



**INSTITUTE FOR AGRICULTURE AND TRADE POLICY**

# Farm to Child Care

Opportunities and Challenges for  
Connecting Young Children with Local  
Foods and Farmers

**By JoAnne Berkenkamp and Lynn Mader**

Institute for Agriculture and Trade Policy

June 2012

*Farm to Child Care: Opportunities and Challenges for Connecting Young Children with Local Foods and Farmers*

By JoAnne Berkenkamp and Lynn Mader

The Institute for Agriculture and Trade Policy would like to thank the Minnesota Department of Agriculture/Specialty Crops, The Ceres Foundation and the J. R. Albert Foundation for their support of this research.

Published June 2012

© 2012 IATP. All rights reserved.

The Institute for Agriculture and Trade Policy works locally and globally at the intersection of policy and practice to ensure fair and sustainable food, farm and trade systems.

More at [iatp.org](http://iatp.org)

## TABLE OF CONTENTS

Introduction.....	4
Why focus on nutrition in child care? .....	5
Setting the table in Minnesota .....	7
Farm to Child Care efforts around the country.....	9
Lessons being learned .....	11
Appendix: Interviewees .....	16
Endnotes .....	17

## INTRODUCTION

Across the United States, interest in locally grown food has skyrocketed over the past ten years. Procurement of local and regionally grown foods by colleges, hospitals, retailers and other large buyers has dramatically increased, while farmers markets and other “direct market” channels are flourishing. The USDA now estimates that the sale of locally grown foods is nearly \$5 billion per year.<sup>1</sup>

Farm to School (F2S) programs have been an integral part of the local foods revolution by encouraging K-12 schools to incorporate locally grown, minimally processed foods into their meal programs while educating a new generation about local agriculture and the benefits of eating local. In Minnesota alone, participating public schools now serve nearly 560,000 students, or 68 percent of Minnesota’s K-12 population.

While Farm to School is now becoming mainstream across the country, we recognize that the seeds of obesity and diet-related chronic disease are often sown before children begin kindergarten. Reaching children, and fostering healthy eating habits, before their K-12 years is crucial if we are to bend the curve on the obesity crisis that our nation now faces.

With the vast majority of our children spending a significant portion of their early years in child care, child care settings offer a critical opportunity to influence what kids eat and how they interact with food. At the same time, few child care food buyers purchase from farmers that grow for local and regional markets, thus limiting the benefit of the child care marketplace for local growers and local economies.

This report explores the feasibility of expanding Farm to Child Care (F2CC) initiatives, the dynamics that surround foodservice in various child care contexts, and lessons learned from early efforts around the country. While a portion of our analysis is particular to realities on the ground in Minnesota, we hope that this report will inform efforts more broadly.

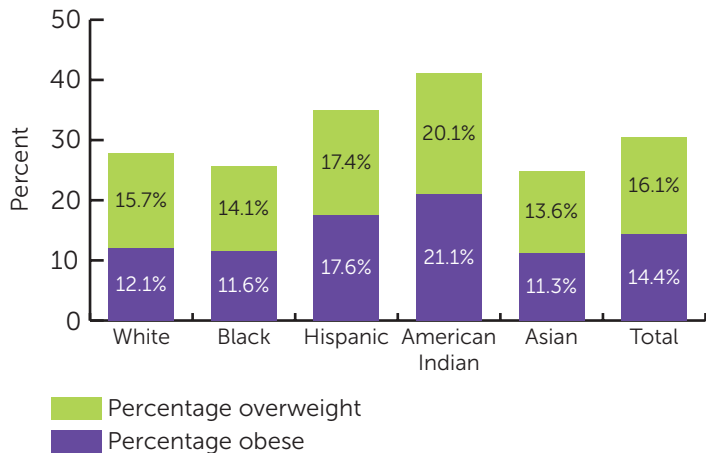
In conducting this research, IATP interviewed a wide range of child care providers, educators, nonprofits and government entities across the U.S. (see the list of interviewees in the appendix) and reviewed available literature. The authors would like to thank all of the individuals who contributed to this report and who are working toward a food system that enables our children, farmers and communities to thrive.

