

2022 New York State Dairy Promotion Order Annual Report

Overview

The Division of Milk Control and Dairy Services at the New York State Department of Agriculture and Markets is responsible for the administration of the New York State Dairy Promotion Order (NYSDPO). The NYSDPO was proposed and approved by a referendum vote by New York dairy producers to promote the consumption of New York milk and dairy products. Dairy producers have an obligation to the National Dairy Research and Promotion Program of 15 cents per hundredweight of all milk produced. The NYSDPO collects an assessment at the rate of 10 cents per hundredweight. This decreases New York dairy producers' obligation to the national program and allows the 10 cents to remain in New York. The Dairy Promotion Advisory Board, comprised of New York State dairy producers, provides advice and recommendations to the State Commissioner of Agriculture and Markets on how these funds should be spent, in line with the following goals:

1. Increase the consumption of New York milk and dairy products by youth (lunches, breakfasts, and other offerings);
2. Promote the uniqueness of, and increase sales of, New York milk, dairy products, and/or ingredients throughout the entire food chain through various distribution channels and partnerships, including but not limited to, e-commerce, curb-side sales, etc.;
3. Proactively improve the image of dairy products and/or dairy producers farming practices among consumers, thus improving the acceptance and consumption of New York milk and dairy products;
4. Improve communication with dairy producers to inform them of how they can assist in improving the consumption of New York milk and dairy products by highlighting the sustainability story;
5. Increase the sales and consumption of milk and dairy products produced in the United States and exported to other countries;
6. Participate in national programs that influence an increase in consumption of milk and dairy products;
7. Conduct research projects to ensure the safety and/or expand the demand for New York dairy products and dairy ingredients;
8. Target marketing to promote the consumption of New York State milk and dairy products to Gen Z (10 to 23 years old); and

9. Develop and implement a marketing strategy that targets diversity, racial equity, and inclusivity of the population to increase the consumption of New York State milk and dairy products.

According to the United States Department of Agriculture (USDA), United States per capita consumption of dairy products is increasing. However, the per capita consumption of fluid milk products continues to decline.

United States Per Capita Consumption of Fluid Milk and Dairy Products (Pounds)

	2017	2018	2019	2020	2021	% Change 2017-2021
Fluid Milk Consumption	149	145	141	141	134	-10.1%
Dairy Product Consumption (Including Fluid)	643	644	652	655	667	+3.7%

New York State regulations (1 NYCRR Part 40; Section 35) require that an annual report be prepared each year for the benefit of the producers. Specifically, this report “shall contain information on the promotion programs carried on during the preceding year, expenditure of funds for each program, and such other information as may be of benefit to producers.”

The NYSDPO budget for the 2022 contract year had available funds for promotion and research activities of \$15,355,000. During 2022, the NYSDPO contracted with eight organizations for projects that totaled \$15,354,079.

Award recipients were asked to submit a summary of their work for the 2022 contract year. The submissions are included below and solely represent the language and opinions of the award recipients and their supporting organizations.

Promotional Contracts, Summaries, and Metrics: 2022 Calendar Year

American Dairy Association and Dairy Council (ADADC)

www.AmericanDairy.com

Contract Awarded: \$10,300,000

Summary of Company: ADADC is a farmer-directed and funded non-profit organization that works to enhance consumers’ understanding of and appreciation for dairy farmers and dairy products by engaging local farmers, cultivating a dialogue with consumers, and advancing the dairy industry at the state and national level. ADADC builds sales and consumer trust by creating demand for dairy products through retail, e-commerce,

schools, digital/social, and traditional media and enlisting the help of local dairy advocates to “tell dairy’s story.”

Priority Areas Addressed:

Goal #1 - Increase the consumption of New York milk and dairy products by youth (lunches, breakfasts, and other offerings).

Budget: \$2,686,825

ADADC’s Youth Programs team developed and implemented initiatives designed to build trust and sell more dairy in schools and related community entities through maximized participation in and support of child nutrition programs, i.e., school lunch, school breakfast and summer meals. ADADC staff worked with key decision makers, stakeholders, and strategic partners such as school officials, parents, students, state and local city departments, community liaisons, and anti-hunger advocates to ensure that dairy remained integral to child nutrition programs.

Tactics focused on Giving Gen Alpha and Gen Z students what they need and want, including:

- Rebuilding school breakfast and lunch programs across 38 large school districts by enrollment, representing 2,541 schools, and 1.5 million students. This effort added 73,310 additional students for breakfast and 56,896 for the lunch program with a combined impact of 6.1 million additional incremental pounds of milk sold with meals.
- Just Say Cheese! And Yogurt All Ways! Programs achieved a 41% and 544% aggregate incremental increase in cheese and yogurt sales, respectively, across 15 school districts each, with a combined enrollment of over 200,000.
- Educating youth about dairy classroom lessons reached 30,124 elementary teachers and 825,937 students from 2nd to 4th grade; 35,036 middle school teachers and 1,405,741 students; and 13,252 high school teachers and 605,856 students.
- Virtual Farm Tours of New York dairy farms reached 50,221 students and teachers and Dairy Ambassadors reached 18,367 students in school promotion programs.
- Dairy Farmer Image Campaign – This American Farmer, 12 episodes recorded, reached 1.2 million views.
- Fuel Up to Play 60 – Continued to build trust in dairy and engaged students through interactive dairy-centric strategies, i.e. recipe development featuring milk, yogurt, and cheese, and latest education trends, i.e. “GoNoodle” to reach them whether in or out of school. 5,461 schools were enrolled reaching approximately 3,000,000 students.

Priority Areas Addressed:

Goal #2 - Promote uniqueness of, and increase sales of, New York milk and dairy products and/or ingredients throughout the entire food supply chain through various distribution channels, including, but not limited to, e-commerce, curbside sales, etc.

Budget: \$1,986,449

ADADC's retail team has designed, initiated, and directed programs that cover e-commerce, large and small retailers, food banks, and charitable efforts funded through government grants. ADADC staff worked with dairy managers, category directors, vice presidents of marketing, and retail dietitians to grow dairy category sales.

Tactics consisted of:

- E-commerce program for milk and cheese that achieved 22,372,106 impressions and additionally attributed milk sales of \$3,870,178.
- The Dairy Aisle Performance Program (DAPP) is a retail audit and awareness system that addresses execution at the store level. The team assessed 1,105 stores with 4,096 retail visits.
- Dairy Aisle Reinvention (DAR) is a unique in-store program that creates the best in-store dairy shopping experience for retail customers to increase dairy sales. The program utilizes multiple merchandising elements to modernize the look of the aisle and inspire consumers to purchase additional dairy items. We implemented new signage in 111 stores and initiated the new installation of 101 stores with yogurt dividers and 23 stores with cheese pushers.
- Local Farmer Image Signage program incorporated local farmer images and their stories in customized, retailer-specific sign packages. This was implemented in 111 new stores.
- Fill a Glass with Hope program raised \$114,284 from consumers that food banks used to purchase milk to give to the food insecure.

Priority Areas Addressed:

Goal #3 - Improve the image of dairy products and/or dairy producers among consumers, thus improving the acceptance and consumption of New York milk and dairy products.

Budget: \$1,882,436

The American Dairy Association North East's (ADANE) consumer-centric approach to marketing was designed to boost confidence in dairy through the producer's ability to tell their own stories in an authentic, compelling way. These stories highlighted dairy farmers as environmental stewards, how they provide excellent care to their animals, and produce nutritious products for their neighbors and the world.

Tactics consisted of:

- Omnichannel marketing campaigns including National Nutrition Month, National Ag Week, Virtual Farm Tours, National Dairy Month/World Milk Day, Summer Meals, Fill a Glass with Hope, and This American Dairy Farmer. In 2022, 2,620 stories were placed in local news outlets and reached 20,311,318 people across traditional media (TV, radio, print) and 220,455,817 people online (digital news websites) totaling 240,767,135 media impressions.

Additional programs include:

- “#MakeMilkMoments Campaign,” which showed how dairy plays a nostalgic role during the holiday season, encouraged consumers to include milk in holiday recipes. This campaign garnered 1.6 million social media impressions.
- “Do it With Dairy,” a National Dairy Month campaign that combined key dairy messaging with delicious dairy-centric recipes, surpassed 3.3 million impressions and 500,000 video views.

Website, Digital, and Social Media

- ADANE’s two websites--AmericanDairy.com and SavorRecipes.com—delivered relatable messaging through social media, digital advertising, and third-party influencers. This content generated 1,813,204 pageviews on our websites; 93,292,971 social media impressions; and 2,825,064 social media engagements.

Issues Management and Crisis Readiness and Response:

- ADADC’s Issues Management and Crisis Response Team tracked and handled 73 issues; held one organization-wide training event; and shared weekly communications with key Dairy Management Inc. staff regarding ongoing issues.

