million with 2,654 approved applications. New York ranked third behind Wisconsin and California for CFAP 1 payments in the dairy category.

The second component of CFAP is the Farmers to Families Food Box Program where USDA financed the purchase of food items, including dairy products, for direct distribution to needy Americans through non-profit organizations. The first round, May 15-June 30, purchased \$1.2 billion while the second round, July 1-August 31, purchased up to \$1.47 billion of dairy products. These purchases contributed to strong demand for fresh cheese and is believed to be a primary reason for the dramatic Spring rebound of cheese prices to above \$2.50/lb. The CFAP

food donations program is scheduled to run through 2020. New York State's rapid response both to food insecurity and to excess dairy product inventory was exemplary. Anecdotal reports indicate that the state's quick action in deploying the Nourish New York program alleviated some of the massive disruption faced particularly in the dairy processing sector with excess product inventory. The usage of Nourish New York, funded by federal emergency assistance monies, to alleviate hunger with locally produced New York products with an emphasis on dairy was likely quite helpful. Comprehensive data on purchases is not yet available for this program, but the innovative and quick action by New York State likely alleviated some of the immediate financial stress on the dairy industry.

Existing dairy farm programs and crop insurance also provided support for operations that signed up or purchased these tools. The Dairy Margin Coverage (DMC) program provides a payment when the margin between the US All Milk price and an average US feed cost falls below trigger levels. In 2020, farms who purchased coverage at the \$9.50/cwt level will have averaged a net benefit of about \$0.66/cwt on their annual historic milk production. Unfortunately, expectations of low payouts resulted in only 21% of New York operations with established production history participating in 2020.

Finally, the Paycheck Protection Program (PPP) was instrumental in allowing farms, processors and others in the dairy supply chain to maintain workers on payroll during shutdowns. As of September 2020 many dairy farmers and processors mention lack of available labor as a primary concern. Some of the labor availability issues currently are caused by lack of daycare.

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Perspectives on Fruits and Vegetables

The farmgate value of fruit and vegetable production in NYS has been approximately \$800 million in recent years. Some of the largest crops contributing to this total have been apples, grapes, cabbage, snap beans, sweet corn, and pumpkins. However, there are many other fruit and vegetable crops that are economically important within a county or region in New York State. For fruit and vegetable markets, the effects of COVID-19 were not uniform across all individual fruit and vegetable items, and varied depending on many factors including seasonality, international trade, convenience and ease of preparation considerations, fresh and processed products, and relative prices. Now several months after the initial outbreak of COVID-19, there continued to be many concerns about the short and long run implications on product supply, and how fruit and vegetable markets would respond to a renewed flare-up of the disease.

Impacts to Producers

The network that supplies and distributes fruits and vegetables in the U.S. Northeast has been confronted with a number of challenges as a result of COVID-19. The first issue that has attracted much attention in the media and by industry leaders is the effect of the pandemic on the supply of farm workers given their importance in the fruit and vegetable industry. Here there was an initial concern about finding a sufficient supply of labor in an era with increased border closures and limitations on travel. The initial concern has now shifted to the potential effects from an outbreak of the disease among workers in the field or in the processing and packing plants, similar to what was observed in the U.S. meat processing sector. During the summer of 2020 there has been reports of a non-trivial number of COVID-19 cases among farmworkers in California, Washington, Florida, Michigan, and in the province of Ontario in Canada, and this remains a major concern going forward for fruit and vegetable producers in New York.

Since mid-March 2020 there has been a large shift in consumer spending patterns from food service to food retail markets. This shift from food service to food retail sales has been the case across all food categories but the most notable economic implications have been for food products that are typically consumed away from home including selected fruits and vegetables that cannot be stored easily. This shift initially led to rapid decline in foodservice shipments and an increase in retail sales. However, by mid- to late-May the positive retail shocks and negative foodservice shocks had largely dissipated for most major fruit and vegetable crops, and shipments returned to normal levels. This does not suggest that foodservice had returned to normal volumes, but rather shippers had found alternative ways of moving their output from foodservice to retail channels.

Impacts to the Food Supply Chain

The COVID-19 pandemic has created enormous societal disruptions in the United States and elsewhere with serious implications along the fruit and vegetable supply chain. Media sources have reported widely on the effects of COVID-19 on food and agricultural markets including the

disruptions and waste in the processing sector, to the host of issues at the retail level, and the increased complications that consumers face including the increase in online food purchases.

On the demand side, COVID-19 led to several important short-run changes in markets for fruits and vegetables. There were widespread reports of stockpiling activity by food consumers, and many retailers enforced a quantity restriction on specific food items, including frozen fruits and vegetables. Among some consumer segments, the pandemic has generated new enthusiasm for local and regional food and anecdotal evidence suggests that direct to consumer sales increased in the second quarter of 2020.

Category substitution, and the eventual run-down of household inventories of frozen fruits and vegetables (and other non-perishable items that were stockpiled), may have important implications for future purchases of fresh fruits and vegetables, and dietary quality. If households substitute between non-perishable (or frozen) products that were stockpiled and stored during the spring of 2020, this could lead to downward price effects in fruit and vegetable markets and lead to a range of market responses in late 2020. We know that consumers substitute readily between food categories and notably between fresh and frozen fruits and vegetables, so this effect could be important and place downward pressure on fresh fruit and vegetable prices in late-2020.

Future Considerations

One way to think about the longer run effects of COVID-19 on fruit and vegetable markets is to reflect back on other recent economic events in U.S. history that have negatively affected markets, including the 9/11 terrorist attacks, the SARS epidemic in 2003, and most notably the Great Recession in 2008-09. Past research has found that the Great Recession had a limited effect on the caloric quantity of the foods purchased; evidence suggests that the Great Recession affected other attributes, including an improvement in nutritional intake, given the increase in the share of food consumed at home. This is particularly important for fruits and vegetable markets and suggests that we may see an increase in the demand for healthy food products as we continue following altered food purchasing and consumption patterns as a result of the pandemic.

Looking forward, another issue will be coordinating production with a changing landscape of, and future uncertainty about, demand among food service and food retail consumers. Given that planting decisions are typically made three to six months prior to harvest and distribution, many vegetable suppliers need to re-evaluate the optimal mix of crops to produce in 2021. Embedded in this decision is the effect that closed borders and reduced trade flows may have on imported quantities of fruits and vegetables.

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Perspectives on Livestock

The non-dairy livestock industry contributes \$893 million in sales to the rural New York economy, as well as an extensive and diverse range of products to local and regional markets.¹ Of the 448 NYS livestock producers who responded to a 2017 survey about their businesses, over 85% believed the New York livestock sector has potential for growth. This optimism spanned all scales, livestock species, and farm business maturity levels.

COVID-19 has both elevated and deflated this optimism. Demand for local meat products has skyrocketed since March 2020. Simultaneously, producers' ability to get their animals processed at a USDA facility has emerged as a bottleneck in the local meat supply chain, resulting in financial losses for farmers and questions about the resiliency of the state's processing infrastructure. For that reason, this paper will focus exclusively on the pandemic's impacts on meat processing.

