I. Menus of Change in 2017 3

II. Executive Summary 4

III. State of the Plate and Score Key 6

IV. Dashboard 7

V. Our Vision 8

VI. GPS: A Model for Change 10

VII. Defining Plant-Forward: Guidance for Our Industry 11

VIII. Principles of Healthy, Sustainable Menus 13

To read the full 2017 Menus of Change Annual Report, please visit menusofchange.org

The Menus of Change® (MOC) Annual Report and Annual Leadership Summit are co-presented by The Culinary Institute of America (CIA) and Harvard T.H. Chan School of Public Health, Department of Nutrition. The Menus of Change Scientific and Technical Advisory Council, composed of leading nutrition, environmental, and other scientists and scholars (menusofchange.org/advisory-councils/stac), together with Harvard Chan School and CIA, are solely responsible for the nutrition and environmental guidance of the report and conference. The Menus of Change Sustainable Business Leadership Council (menusofchange.org/advisory-councils/sblc) contributes insights to parts of the report and conference designed to help translate this guidance into industry change; highlights case studies in innovation (e.g. menu research and development, product sourcing, and supply chain management, etc.); and builds industry participation in supporting healthier, more sustainable menus. Project sponsors and other commercial interests are not permitted to influence the editorial independence of the Menus of Change initiative.
I. MENUS OF CHANGE IN 2017

Welcome to the fifth annual Menus of Change® report. The first years of the Menus of Change initiative have passed quickly as we have worked to engage, inform, and guide the culinary profession and foodservice industry in the business of serving healthy, sustainable, delicious food.

Just five years ago, this report brought together key findings from both nutrition and environmental science along with new culinary strategies. A few years, flips, and blends later—and with the involvement of many culinary and business leaders—our industry has increasingly embraced the vision and advice put forth by Menus of Change. The initiative, a partnership of The Culinary Institute of America and Harvard T.H. Chan School of Public Health, aims to help you successfully navigate a rapidly changing landscape. It does the essential, difficult, and unprecedented work of integrating the latest findings from both nutrition and environmental science into a single set of recommendations to help foodservice and culinary professionals make better choices. Chief among those choices is rethinking the longstanding emphasis of red meat and animal proteins on our plates in order to elevate the role of produce, plant proteins, and other plant-based flavors.

Toward this end, the foodservice industry has rallied around a new vision of plant-forward dining. It’s now a focus of menu development and culinary innovation in restaurants of all sizes, formats, and price points. And, as you’ll read in this year’s report, investors and suppliers both are putting resources into growing new kinds of businesses to meet the rising demand for plant-forward meals and plant-based ingredients to showcase.

The efforts of the many chefs and foodservice operators that have taken up the goals of Menus of Change are now beginning to reshape the American diet. We’re seeing modest but positive changes in what we eat, with national indices trailing an abundance of evidence of change among innovators, early adopters, and much of the restaurant dining public. As noted by the “Diet and Health” issue brief in this year’s full annual report and the Harvard Alternative Healthy Eating Index, we eat modestly more fruit and less red meat, continuing several years of decline.

Also thanks in significant part to the foodservice industry’s leadership on reducing antibiotic use in livestock production, the way poultry is produced in the U.S. has changed tremendously. But antibiotic use in the overall livestock industry continues to increase modestly, with much work remaining to be done in pork, beef, and aquaculture production.

The long-term trend towards more fresh, scratch cooking that started in restaurant kitchens now is having further effects on our industry. The clean label movement seeking to narrow the gap between fresh and processed foods in grocery aisles is now driving change in the supplier community, as discussed in this year’s report as one part of the increased focus on transparency.

Overall, as this year’s Menus of Change Dashboard shows, changes in what we are eating continue to head in the right direction, but the pace of change is modest when we consider the entirety of the foodservice sector, and American food choices overall. And in the past year, the foodservice industry has wrestled with the tremendous risk and growing complexity of climate change, water scarcity, lack of visibility into supply chains, and other environmental factors that are now affecting everything from lettuce shortages to foodborne pathogens.

This annual report is a core part of the Menus of Change mission. It seeks to advance a long-term, practical vision that integrates optimal nutrition, environmental stewardship and restoration, and social responsibility within the foodservice industry. It includes a guide to the key issues that face the foodservice community, as well as recommendations for improving business performance. It also provides the Dashboard to show the progress the industry has made—where it is moving fast and where it needs to make greater efforts. The indicators on the Dashboard can help businesses evaluate their own efforts in the areas that matter most. For culinary professionals and R&D teams, there is also a comprehensive set of principles to guide menu development and design.