Environmental Outreach and Consumer Education

- Developed and enhanced relationships with six community and environment-focused organizations.
- Secured dairy checkoff presence at nine environmentally focused events and hosted six farm tours for environmental audiences, virtual and in-person.

Priority Areas Addressed:

Goal #4 - Improve communication to dairy producers so they can assist in the effort to improve the consumption of New York milk and dairy products by highlighting the sustainability story.

Budget: \$696,740

ADADC’s industry relations team conducted training and provided tools and support for dairy farmers, dairy ambassadors, and other dairy advocates to tell the dairy story and worked to strengthen the image of dairy farmers with consumers through a farmer presence at events and with the media.

Tactics consisted of:

- Spokesperson training, advocacy support, and farmer engagement with 43 spokespersons trained.
- American Dairy ENGAGED group membership grew to 1,008 members and group posts reached an average engagement of 58 percent. Five farmer influencers reached 1,588,026 consumers with positive dairy messaging.
- 59 grassroots farm tours hosted by farmers were supported with materials or signage. Partnered with nine dairy farmers and provided local dairy promotion grants to support grassroots dairy promotion events.
- NYS Dairy Ambassador Program provided training, support, and resources to the network of county dairy ambassadors. 23 Dairy Ambassadors recruited participation in ADADC retail and Fuel Up to Play 60 activities. The Dairy Ambassadors raised \$3,217 for Fill a Glass with Hope and made 941 social media posts that aligned with key dairy messaging.
- Produced newsletters for dairy farmers that provided talking points for consumer communications and provided examples of dairy farmers engaged in dairy promotion activities. We completed three direct mail pieces, 94 placements in dairy trade publications, and 106 digital news updates.
- We hosted face-to-face and virtual meetings, reaching 111 key dairy farmer leaders; 105 dairy farmers held meaningful roles at program events.

Priority Areas Addressed:

Goal #8 - Target marketing to promote the consumption of NYS milk and dairy products to Gen Z (10 to 23 years old).

Budget: \$260,593

Representing 20% of the population, this demographic has \$360 billion in disposable income. ADANE's Gen Z campaigns promoted dairy consumption and shared research-based dairy messaging with this key consumer group. ADANE's content was created specifically for this audience based on consumer research. The content included new recipes to promote dairy consumption, information on dairy's sustainability, and cow care.

- In 2022, our efforts garnered 20,652,658 social media impressions and 250,320 social media engagements among gen Z consumers. This audience was reached in a variety of ways including TikTok, Instagram, Gen Z social media influencers, and geo-fenced advertising on college campuses.
- "Dorm Room Dairy" was a digital marketing campaign that promoted easy-to-make and delicious dairy-centric recipes to college students on college campuses in New York. The campaign ran from September-November and surpassed 1.6 million social media impressions.

- Our Gen Z recipes campaign promoted exciting, dairy-centric recipes to Gen Z consumers on TikTok and Instagram. In 2022, our Gen Z recipe videos were viewed 10,514,285 times.

Priority Areas Addressed:

Goal #9 – Develop and implement a marketing strategy that targets diversity, racial equity, and inclusivity of the population, to increase the consumption of NYS milk and dairy products.

Budget: \$211,957

ADANE’s multicultural campaign, “Dairy is for Everyone,” highlighted the role that nutritious and delicious dairy products can play in everyone’s life regardless of culture, ethnicity, or lifestyle.

We produced 132 Spanish-language, dairy-centric recipes and launched a new Spanish-language blog (*Novedales*) on AmericanDairy.com. News stories were pitched to the Spanish-language press and received 16 traditional media placements.

In 2022, our culturally diverse marketing efforts secured 28,229,390 social media impressions and 1,030,275 social media engagements.

ADADC’s Participation in National Program – Dairy Management Inc.

Priority Areas Addressed:

Goal #6 - Participate in national programs influencing increased consumption of milk and dairy products.

Budget: \$2,575,000

Please see Dairy Management Inc.’s section for a summary and breakdown of its initiatives and metrics.

New England Dairy Promotion Board (NEDPB)

www.newenglanddairy.com

Contract Awarded: \$1,600,000

Summary of Company: Since 1920, the New England Dairy Promotion Board, a dairy checkoff organization, has represented New York and New England dairy farmer interests in schools and with thought leaders, the dairy supply chain, consumers, and media to promote dairy’s science-based health benefits and sustainable farming practices. We are staffed by registered dietitians and marketing communications professionals. Our focus is building trust and sales for dairy in five New England states, a key market for New York dairy. Our programs are informed by current consumer insights and dairy farmer

perspectives. By leveraging national and local partners, we maximize program impact and dairy farmer investment.

Priority Areas Addressed:

Goal #1 - Increase the consumption of New York milk and dairy products by youth (lunches, breakfasts, and other offerings).

Budget: \$330,079

Program #1: Equipment and marketing grants

In 2022, we provided almost \$145,000 in funding to 81 schools reaching over 67,000 students. While the grants have supported a variety of our traditionally funded programs, the most popular program has been smoothies. We funded new smoothie programs in four target (large) districts: Boston, Massachusetts; New Bedford, Massachusetts; Providence, Rhode Island; and Norwalk, Connecticut. Over 50,000 students are being reached with smoothie programs in these four districts alone.

Of the 56 schools awarded dairy equipment funding in 2021, 46 (82 percent) have submitted either initial or final data on their grants. Dairy sales in these schools increased 48 percent and meal sales increased 43 percent over baseline. These returns are larger than normal due to the unprecedented changes in the school environment over the past two years.

Program #2: Building connections with strategic partners and school stakeholders

We held our second annual School Nutrition Experts Forum at Gillette Stadium in Foxboro, Massachusetts in May. Our 20 attendees discussed best practices for serving milk in schools and opportunities for the future, including bulk and aseptic milk. The day concluded with a tour of Wright's Dairy in North Smithfield, Rhode Island. Attendees included the Deputy Regional Administrator and Director of Food and Nutrition from USDA's Northeast Regional Office, state hunger and department of education partners, and school nutrition directors.

We held three Chill Out with Cold Milk contests for schools in our region. School staff completed a milk temperature survey checking milk temperatures before, during, and after service, then made corrections if necessary to enter. We received nearly 400 submitted surveys, almost double the number we received in 2021.

We developed two new dairy nutrition posters for the school cafeteria: "Level Up your Meals with Milk" which highlights the boost to nutrition when milk is added to meals, and "Real Milk – Unleash the Power" which shows the nutrients in milk vs. milk alternatives. This fall, 105 districts ordered 637 poster sets for their schools. Going forward, school districts can order posters through our online catalog.

Priority Areas Addressed:

Goal #3 – Improve the image of dairy products and/or dairy producers among consumers, thus improving the acceptance and consumption of New York milk and dairy products.

Goal #8 – Target marketing to promote the consumption of NYS milk and dairy products to Gen Z (10 to 23 years old).

Goal #9 – Develop and implement a marketing strategy that targets diversity, racial equity, and inclusivity of the population, to increase the consumption of NYS milk and dairy products.

Budget: \$681,642

Program #1: Building Gen Z trust in schools

Adopt a Cow (elementary schools)

- Virtual live chats were held with the four Adopt a Cow host farms. We received 900 live chat views and over 10,000 chat impressions.
- Adopt a Cow survey (2021-22): Of the 278 responses, 93 percent of participants were either *satisfied* or *very satisfied* with the experience. Additionally, 96 percent of teachers participating in the program *agreed* or *strongly agreed* that their students trust the care dairy farmers provide their cows, compared with 53 percent prior to the program.
- Over 1,600 educators enrolled in the program for the 2022-23 school year, reaching an estimated 60,000 students (nearly 70 percent growth over last year)

Fuel Up to Play 60 Learning Plant (middle and high schools)

- We worked with an education market data company to support our marketing efforts of the Fuel Up to Play 60 Learning Plans to middle and high school educators, the Fuel Up to Play 60 Learning Plans are designed to align with national educational standards. The lessons include STEM (science, technology, engineering, and math) learning with a focus on agriculture and environmental sustainability.
- We've reached more than 70,000 educators and earned more than 314,000 impressions from our outreach.

Program #2: Building Gen Z trust through digital outreach

During the month of April, Gen Z Dairy farmer Maggie Laprise from EMMA Acres in Rhode Island who has over 6,000 followers on TikTok (@thefarmermaggie) created videos that share dairy's sustainability story and address misconceptions.

- Video #1 – Unique sustainable partnership between breweries and dairy farms. Over 3,000 views total between TikTok and Instagram Reels.
- Video #2 – Addressing the misconception around greenhouse gas impact from cattle. Over 10,600 views total between TikTok and Instagram Reels.