## WHY FOCUS ON NUTRITION IN CHILD CARE?

Childhood obesity is one of the fastest growing public health concerns today. The prevalence of childhood obesity has more than doubled in the past 30 years.<sup>2</sup>

As depicted below, the prevalence of obesity among American children from ages 2 to 5 was 14.4 percent according to the 2010 Pediatric Nutrition Surveillance System, while an additional 16.1 percent were considered overweight based on their BMI. The highest rates of obesity are found among American Indian/Alaska Native children (21.1 percent) and Hispanic children (17.6 percent). Prevalence among white children was 12.1 percent, while 11.6 percent of black and 11.3 percent of Asian/Pacific Islander children were obese.

### Prevalence of obesity\* and overweight^ among children under 5 years, by race and ethnicity

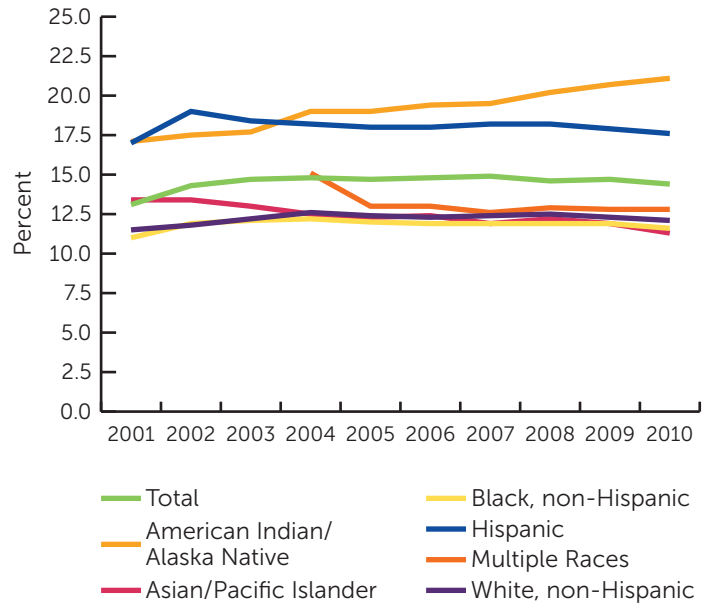


\* Defined as greater than or equal to 95th percentile BMI-for-age  
 ^ Defined as 85th –95th percentile BMI-for-age

Source: 2010 National Pediatric Nutrition Surveillance Report, Table 18D. Available at [http://www.cdc.gov/pednss\\_tables/pdf/national\\_table18.pdf](http://www.cdc.gov/pednss_tables/pdf/national_table18.pdf).<sup>3</sup>

Obesity rates among American Indian and Alaska Native children have risen by approximately 3 percentage points since 2003, while other groups have largely stabilized, as shown in the chart below:<sup>4</sup>

### Trends in prevalence of obesity\* among children 2 to 5, by ethnicity



\* Defined as greater than or equal to 95th percentile BMI-for-age

Source: 2010 National Pediatric Nutrition Surveillance Report, Table 18D. Available at [http://www.cdc.gov/pednss\\_tables/pdf/national\\_table18.pdf](http://www.cdc.gov/pednss_tables/pdf/national_table18.pdf).<sup>5</sup>

While the percentage of obese children in the U.S. is at an all-time high, the diets of many children are below nationally recommended levels for nutrition. Children in the U.S., on average, consume less than half of the daily recommended number of servings of fruits and vegetables. All too often, children's diets are low in fiber, high in fat and sugar, and lack the vitamins, minerals and phytochemicals needed for optimum health.<sup>6</sup>

Childhood obesity has both immediate and long-term effects on health and well-being. Compared with normal-weight youths, overweight children and adolescents suffer disproportionately from such chronic conditions as diabetes, asthma, high blood pressure, high cholesterol, atherosclerosis, bone/joint problems, and sleep apnea.<sup>7</sup> Children and adolescents who are obese are also at greater risk for social and psychological problems such as stigmatization and poor self-esteem.<sup>8</sup>