Impacts to Producers

In July 2020, the Cornell Small Farms Program surveyed NYS livestock producers about the impacts of COVID-19 on their businesses. 650 farmers responded. Of these, 85% (553) producers reported that demand for their products had increased, but 529 producers could not meet this increased demand because of inadequate slaughter facility capacity. This is not a new problem but has been exacerbated by the pandemic. Farmers shared:

- *"We stopped raising meat because there is nowhere to process it near us, and it's not cost effective to drive animals several hours for processing"*
- *"We can't get slaughter dates until 2021"*
- *"The primary factor that prevents us from expanding our meat lamb and pastured pork enterprises is a lack of access to USDA slaughter facilities"*

The challenges vary depending on species raised and geographic region. In the north and south west region of New York, there are few USDA facilities; farmers have to haul animals several hours to get them slaughtered and processed.

Impacts to the Food Supply Chain

While livestock farmers are frustrated, New York's slaughterhouses are also struggling. In order to sell retail cuts of meat, or sell meat across state borders, livestock must be processed in a USDA-inspected slaughterhouse. There are 36 such facilities in New York, though this number has steadily declined over the past 30 years.

In Spring 2020, when hundreds of employees at USDA slaughterhouses out West became sick with COVID, those plants were forced to shut down temporarily. While many head of livestock were subsequently euthanized, a wave of animals entered New York to be processed at our Small and Very Small USDA facilities. This has continued to displace local, direct-marketing farmers who had existing appointments, despite the fact that the large slaughterhouses have reopened. In northern New York, farmers are being bumped from Fall 2020 slaughter appointments until

Spring 2021. These farmers have to make a very difficult choice: to feed those animals through the winter or sell the animals live now. Either option means a financial loss.

A 2018 survey of New York and New England USDA slaughterhouses conducted by the “Overcoming Supply Chain Barriers to Expanding Northeast Ruminant Meat Production²” project found that these facilities:

- Lack access to reliable workers (74% of respondents)
- Have limited product throughput and harvest days due to inadequate cooler space (68% of respondents)
- Need access to grants or loans to grow their business (57% of respondents)
- Need more business in the off-season to remain viable.

Future Considerations

New USDA slaughterhouses are very expensive to build and challenging to run profitably, especially with uneven seasonal demand for their services in NY. While sufficient USDA slaughterhouse capacity exists to meet current demand, the researchers in the above study acknowledged regional gaps in USDA-inspected packing plants in western and northern New York.

One cost-effective strategy to address the New York meat-processing bottleneck would be expansion of the cut-and-wrap capacities at existing USDA plants. North Carolina and Montana have initiated grant programs to increase capacity of their existing slaughterhouses.

New York has more “custom exempt” than there are USDA slaughterhouses. USDA inspects custom exempt facilities annually, but individual carcasses are not inspected. This lack of individual inspection means that animals processed by custom exempt facilities cannot currently be sold by the cut. The federal RAMP-UP legislation would provide grant funding to custom exempt slaughterhouses that want to upgrade to being fully USDA-inspected. Cornell Cooperative Extension livestock educators are undertaking a survey to all slaughter facilities in New York in Fall 2020 to learn, among other things, how many custom exempt facilities have an interest in upgrading to USDA inspection.

In addition, the federal PRIME Act would make it possible for farmers to utilize custom exempt plants to process animals whose meat would be sold direct-to-consumer by the cut. Some states, like Wyoming, bypassed the need for the PRIME Act by passing “Food Freedom” legislation that includes a meat amendment. This allows producers to sell cuts of meat direct-to-consumer from animals processed at custom exempt slaughterhouses.

With reliable labor as the primary constraint to slaughterhouse expansion, no solution will be successful without creating new pipelines of employees. Programs to expose high school students to this as a career option, or possibly to incentivize employment at a slaughterhouse, may alleviate the labor shortage. SUNY Cobleskill is currently the only college with a training program specifically for meat processing, while Cornell CALS offers only one undergraduate course in meat science for enrolled students in the Department of Animal Science curriculum.

While there is no way to know to what extent consumer interest in local meat will extend beyond the pandemic, the New York livestock industry is poised for growth but constrained by access to slaughterhouses. The pandemic has highlighted the weaknesses of a western-based concentrated meat packing industry. To be resilient to future shocks, investments in our existing decentralized infrastructure of slaughterhouses in NY will help farmers supply safe meats to their local communities.

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1 Schmit, T. M. 2016. The Economic Contributions of Agriculture in New York State (2014). In: C. University (ed.), Dyson School of Applied Economics and Management.

2 Waro, M, Kalaitzandonakes, M, Baker, M. J., Peters, C, Gómez, M, and Conard, M. 2019. The state of the USDA Inspected Red Meat Harvest and Processing Industry in New York and New England. Cornell University

Perspectives on Local Foods

New York's prime agricultural land with its proximity to major urban markets has fostered a strong and growing local foods sector. Over 7,000 farms in New York directly market farm commodities and food products in local direct to consumer retail and wholesale markets. According to the 2017 Census of Agriculture, New York has the highest dollar value in sales from local foods in the Northeast Region at \$539 million.

However, after many years of growth, farms selling directly to consumers through farmers markets, Community Supported Agriculture shares (CSAs) and local farm stands were experiencing declining sales. Between the 2012 Ag Census and the 2017 Ag Census, the total number of farms in New York engaged in direct to consumer sales decreased slightly from 6,279 farms to 5,697 farms and the value of sales decreased from \$237 million to \$222 million³. This is not unique to New York. New farmers nationally have been finding it challenging to attract customers and existing farms were experiencing declining revenue and more price competition in direct to consumer markets. For example, the Cornell Cooperative Extension Eastern New York Horticulture Program has been tracking CSA share prices since 2017⁴. From 2017-2019 the average weekly price of a full CSA share in the region stayed constant. The weekly price remained unchanged despite significant increases in the NYS farm minimum wage from \$9.70/hr in 2017 to \$11.80/hr in 2019 and an increase in the number of farms offering additional, and more costly, services like home delivery and more flexibility about what food items are included in the weekly share. This drop in direct marketing is one reason why the Cornell Small Farms program has launched new on-line and direct educational programs to assist smaller farms in moving into the wholesale market, the "baskets to pallets" program initiative.

Small and mid-sized farms that served direct markets have been moving into locally oriented wholesale markets as more opportunities to sell locally sourced products have become available. Between 2012 and 2017, 1586 New York farms increased the value of their direct sales to retailers, restaurants, institutions, and food hubs from \$204 million to \$316 million. There are currently 13 food hubs in New York that focus on local foods. Most of these food hubs have been in operation for less than 10 years.

³ 2017 Census of Agriculture, USDA. The "direct to consumer" definition includes farmers markets, on farm stores or farm stand, roadside stands or stores, u-pick, CSA, online marketplaces, etc. The "local foods" definition includes direct to consumer and food products with local or regionally branding and marketed at retail markets, institutions, or food hubs. Retail and institutional establishments include supermarkets, supercenters, restaurants, caterers, independently owned grocery stores, food cooperatives, K-12 schools, colleges or universities, hospitals, workplace cafeterias, prisons, foodbanks, etc. This does not include Christmas trees, floriculture/nursery, or products purchased and resold.