We secured a marketing agency to support reaching and engaging Gen Z, specifically thirteen to eighteen years old, from October to the end of December. We worked with five Gen Z content creators (also known as influencers) to create five TikTok videos to reach our target audience with positive messages about dairy and dairy farming. The campaign generated 1.4 million impressions and nearly 38,000 engagements. Influencers included:

- @Twotastebuddiez
- @the_roamingfoodie
- @Sistersnacking
- @Justinmschuble
- @bostonfoodjournal

Program #3: Reaching Millennial Moms Digitally

We exceeded our goals by generating over 11 million impressions; our yearly goal was six million. In the second quarter, our digital recipe campaign brought in more than three million impressions alone and our sustainability campaign brought in over two million impressions. In mid fall, we ran a paid Instagram Reels campaign surrounding cow care to address this area of uncertainty among our consumer audiences, with over 600,000 impressions delivered. Engagements on digital platforms increased 22 percent over the previous year, exceeding our goal of five percent compared to the prior year. New England Dairy accumulated over 800,000 impressions through pitching to local media outlets.

We worked with influencers who can tell the dairy story in a way that is authentic and relevant to today's consumers. From fitness experts to home cooks and influential trendsetters, we worked with a range of voices to convey dairy as a solution to the unique needs and wants of consumers through collaborations on Instagram and TikTok. These influencer partnerships generated over 748,000 impressions and 22,600 engagements.

Program #4: Community Experiences

Our community engagement team provided positive, engaging, and educational experiences throughout New England, which included a busy year for the Mobile Dairy Bar (MDB). Overall, our community engagement program reached over 56,000 consumers and handed out over 26,000 samples at a total of 58 events.

- The Mobile Dairy Bar attended the Washington County Fair to provide samples of unique flavors of milk and engage fairgoers with education. It is estimated that the MDB garnered about 7,500 impressions, engaged 2,500 fairgoers, and distributed 1,800 samples of milk. Ideal Dairy collaborated with us and donated milk for this one-day special event.
- Brews to Moos events highlighted the unique partnership between dairy farms and local breweries that upcycle their spent grain and by-products. Dairy Farmers of America regional brands collaborated by providing all milk products and giveaways for the consumers.

- Agritourism events enabled New England Dairy to ensure dairy was a part of the local agriculture conversation and remind consumers of the important role dairy farms play in the community and supporting a healthy planet.

Program #5: Reaching Thought Leaders (TLs)

We educated 1,600 TLs through our webinar series and in person sessions including:

- *But First...Food Freedom* with Erin Green, MS, RDN, LD
- *Real Facts About Real Dairy in School Meals* with Dr. Robert Murray and Dayle Hayes, MS, RD
- *How to Talk About Food: Best Practices for Culturally Appropriate Conversations* with Breana Lai Killeen, MPH, RD
- *How to Make a Recipe Yours: Writing and Developing Without Copying or Appropriating* with Breana Lai Killeen, MPH, RD, and Charlotte Rutledge
- *Food Dignity: A New Paradigm to Confront Hidden Hunger and Nutrient Security* with Clancy Harrison, MS, RD, FAND for the CT Academy of Nutrition and Dietetics
- Dairy Sustainability Bus Tour for TLs highlighting the different sustainability practices of dairy farmers.
- Johnson & Wales University Food Systems and Culinary Programs dairy farm tour.

Pediatric Care Provider Outreach

- Educated 9,375 pediatric care providers, including pediatricians, pediatric advanced practice nurses, family physicians, physician assistants, and registered dietitians through digital communications focused on Birth-24-month dietary guidelines, plant-based diets and beverages, and lactose intolerance. As a result of the outreach 3,025 copies of our Birth-24-month feeding guide were ordered and we garnered 165 unique downloads of promoted research.

Priority Areas Addressed:

Goal #2 – Promote uniqueness of, and increase sales of, New York milk and dairy products and/or ingredients throughout the entire food supply chain through various distribution channels, including, but not limited to, e-commerce, curbside sales, etc.

Goal #4 – Improve communication to dairy producers and dairy stakeholders to inform them how they can assist in improving the consumption of New York milk and dairy products by highlighting the sustainability story.

Budget: \$233,529

Program #1: Digital Dairy Ambassador

We launched our Digital Dairy Ambassador program in October 2021 with the goal of elevating and empowering the voices of up-and-coming dairy farmers and agriculture

influencers. This program helped farmers to connect with their communities through genuine, farm-specific educational messaging and content. We recruited 14 dairy farmer ambassadors including Gen Z farmers from across New England states who were required to share at least 15 posts over the course of three specific themed months. Since beginning the program, the ambassadors have generated well over 200 posts and over 22,000 likes.

Program #2: Dairy Farmer Promotional Grant Program

Fifteen New England Dairy Grants totaling more than \$40,000 were awarded to assist farmers in grassroots efforts to promote dairy farming and connect with their communities. Several grants were awarded for activities during National Dairy Month such as a dairy crawl in Massachusetts and open farm days in both Vermont and Massachusetts.

Program #3: Engaging Industry Stakeholders

Building on Dairy Management Inc's investment, we met consumers in the virtual aisles with eCommerce and launched a fluid milk ad campaign on Instacart that ran from late November through late December. Success will be measured by the number of impressions and sales tied to the program. Final metrics are pending.

Program #4: Issues and Crisis Management

New England Dairy monitored for potential issues and crises across the region. Our team of program experts scanned news and events that can impact farmers and industry partners. Our team provided communications and public relations support to farmers and industry partners when issues or crises arose.

- We organized a virtual crisis training for farmers that taught skills and techniques to deal with emergencies. This on demand resource has a helpful printable guide that producers and processors can customize to their needs and refer to in the event of a crisis.
- We organized a communications training for 15 students in University of Vermont's Cooperative for Real Education in Agricultural Management (CREAM) program in December. The topic of the training was how to engage with the public about agriculture and highlighted strategies to use during farm tours, when communicating with reporters, and more.

Priority Areas Addressed:

Goal #6 - Participate in national programs influencing increased consumption of milk and dairy products.

Budget: \$454,750

Please see Dairy Management's section for a summary and breakdown of its initiatives and metrics.

Dairy Management Inc. (DMI)

www.USDairy.com/about-us/dmi

Budget: \$3,029,750 (ADADC- \$2,575,000 & NEDPB- \$454,750)

The NYSDPO did not directly award DMI a contract for the 2022 year. However, given the amount of funds contributed to the national program, a summary of DMI's work has been submitted by ADADC and NEDPB.

Summary of Company: Dairy Management Inc. (DMI), represents and implements the national dairy checkoff program, and works on behalf of America's dairy farmers, including the nearly 4,000 New York dairy farmers, to grow sales and trust in dairy foods, dairy farmers, and the dairy community.

The foundation of this work is a national unified marketing plan that DMI develops and implements in partnership with a nationwide network of dairy promotion organizations – including American Dairy Association North East and New England Dairy – that aligns promotion strategies and activities focused on core priorities set by dairy farmers and approved by the farmer-driven boards of national, state, and regional promotion organizations.

Program #1: Accelerating Additional Dairy Product & Ingredient Sales

DMI continued to grow dairy sales through partnerships with Domino's, McDonald's, and Taco Bell who moved dairy through over 1,000 stores in New York and over 600 stores across New England in 2022. DMI signed a partnership agreement with one of the fastest growing foodservice companies, Raising Cane's, who will be opening two new locations in New York City.

Other 2022 results:

- DMI domestic foodservice partnerships posted a 1.4 percent compound annual growth rate between 2016-2021.
- Domestic partners launched 21 new dairy products.
- Supported General Mills' product expansion, repositioning, and launches.
- Distributed 500 million pounds of dairy through Feeding America, 43 percent growth from pre-pandemic levels.

DMI staff advise Amazon's dairy team with consumer and category insights and coordinated on-farm visits to two New York dairy farms. Within New York, Amazon growth exceeded that of the total eCommerce, with milk sales up 19.6 percent and cheese sales up 12.1 percent.

US dairy exports volume grew by four percent, and (through November) sales were up .02 percent, an increase of more than 47 million pounds. The US Dairy Exports Council focuses on growing markets, which are supported by industry members including Agri-

Mark, Associated Milk Producers Inc., Cayuga Milk Ingredients, Dairy Farmers of America, and O-AT-KA Milk Products Cooperative.

Program #2: Building Trust in Dairy Among Youth and Targeted Consumers

Trust in dairy remained consistent with the previous year with 33.5% consumers ages 13 to 75 indicating a high level of trust. Gen Z adults (age 18-25) agree that “dairy will be an essential part of feeding a growing worldwide population.”