Negative health effects follow obese and overweight children into adulthood. Overweight youths have an estimated 70–80 percent chance of becoming obese adults, and people who suffer from excess weight during childhood are at continued and elevated risk for chronic diseases and premature death

during adulthood. Obesity contributes to four of the 10 leading causes of death among U.S. adults: coronary heart disease, stroke, Type 2 diabetes and cancer.<sup>9</sup>

These health risks have attendant financial implications, as well. In a 2009 report from Research Triangle Institute (RTI) and the Centers for Disease Control and Prevention, the health cost of obesity in the United States was estimated to be as high as \$147 billion annually. This included both direct healthcare costs (i.e., preventive, diagnostic, and treatment services for obesity and related diseases) and indirect costs (i.e., wages lost because of illness or disability, and future earnings lost because of premature death).<sup>10</sup>

The preschool years represent a critical time in a child's life for developing lifelong eating habits. Children's taste preferences are most actively developed between the ages of three and five, and younger children are often more willing than older children to try new foods.<sup>11</sup> As a result, the years when many children are in child care are a golden opportunity for setting kids on the path toward healthy eating.

Farm to Child Care (F2CC) programs have the potential to make a profound and lasting impact on the diets of young children, reducing their risk of obesity and diet-related disease throughout life. There are also numerous studies demonstrating the link between proper nutrition and cognitive development in young children.<sup>12</sup> It comes as no surprise that children who receive a proper diet are more able to concentrate and learn effectively.

While stressing healthy food choices, Farm to Child Care also integrates experiential learning opportunities—through curriculum innovations, garden-based education, interactions with farmers and other strategies—that can bring the shift toward “eating fresh and local” alive for young children.

These positive food experiences early in life can help ensure that children reach kindergarten not only ready to learn, but also receptive to the fresh fruits and vegetables that are increasingly available in schools, particularly those engaged in Farm to School. Successful Farm to Child Care strategies can thus help provide the “runway” for successful Farm to School programs and healthy eating as children get older.<sup>13</sup>

The time has never been better to build a robust Farm to Child Care movement in the United States. The national focus on children's nutrition and physical activity has reached new heights in recent years. First Lady Michelle Obama's “Let's Move” initiative and the USDA's “Know Your Farmer, Know Your Food” program reflect unprecedented levels of commitment at the federal level. Additionally, re-vamped nutrition

standards under the National School Lunch and School Breakfast Programs will soon become effective, requiring more fruits and vegetables and whole grains in K-12 school settings.<sup>14</sup>

The federal Child and Adult Care Food Program (CACFP) sets baseline standards for nutrition in child care. Although CACFP have not been revamped, the American Academy of Pediatrics, the American Public Health Association and the National Resource Center for Health and Safety in Child Care and Early Education, have recently updated nutrition standards for the promotion of healthy eating in child care settings.



CC image courtesy of woodleywonderworks via Flickr.

## SETTING THE TABLE IN MINNESOTA

Before diving into Farm to Child Care itself, we explore below the broader context for child care services in Minnesota, including recent demographic data on poverty and obesity, types of child care environments in the state, and funding dynamics for child care nutrition.

### Childhood poverty and obesity in Minnesota:

- In 2010, 15.6 percent of Minnesota children from birth to age four (almost 55,000 children) were living below the poverty line.<sup>15</sup>
- The number of children living in poverty continues to increase. The Minnesota KIDS COUNT 2011 report<sup>16</sup> showed that:
  - The overall number of Minnesota children living in poverty increased 53 percent from 2000 to 2009.
  - The number of children living in extreme poverty has more than doubled since 2000.
  - While 8 percent of white children in Minnesota lived in poverty in 2009, 47 percent of African-American children and 27 percent of immigrant children did so that year.
- Since 2004, the overall rate of childhood obesity in Minnesota has remained relatively unchanged. Overall, 23.1 percent of Minnesota children are overweight or obese.<sup>17</sup>

### Child care services in Minnesota

According to the Minnesota Child Care Resource and Referral Network, 325,400 Minnesota children used child care in 2009.<sup>18</sup> Eighty two percent of children between ages 3 to 5 are in child-care settings for some portion of their time each week, while 69 percent of children ages zero to 2 use child-care services.<sup>19</sup>

Child care is provided through a wide variety of channels and is regulated in a variety of ways. In Minnesota, child care is provided legally through licensed child-care homes, state-licensed child-care centers and “legally unlicensed” Family, Friends and Neighbors (FFN) providers. A significant number of children are also cared for through other unlicensed providers.