⁴ Share price, delivery location and share composition is collected on over 100 identified CSA farms in 20 counties in NYS from CSA order forms and farm websites.

Much of the data on impacts of COVID-19 to local producers is observational and anecdotal at this point and is based on CCE educator's conversations with growers and observations of farm changes.

Impacts to Producers

The COVID-19 pandemic, while devastating to many agricultural sectors, was mixed for local food producers in New York. Food retailers, including farmers markets, farm stands and pick your own (PYO) farms were declared essential businesses and have been allowed to operate during the pandemic with relatively few restrictions.

In the early part of the pandemic, local food producers who sold directly to consumers did well as New Yorkers avoided grocery stores. Many farms enhanced their ability to do on-line ordering and many farm stands offered curbside pick-up and pre-ordering of food. In the spring, farms serving New York City farmers markets reported very strong sales and CSA farms reported increased sign-ups and many increased their number of shares from prior years or sold out. Farms that were selling meat or shares of animals also sold out for the 2020 season as shortages in the meat aisles at grocery stores were widely reported.

As the season has gone on, the picture is less rosy. Some direct to consumer farmers are reporting significant declines in some key New York City farmers markets, including the iconic Union Square Greenmarket, as many of their customers are now working from home or have relocated to homes outside of the city. Likewise, CSAs serving schools and workplaces in New York City are not operating and it is unclear whether these locations will be viable in 2021. The decline in New York City markets is increasing the competition in Upstate and Long Island markets.

Farms whose main markets were schools or restaurants or who sold to caterers, hotels or other event and travel-oriented businesses saw an immediate loss in sales and uncertainty about future sales, and these sectors have not fully rebounded. The New York restaurant sector has been hard hit. A recent survey of New York State restaurant owners found that 64% were likely to close this year.⁵ The situation in New York City, where there are the most restrictions on indoor dining and fewer outdoor alternatives for restaurant owners, is particularly acute. Livestock, aquaculture, and greenhouse growers were the first to experience the impact of the loss of sales in these markets. Some were able to divert product to retail and other direct to consumer outlets. However, this was mostly an option for farms who already had relationships with retailers or experience in direct marketing and had product for those markets available.

For disaster assistance, the USDA programs were not terribly useful for most local-foods oriented farms. Interest rates are already historically low, so FSA disaster loans were not that attractive an option. SBA programs were more helpful. Most small growers and local food businesses relied on the PPP program offered by the SBA, rather than USDA programs, as the

⁵ NYS Restaurant Association (9/3/2020) "State Restaurant Association Survey: Nearly Two-Thirds of New York's Restaurants Likely to Close by Year's End Without Government Support" accessed online https://www.nysra.org/uploads/1/2/1/3/121352550/state_restaurant_association_survey_results_090320.pdf

loan forgiveness option and low interest rate made it attractive to some farms to assist with cash-flow uncertainty. Some also applied for the SBA EIDL Advance grant, which provided up to \$10,000.

A few farms were able to provide product to CFAP food box program awardees, but these tended to be larger farms and food hubs who were already selling to institutions or retail outlets and could meet food-safety requirements. Some local farms provided donations of product to area foodbanks or local food distribution programs that were not affiliated with the federal program. Ulster County, for example, developed a fund to purchase food from farms and restaurants to give to needy residents.

For farms who had not lost institutional or restaurant clients, especially fruit and vegetable farms, the primary problems related to COVID-19 were not on the sales end, they were related to worker safety and shortages of supplies. Many small farms purchase their supplies from retail outlets, some experienced shortages in other inputs this season, including seeds and plants, bleach and rubbing alcohol (used to sterilize tools and to manage plant diseases), respirators and safety equipment for applying pesticides, and lumber.

The CFAP 1 payment program assisted a few growers but was not well targeted to NYS fruit and vegetable growers as the crops covered had to be ready for sale by April 15. The CFAP 2 program, announced on September 8, 2020 and based on FY 2019 sales (for specialty crops) will be applicable to most farms in the state and may help to offset some costs for worker safety and additional marketing costs. A challenge may be in getting the word about this program out to farmers who do not participate in USDA programs, so Cornell Cooperative Extension is emphasizing the program's availability in newsletters and targeted on-line educational webinars. Labor costs for farms and local food marketers to comply with COVID-19 in direct market settings are likely to be higher this year. Most COVID-19 protocol in the NYS Guidance for Food Retail Businesses⁶ require or encourage the staff to pre-pack/bag food for customers and require additional cleaning and documenting of practices. Labor costs have also increased for farms that home or curb delivery to attract or retain customers otherwise unable or unwilling to shop in a retail environment.

Impacts to the Food Supply Chain

The robust local foods sector in New York contributed to overall resiliency in the food supply chain. Consumers' ability to obtain local meats, produce and grains helped replace shortages in conventional retail outlets.

Some food hubs that relied on institutional and restaurant sales have suffered declining sales. Most have pivoted to increased retail sales and many have expanded their retail store presence. In some cases, this may increase the competition with farms that sell directly to consumers.

⁶ NYS Ag and Markets COVID-19 Resources for Food Retail Businesses website (accessed 9/30/20)
<https://agriculture.ny.gov/coronavirus>

Prior to COVID-19 there had already been concern about local food aggregators competing with CSAs for customers by selling similarly marketed products.

There is much more emphasis on on-line sales, customized orders, and delivery. This favored farms that had invested in these areas prior to 2020, and those who took advantage of Cornell Small Farms and Cornell Cooperative Extension early spring trainings on pivoting to on-line marketing.

Future Considerations

The trends in local foods sales prior to the pandemic were an increase in meals away from home and prepared foods and for declining direct to consumer sales. Although during the COVID-19 pandemic in 2020 there was an increase in the interest from consumers to purchase of local foods directly from farms to prepare at home, it is unclear if this market expansion will be sustained.

There has been a shift away from New York City markets this season and there is uncertainty about planning for the 2021 season, especially for farms and food hubs that serve restaurants and caterers or were focused on selling through workplace-oriented CSA or selling to institutions. It is likely that these farms will start to look more to sell to Upstate, Long Island and adjacent state retail customers (farm stand, farmers market, CSA, on-line). Many of the farms that may be shifting more into these markets are larger, established producers and food hubs, which will likely increase competition for customers. Many of these farms also already have robust on-line ordering capacity and packing and delivery capacity.

Multiple surveys of consumers have indicated that the rate of online shopping for groceries has increased dramatically due to COVID-19. Most predict that online food shopping will continue to be increasingly important. Farms without good broadband access or that lack human resource capacity to develop on-line sales presence may struggle to compete if consumers shift from direct markets to on-line ordering.

Many direct market farms have incurred additional labor costs from packing and delivery this year and customers may expect this level of service in the future. What made sense as a short-term measure may not be cost effective in the end for many farms, but farms may need to keep the services to retain market share.