DMI Programs included:

- “The Gen Z campaign “Reset Yourself with Dairy” ran on social media, streaming services, and eCommerce, resulting in 526 million impressions. The campaign was named the best generic dairy marketing campaign in the world by the International Dairy Federation.
- Social media influencers posted about their authentic love of dairy, resulting in 78.9 million plus impressions. A second campaign, “Hack the Heat,” resulted in 64 million plus impressions.
- National Agriculture Month partnership with influencer, MrBeast, showcased how dairy is made with care for the planet reaching 100 million followers, resulting in 56 million plus total impressions and over 2.2 million engagements, and was the number one trending video on YouTube for 24 plus hours.
- USDairy.com saw increased traffic, resulting in 38 percent growth in new site users and 60 percent growth in social media followers.
- Farmer support of Fuel Up to Play 60 was featured during the Super Bowl with a commercial running on Nickelodeon, the NFL Network, and during Good Morning America, resulting in 113.1 million impressions, including 50 million plus impressions from a commercial played for free by the NFL Network.

Program #3: Positioning Dairy in a Global Food System

Efforts to position US dairy in a global food system are focused on three areas:

- Strengthen scientific and industry action proof points and messages that help demonstrate US dairy’s commitment to sustainable nutrition.
- Solidify dairy’s position in the Dietary Guidelines for Americans for improving health and reducing chronic disease.
- Secure support from targeted thought leaders and decision makers.

As part of this work:

- DMI-led US Dairy Net Zero Initiative is supported by \$37.7 million in grants and partnerships, with projects involving 338 farms that have advanced industry research, shared case studies, and supported scaled adoption of best practices and technologies.
- Secured positive stories in Scripps, Forbes, NPR, GreenBiz, and other publications, with more than 1.2 billion impressions through 3,215 placements.

- Promoted US dairy's commitment to water stewardship through a media sponsorship with Forbes, reaching more than six million.
- DMI secured Memorandums of Understanding (MOUs) with the National Medical Association, the School Nutrition Association, and the Mayo Clinic.
- Scientific support for dairy's health and wellness benefits were supported by 15 scientific publications. The team also completed eight scientific publications related to dairy's immunity, calming, energy, and digestive health benefits.
- Pilot programs were launched to build trust with Pediatric Care Specialists and early career scientists.

Milk For Health on The Niagara Frontier (MFH)

www.MilkForHealth.org

Contract Amount: \$465,000

Summary of Company: Incorporated in 1949, Milk for Health is one of the oldest dairy promotion organizations in the United States. Milk for Health consists of seven dairy farmer board members from across western New York, a full-time employee, and, recently, one part-time employee. Since day one, the goal of the organization has been to support the dairy farmers of western New York, promote dairy products, and educate about the goodness of milk. In 2019, the organization reorganized and took a more modern direction in their programs. The new up-to-date strategy being implemented is much more prevalent for the high-tech, fast paced world of today.

Priority Areas Addressed:

Goal #1 – Increase the consumption of New York milk and dairy products by youth (lunches, breakfasts, and other offerings).

Goal #3 – Improve the image of dairy products and/or dairy producers among consumers, thus improving the acceptance and consumption of New York milk and dairy products.

Goal #9 – Develop and implement a marketing strategy that targets diversity, racial equity, and inclusivity of the population, to increase the consumption of New York State milk and dairy products.

Conventional Television

Budget: \$175,000

2022 marks the last year that Milk for Health will be a staple on Buffalo television. Throughout the year our three commercials – Milk is Amazing, Farm to Table, and The Christmas Commercial – rotated across nine local stations. We set a goal of 5,300 spots and 8.4 million impressions. We achieved 5,300 spots and 11.6 million impressions of women aged 25-64. The relationships that Milk for Health has established with these

stations through the decades has and will play a big role in securing deals with the digital/streaming portion of their business as we move in that direction.

Connected Television

Budget: \$60,000

Streaming or connected television has given us our biggest “bang for our buck” in terms of impressions. It gives us a much more precise look at how many consumers are actually viewing our ads. We are able to target specific demographics, document how many of these consumers view the entire ad, and how many people skip through. In 2022 we continued our partnership with Bone Cold TV, a Buffalo-based hunting show that has a national broadcast and streaming audience. This show had helped us place ads on over 18 platforms. We also were able to advertise on the Spectrum TV digital app, YouTube, and Hulu. Milk for Health exceeded the 2022 goals set in place at the beginning of the year. Even though we exceeded our \$60,000 budget by just over \$4,000, we far exceeded our goal of three million views and reached close to seven million.

Explore and More

Budget: \$20,000

Our partnership with Explore and More Children’s Museum continued to flourish in 2022. Based in downtown Buffalo, the location connects us to both museum attendees and tourists visiting the area attractions. Every year we add more and more events to the calendar at the museum.

2022’s schedule included:

- Spring Break Week
- Superhero’s Day
- Cows at Canalside
- Magician appearances with Rob Allen
- Cooking classes
- Taste testing
- Grown up Night of Play
- National Cookie Day
- Milk and Cookies with Santa
- Mother’s Day
- St. Patrick’s Day
- Earth Day
- Summer camps

Every time we partner with Explore and More for an event, we are featured on their website, social media, and sometimes their digital billboard along I-190. Activities during these events have included making specialized milkshakes (i.e., shamrock shakes); making butter, ice cream, and smoothies; make your own milk bath; creating other dairy

confections; and hands on calf feedings. It is common to have a line waiting outside the kitchen galley to be able to participate. Cows on Canalside was a huge hit. Each month that we brought calves to the lawn outside the museum more and more people came out specifically to meet a new bovine friend. We were featured on half a dozen Buffalo news stations several times throughout the summer. Rob Allen joined us for a third year at the museum performing pop up magic shows with his trivia wheel and fun magic tricks. The museum is continually asking for him to come and perform throughout the year. We exceeded our goal of 10 events this year by attending 19 separate events, and met our goal of 10 magic performances. This has been a great opportunity for dairy education and are excited for some exhibit expansion in 2023.

Assemblies

Budget: \$30,000

After a disappointing 2021 that was still affected by the pandemic, Rob Allen dove into 2022 head first. He has brought his fun and educational magic show to over 54 schools in the Buffalo area. After over 40 years of performing, he and his wife Carol still bring rave reviews.

Olcott Beach Carousel Park also bounced back from the pandemic and had their best summer attendance in over a decade. Rob was able to go back to performing his magic show on the main stage and completed 20 shows.

Buffalo City Schools (BCS)

Budget: \$30,000

Our partnership with BCS grew exponentially in 2022. We found a replacement for our part time employee to manage the BCS events. At the beginning of 2022 we were working with three schools; that number grew to 11 schools by the end of the year. The goal number of BCS events for 2022 was 40; we finished the year with a total of 52 events. Spring of 2022 we participated in 23 school events and 18 in the fall; this number would have been greater had it not been for the multiple snow events in the city. There were 11 events at BCS held over the summer in conjunction with the Community Garden summer program at BCS.

Some highlights from the year include:

- Bringing calves to multiple schools that were not previously accessible thanks to our new calf box.
- Focusing on recipes that are relevant to the community we are working with and using readily available ingredients.
- Participating in wellness fairs to highlight the goodness of milk in a healthy diet.
- Making yogurt-based dips and dressings as part of the summer program and using the vegetables grown in the garden to sample them.

- A farm to grocery store obstacle course that used things used on a dairy as the obstacles, such as calf bottles to simulate milking, grain scoops for carrying, grain backs for a sack race, etc.

In 2022 we started having signage translated to Spanish to display in predominantly Spanish speaking schools. This helps ensure we are reaching all attendees and overcoming the hurdle of a language barrier. Looking forward to 2023, we have two staff members partaking in a Spanish for Dairy farming class to continue to close that gap. We have expanded our employee pool to accommodate these events and continue to utilize volunteers to keep costs low.

Web/Social Media

Budget: \$60,000

Our website and social media platforms remain a landing zone for many people who attend our events and classes to come to follow up on stories, print recipes, find fun kid activities, and more. In the fall we finally launched our freshly updated site, which resolved many of the bugs the old website had. Visitors can print the recipes and activities with ease. Soon we will be adding a list of upcoming events to the events page for people to find out when and where we will be with calves and other activities. We are excited to be working with a new company and are looking forward to expanding on the new site.

Events

Budget: \$20,000

Fairs and events were the highlight of our year. We attended 33 events throughout 2022. The face-to-face interaction that our staff, volunteers, and local dairy farmers have with the consumers is irreplicable. There is something special about being able to explain who we are and what we do and give them a tangible experience that will stay with them.