**1) LICENSED CHILD-CARE HOMES** can be established when the caregiver has met the requirements for a license to care for children in her/his home, including standards for the number and ages of children served. The caregiver may provide care for children from infancy through school-age and may offer specific school-age activities and preschool curriculum. Licensed home child care is regulated by individual counties.

**2) STATE-LICENSED CHILD-CARE CENTERS** are regulated by the State of Minnesota and typically serve larger groups of children. Centers can be located in schools, employer-based sites, community centers, places of worship and other facilities. Centers may provide care for infants through school-age children. This category of providers also includes nonprofit or for-profit chain providers and Head Start centers.

**3) LEGALLY UNLICENSED FAMILY, FRIENDS AND NEIGHBORS (FFN) PROVIDERS** are caregivers who provide care for their own children, related children, and children from one unrelated family in the home of the caregiver. The caregivers are often friends, neighbors or relatives. There are no regulations for group size or the number of young children in these child-care locations.<sup>20</sup>



CC image courtesy of USDA via Flickr.

As of March 2012, Minnesota had 1,841 child-care centers and 10,976 licensed family child-care homes.<sup>21</sup> Comprehensive state-wide data on unlicensed providers is not available.

In Minnesota, child-care centers are the most commonly used type of licensed child care. In 2012, 52 percent of children ages 3 to 5 who used licensed child care used center-based care as their primary form of child care, while the other 47 percent relied on licensed child-care homes.<sup>22</sup> Home-based child care tends to predominate in Greater Minnesota while the use of

child-care centers is greater in the Twin Cities area.<sup>23</sup> Family, friends and neighbor care is the most common type of care used by low-income families.<sup>24</sup>

About ten percent of Minnesota low-income households with children ages 5 and younger reported using Head Start, a program serving low-income families. Head Start programs can take various forms and vary from region to region within the state.

In the Twin Cities, Head Start is often provided at stand-alone centers with all-day, year-round programming. In Greater Minnesota, Head Start is more commonly offered at K-12 schools or other community sites, and may operate for only part of the day or for portions of the year that overlap with the K-12 school calendar. Of households participating in Head Start, 28 percent reported receiving a child-care subsidy for an additional type of child-care arrangement on those occasions when the child was not being served by Head Start.<sup>25</sup>



## Nutrition services in child-care settings

The federal Child and Adult Care Food Program (CACFP) establishes standards for nutrition in child care and various other settings. Administered by the US Department of Agriculture (USDA), the CACFP also provides participating child-care providers with monetary reimbursements to help defray eligible food costs, nutrition training and other services.

Eligible public or private nonprofit child-care centers, outside-school-hours care centers, Head Start programs, and other institutions that are licensed or approved to provide child-care services may receive reimbursements through CACFP, either independently or as sponsored centers. For-profit centers can be eligible for reimbursement if they receive Title XX funds (which are provided to states to achieve a wide variety of social policy goals including increased availability of child care) and meet certain eligibility requirements.<sup>26</sup>

All licensed child-care providers in Minnesota must comply with the CACFP nutrition standards, but can choose whether or not to seek federal reimbursement. In 2010, nearly 15 percent of Minnesota's licensed child-care centers were enrolled in the CACFP reimbursement,<sup>27</sup> the second highest enrollment rate in the country.

The child-care food program reimbursement for state-licensed child-care centers is funded by the USDA and, in Minnesota, is administered through Food and Nutrition Services (FNS) at the Minnesota Department of Education (MDE). For Licensed Family Child Care Providers (LFCCP), the CACFP reimbursement is administered by the Minnesota Department of Children, Families, and Learning (DCFL) in partnership with one of eight nonprofit sponsoring organizations. Unlike the K-12 school meal program, the State of Minnesota does not provide an additional state reimbursement for child-care meals.