The CIA and Harvard Chan School invite businesses to use this report to measure their progress and to navigate new and complex challenges. Not all culinary professionals and foodservice companies will take the same path forward. But more and more have a similar goal: to be successful in the businesses of serving healthy, sustainable, delicious food.
II. EXECUTIVE SUMMARY: A TASTE OF WHAT’S AHEAD

As they say, necessity is the mother of invention. Looking back over the past 12 months, this adage has proven true in both the front and back of the house.

With regard to new business models, economic constraints throughout the restaurant industry bred growth of a remarkable array of fun, casual concepts. These constraints include shortages of skilled chefs and rising operating costs, and standout new and growing concepts range from New York’s Dig Inn and Washington DC’s Shouk to San Francisco’s Souvla and Los Angeles’ Veggie Grill. All of these happen to have a plant-forward bent to boot.

In similar fashion, the growing consensus around the need to reduce red meat in the diet led to an outpouring of innovation around the supply of alternative proteins, from major improvements in veggie burgers—like Impossible Foods’ highly anticipated Impossible Burger, a plant-based burger that sold out in its first hour in a Whole Foods Market test and is now headed for foodservice—to expanded markets for insects, algae, and seaweed.

The reasons for shifting protein consumption patterns are well documented: Animal-based foods contribute disproportionately to the total environmental impacts of food production. In the past year, new studies added further evidence to support the notion that replacing animal protein with plant protein can help prevent chronic diseases. Promisingly, beef consumption in the U.S. is at the lowest level in over two decades, and red meat consumption overall continues to decline modestly. However, overall red meat consumption still remains far above optimal levels for human and environmental health. For example, nearly one in 10 deaths could be prevented in the U.S. if American adults cut their current red meat consumption to less than half a serving per day.

A further sign of progress is that the idea of plant-forward eating moved from a burgeoning term in the prior year to the default phrase for capturing the rising status of vegetables and plant proteins on American menus. Headlines appeared nearly every week highlighting the great work happening in the college and university sector to introduce students to healthier, more sustainable options, from blended burger competitions to savory breakfast bowls and beyond. In March of this year, QSR magazine went so far as to run a cover story declaring, “A Plant-Based Future for Foodservice.” The article led with this bold summary: “We’ve reached an era when meatless eating is no longer limited to Mondays. When a charred whole cauliflower can turn as many heads in a dining room as a sizzling, bone-in rib eye. When a growing slice of consumers at the table have at least some idea of the carbon footprint required to produce both of those dishes.” Bear in mind, this wasn’t Food & Wine magazine or The New York Times dining section. Instead, this assessment is all the more noteworthy because it came from the vantage point of the quick-service sector.

And this year, we finally sat down to define the beloved term, “plant-forward”: A style of cooking and eating that emphasizes and celebrates, but is not limited to, plant-based foods—including fruits and vegetables (produce); whole grains; beans, other legumes (pulses), and soy foods; nuts and seeds; plant oils; and herbs and spices—and that reflects evidence-based principles of health and sustainability. (Note the distinction from “plant-based,” referring to foods and ingredients, whereas “plant-forward” is reserved for eating patterns and menus. Please see page 11 for more on this subject.)

As the terminology has been refined, so has the conversation about the power of chefs to impact human and environmental health. While it’s worthy of much celebration to see chefs and operators increasing their plant-forward offerings, it’s important that they not think of vegetable-centric, plant-forward
measures. The Food Waste Reduction Alliance’s fourth food waste assessment report noted “significant progress and investments.” Measuring waste—and thus progress in reducing it—remains a challenge for many operators, however, and 49 percent of the survey’s respondents did not possess data to report.

The past year also saw leaps forward to address the long-discussed need to make good food affordable for all. There was the launch of Everytable, a Los Angeles-based concept that offers variable pricing depending on the socio-economic status of the neighborhood, and major growth of Boulder, CO-based Modern Market, which uses hyper-detailed operational precision to make dishes driven by premium ingredients available at single-digit price points.

In any industry, in any point in time, change is to be expected. But never before has the pace of change in the foodservice industry been so rapid. Consumer demands for transparency and traceability are becoming more and more granular, and the time for food companies to respond is becoming shorter and shorter. So the outcropping of innovation, from business models to protein sources, and the many rigorous sourcing, menuing, and operational initiatives, are all commendable.