The 2022 year included:

- Two speaking engagements at SUNY Alfred to discuss AgVocay and dairy promotion
- SUNY Alfred's Kids Day
- The Attica Health and Wellness Fair, where we had a yogurt bar
- Sponsoring and supplying the cheese table at the Attica Partners in Ag Dinner
- Dairy activities included smoothies, butter making at the YMCA Kids Days, and a day at the Museum of Science
- Various dairy activities 14 separate days at the YMCA of Buffalo Summer Camps
- Dairy portion size booths at both the Warsaw and Springville Central Schools' Ag Days
- The mobile photo booth at Kinderfarmin'
- Dairy portion size activity and Millie the milking cow for eight days of farm tours at Edleweiss Farms

- The Dodge Elementary County Fair
- The Cow for Now program with 60 classes and 1200 students
- The Hamburg Festival of lights with close to 10,000 vehicles
- The Cattaraugus County Fair, where we teamed up with Farm Bureau to bring a fun interactive tent including dairy signage, daily make and take activities, Millie the milkable cow, and so many balloons
- Wyoming County Fair where we sponsored the farm Olympics, ice cream eating contest, a few 4-H events, and had our mobile milk carton photo booth
- Orleans County Fair with Millie, videos playing, giveaways, and activities
- Genesee County Fair with Millie, video playing, giveaways, and activities
- The Erie County Fair with over 1 million visitors

This year was a big one at the Erie County Fair. Not only did we have our booth in the commercial building, but we also sponsored Dairy Day at the fair. It has been close to 20 years since the last dairy day at Erie County Fair. Highlights of the day included a Western New York Farmer of the Year Award, which was awarded to Chuck Richmond. He was honored in the Showplex with the entire fair board present and then was featured on several news programs throughout the day. We also used NYAACs “Bertha” inflatable cow and placed her near the Future Farmers of America (FFA) ice cream trailer. She drew in quite a crowd and help fair goers locate the booth which partnered with us to give \$1.00 ice cream cones for the day. Our booth in the commercial building had special giveaways and various activities for kids to participate in. Down in the dairy barn, kids were able to make dairy charm bracelets and participate in a scavenger hunt. If attendees used the trolley that drives around the fair, they listened to dairy facts and trivia during their ride. Milk for Health was featured on “Fair Day Live” on Dairy Day, and sponsored the show throughout the week. This day also included advertising on the fairs radio and television ads, website, social media, mobile app, and print ads. We kept with the tradition of trivia and giveaways in the booth along with the 14-foot-tall milk carton photo booth, activities for the kids, looping videos, and face-to-face interaction with local dairy farmers.

Our mobile 10-foot-tall milk carton photo booth attended many of these events and was also used at several weddings throughout the summer and fall. Other events included: WIC World Breast Feeding Day, speaking engagements at several schools, and guest spots on radio shows.

Priority Areas Addressed:

Goal #1 – Increase the consumption of New York milk and dairy products by youth (lunches, breakfasts, and other offerings).

Cooking Classes

Budget: \$4,000

2022 included 59 cooking classes for middle school students across western New York. We traveled as far south as Randolph Central School all the way up into Grand Island.

Each class was able to choose between three recipes: loaded grilled cheese, mac and cheese, and smoothies. The loaded grilled cheese was a definite favorite. Before each class, teachers received a questionnaire inquiring about the number of students, food allergies, lactose intolerance, and recipe preferences. We provided gluten free and lactose free options to students in need. Many of these classes included lactose intolerant students. This gave us the perfect face-to-face opportunity to introduce them to real dairy lactose free options. These classes offered a general education about dairy nutrition, questions, and answers about dairy farming, and gave these children a valuable life skill. All the students were sent home with the ingredient list and recipe to make it at home for their family. It was truly amazing to find out how many children had never had a grilled cheese and the excitement when they had their option of a Buffalo chicken grilled cheese, pizza grilled cheese, and just a plain one was overwhelming. Each school we attended in 2022 has requested our return in 2023.

New York Animal Agriculture Coalition (NYACC)

www.NYAnimalAg.org

Contract Amount: \$370,000

Summary of Company: The New York Animal Agriculture Coalition (NYAAC) is a farmer-founded and funded not-for-profit organization that strives to enhance the public's understanding of and appreciation for animal agriculture and modern farm practices. NYAAC is effective in doing so by engaging the public in conversations about animal agriculture and empowering farmers to tell their story firsthand.

Priority Areas Addressed:

Goal #3 – Improve the image of dairy products and/or dairy producers among consumers, thus improving the acceptance and consumption of New York milk and dairy products.

Dairy Cow Birthing Center

Budget: \$40,000

The Dairy Cow Birthing Center had another successful year in 2022. For the ninth annual event, NYAAC welcomed 35 'udder miracles' (calves) into the world during the 13-day Great New York State Fair. With the help of nearly 200 dairy farmer and industry volunteers, NYAAC was able to welcome 1/3 of the State Fair attendance through the tent and continued to have excellent engagement with our online audience. The hook remains the same at the Birthing Center each year: wanting people to visit us to witness the miracle of life – but what continues to keep them engaged and excited each year is the opportunity to talk to farmers in person. We were fortunate to have numerous notable visitors and media opportunities that allowed our industry experts to share the dairy industry with decision makers and state leaders. We continued to share this experience online through our live YouTube stream and social media followers. We look forward to

continuing to bring this experience back in 2023 for our 10-year celebration of uddermiracles at the Great New York State Fair.

Dairy on the Moo-ve

Budget: \$5,000

Dairy on the Moo-ve was a project that began back in 2020 when the State Fair was canceled resulting in the cancellation of the Dairy Cow Birthing Center. NYAAC shifted gears and decided to head to the farm to share information directly from the farm. As this project evolved, we used funding in 2020 that was earmarked for the Birthing Center to help provide financial assistance to make this project come to life. Fast forward to 2022 and we can say that we have featured 41 dairy farms through this project. With the assistance of funding from New York dairy farmers in 2022, we were able to feature an additional 14 dairy farmers, which resulted in nearly 500,000 organic social media impressions. We aimed to showcase a variety of farms in a variety of regions. The size of the farms that were featured ranged from 64 cows to nearly 5,000 cows, representing 20 counties throughout New York State. When looking at the entire project of 41 featured farms, we showcased farms that represented 43,000 milking cows that produce 430,000 gallons of milk. It was a true opportunity to show the breadth and depth of the New York dairy industry.

Priority Areas Addressed:

Goal #3 – Improve the image of dairy products and/or dairy producers among consumers, thus improving the acceptance and consumption of New York milk and dairy products.

Goal #9 – Develop and implement a marketing strategy that targets diversity, racial equity, and inclusivity of the population, to increase the consumption of New York State milk and dairy products.

Mobile Dairy Experience

Budget: \$325,000

In 2022, NYAAC kicked off the extensive project of designing, building, and launching the New York Mobile Dairy Experience. The goal is to build a trailer that travels throughout New York State showcasing a variety of aspects of the dairy industry, from farm to table. 2022 was focused on developing an advisory committee to help launch this project, finding the right team to design and engineer our vision, and beginning to develop the layout.

The advisory committee includes numerous people from a variety of dairy backgrounds and from different regions of New York State. We developed an agreement to work with Craftsmen Industries to design and engineer this trailer project.

Most of the year was spent on developing designs for what will be a 53-foot double expandable tractor trailer. NYAAC staff began to work with engineers, designers, and collaborators at Craftsmen Industries to develop the layout of this experience. In the coming year, the focus will shift to fundraising, developing messaging through collaborative efforts, and developing internal content. The goal was to launch the project and hit the road in the summer of 2023. However, this timeline has been delayed, due to the lack of funding needed to make this experience come to life.

VentureFuel

www.VentureFuel.net

Contract Awarded: \$495,000

Summary of Company: VentureFuel is an independent innovation advisory that helps the world's best organization ignite change through startup collaborations. Its innovation programs include Diagnostics, Corporate Accelerators, and Commercial Pilots; and focus on solving clients' biggest challenges by driving greater efficiencies; closing strategic capability gaps; and identifying emerging business models. VentureFuel provides organizations like Hershey's, Comcast, Dick's Sporting Goods, and the AARP Foundation the tools to drive transformative change with less risk, more speed, and greater proximity to the consumer than traditional innovation models.

Priority Areas Addressed:

Goal #1 – Increase the consumption of New York milk and dairy products by youth (lunches, breakfasts, and other offerings).

Goal #2 – Promote uniqueness of, and increase sales of, New York milk and dairy products and/or ingredients throughout the entire food supply chain through various distribution channels, including, but not limited to, e-commerce, curbside sales, etc.

Goal #3 – Improve the image of dairy products and/or dairy producers among consumers, thus improving the acceptance and consumption of New York milk and dairy products.

Goal #4 – Improve communication to dairy producers and dairy stakeholders to inform them how they can assist in improving the consumption of New York milk and dairy products by highlighting the sustainability story.