## FARM TO CHILD CARE EFFORTS AROUND THE COUNTRY

IATP conducted a scan to identify and learn from Farm to Child Care initiatives around the United States. We found the experience of three organizations that have initiated Farm to Child Care efforts in their states to be particularly instructive:

- Ecotrust, a nonprofit organization based in Portland, Ore.
- Appalachian Sustainable Agriculture Project (ASAP), a nonprofit based in Asheville, N.C.
- Occidental College's Urban and Environmental Policy Institute, Center for Food and Justice, in Los Angeles, Calif.

Before developing their Farm to Child Care initiatives, each of these organizations had extensive experience running Farm to School (F2S) programs. They leveraged that knowledge base and developed pilot programs with child-care centers to design and test various F2CC strategies. The child-care centers they partnered with were interested in incorporating locally grown food in their meal programs, used experiential curriculum for children that involved gardening and/or cooking, and valued significant involvement by parents. While the three organizations' efforts had these attributes in common, they varied significantly in their objectives and the strategies to achieve them.



CC image courtesy of SodexoUSA via Flickr.

**ECOTRUST:** In 2008, Ecotrust began its F2CC effort by issuing a Request for Proposal (RFP) to identify Head Start child-care providers interested in developing a model Farm to Child Care program. Ecotrust saw Head Start as an ideal target institution because it is a visible leader in the Pre-K world and because of the vulnerable populations it serves. Their objectives for the pilot were to:

- Build relationships between Head Start and local food producers.
- Explore opportunities for local products to meet Head Start meal program needs.
- Increase Head Start procurement of locally grown and processed foods.
- Promote food- and garden-based education about locally grown foods.
- Engage the community in implementing garden-enhanced educational programs.
- Increase children's and caregivers' exposure to and modeling of healthy lifestyle behaviors including fruit and vegetable consumption.
- Increase children's and caregivers' access to locally produced fruits and vegetables.

Three Head Start centers were selected. Each center was already engaged in some level of scratch cooking, had creative curriculums, had or wanted to have gardens on-site, and had foodservice budgets that allowed for some degree of innovation in their menuing.

Ecotrust trained center staff on local food issues and product availability, helped them identify garden-based curriculum, helped identify opportunities to incorporate locally grown foods into menus and supported each center's effort to develop related Farm to Child Care strategies. They also provided logistical support in making connections with nearby farmers, set up meetings with foodservice directors and distributors to identify locally available products, and organized farm visits for preschoolers.

Additionally, they connected 30 Pre-K schools with Ecotrust's online platform (Food Hub, [www.food-hub.org](http://www.food-hub.org)) that enables interested farmers and buyers to identify one another and develop buy/sell relationships electronically.

## **APPALACHIAN SUSTAINABLE AGRICULTURE PROJECT**

**(ASAP):** Through its Growing Minds Program, ASAP launched a pilot with Head Start partners in 2007. The pilot aimed to address children’s health issues by helping participating centers source local food for meals, demonstrate healthy cooking, establish school gardens and conduct educational farm field trips. The initiative involved teacher trainings, cooking classes, and helping the schools use local foods. ASAP named the program “Farm to Family” to reflect their belief that connecting with kids at the Pre-K level was as much about reaching and teaching families as it was about engaging children.

ASAP’s Growing Minds program is currently partnering with professors at Western Carolina University and area community colleges to integrate Farm to School into the course of study for teachers in training, early childhood educators, and health science students. Additionally, they are working with the Jackson County, N.C. school system and Head Start on Learning Lab sites where university and college students can see local food being used in the cafeteria, and experience farm field trips and cooking classes for children.

**OCCIDENTAL COLLEGE:** Occidental’s effort began in 2009 with pilot demonstrations at five child-care locations designed to influence early childhood eating habits and expand their Farm to School programs to child-care and preschool programs in underserved areas of Los Angeles and San Bernardino counties. Their pilot sites included Compton Unified School district (which offers Pre-K education), a nonprofit-run child care and a state-run preschool that is affiliated with Head Start.



CC image courtesy of casanctuary via Flickr.