And yet, there remain critical areas where the foodservice industry must act much, much faster. In particular, there is a need to respond more urgently to water sustainability and climate change. The International Food Policy Research Institute (IFPRI) estimates that nearly half of global gross domestic product (GDP), more than half of the global population, and 40 percent of grain production could be at risk due to water stress by 2050. These are no small matters for the foodservice industry. Much needed rainfall in California this past winter provided relief for regional agriculture, however, it remains troubling that very few examples are emerging of companies in the food sector that are engaging with producers, communities, NGOs, and government partners to consider water supply and water quality impacts of their food sources and menus.

Climate change is a growing threat to the U.S. food system as well. Over the next few decades, temperatures will continue to rise, precipitation patterns will change, and unexpected and unusual extreme weather events will continue to occur. Direct effects on agricultural production are already being felt, particularly as 2016 was the third straight year with record-breaking global temperatures. Heightened attention is being paid too to the indirect effects of climate change on the food system. These include harvesting, processing, packaging, distributing, transporting, refrigerating, retailing, and preparing food, and to new food safety concerns associated with higher ambient temperatures and myriad other factors brought on by changing climates.

On the plus side, we are seeing some gains in animal welfare and use of antibiotics in meat and poultry production. Over half of the major foodservice companies now have in place commitments to reduce or eliminate antibiotic use in their supply chains in the next few years. Perdue Farms became the first major chicken supplier to remove all human antibiotics from its supply chain. This follows the good news that Tyson Foods is also making great progress on the same effort. Missing from most discussions, though, is the distinction among species. Progress in removing antibiotics important to the medical treatment of humans from the production of other meats, such as beef, pork, and shrimp, significantly lags that of chicken. Troublingly, the U.S. Food and Drug Administration (FDA) reported that last year, antibiotic use in U.S. livestock production again increased by one percent, and the use of humanly important antibiotics increased at an even faster rate.
The next reporting cycle of antibiotic sales by the U.S. Department of Agriculture (USDA) will delineate by species, finally providing our industry with the information it needs to focus pressure on the supply chain to reduce antibiotic use.

Given the complexities of change in order to benefit the triple bottom line of people, planet, and profit, the Menus of Change report is designed to give foodservice and culinary professionals the insights and the tools to make informed decisions about difficult issues. The report sifts through culinary trends and innovations to shed light on some of the most intriguing companies and projects happening around the country, all in the name of healthier, more sustainable food. The Menus of Change initiative also importantly provides comprehensive advice and strategies for menu design that support the triple bottom line with the Principles of Healthy, Sustainable Menus (see page 13). These guidelines outline culinary strategies, such as new focuses on portion size, calorie quality, and plant-based foods, which are needed to increase the success of new business models.

The centerpiece of Menus of Change is a concise analysis of 16 issues at the intersection of public health, the environment, and the business of food. These issue briefs synthesize the latest health and environmental data to provide a clear picture of the industry’s challenges and opportunities, as well as practical next steps for foodservice operations. The report assigns each issue an annual score that rates the industry’s efforts in these critical areas. Among these 16 issues are:

Land Use and Natural Resource Conservation
New in 2017, this issue is of paramount importance. In thinking about global ecosystem integrity, there is a range of factors to be considered. The most useful global approach is the “planetary boundary” concept—a perspective with nine dimensions to evaluate: climate change, biosphere integrity (functional and genetic diversity), novel entities, stratospheric ozone depletion, atmospheric aerosol loading, ocean acidification, biochemical flows (nitrogen and phosphorus cycles), freshwater use, and land system change. We are in need of strategies that include, among others, decreasing livestock production in its current form, as biodiversity preservation in the U.S. and abroad is challenged by both food imports and the extent of land use for agriculture. While much progress is seen in local food sourcing, it is still a limited amount of the total food environment, and more regional production of fruits and vegetables is needed, as are shifts to more seasonal diets. Although soil erosion and phosphorus contamination of surface waters have been reduced, the levels are still far above where they should be.

Changes in Food Industry Investor Standards
For some time now, Menus of Change has been tracking the extent to which the investor community is paying attention to food issues related to nutrition and the environment. Since our last report, health and sustainability have become so widely recognized as important to the financial performance of food sector companies that even “conventional” investors ascribe a higher value to companies that incorporate sound sustainability strategies. Sustainable and responsible investment products now represent about one out of every five dollars invested in the U.S. Formal, standardized methods of benchmarking and valuing company’s sustainability performance are now integral to investor analysis, and they mark a new baseline of expectations for anyone looking to launch or grow a business in the food space.