Goal #6 – Participate in national programs influencing increased consumption of milk and dairy products.

Goal #8 – Target marketing to promote the consumption of NYS milk and dairy products to Gen Z (10 to 23 years old).

Goal #9 – Develop and implement a marketing strategy that targets diversity, racial equity, and inclusivity of the population, to increase the consumption of NYS milk and dairy products.

NY MilkLaunch

Budget \$495,000

NY MilkLaunch is a dairy product innovation accelerator that encourages entrepreneurs, startups, and existing companies to introduce exciting new dairy products to Gen Z consumers. Six finalist products ranging from shelf-stable ice cream mix to keto donuts and upcycled wheat protein powder were enrolled in the accelerator program featuring elite mentorship and stipends to support their product and business growth. Finalists pitched to an expert panel of industry judges during the live streamed final event, and the winner, Spylt, was awarded the \$150,000 grand prize to launch and grow his energy chocolate milk using New York State dairy.

Program metrics include:

- 24 applications
- 47,222 social media impressions
- 301.2 million press impressions
- 10 mentor sessions
- 8 industry expert judges
- 500 Gen Z specific consumers polled in fan vote
- 34% increase in positive perception of dairy based on new, innovative products
- Five of six founders and 10 of 14 mentors were from diverse backgrounds

Burt Media (Previously Jeb & Company)

www.BurtMedia.co

Contract Awarded: \$395,000

Summary of Company: We are a creative media company that helps individuals and brands develop an impactful presence online through content strategy, content creation, social media management, paid advertising, communications, and overall digital strategy and execution.

Priority Areas Addressed:

Goal #7 – Conduct research projects to ensure the safety and/or expand the demand for New York dairy products and dairy ingredients.

Research: Two Collaborative Research Studies

Budget: \$120,000

2,000 interviews were conducted with individuals throughout New York State as an accurate sample population of New York citizens. Research gleaned insights into opportunities for dairy marketing campaigns and gave the board and partners a clearer picture of the current perception of dairy in New York. Research was split into two phases.

Our research decks highlighted a variety of insights from New York Citizens in regard to their consumption and perception of dairy, here are a few of the key callouts we think could help market and position dairy:

- Consumers are interested and would favor products labeled as containing New York dairy.
- Cornell University's work with New York dairy farmers raises consumer's positive perceptions of dairy.
- Key terms that indicate health to consumers are organic, all natural, non-GMO, high protein, and reduced calories.
- Buying local/supporting producers in state is important to the majority of Gen Z and Millennial consumers.
- New York residents ranked yogurt as the healthiest dairy product.
- When asked about their perception of dairy products, the top terms New York residents said were calcium, builds strong bones, tastes good, and healthy.
- Taste, price, and health contents are the most influential aspects on a consumers purchase decision.
- Digital shopping grew significantly in 2022 across all demographics.

Results and presentations are shared with the NYSDPO and partners at the following link:

https://drive.google.com/drive/folders/1cJ001-5fZtGCv3l4TBJbnOXtOrHxOO2H?usp=share_link

Priority Areas Addressed:

Goal #2 – Increase retail sales of New York milk and dairy products.

Goal #3 – Improve the image of dairy products and/or dairy producers among consumers, thus improving the acceptance and consumption of New York milk and dairy products.

Promotion: Annual Promotional Activity

Influencer & Creator Campaigns

Budget: \$190,000

These campaigns were aimed at discovering and working with influencers throughout New York State to promote dairy and how dairy plays a role in their everyday lives. The wrap-up report is linked below.

We activated a diverse group of New York-based micro-influencers from all corners of the state to raise awareness and encourage consumption of New York dairy products through socially relevant content. The primary objective of the campaign was awareness, and the secondary objective was content production.

- The campaign generated nearly 1 million organic impressions.
- The high amount of video resulted in a 57% engagement rate.
- Influencers created 31 TikTok videos and 47 Instagram Reels.
- Influencers over delivered content, resulting in an estimated content value of \$198,250.
- Influencers who participated in the campaign were proud to promote New York dairy farms.

Using unique ways to engage an influencer's audience were great ways to increase the impact of our collaborations; for example, running a giveaway with @nyfarmgirls audience to increase @newyorkdairy email sign-ups and followers.

Some of our learnings were that video storytelling resonated with audiences and generated higher engagement; specifically, recipe and vlog-style videos performed well.

We also believe that future campaigns should be run as an ambassador campaign in order to leverage the benefits of audience trust.

Examples include (more included in wrap-up report):

- www.instagram.com/reel/Cg4Nan2M3mv/
- www.instagram.com/reel/CkvwFKTJRrW/
- www.instagram.com/reel/CmXWPjMLGIM/

The influencer specific wrap-up report can be found at the following link:

https://drive.google.com/file/d/1Df03XukQppdN1kx7E3Rf7YyK0Jh5yYOM/view?usp=share_link.

10-12 Month Paid Media Campaign

Budget: \$65,000

Our paid media campaign for New York Dairy was successful in increasing brand awareness, driving traffic to the New York Dairy website, growing our email list, and increasing the following for @newyorkdairy channels.

We utilized custom creative content from @newyorkdairy channels, giveaways to drive conversions, and the best content from our influencer partnerships. The campaign generated 5,087,602 impressions, reached 1,729,723 unique users, and received 500,083 engagements with an engagement rate of 0.10. We gained 3,452,606 video views and 178,498 link clicks, resulting in a cost per thousand impressions (CPM) of \$14.32 for Instagram and Facebook and \$3.22 for TikTok.

The campaign achieved a cost per engagement (CPE) of \$0.06 for Instagram and Facebook and \$0.17 for TikTok; a cost per video view (CPV) of \$0.09 for Instagram and Facebook and \$0.014 for TikTok; and a cost per click (CPC) of \$0.17 for Instagram and Facebook and \$0.46 for Tiktok. We also gained 7,325 new subscribers to the email and SMS lists for @newyorkdairy channels.

Overall, the incorporation of giveaways and influencer partnerships, along with @newyorkdairy channels' custom creative content, helped to build a strong foundation for the brand, increase conversions, and build trust and credibility with our target audiences.

Campaign Management

Budget: \$80,000

In its first year, @newyorkdairy had impressive growth and development, proving the potential for a consumer-facing brand for the New York dairy industry to have significant reach and impact. The brand's success has been driven by its engaging and informative edu-tainment content, which has generated 4,684,256 impressions, 3,211,111 unique users reached, and 3,900,000 video views.

@newyorkdairy also achieved a consistent posting schedule, with the brand aiming for at least one daily post across all its platforms (TikTok, Instagram, Facebook, and YouTube). With 972 total posts, the brand has built a dedicated following of 12,600 TikTok followers, 2,517 Instagram followers, 1,670 YouTube subscribers, and 2,000 Facebook fans.

Through dynamic content and community engagement, @newyorkdairy has established itself as an approachable brand for dairy farmers and consumers, serving as a valuable touchpoint for the New York dairy industry. With our ongoing efforts to build and engage with the community, @newyorkdairy is poised for continued growth and success in the future.

Profile links can be found at <https://linktr.ee/newyorkdairy>.

Dairy in the Classroom (DITC) – part of New York Agriculture in The Classroom (NYAITC)

NewYork.AgClassroom.org

Contract amount: \$650,000

Summary of Company: Dairy in the Classroom engages Pre-K to 12th grade students in hands-on learning experiences during the formal school day. County-based Cornell Cooperative Extension educators build connections and relationships with teachers to teach or reinforce core academic content using dairy as the lens for learning.

Priority Areas Addressed:

Goal #1 – Increase the consumption of New York milk and dairy products by youth (lunches, breakfasts, and other offerings).

County Cornell Cooperative Extension (CCE) Grants

Budget: \$415,000

Support was provided to 14 counties (with programming in 17 counties due to partnerships) to provide direct classroom dairy education during the formal school day. County DITC educators completed engagement in 184 schools and worked to build relationships with teachers and students, clearly communicate scheduling and lesson objectives, and develop hands-on lessons, tastings, and experiences.

Student learning took place in classrooms and outside school walls. Schools have opened more widely to allow for regular guest educators to be in person, outdoor events, and school field trips to farms. Lessons consisted of interacting with dairy products, and over 34,598 dairy samples were consumed.

Of significance with this program is the frequency of visits DITC educators were able to invest in classrooms. With concept reinforcement happening with each lesson and dairy experience, half of the impacted classrooms had between two and 10 visits.

Counties included in this program were: Albany and Schenectady, Broome, Erie, Genesee, Herkimer with Hamilton and Montgomery, Livingston, Madison, Monroe, Nassau, the counties that comprise New York City (including New York County, Kings County, Bronx County, Richmond County, and Queens County), Oneida, St. Lawrence, Seneca, and Wyoming.