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Perspectives on Nursery and Floriculture

Floriculture, defined by USDA as fresh cut flowers, potted flowering plants, foliage plants, annual bedding and garden plants, herbaceous perennials, cut cultivated florist greens, propagative floriculture material, and unfinished plants is a significant industry in New York with 1377 operations and a sales value of \$184,654,953 in 2017. Suffolk County, in Long Island, has the most floriculture farms, with 144, followed by Erie (76), Yates (51), Columbia (49) and Monroe (46). Suffolk and Erie are also the counties with the highest value in sales with \$89,687,231 in Suffolk and \$14,234,162 in Erie, followed by Orange with \$10,913,278.

Cut flowers and greens are a sub-category of the floriculture data in the Ag Census⁷. This sector has been growing rapidly in the past 5 years and for many new farmers is an excellent diversification strategy. In the 2012 Census of Agriculture, New York ranked 11th with 315 cut flower growers and \$4,822,093 in sales. In the 2017 Census of Agriculture, there were 405 in New York with sales of \$5,672,238. Cut flower operations (and greenery) range from large greenhouses to small operations of field-grown flowers. Cut flower growers are concentrated in counties in Eastern and Western New York that are close to major population centers (NYC, Buffalo, Rochester). Suffolk County on Long Island has the most cut flower growers (49), followed by Columbia (23) Orange (19), and Dutchess (17). Erie County has the most in Western NY with 14 growers. Many cut-flower farms in New York are women-owned and operated. Much of the non-survey data on impacts of COVID-19 is observational and is based on CCE educator's conversations with growers and observations of farm changes.

Impacts to Producers

From March 22, 2020 until May 15, 2020, all non-essential businesses in New York State were required to “Pause” in office personnel functions. Floriculture and cut flower operations (or nursery facilities that did not produce food crops within a larger farm business) were determined to be non-essential and were included in this directive. Many floriculture growers suffered devastating losses this spring when the state-mandated business closures and restrictions on public gatherings also resulted in their businesses being forced to close, despite crops actively growing. While larger box stores retailing hardware were still allowed to be open and sell floriculture and nursery products, smaller operations without food sales, food producing plant sales, or hardware were not allowed to open. Growers fortunate enough to sell to big box stores still retained a market, but direct retail sale nursery and floriculture farms were not allowed to be open for sales.

To measure the impact of the mandated closures on floriculture farms and make the case that these farms needed federal financial relief, Cornell Cooperative Extension surveyed growers in New York about the impact of the COVID-19 “Pause”. The survey was distributed through CCE, NY Farm Bureau, the National Association of Specialty Cut Flower Growers, and the

⁷Floriculture: fresh cut flowers, potted flowering plants, foliage plants, annual bedding and garden plants, herbaceous perennials, cut cultivated florist greens, propagative floriculture material, and unfinished plants.

Cornell Small Farms Program. Growers were requested to provide their 2019 revenue from sales of cut flowers and floriculture crops to estimate their losses during the period of January 15- April 16 (the time period designated by USDA for commodity financial relief) and to estimate future expected losses. At the time of the survey, nursery and floriculture crops were not eligible for the CFAP financial relief program from the USDA. The purpose of the survey was to provide information to the USDA on financial losses in this sector, with a goal of providing factual data to prove that the sector had faced a greater than 5% price loss.

More than 70% of the growers who responded had product ready for sale in the spring when the “Pause” period began. Growers reported significant losses in the spring from the loss of Easter sales, and event cancellations such as weddings and conferences as well as a loss of retail customers. Because floriculture producers were not essential industries in the spring, many greenhouses also reported losing entire crops due to staffing shortages. Many also planned to cut back on what they would plant in 2020, due to on-going labor and market uncertainty.

The chart below shows the losses experienced by floriculture and cut flower growers. Floriculture growers reported large losses over the four months. Several were large farms and lost significant volume of product to loss of market as well as loss of labor. Within this group, the 20 growers of potted ornamentals reported 2020 losses between January and April that exceeded 30% of their 2019 annual revenue. This was due to lost sales during the spring and Easter holidays.

	# of Farms	2019 Revenue	Estimated Loss Jan-April 2020	Loss as percent of 2019 revenue	Avg Loss per farm
Cut flowers	21	\$1,421,764	\$106,315	7%	\$5,063
Floriculture	36	\$100,567,300	\$10,900,249	11%	\$302,785

Although the cut flower grower losses look smaller in comparison to other floriculture crops, the growers in the survey also tended to be much smaller farm businesses, and are much more reliant on events and sales to the hospitality industry, markets that have yet to recover from the pandemic event and business closures. Since these growers are often florists or work closely with florists supplying higher end restaurants, hotels and events, which have been hard hit by the pandemic, most respondents are concerned about future viability. As a group, their comments reflected that they are very concerned about sustained impacts of ongoing restrictions to their businesses.

However, bright spots occurred once the “Pause” order was lifted by regions. Growers reported strong and improving direct to consumer sales at both farmers’ markets and farm stands. There was also strong demand for plants at garden centers. Surveys of consumers indicated that many were undertaking new landscaping and gardening projects in 2020.

Using this survey data, Cornell CALS and NY Farm Bureau submitted comments and data to USDA in support of expanding CFAP to nursery and cut flowers. On August 11, 2020 USDA

announced that nursery crops⁸ and cut flowers⁹ were eligible for CFAP payments. CFAP1 payments for nursery crops and cut flowers were based on a percentage of the producer's wholesale value of inventory. NYS cut flower growers in four counties received \$62,167¹⁰, and nursery growers in seven counties received \$920,198¹¹.

Future Considerations

In September, USDA made CFAP 2 available. This program also includes cut flower and nursery growers for a payment that is a percentage of 2019 sales, which will more than likely assist in mitigating 2020 losses and added expenses. However, CFAP 2 includes a restrictive definition of "controlled environment¹²" in the Final Rule for cut flower growers that could limit eligibility to only cut flower growers who grow in greenhouses. Of the 405 cut flower growers in New York in the 2017 Ag Census, 123 grew in greenhouses and 335 grew cut flowers in field production, or with high-tunnels that are not considered to be greenhouses. It is unclear whether growers with high tunnels will be eligible for CFAP 2 payments. This restrictive definition was not included in the CFAP 1 and may be a challenge for New York growers.

Respondents to the survey, especially those who sold ornamental plants and flowers to wholesalers for events, hotels and restaurants were extremely worried about the future. They cited their industry's dependence on these sectors of the economy that were the hardest hit by COVID-19 restrictions. Many had shifted to focus on consumer markets, but they consistently cited that there was not enough volume of sales to individuals, particularly for cut flowers and potted ornamentals to make up for lost institutional and event sales. This uncertainty about the future, as well as any future federal financial assistance packages, also impacts growers ability to plan for the upcoming season as it seems likely that the pandemic will not be completely ended by next spring and summer. Carefully designing USDA federal assistance programs with an eye towards providing some surety for producers in the event of continued loss in markets in the coming 2021 year will help reduce uncertainty and aid in future crop planning for nursery and cut flower growers.