Goals of the program were to replace less healthy snacks, meals and beverages at preschools with locally grown fruits and vegetables from farmers and farmers markets, and to provide age- and culturally-appropriate nutrition curricula

for preschoolers and their parents. These curricula included Harvest of the Month activities, taste tests and cooking demos, visits to farms and farmers markets, and a presentation series for parents given by bilingual doctors.

Evaluation of the pilot effort showed that students’ knowledge and preference for fresh fruits and vegetables increased significantly.<sup>28</sup> Occidental has since received additional funding from multiple foundations and from the State of California for an expanded effort that will include:

- expanding the program throughout California;
- planning for a statewide Farm to Preschool network and facilitating a Southern California Preschool Garden Coalition;
- spearheading a zero–5 Healthy Food Initiative in LA County;
- standardizing their curriculum to national Head Start and California state pre-K educational standards, and tailoring the curriculum for use by the Navajo Nation and by family home care providers;
- developing a pre-K parent advocacy model that helps empower parents to advocate for healthier school food at preschools and schools;
- helping develop a pre-K wellness policy supplement that promotes Farm to Pre-K programs.

They have also launched a Farm to Child Care website, <http://www.farmtopreschool.org/>, that provides resources based on their own efforts and those of allied organizations.

**THE INSTITUTE FOR AGRICULTURE AND TRADE POLICY** launched its own Farm to Child Care initiative in late 2011 through a partnership with New Horizon Academy (NHA), a for-profit provider of child-care services. New Horizon operates 60 child-care sites in Minnesota and a small cluster in Idaho and has a strong reputation for its commitment to child-care quality and innovation. NHA’s sites vary widely from locations serving children with very high rates of participation in federal food support programs to locations serving more mixed populations of children. IATP and NHA are partnering to:

- incorporate locally grown foods into meals, snacks and taste tests;

- develop new F2CC curriculum focused on priority foods that are grown in the Upper Midwest and various F2CC themes;
- engage parents through a variety of parent outreach strategies;
- create greater transparency in the supply chain that will provide locally grown foods from nearby farmers through NHA's wholesale distributor and a produce processing partner;
- pilot evaluation strategies designed to assess outcomes with participating children; gather feedback from parents, foodservice staff, teaching staff and other stakeholders; document changes in procurement and menuing; and assess other results and learnings.

These strategies will be piloted and evaluated at approximately a dozen child-care locations beginning in June 2012. IATP anticipates rolling out the program at all 60 NHA sites in 2013 and will disseminate the resulting menu innovations, curriculum and parent outreach tools, along with lessons from this effort, on a national basis in 2013-14.



CC image courtesy of limevelyn via Flickr.

## LESSONS BEING LEARNED

A wide range of “lessons being learned” are emerging from early Farm to Child Care efforts. Below we explore insights related to the design of F2CC initiatives, nutrition and food preparation, local food procurement, curriculum and parent outreach, provider education and farmer engagement.

### Program design

- The Farm to Child Care movement is now in the early stages of development, with a relatively small number of initiatives that have been catalyzed primarily by champions from the non-profit and academic communities. We believe that F2CC is in a similar stage of development now as the Farm to School movement was a decade ago.
- F2CC can take many forms. Components typically include:
  - procurement innovation (e.g., sourcing explicitly from local growers and building relationships between farmers, child-care providers, children, parents and allied businesses such as distributors and processors);
  - expanded use of minimally processed, locally grown foods through menu innovations, taste testings and related strategies;
  - curriculum and educational activities such as gardening and learning opportunities related to F2CC foods and local agriculture;
  - parent engagement and outreach; and
  - farmer and community engagement.
- F2CC efforts are most effective when these programmatic elements are deliberately woven together and designed to be mutually reinforcing.
- F2CC programs need to be tailored to the diverse settings in which child-care services are provided. For instance, in-home child-care providers may serve a handful of children, while child-care centers may serve several hundred. Many home providers purchase the food they serve at grocery stores and prepare it in a home kitchen. By contrast, large centers, Head Start locations operating in K-12 schools, for-profit chains and other larger operations may purchase food through a distributor, prepare the foods in commercial kitchens with varying levels of equipment and staff skills, or

rely on outside caterers. Some locations will provide breakfast and/or lunch, while others have more limited hours of operation and will offer only snacks. The very heterogeneous nature of child-care contexts means that “cookie-cutter” approaches to Farm to Child Care are unlikely to be effective and that strategies tailored to particular operating contexts are essential.