Additional metrics include:

- 1,400 classrooms
- 119,323 students reached
- 65,833 hours of dairy education
- 34,598 dairy samples consumed

Virtual and In-Person Field Trips

Budget: \$14,986

County DITC programs and NYAITC completed seven virtual field trips with 3,575 students participating.

Two of the highlights of the offered virtual field trips were to Tiashoke Farm hosted by Jessica Ziehm where she enthusiastically talked about the technology in dairy farming, showed each step in the farm life cycle, and answered student questions in real time.

We also visited Chef Kane Jilek at Longfellows Restaurant in Saratoga Springs. Chef Jilek was able to share with the students that growing up on a dairy farm impacts his cooking today. Multiple times Jilek has won the best macaroni and cheese in the local

“Mac-n-Cheese Bowl,” and he attributes it to his combination of Cabot cheeses he uses in the recipe. Jilek walked our students through how to make his recipe and they learned good cooking techniques along the way.

Classrooms received an inquiry box prior to the virtual field trips to give students a sensory experience. They helped the students formulate questions and gain interest in the experience.

Many DITC counties also began hosting in-person field trips now that schools were allowing out of school experiences. The reaction has been overwhelmingly positive.

Dairy Lessons, Kits, and Experiences

Budget: \$15,000

DITC provided curated lessons, kits, and programing materials for teaching core academic concepts through dairy.

Standards-aligned lessons and kits included, but were not limited to:

- Agriculture Pays; students discover that agricultural careers are interconnected, and that agriculture influences many parts of their daily lives.
- Cheesemaking: From Liquid to Solid; understanding phases of matter by making cheese.
- Lactose Lab: exploring the chemistry and composition of milk.
- Sun, to Moo, to You!: investigating the transfer of energy in the process of making milk.
- Dairy Farming in a Glove: observing how common crop seeds grown on a dairy farm sprout and investigating the conditions necessary for germination to occur.
- 1,400 classrooms benefitted from these resources.
- 34,598 dairy products were sampled or consumed during the lessons.
- Milk was the most consumed dairy product sample (11,245 samples).
- Cheese was a close second (10,252 samples).

Dairy Innovation Contest: Mac & Cheese Challenge

Budget: \$10,000

A state-wide dairy innovation contest was a widely successful new endeavor for the program. The Mac & Cheese Challenge asked students to work together to develop their own unique macaroni and cheese recipe, cook the recipe, and create a unique marketing element to help sell their final product.

This contest was so popular with teachers because it was a strong cross-curricular project. Math skills were reinforced, students conducted research on existing recipes, science concepts were touched through discussion of melting point and baking temperatures, and English/Language Arts (ELA) was a focus because they had to

develop marketing materials. Students loved the contest because they didn't know they were learning along the way, they just enjoyed making the recipe.

- 250 student recipe and marketing submissions
- 3,369 students participated

Professional Development Trainings

Budget: \$43,500

New in 2022 was the integration of hosting professional development trainings in partnership with the DITC counties. These sessions were held on farms where teachers experienced lessons hands-on, received classroom supply kits to teach the lessons in their classrooms, and were able to build connections with the farmers hosting the sessions. The number of teachers who had never been on a dairy, nonetheless a farm, was staggering at 80%.

The goals of the trainings were to help the DITC counties build stronger engagement and connection with the teachers using their programs, and to create interest for new schools to participate in DITC. The trainings-built confidence in teachers to use food, agriculture, and dairy even when the DITC educators are not teaching their students.

One of the highlights for the teachers was learning how to make cheese, and how easy it is to make with their students. Every teacher received a cheese making kit to use in their classroom, along with a book that teaches the science of cheesemaking to kids. 170 teachers participated.

Cornell University Research Projects

cals.cornell.edu/food-science/research

Milk Quality Improvement Program (MQIP)

Contract Awarded: \$615,960

Summary of Company: The MQIP is the core overall dairy foods program at Cornell University, providing research and extension support for raw and finished product quality improvements and product safety in New York. The MQIP provides broad expertise in dairy microbiology, including microbial food safety and spoilage, along with key expertise in training New York dairy manufacturers, playing a critical role in ensuring that New York has a qualified dairy processing workforce. This program is the only one of its kind in the US, committed to serving the New York dairy industry to ensure a plentiful supply of high-quality dairy products to consumers in New York and beyond.

Priority Areas Addressed:

Goal #7 – Conduct research projects to ensure the safety and/or expand the demand for New York dairy products and dairy ingredients.

Dairy Product Quality and Safety Program (DPQSP; MQIP “core” program):

Budget: \$448,400

The Milk Quality Improvement Program (MQIP) provides comprehensive support to the New York dairy industry throughout the farm to processing continuum. On behalf of the New York dairy farmers, who have continuously supported this program since 1979 through check-off dollars, the MQIP prioritizes program activities and outcomes that facilitate the long-term success of the New York dairy industry through DPQSP efforts. Key metrics for 2022 include:

- 10 peer reviewed publications and 11 lay articles published;
- submitted six requests for additional funding from non-DPO sources and received nearly \$1.8 million in leveraged funding;
- conducted 36 dairy foods training courses, reaching 903 individuals with 12,571 contact hours;
- collected over \$700,000 in fees from workshops and from processor support through the food processing development laboratory; and
- supported New York processors and producers through five deployments of the MQIP rapid response team.

In 2022 our interactions with the New York dairy processing industry reached businesses that process approximately 92% of the milk in New York, demonstrating the reach of our program and an overall high level of stakeholder impact.

Supplemental Project – Technology Scouting and Evaluation for New Processing Technologies for New York Dairy

Budget: \$43,660

The critical need for cost-effective innovation in the New York dairy industry strongly demands a focused approach to identify and evaluate new processing technologies with the potential to further expand the demand for New York dairy and dairy ingredients. In 2022 we evaluated a number of different sources of new technologies including patent applications and web pages from dairy associations, universities, centers, awards, trade journals, and companies. We further attended food industry trade shows like Process Expo in Chicago and DairyTech in Kansas City, and followed outcomes of the World Dairy Innovations Awards. This approach proved to be efficient at identifying new dairy processing technologies and companies that market them. The 13 technology innovations that we identified at the two trade shows were described in three separate articles that we published in our Dairy Foods Extension (DFE) Newsletter. In total, we identified 33 new technologies that were summarized in our overview table, and evaluations of eight of these technologies were summarized in information sheets published on our “New Dairy Processing Technology” web page. Further, the availability of this resource was communicated directly to New York dairy processing business, as well as through a New York dairy industry virtual office-hours webinar.

Supplemental Project – Preparing the New York Dairy Industry for ECommerce Distribution Channels

Budget: \$123,900

ECommerce and related distribution channels are rapidly growing in their importance, including for the distribution of dairy products. These distribution channels, however, represent unique challenges such as the potential for more frequent and prolonged temperature abuse, which impacts product shelf life and quality. To enable the New York dairy industry to proactively address these issues, in 2022 we began efforts to assess the use of different eCommerce dairy distribution channels in New York and collect data on the temperature profiles of dairy products in these distribution channels. We identified four distribution channels for milk and other dairy products to target for collecting temperature profile data and collected temperature data for three of these distribution channels including 33 processor-to-consumer delivery routes, 10 distribution-to-consumer channels during two different months (March and September), as well as the temperature profile of fluid milk under different conditions during simulated third-party (e.g., Instacart) grocery shopping. All profiles measured showed increased temperatures throughout the distribution pathway, with the highest increases observed during simulated third-party shopping. In 2023 we will collect the final temperatures on product quality.

Supplemental Project – Defining Raw Milk Quality Parameters that Affect Greek Yogurt Yield and Quality

Budget: Carry over from 2021 – no additional amount budgeted

Greek style yogurt has driven the growth in the yogurt category in New York State and beyond. Because of the importance of this product to the New York State dairy industry, there is a need to define raw milk parameters that affect the yield and quality of Greek yogurt. In 2022 we completed the last of six experimental trials to determine the impact of raw milk parameters on Greek yogurt yield. Our results establish that two factors influenced Greek yogurt yield including:

- the protein content in the incoming raw skim milk; and
- raw milk hold time prior to Greek yogurt manufacturing. Somatic cell count, *Pseudomonas* inoculation, and other raw milk components (e.g., lactose) had no significant impact on Greek yogurt yield. Overall, the results of this study indicate that relationships between raw milk parameters and Greek yogurt yield are primarily driven by raw milk protein content. Further awareness of the impact of raw milk hold time on yield is important for yogurt manufacturers as they make decisions regarding supply handling and management.