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⁸ Nursery crops defined as decorative or non-decorative plants grown in a container or controlled environment for commercial sale.

⁹ Cut flowers includes cut flowers and cut greenery from annual and perennial flowering plants grown in a container or controlled environment for commercial sale.

¹⁰ Cut flower growers in Suffolk County received \$35K, Columbia and Greene counties each received about \$11K and Orange County received \$5K.

¹¹ Growers in Erie, Genesee, Livingston, Ontario, Orange, Suffolk and Wayne Counties. Suffolk received \$720K, Orange received \$143K and Erie received \$40K. The rest of the counties received less than \$10K.

¹² § 9.2 Definitions. Controlled environment means an environment in which everything that can practicably be controlled by the producer with structures, facilities, and growing media (including but not limited to water, soil, or nutrients), is in fact controlled by the producer, as determined by industry standards.

<https://www.govinfo.gov/content/pkg/FR-2020-09-22/pdf/2020-20844.pdf>

Perspectives on Craft Beverages

The New York craft beverage industry includes 1,288 wineries, breweries, cideries and distilleries, accounting for more than \$10 Billion in economic impact. Every county in the state contains at least one of these businesses, while some counties are home to more than 100. Craft beverage businesses broadly include a number of sectors, from agriculture to hospitality to tourism. Each of these sectors has seen different impacts from the pandemic and faced varying levels of disruption. Apple, grape, hops and grain growers mostly faced climate and labor challenges, which is no different from any other year. The tourism and hospitality industries were much more directly affected, and the craft beverage industry faced associated economic hardships but also saw a number of opportunities for sales methods and product offerings. While it must be said that the pandemic has had an overall negative impact on the craft beverage industry, the variety of sales channels and resourcefulness of the producers leaves it relatively well positioned to survive the current conditions.

Impacts to Producers

It is important to note that craft beverage producers have two general ways of selling their products: 1) they may sell directly to consumers at tasting rooms, farmer's markets or through mail-order/online sales; or 2) they may sell their products to a wholesaler who will then sell it to a grocery store (for cideries and breweries only), liquor store, restaurant, hotel, airline, etc. Farm licensed craft beverage producers in New York may also self-distribute. Next, alcohol sales are generally divided into on-premise or off-premise categories, based on whether the customer will be consuming the product "on the premises" (e.g. bar, restaurant, sporting event) or if they will take it away for later consumption at home. The COVID-19 pandemic was obviously disastrous for on-premise sales, while off-premise sales increased greatly.

Direct sales: While tasting rooms were closed, the beverage industry saw record online sales in the weeks after the "Pause" order. Besides shipping to customers, many tasting rooms allowed local patrons to place orders for pick-up. In most cases these sales did not completely make up for expectations in a normal year, but they did maintain cash flow in some of the darkest hours.

Wholesale/ distribution: While bars and most food service establishments were closed or reduced to takeout sales, grocery and liquor stores experienced record demand. For producers who could access these venues, sales remained strong. The market for any kind of beverage in kegs became nearly non-existent, and producers shifted almost all production to bottles, cans and other containers that could be sold in stores¹³.

Tasting rooms: When tasting rooms were allowed to re-open, customers had to be seated, food had to be served and it was strongly encouraged to conduct business outside whenever possible. Many producers invested in tents and other outdoor shelters. Reservations were now required

¹³ <https://www.nielsen.com/us/en/insights/article/2020/rebalancing-the-covid-19-effect-on-alcohol-sales/>

for many venues and extra staff was often required to handle sanitation procedures, traffic patterns and face covering expectations. Despite the restrictions and trepidations surrounding this new way of operating, most managers reported an overwhelmingly positive experience. With no buses and fewer large parties, the atmosphere was calmer and more pleasant. Seeing the extra steps that were taken to make their visit safe and comfortable, customers had no problem with higher tasting fees and purchased more much more product per capita.

Hand sanitizer: One product in severe shortage this spring was hand sanitizer. Since ethyl alcohol is the primary ingredient, distilleries were in a position to produce their own sanitizer, and estimates have suggested as many as 75% of craft distilleries produced at least some sanitizer. Some producers only made one or two product runs to alleviate extreme local shortages or for donation to first responders, while other distilleries expanded their product line to meet the emergency needs but are now generating a profitable customer base for the new product. Even for distilleries who only made a few batches of sanitizer, the good will generated from the production of a necessary emergency product has generated increased sales opportunity for the entire product line. Cornell's Craft Beverage Institute and Institute for Food Safety partnered to develop technical guidance to distillers on safe and effective sanitizer production.

Impacts to the Food Supply Chain

Cans: With on-premise sales essentially halted for the spring, all products needed to be sent through distribution to grocery and liquor stores or shipped direct to consumers. One major impact to supply chains was an abrupt drop in keggings and increased demand for aluminum cans. Cans have been surging in popularity for all sectors of the craft beverage industry over the past couple of years, and the pandemic only made things worse. Higher prices and shipping delays greeted many producers who needed to make any last-second orders.

Grape supply: Over the summer, there was concern that wine grape growers may be unable to sell all of their grapes to wineries as it was feared that the impact of the pandemic on wine sales may lead wineries to have excess inventory and thus be scaling back wine production for the 2020 vintage. The Cornell Cooperative Extension Finger Lakes Grape Program sent a survey asking about winery purchasing plans to help growers forecast potential sales losses. These fears have largely been put to rest as survey respondents indicated that the 2020 grape crop was much smaller than initially forecast and supply and demand is reasonably balanced. White hybrid and vinifera grapes are still available as of October 2020, but in smaller quantities than first thought. Consumers apparently bought a lot of grape juice during their grocery store sprees, because the juice grape market has tightened considerably. Due to market forces and freeze events in the spring some of the largest juice grape purchasers are actually struggling to find the grapes they will need, which is a considerable change from many years of depressed prices to farmers in the juice grape market.

Future Considerations

Not going back: As previously mentioned, tasting rooms are important profit centers for most craft beverage businesses. When allowed to re-open in New York in summer, producers had to severely limit the number of visitors and make sure all patrons were seated and provided food. One of the most interesting surprises was how comfortable businesses became with this situation. There has long been a “quantity vs. quality” debate regarding tasting room customers. Is it better to receive busloads of people and schedule “trail” events that encourage patrons to visit as many different places in a day as possible? Or is it better to limit large groups and spend more time with each customer? The pandemic basically eliminated the high-volume option, leaving tasting room managers to focus on a method they had long considered preferable but hesitated to implement. I have now heard more than one manager say that they do not plan to return to the “old way” when restrictions are lifted. Dollars per customer are up significantly and crowd-managing headaches have been all but eliminated. While gross sales remain lower than in previous years for most tasting rooms, many producers believe they can make up for these losses when they are allowed to return to full-occupancy operations but without the mass market events.