- Home-based providers can be particularly challenging to reach given that many operate in relative isolation, are geographically disbursed, serve small numbers of children per location, may be subject to fewer regulations than other providers (as is the case with “legally unlicensed” home providers in Minnesota) and are typically reliant on a single, very busy individual to purchase, prepare and serve meals, deliver curriculum and engage parents.
- Beginning with modestly-sized pilot efforts can be a helpful way to test new approaches and learn what does and doesn’t work well in particular contexts before scaling up.
- Evaluation efforts should be integrated into F2CC initiatives from the outset and be designed to provide a “feedback loop” for strengthening the program over time. Gathering qualitative input from providers, parents and children is essential, along with quantitative measurement of changes in children’s knowledge, taste preferences and other benchmarks.
- Funding for most early Farm to Child Care efforts seems to have come primarily from private foundations that are interested in early childhood issues such as obesity and vulnerable populations, although federal and some state government resources are also available.
- We are not aware of any comprehensive Farm to Child Care programs operating on a significant scale in Minnesota (other than the new IATP/New Horizon Academy initiative), although some child-care locations are engaged in other types of “healthy eating” initiatives and/or have on-site gardens and garden-based learning activities.

## Nutrition and food preparation

- According to a 2011 report by Nanney and LaRowe,<sup>29</sup> the top food-related barriers to providing healthy food in child-care settings are:
  - the cost of fresh fruits and vegetables;
  - lack of time to prepare fresh foods;
  - children not responding well (which was identified by family providers consulted by the researchers); and
  - lack of food prep space and control over foods that are served (which was identified by child-care centers).
- Where centers contract with outside foodservice management companies, providers may feel limited in their ability to request changes in the company’s menuing or procurement practices or to alter their bidding requirements and contracts to compel greater innovation.
- Many of the meals currently served in child-care centers are “heat and serve” and require very limited cooking skills or preparation time. As has been the case with Farm to School, innovation in child-care nutrition will require investments in staff training to make the best use of existing kitchen facilities and, when possible, investments in updated kitchen equipment.



- To influence children’s taste preferences, F2CC initiatives need to provide children with at least 6-10 exposures to new foods, via menuing, taste testing, curriculum and/or other types of interaction. F2CC strategies should be designed accordingly to provide multiple exposures if they are to have lasting impact.<sup>30</sup>
- When introducing new foods, it may be more effective to familiarize young children thoroughly with one new food at a time rather than introducing multiple foods simultaneously or in rapid succession.<sup>31</sup>
- Concerns about choking hazards, children’s heightened sensitivity to food borne illness and the growing prevalence of food allergies among children should be taken into account when designing menu innovations.



CC image courtesy of USDAgov via Flickr.