Supplemental Project – Implementation of Listeria Control Strategies in Small Dairy Facilities

Budget: Carry over from 2021 – no additional amount budgeted

Recalls of foodborne illness due to pathogen contamination of food products can be one of the most detrimental events that occurs for consumers, food businesses, and entire industries. The primary pathogen of concern for contamination in dairy foods is *Listeria Monocytogenes*, as this pathogen survives in processing environments for many years, grows at refrigeration temperatures, and has a high mortality rate for people who become ill with listeriosis. In 2022, our efforts included the completion of validation sampling at all nine artisan dairy facilities and follow-up evaluation of each facility based on their commitment to their environmental monitoring program (EMP), their follow-through on corrective actions, their overall food safety attitude, and more. A total rating of overall dedication to EMP was assigned to each facility based on the outcomes of these evaluations. Artisan dairy processors that were evaluated as having “strong dedication” to their EMP maintained and/or reduced the presence of *Listeria* in their processing environment. This project demonstrated that commitment to monitoring *Listeria* alone is not enough for an EMP to be effective at controlling *Listeria*, completing the right follow-up actions is necessary for an effective program.

North East Dairy Food Research Center (NEDFRC) Research Projects

Contract Award: \$463,489

The NDFRC works in collaboration with dairy farmers, industry, government agencies, and University partners to pursue cooperative dairy foods research and extension. Our mission is to seed dairy innovation and entrepreneurship; enhance the quality, safety, and demand of dairy foods; and improve the sustainability of the dairy industry. The NDRFC is located at Cornell University in Ithaca, New York. It was established in conjunction with Dairy Management, Inc. (DMI) in 1988 as one of six national dairy centers. The NDFRC and its accomplishments over the past decades would not have been possible without the support of New York dairy farmers.

Priority Areas Addressed:

Goal #7 – Conduct research projects to ensure the safety and/or expand the demand for New York dairy products and dairy ingredients.

Project 1 – PI – Dave Barbano

Title: Center Technology Transfer (continuing)

Budget: \$55,669

Conduct research to expand the demand for New York dairy products and dairy ingredients particular by supporting:

- microfiltration tech transfer;
- implementation analytical methods for process control in dairy plants; and
- implementation of milk testing to enable improvement of milk composition quality for dairy product manufacture.

Work on both UF and MF for high protein beverage has been done with companies to avoid heat induced protein aggregation and heat induced settling and clumping of milk protein. We have developed new laboratory scale method for screening various beverage formulations for heat stability that will allow companies to develop strategies to achieve clean label high protein milk-based beverages. We train laboratory staff in a large New York State cheese plant to use the new, more accurate MIR method for analysis of cheddar cheese. In May of 2022 we set up the new milk fatty acid testing on a Bentley instrument and are working with DairyOne on a quality assurance system for improving the quality of milk fatty acid data for dairy herd management. We presented four presentations on this work at scientific conferences and three at industry conferences.

Project 2 – PI – Carmen I. Moraru

Microwave Dehydrated, Shelf Stable Cream (year 2 of 2)

Budget: \$ 99,890

Conduct research to expand the demand for New York dairy products and dairy ingredients by developing a novel process for the manufacture of shelf-stable dehydrated cream, without preservatives (clean label), which can be stored and shipped at room temperature, for domestic use or export. Our key objectives are:

- Investigate the effects of protein-to-fat ratio and lactose content on the drying properties of the cream and reconstitution of the dehydrated cream.
- Evaluate the shelf-life of the dried cream (fat oxidation, microbiological quality) as a function of composition and storage conditions.

The shelf-life study of microwave vacuum drying (MVD) cream is ongoing (this was delayed due to staffing changes, which is why a no cost extension was requested). Additional to what was initially proposed, we are developing an instrumental method to evaluate changes in the volatile profile of MVD cream, which will allow us to notice changes in cream flavor after processing and during storage. A manuscript based on this work is in progress. A patent was filed on September 13, 2022, with the ESPTO (Appl No. 63/375,534). We have presented two presentations on this work at scientific conferences and one at an industry conference.

Project 3 – PI – Syed Rizvi

Quick Dissolving Milk Protein-Rich Extruded Baby Foods (year 2 of 2)

Budget: \$ 98,710

Conduct research to expand the demand for New York dairy products and dairy ingredients by developing quick dissolving extruded puffs that incorporate the use of milk protein concentrate (MPC) as the major ingredient in the puffs to deliver a high level of nutritional quality from dairy. Our goals were to:

- quantify the effect of selected functional ingredients (sodium hexameta phosphate (SHMP) and skim milk (SMP)) on the hydration and disintegration properties of MPC based extruded puffs; and
- evaluate the physio-chemical properties of the final, consume-acceptable, quick disintegrating products.

SMP or lactose hydrolyzed skim milk (LHSMP) powder was added to milk protein concentrate (MPC80) based formulations containing SHMP, sodium tripolyphosphate (STPP) as chelators to produce in-mouth dissolving puffs for use by infants and elderly. All the samples had disintegration rates around 0.250 mm/s, indicating the samples performed comparably to the all-carb market products. The MPC SHMP products performed better and disintegrated at a faster rate, 0.610 mm/s. Interestingly, the short chain galactooligosaccharide (GOS) content of the samples with LHSMP was the highest at 0.162 g GOS/7g serving size, confirming our products' better nutritional and functional qualities than the market products.

Project 4 – PI – Ali Abbaspourrad

Sequestration of Bovine Milk Oligosaccharide (BMO) (year 2 of 2)

Budget: \$ 111,100

Conduct research to expand the demand for New York dairy products and dairy ingredients by designing polymeric resin for efficient and cost-effective separation of BMOs from whey permeate. Our goals are to:

- design and synthesize a variety of covalent or non-covalent MIP resins for each different BMO species; and
- optimize the adsorption and desorption process for the synthesized resins.

We designed and synthesized five types of anion exchange and one neutral resin and studied the performance of all synthesized resins for the adsorption of the BMO 2-FL from an aqueous solution. We studied the elution conditions for the desorption of 2-FL from resin. The results showed that only anion exchange resin could absorb 2-FL from an aqueous solution. We also tested different amounts of 2-FL as a template for the anion exchange resin synthesis and found that 10% of 2-FL as a template worked best. The best eluent for desorption of 2-FL was water containing AcOH 1.5% at room temperature. Finally, by adsorption of 2-FL using the anion exchange resin and then desorption of 2-FL by eluting the resin with AcOH 1.5% at room temperature, we could capture 40-60% of 2-FL from the standard solution.

Project 5 – PI – Ali Abbaspourrad

Conversion of Milk Proteins to Clean Label Emulsifiers (year 2 of 2)

Budget: \$98,120

Conduct research to expand the demand for New York dairy products and dairy ingredients by producing clean label emulsifiers from the by-product of the dairy industry, i.e., whey. Our goals include:

- The developed emulsifiers will be further optimized, targeting large-scale and cost-effective production.
- The functionality of top emulsifiers candidates will be evaluated in two oil-in-water emulsion-based food systems such as dressing and beverage.
- The thermal stability and the shelf life of candidate food products will be studied.

We have tested the oil oxidation of emulsions stabilized by control and different conjugates at both pH 5 and pH 7, and we have characterized the interfacial tension and surface tension at pH 5. We have applied a novel method (reductive animation) to successfully conjugate whey protein with maltodextrin, which has advantages compared with traditional methods (Maillard reaction and Radical interaction) and characterized the effects of length of maltodextrins, reaction times, and degrees of WPI hydrolysis on emulsion stability.

2022 Dairy Promotion Advisory Board Members

Larry Bailey (Board Chair), Fort Ann, New York (Dairy Farmers of America Seat)

Kim Nelson, West Winfield, New York (Agri-Mark Seat)

Julie Patterson, Auburn, New York (At-large Seat)

Jason Kehl, Strykersville, New York (Niagara Frontier Cooperative Bargaining Agency Seat)

Sheila Marshman, Oxford, New York (New York State Grange Seat)

Carl Moore, North Bangor (New York Farm Bureau Seat)

Dean Handy, St. Johnsville, New York (At-large Seat)

Alicia Lamb, Oakfield, New York (At-large Seat)

Judi Whittaker, Whitney Point, New York (At-large Seat)

Donald Harwood, Perry, New York (Rochester Cooperative Milk Producers Bargaining Agency Seat)

2022 Dairy Promotion Advisory Board Member Meetings

Date	Location
March 1	Syracuse, New York
March 28	Video conference
June 14	Oakfield, New York
July 25	Syracuse, New York
September 13 and 14	Ithaca, New York
November 15	Johnstown, New York

Note: Dairy Promotion Advisory Board meetings are open to the public. For more information about Dairy Promotion Advisory Board meetings, recordings or minutes, visit www.agriculture.ny.gov or visit the Dairy Promotion Advisory Board's YouTube page: <https://www.youtube.com/@nysdpo9667>.