Federal assistance and sales flexibility: The inclusion of wine and juice grapes into the CFAP2 federal financial assistance program will be helpful for any grape growers who do wind up experiencing a loss of grape sales. Although, it is worth noting that while farmers are able to access some financial assistance for agricultural sales loss, there is no specific craft beverage business assistance for producers who lost their traditional sales to the higher end restaurant trade or of course, tasting room sales from the “Pause” period earlier in the pandemic. Similarly, apples and grain crops growers are able to realize some level of assistance from the CFAP program, but the value-added part of the process of turning an agricultural product into a craft beverage is not eligible for assistance. Craft beverage producers would have been eligible to apply for EDIL and the PPP program for the manufacturing and retail parts of their businesses.

The pandemic cut off certain sales channels while making others more lucrative than they had been previously. Tasting rooms had to change the way they did business in a matter of weeks. Nothing could be sold in a keg. Distilleries found themselves studying up on how the World Health Organization makes sanitizer. Craft beverage producers were forced to pivot extremely rapidly to seize opportunities and move product. Those who were ready to ship direct, package in cans or prepare outdoor tasting spaces were much more successful. The State Liquor Authority’s easing of some of the requirements, particularly for licensed cider producers to allow online ordering and shipping by mail, as the wine industry enjoys, was a lifeline to many smaller cideries. Most craft beverage businesses are small, family owned operations with little extra capital, so the creativity and resourcefulness was also a product of desperation. Despite the extreme challenge, some of these innovations will probably outlast the pandemic. The creativity of this industry is inspiring, and hopefully most businesses will survive and even thrive in the coming months and years.

Perspectives on the Equine Industry

Horses are a large part of agriculture in New York State and have a significant impact on the state's economy, the environment, animal health and disease issues, land use, quality of life, recreation, fitness, healthy lifestyles, and more. The 2018 study by the American Horse Council investigating the “Economic Impact of the Equine Industry in New York State” estimated that there are approximately 154,000 equine in the state with a total output of \$5.3 billion to the state’s economy.¹ The study also established that the equine industry in New York has a total employment impact of 42,400 jobs among three major sectors: recreation, competition, and racing. In addition, the number of equine-assisted therapy operations, horse rescues and sanctuaries, and off-the-track racehorse retraining facilities were increasing in New York.

Although the equine industry in NYS is diverse, the COVID-19 pandemic has struck an economic blow to each of these sectors.

Impacts on Farmers and other Stakeholders

An April 2020 survey of people who own or manage a business in New York that supports the equine industry² painted a bleak picture of the impacts of the pandemic. Out of over 500 respondents from across the state, approximately half stated they that were likely to make a temporary or permanent reduction in staff due to COVID-19. The average expected loss of income to respondents’ businesses was 57% for the month of April, with the majority indicating that they expected continued losses. In addition, approximately one third of those surveyed were concerned that they may lose their equine business altogether.

The status of the equine sector and its relationship to being a part of the agricultural industry came into sharp focus earlier this year during the designation of what was considered an essential business. Equines, as livestock, were deemed essential for the purpose of owners being able to feed and care for their animals and so basic animal health care was allowed during the pandemic as part of the essential designation for the agricultural industry. However, normal business for equine operations falls outside of the agricultural designation and equine business operations (i.e. boarding, training, racing) were not designated as essential. This caused significant financial stress and confusion upon the re-opening of the state of New York in phases. The Department of Agriculture and Markets assisted in resolving this confusion by the publication of guidance, which allowed certain activities helpful to facilitate the business operations of the equine sector and allow for revenue generation. Cornell’s educational team also developed best management practices for equine operations, designed to help equine farms think through safe practices as it relates to a typical equine farm.

Impacts on the Animals

While many equine operations in the state must cease or limit many sources of income such as lessons, equine-assisted therapy, or horse shows, the animals continue to require care. Decreased income combined with financial hardship for many clients translates to uncertainty for many barn owners. Unfortunately, the needs of the horses and the associated costs of feeding and caring for them remain the same. This mismatch has created some welfare issues that may continue to worsen without financial assistance. Although there are isolated programs to provide,

for example, hay or veterinary care to select horse owners in need, there is no statewide safety net for horses. Without intervention, we may see an increase in equine abandonment, relinquishment to already-full rescues, sale to slaughter buyers, and euthanasia.

Future Considerations

While equine owners with associated businesses were able to take advantage of the Economic Injury Disaster Loan (EIDL) program and the PPP program if applicable, equine operations were excluded from the CFAP financial relief programs administered by the USDA. Neither the EIDL program nor the PPP were able to provide enough relief to ensure the appropriate resources for good animal care and business viability for equine business operations. This grey area in policy as to when an equine operation becomes a “farm” operation likely negatively impacted the equine sector in terms of securing additional federal assistance through the USDA. While the New York Congressional delegation, among others, were successful in broadening the payment parameters of CFAP 1 and 2 to include other commodities, like maple, apples, grapes and nursery products, that assisted New York’s agricultural sector, equine operations were never included within the expanded eligible operations.

Indeed, the NYS survey² mentioned above found that almost 75% of respondents were not receiving any financial assistance. Approximately 70% of those surveyed indicated that financial assistance would be the most helpful resource to assist in weathering the pandemic.

Approximately 20% of survey respondents stated that COVID-related educational opportunities would be valuable to them. In answer to this need, Cornell Cooperative Extension and the NYS Horse Council have provided educational programming in this area focused on assisting equine operations in complying with state guidance. Both organizations have regularly held seminars on topics such as navigating new regulations, emergency and financial planning, and industry-specific considerations.

Ultimately, for this and future crises, a statewide equine safety net would improve animal welfare and mitigate economic impacts for equine industry stakeholders.

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1. American Horse Council. (2018). *NEW YORK ECONOMIC IMPACT STUDY- Economic Impact of the U.S. Horse Industry*. <https://www.horsecouncil.org/product/new-york-economic-impact-study/>
2. Cornell Cooperative Extension Equine and NYS Horse Council. (2020). *Economic Impact if COVID-19 on Equine Related Businesses in New York State*.

The Land-Grant Response

The immediate disruption and shock to the food supply chain from the COVID-19 pandemic caused a plethora of challenges for farmers, food processors, and the supply chain. It is to be hoped that consumers experience with facing empty grocery store shelves will cause a lasting change in the state and federal government, as well as society in general, attitude towards investments in the farm and food sector of our regional economy. There can be no doubt that the resiliency already imbued in the food system that kept food flowing to consumers even amid great challenges should be applauded, and policy makers will no doubt seek to examine and adopt changes that will enhance resiliency in the future. Faced with an incredible challenge of assisting the farm and food system in remaining operational in the middle of a public health crisis, the programs and personnel within the land-grant system of Cornell's College of Agriculture and Life Sciences and Cornell Cooperative Extension rose to the challenge like never before.

The Land-Grant system immediately increased its already robust partnership with New York State, by carrying out collaborative programs that have been providing multifaceted information, resources and technical assistance to help keep the state's farmers, farm employees and food system employees healthy, safe and positioned for success during this difficult time. With county CCE specialists, the reach has extended to consumers throughout New York and included collaborating with federal, state and local governmental agencies on proactive initiatives to address COVID-19. Cornell Cooperative Extension also activated the New York State Extension Disaster Education Network (EDEN), <https://eden.cce.cornell.edu/>, as a primary tool to communicate with consumers and residents the latest information on COVID-19 and governmental responses for the first two months of the crisis.