Supply Chain Resiliency and Transparency
The past year saw several advances to make the food supply more transparent, yet also reminds that our food supply is still subject to contamination and wide-scale fraud and misrepresentation. Much of what we eat is misrepresented due to economic adulteration, and food fraud is commonplace in premium products like parmesan cheese, seafood, and olive oil, to name a few. The media has shed much-needed light on the widespread and blatant mislabeling of seafood as well. Over 200 cases of mislabeling were revealed by a 2016 Oceana report, and Bloomberg Businessweek detailed an exposé on the use of antibiotics in fish and seafood production.

Overall, the industry is making substantial gains in the right direction: 12 of 16 issues received a score of four (making good progress) or three (holding steady), and improvements were seen in consumer attitudes and behaviors about healthy and sustainable foods, as well as animal welfare. Unfortunately, the industry took a step back with regard to fish, seafood, and oceans, as well as diet and health, which dropped slightly from last year based on the continued increase in adult obesity rates. Garnering the lowest scores of 1 and 2 respectively, water sustainability and climate change remain the two areas of greatest concern.
Many new and growing restaurant concepts that focus on sustainability, health, and access to quality food are growing strongly. Venture funding is slowing and some new concepts are closing or making compromises.

Restaurant suppliers benefited from improving sustainability, safety, and transparency, including the substantial progress in removing human antibiotics from large-scale poultry production. The federal government increased inspections of imported foods to address fraud. Better traceability could lead to even more benefits.

Restaurant companies with sound sustainability and risk management programs continue to gain favor from investors. Equity is going into companies that offer solutions like new plant proteins. Investors are concerned about conditions in some countries that supply labor and goods to the restaurant industry and expect greater disclosure.

Chefs and operators continue to increase plant-forward offerings and reduce portion sizes. With continued menu innovation and more widespread adoption throughout the restaurant industry, these could become the new normal.

Changes in consumer attitudes were mixed, with red meat consumption declining modestly among some, along with increased interest in organic food. The responses to calorie labeling have been mixed.

A year of progress overall, with increased awareness of animal welfare, was thanks in part to efforts of chefs and restaurant companies. Some big livestock producers are now adopting alternative practices, and new policy measures raised standards in some states.

The American diet continued to become healthier with important reductions in trans fats and sugar-sweetened beverages; continued, modest decline in red and processed meat; and a small increase in fruits, whole grains, healthy fats, nuts, and legumes. Recent improvements have yet to curb adult obesity rates.

Progress continued in the past year, as red meat production and consumption in the U.S. again declined modestly, while plant-based choices became more widely available on America’s menus. Climate change played a role, reducing meat supplies and raising costs, providing the business case for further lowering meat consumption.

The foodservice industry continues to find new ways to feature fruits and especially vegetables. However, despite a small increase in fruit intake, the potential of fruits and vegetables is not yet being enjoyed in hard numbers reflecting total national consumption and production.

The restaurant industry and seafood suppliers continue to provide their customers with high-quality fish and seafood, along with the nutritional benefits of eating more. Challenges continue to include less scrupulous vendors that overpromise and under-deliver on the offer of more sustainable seafood.

More leading chefs and foodservice companies started to think about low-carbon menu options. Change is evident in the industry, but risks from climate change are moving even faster, now causing food safety concerns.

A few leaders in the food industry have begun to pay attention to water issues even as much-needed rainfall in California provided relief for regional agriculture. Faster action is needed as groundwater depletion and long-term drought forecasts in the West and elsewhere could weigh heavily on future profitability.

Restaurant companies continue to act to protect public health. More companies pledged to source animal products raised without antibiotics. The rate of increased use in livestock production slowed, but use still increased. Regulatory loopholes allowing the use of antibiotics for disease control remain.
OUR VISION

NUTRITIOUS AND HEALTHY

ENVIRONMENTALLY SUSTAINABLE

OUR VISION

SOCIALLY RESPONSIBLE AND ETHICAL

DELICIOUS CULINARY AND CULTURAL APPEAL

© 2017 The Culinary Institute of America and President and Fellows of Harvard College, as published in the Menus of Change® Annual Report on menusofchange.org. All rights reserved.
OUR VISION

HEALTHY, SUSTAINABLE, AND DELICIOUS

BUSINESS MODELS AND STRATEGIES

THE FUTURE OF FOOD
INTEGRATED GUIDANCE FOR BUSINESS AND CULINARY LEADERS

© 2017 The Culinary Institute of America and President and Fellows of Harvard College, as published in the Menus of Change® Annual Report on menusofchange.org. All rights reserved.
GPS: A MODEL FOR CHANGE