Throughout the pandemic CALS and CCE have focused on assisting all parts of the food chain, from farmer to consumer with adoption of best practices, strategies and technical assistance that make a real-life difference in maintaining healthy workplaces and preventing the spread of COVID-19. In many respects, CALS and CCE have worked to connect the dots by educating local health officials on the farm community, placing farmers and processors in contact with food distribution programs, bringing farm employees together with medical experts and defining a pathway forward for farms to operate as safely as possible and grocery store shelves to remain stocked with local products.

The work of CALS and CCE has extended beyond the traditional role of providing information and technical assistance. Through a coordinated effort with the Department of Agriculture and Markets, CCE took the lead in distributing hand sanitizer and face coverings to over 57,000 farmers and farm employees. Through other efforts, CCE team members facilitated the participation of food processors and distributors in state including Nourish New York and federal food distribution programs to assist food insecure families and individuals. Numerous county

CCE offices throughout the state hosted food drives and distribution events, and served as a focal point for relief efforts particularly in underserved rural areas in New York. Below you will find specific examples of program efforts to keep New York's farm and food system resilient during the pandemic.

Supporting Farm Employees

During the early stage of the COVID-19 pandemic, the Cornell Farmworker Program (CFP) recognized the need to develop a strategy to support farmworkers who were deemed essential workers during the crisis. To facilitate ongoing communication, the CFP developed a text messaging system to provide timely information to the personal cell phone numbers of over 3,000 farm employees, and a mechanism for workers to send return text messages indicating needs for masks, food, medical and other supports. Given the difficulties of reaching this population of largely migratory individuals with limited broadband access, this system was critical to maintaining communication throughout the COVID-19 pandemic. Farm employees also shared these messages through their own social networks thereby amplifying the CFP reach. The CFP efforts included Spanish, Mam and English language communications and graphics for farm employees to ensure that everyone had accurate and up-to-date information to maximize worker safety with a particular emphasis on transmission of COVID-19, what to do in the event of exposure, and how to wear and clean face coverings effectively. CFP also sprang into action by mobilizing an early effort to distribute face coverings to vulnerable farm employees, leading the way in sending out over 7,500 hand-sewn face coverings by volunteers. A volunteer network comprised of health care and migrant education outreach employees, veterinarians, and Cornell Cooperative Extension regional team members initially were the primary means of delivering face coverings to vulnerable employees in the initial stages of the pandemic when guidance was first issued to require employees to wear face coverings. COVID-19 information was also posted on the CFP Spanish language website: www.trabajadores.cornell.edu.

Additionally, CFP organized six widely publicized question/answer sessions in Spanish and English with Dr. Jose Canario, Medical Director of Finger Lakes Community Health, and organized emergency food drops when accessing food became more difficult than usual for farmworkers. The CFP also hosted six virtual legal clinics linking farm employees with pro bono immigration and family law attorneys. The CFP is now embarking on an effort to counter various misinformation about the necessities of obtaining a flu shot, with new outreach materials and additional on-line programming scheduled for this fall.

County Cooperative Extension offices and regional agricultural teams sprang into action after Governor Cuomo provided access to face coverings and sanitizer, with county offices serving as hubs for distribution events from the tip of Long Island to the shores of Lake Ontario and all points in between. In mid-October of 2020, almost 57,000 farm employees and farmers were provided with over 139,000 face coverings to help protect a vulnerable essential workforce. In

all, over 34,000 gallons of sanitizer were distributed and over 41,000 2 ounce spray bottles were sent to New York's farms, with an emphasis on the distribution of sanitizer to farm operations open to the public and/or with non-family employees.

Supporting Farmers

The development of best management practices (BMP's) has become essential for farms to operate in the COVID-19 world and comply with appropriate public health requirements. Working in close partnership with the New York State Department of Agriculture and Markets, various Cornell faculty and extension staff including the Cornell Small Farms Program developed handy educational BMP's so that farmers could carefully think through how to be in compliance. This work was particularly important for farms seeking to translate public health guidance into outdoor settings, such as with a U-pick operation or a farm with typical fall agritourism opportunities, which necessitate thinking through how to reduce density and implement social distancing in open air environments that do not contain easy to follow limits like building occupancy permits. Following the development of BMP's, educational sessions were held online and recorded so that farmers could access the information and training materials at convenient hours. BMP's were developed for agri-tourism operations, craft beverage operations, equine operations, and seasonal U-Pick operations.

The **Cornell Agricultural Workforce Development** program has been active in providing education to farmers with live webinars, blogs, website information and other written materials. These efforts initiated in March, have reached thousands of farms, and addressed a wide range of topics including:

- **COVID-19 Prevention**

Cornell Ag Workforce Development provided detailed on-line educational programs aimed at helping farms prevent the spread of COVID-19. Outreach efforts were made for all farms including dairy, fruit, vegetable, and greenhouse. Prevention and educational efforts centered around addressing public health aspects of farm employee housing, helping farmers navigate how to change traditional congregate housing practices to ensure the protection of public health for migrant and seasonal farm employees.

- **Business Safety Plans**

The Ag Workforce team led development of farm-specific resources, guidance, and templates that enabled farm employers to rapidly develop comprehensive business safety plans for COVID-19 response and comply with the **NY Forwards** reopening plans. More than 750 people attended these webinars and the resources have been downloaded over 5,000 times.

- **Safe Harvest Office Hours**

The Agricultural Workforce team partnered with New York State Department of Agriculture and Markets and the Institute for Food Safety to conduct weekly open "office hours" held every Tuesday throughout harvest to be available to answer producer questions on topics from maintaining food safety protocols during the pandemic, employee public health protection measures, as well as more general questions regarding labor regulations.

- **Local Leadership and Organization**

Led collaborations with New York Farm Bureau and county Cooperative Extension staff to organize training, communications, and planning for local health departments. As a result, local authorities developed a better understanding of the agricultural workforce situation and have prepared plans to support farms and farmworkers with quarantine and isolation housing needs.

- **Data Analysis and Research**

Analyzed federal and state data to include farm size, farmworker distribution, and the associated farm worker population changes throughout the growing season in New York. The report was used by state officials and CCE to deliver COVID-19 prevention materials such as face coverings and hand sanitizers to targeted distribution sites at the right times. A survey was also conducted researching the adoption of recommended COVID-19 prevention practices by farms. Results of the research will provide educators with a more accurate assessment of current prevention practices, a sense of where further training is needed, and how to continue supporting farms during the pandemic.

To assist New York's largest agricultural sector, the **Cornell PRO-DAIRY Program** provided extensive COVID-19 outreach efforts for dairy farmers. This has included webinar and weekly podcast offerings, which have reached nearly 4,000 participants. This effort addressed key issues such as employee safety, milk distribution, animal health, animal nutrition and farm financial health. These informational sessions were critical in the beginning stages of the pandemic, where dairy specialists provided information on topics that most farmers thought they would never have to contend with – such as managing cow comfort and herd health while trying to reduce milk consumption. Protecting the public health of employees by discussing pro-active strategies to implement social distancing and appropriate new safety protocols in farm employee housing were a major focus of educational sessions. Additionally, PRO-DAIRY specialists teamed up with Cornell's Dyson School dairy economist and other dairy focused trade organizations and conducted numerous educational sessions designed to address critical business information such as milk price forecasts, producer federal disaster assistance and insurance options.

The **Cornell Small Farms Program** also developed meaningful resources to assist small farms through the COVID-19 period. Their "Building Farm Resilience During COVID-19" resource collection provides sector specific information to assist farms in being successful during these difficult times. They have developed more than a dozen topic-specific resource collections and shared more than two dozen critical updates on COVID regulations. In fact, the Cornell Small Farms Program saw a monthly average of more than 60,000 users on their website during the pandemic, about 20,000 more than the historical average.

The Cornell Small Farms Program also served as the repository of a curated new online resource for validated training materials, in the event that local farms faced a sudden and severe disruption in the normal labor supply chain and needed to have materials on-hand to train new employees. This resource will be a valuable source of information for farmers in the years to come, although

it was fortunately not as needed during the pandemic. While employees were delayed in arrival for certain farms, international and national travel for essential employees, including farm employees, was allowed to proceed which allowed farms to have access to their normal workforce. Additional workshops conducted by Cornell Small Farms Program staff focused on assisting farmers in pivoting quickly to online sales strategies during the early spring.

The Cornell Small Farms Program has always offered a suite of online courses for farmers, focusing on business management and agronomic practices such as good soil health, as well as sector specific skill building courses from poultry farming to vegetable production. During the pandemic, the Cornell Small Farms Program extended an offer for free access to two courses. More than 30,000 free courses were taken by both returning students and more than 12,000 new students who used the COVID-19 “pause” period to learn new farming skills via the online platform.

New York FarmNet

Throughout the COVID-19 pandemic, New York State farm families and agricultural businesses representatives have faced unforeseen market uncertainties and farm price fluctuations. NY FarmNet is a primary safety net for farm families that provides financial and personal counseling in a time of crisis. There have been 207 new cases assigned to NY FarmNet consultants since the pandemic started to October 15th of 2020. Of the new cases, 15% indicated high personal stress at the start of the case; and, 14% of the new cases indicated high financial stress at the start of their work with NY FarmNet. As is typical for NY FarmNet, caseloads tend to jump at the conclusion of the harvest season and this year NY FarmNet is anticipating a greater than normal spike due to the stress and uncertainty of the COVID-19 pandemic.

During this time, FarmNet has expanded outreach efforts to provide therapeutic individual and family counseling coupled with farm specific financial counseling using a virtual format. Conducting several sessions focused on identifying and coping with stress that can lead to mental health concerns, FarmNet has led the way in providing virtual education and workshops in partnership with agricultural membership groups such as New York Farm Bureau, the Northeast Agriculture & Feed Alliance organization and the American Dairy Association of the Northeast.

Addressing the Food Supply Chain

The **Institute for Food Safety at Cornell University (IFS@CU)** is a national and international leader in providing information and resources on managing a food business during COVID-19. The IFS@CU is located in the Department of Food Science within Cornell CALS. At the beginning of the pandemic, IFS@CU instituted weekly food industry “virtual office hours” in partnership with NYS Department of Agriculture and Markets staff from the Milk Control & Dairy Services and Food Safety & Inspection Divisions with a goal of protecting the food supply and helping to keep farms and food processors open and operating safely. A secondary goal particularly in the beginning of the pandemic was to provide factual resources for consumers, many of whom were justifiably concerned about COVID-19 and whether food purchased in a

grocery store or restaurant take out was safe to eat. During these weekly Q&A sessions and facilitated discussions, interested parties were provided an opportunity to speak directly to food safety experts in dairy, fresh fruit, fresh vegetables, processed foods and beverages. IFS@CU also prepared COVID-19 training videos for food processing employees in both English and Spanish and hosted targeted sessions for CCE personnel, who frequently interact with consumers and the food and agriculture industry leaders. IFS@CU teamed up with the Food Industry Alliance in New York State to provide targeted educational sessions for grocery store personnel ensuring that grocery stores had the most updated information about critical control strategies to protect both food safety and public health during the pandemic. A New York State specific section on the website amplifies information for New York's food system:

<https://instituteforfoodsafety.cornell.edu/coronavirus-covid-19/food-industry-resources/>

More than 2,500 food industry officials have participated in the 37 sessions of IFS@CU hosted virtual office hours. The IFS@CU website has had over 94,000 visitors since it launched its COVID-19 industry resource pages in mid-March and continues to provide information and tools to help food businesses including:

- How to Minimize Personnel Risks
- Food Industry Frequently Asked Questions (FAQs)
- Templates & Training Materials
- Hand Sanitizer Production Resources
- Pertinent NYS Laws & Regulations
- A Food Facility Strategy Checklist

Working to Address Food Insecurity

The Cornell Harvest New York program has worked to connect farmers, food distributors and non-profit partners, who alongside food banks and government officials have been working to help individuals and families that are food insecure. This work has involved both the Nourish New York program and the USDA Farmers to Family Food Box program. Unfortunately, the USDA Food Box program did not yield many successful New York farm or food distributor applicants, and those applicants who were successful in rounds one and two of funding for this program did not secure a repeat bid in the third round. The Nourish New York program, because it was administered by New York State, appeared to have been more successful in matching local farm and food processed products with existing community food providers like food banks and new efforts ranging from Cornell Cooperative Extension in Orange County to Grow NYC. Twelve county Cooperative Extension programs sprang into action in their communities, serving as locations for socially distanced food distribution sites or catalyzing community food meal service for newly food insecure residents. Additionally, Cornell Cooperative Extension continued to serve as a SNAP-Ed service provider throughout upstate New York and Long Island, and is continuing its efforts to work with partners to reach new recipients of SNAP benefits with healthy eating and good nutrition tips even in the midst of great stress.

Moving Forward

The COVID-19 pandemic is far from over and the combined efforts of CALS and CCE will continue at the highest level possible. It is our collective hope that this reflection and synopsis on what we know now, as of mid-October 2020, about the food system disruption will be helpful to policy makers seeking to implement programs and policies to improve overall resiliency of our regional farm and food system and incentivize a greater reliance on local food production, processing, and distribution. It is clear that overall New York's farm and food system proved resilient and able to meet the massive public health challenges of the pandemic while safely producing food for all New Yorkers to enjoy. The tremendous innovation, patience, and hard work and dedication of farmers, farm employees, and all those engaged in food processing, logistics and retail as well as the Land-Grant system should be applauded and valued even more by society, hopefully long after the pandemic has faded from people's memories.

For more information and links to the programs mentioned above, please visit the webpage below: <https://cals.cornell.edu/covid-19-response/food-and-ag-business-resources>

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