VALUES, ETHICS, AND CONSUMER PREFERENCES

SHAPING CONSUMER PREFERENCES / LEADING THE MARKET

COST AND ECONOMIC TRENDS

CURRENT BUSINESS STRATEGIES AND MENUS

INTEGRATION OF PUBLIC HEALTH AND ENVIRONMENTAL FINDINGS, TRENDS, AND DRIVERS

SUCCESSFUL CHANGE

PUBLIC HEALTH AND NUTRITION SCIENCE ISSUES AND IMPERATIVES

ENVIRONMENTAL SCIENCE ISSUES AND IMPERATIVES

CULINARY INSIGHTS

BUSINESS INSIGHTS

VALUES, ETHICS, AND CONSUMER PREFERENCES

SHAPING CONSUMER PREFERENCES / LEADING THE MARKET

COST AND ECONOMIC TRENDS

CURRENT BUSINESS STRATEGIES AND MENUS

INTEGRATION OF PUBLIC HEALTH AND ENVIRONMENTAL FINDINGS, TRENDS, AND DRIVERS

SUCCESSFUL CHANGE

PUBLIC HEALTH AND NUTRITION SCIENCE ISSUES AND IMPERATIVES

ENVIRONMENTAL SCIENCE ISSUES AND IMPERATIVES

CULINARY INSIGHTS

BUSINESS INSIGHTS
VII. DEFINING PLANT-FORWARD: GUIDANCE FOR OUR INDUSTRY

PLANT-FORWARD

A style of cooking and eating that emphasizes and celebrates, but is not limited to, plant-based foods—including fruits and vegetables (produce); whole grains; beans, other legumes (pulses), and soy foods; nuts and seeds; plant oils; and herbs and spices—and that reflects evidence-based principles of health and sustainability.

HEALTHY, SUSTAINABLE, PLANT-FORWARD FOOD CHOICES

This distilled guidance about the future of our food choices, for individuals and professionals, is an outgrowth of multiple, joint leadership initiatives of The Culinary Institute of America and the Department of Nutrition at Harvard T.H. Chan School of Public Health, including Menus of Change; Healthy Kitchens, Healthy Lives®; Teaching Kitchen Collaborative; and Worlds of Healthy Flavors. It reflects the best, current scientific evidence supporting optimal, healthy, and sustainable dietary patterns while addressing vital imperatives to achieve short- and long-term global food security.

Healthy, sustainable, plant-forward food choices—when informed by culinary insight—can transform palates and spur next-generation innovation, as is evident in the success of new menu, restaurant, and retail product concepts thriving in the marketplace. In short, this is a practical, achievable vision for a delicious future. For more information, please read the Principles of Healthy, Sustainable Menus at www.menusofchange.org.
HEALTHY, SUSTAINABLE, PLANT-FORWARD FOOD CHOICES ARE THOSE WHICH:

- Center around minimally processed, slow-metabolizing plant-based foods: fruits and vegetables (produce); whole grains; beans, other legumes (pulses) and soy foods; nuts and seeds; healthy plant oils; and herbs and spices. For protein sources, such choices lead with plant protein.

- Can include animal-based foods in a reduced (optional) role, with a special emphasis on decreasing purchases of red meat and minimizing foods sourced from animals raised with the routine, non-therapeutic use of antibiotics. These choices prioritize fish and poultry among animal-based proteins, with dairy options and eggs playing a supporting role (if desired).

- Highlight the value of fresh, seasonal, locally produced foods; minimize sugary beverages and added sugars and sweeteners; and reduce sodium and unhealthy additives.

- Emphasize healthy dietary patterns and a rich diversity of whole foods versus an undue focus on specific nutrients and percentages; avoid excess quantities of calories but first ensure calorie quality.

- Celebrate cultural diversity, personal needs and preferences, and the unapologetic elevation of deliciousness, including room in our diets for foods of special occasions.

- Begin with transparent ingredient sourcing that supports sustainable farming methods and fisheries.

- Through food purchasing patterns, encourage innovation and sustainable practices in retail food and restaurant concepts and business models to advance public health, social well-being, and our food system.
6th Annual Leadership Summit

June 19-21, 2018

The Culinary Institute of America | Hyde Park, NY

For more information, visit

WWW.MENUSOFCHANGE.ORG

© 2017 The Culinary Institute of America and President and Fellows of Harvard College

We invite you to read case studies, issue briefs, and other insights in the full 2017 Menus of Change Annual Report at menusofchange.org