## Local food procurement

- Procurement strategies need to be tailored to the realities of a given child-care provider including their capacity to handle whole foods (such as uncut produce), food preparation and storage facilities, staff cooking skills, the timing and geography of food delivery systems, and the nature and extent of the foodservices they provide to the children in their care.
- In-home providers handle their own food purchasing, often buying food at grocery stores or supercenters. Their capacity to use fresh produce may be affected by limited time to shop for perishable foods during the week and/or limited space to store it in a home kitchen.
- Child care centers vary in size and may serve as many as several hundred children. They can have in-house foodservice, use caterers or contract with a management company. Larger centers and centers that are part of multi-location providers commonly purchase most or all of their food through distributors. In Minnesota, some centers are successfully using a home delivery service run by area grocery stores.
- It is important to educate child-care staff about their local food system and farm community, what products are available locally, how seasonality will affect product availability, and where they can purchase Farm to Child Care foods. Similarly, if Farm to Child Care strategies are to benefit local farmers as intended, procurement strategies must be tailored to the realities of nearby producers. For instance, the relatively small quantities of food required by individual child-care locations can be both a strength and weakness of child care as a marketplace for farmers. The modest volumes required by individual locations may be suited well to the scale of smaller and beginning farmers. However, the economics of delivering small quantities to disbursed drop sites may not be attractive for farmers.
- Child care providers that purchase locally grown foods through distributors are most likely to benefit mid-size growers who can meet the volumes and other requirements needed to sell on a wholesale basis. This approach can greatly simplify the procurement process for child-care providers and connect them local produce that arrives in pre-cut form. However, it typically doesn’t offer the direct relationship between the provider, the children and their farmers that is possible with direct purchasing arrangements. In such cases, added efforts are needed to create meaningful connections between eaters and growers.
- Also, while many distributors can now assure “traceability” of their products back to the farm of origin, that doesn’t assure that child-care purchasers will necessarily be told what specific farms their food is actually coming from. Care must be taken to ensure that adequate transparency is built into the procurement processes between these allied businesses and their child-care buyers.
- A number of child-care providers are experimenting with CSAs (community supported agriculture farms) that provide a share of fruits and vegetables to their members on a periodic basis. In one CSA pilot in California, parents can use WIC and EBT to pay for their weekly produce share and there is a central drop spot at the child-care center. Another pilot buys four to five CSA shares and uses them in their kitchen. Cooking demos are provided for parents. While CSAs can provide a close connection with the farmer and connect

participants with local flavors, child-care staff may be challenged by a CSA approach if their CSA share includes foods that are unfamiliar or unpredictable, if quantities don't relate well to menuing needs, or if the foods received don't correspond well with kids' taste preferences.

- According to researchers Nanney and LaRowe, 28 percent of Minnesota and Wisconsin home care providers reported purchasing food occasionally from farmers markets while only 2 percent of centers reported purchasing from a farmers market.<sup>32</sup>
- Nearly 10,000 schools across the country are currently participating in Farm to School efforts.<sup>33</sup> Head Start locations whose foodservice is provided by a participating K-12 schools may already be receiving locally grown foods as a part of their on-going nutrition services.



## Curriculum and parent outreach

- Parent engagement strategies should be tailored to the needs and realities of different types of parents, cultural contexts, languages and literacy levels, preferences for information in different forms and so on. Approaches that are highly visible and visual may have the greatest potential to reach a broad cross-section of parents.
- Helpful approaches can range from in-center displays highlighting local foods and farmers to website content, printed newsletters, tasting opportunities for parents, community engagement activities and resources that link families with local food and farming (such as information on nearby farmers markets and on-farm learning opportunities).
- Curriculum available from the Minnesota Department of Health called *LANA; Learning About Nutrition through Activities* is highly regarded and supports increased

familiarity with and consumption of fruits and vegetables. It focuses on eight fruits and vegetables: apricots, broccoli, cherry tomatoes, kiwi, strawberries, sugar snap peas, sweet potatoes and sweet red pepper. However, the selection of foods used in the LANA program was based primarily on health-related criteria and the curriculum was not designed to address how and where foods are grown, and some of these foods are not grown commercially in Northern climates.

- The *Early Sprouts: Gardening and Nutrition Experiences for the Young Child* curriculum is used in the Oregon and North Carolina initiatives above. Occidental College has developed its own curriculum called "Harvest of the Month."<sup>34</sup> "Exploring Food Together," which was developed by the national anti-hunger group, Share Our Strength, includes one component called "Food Origins" in which students learn to identify different foods and where they come from.
- Flexible, brief lesson plans that can be adapted to varying classroom contexts are important for success.
- Curriculum and garden-based learning are important components of Farm to Child Care efforts. These programs help to address young children's reluctance to try new foods through multiple exposures to target fruits and vegetables and hands-on involvement in growing food. Activities such as sensory exploration, tasting sessions, cooking activities and family recipe kits have proven helpful in engaging children effectively.



CC image courtesy of USDAgov via Flickr.

## Provider education

- Child care providers themselves must be integral to the design, implementation and evaluation of F2CC initiatives, providing well-informed insight about what works with their population of children and a crucial reality-check to program design efforts. Adequate training for teachers, foodservice staff and directors/managers about local food systems and farming issues is important if providers are to be confident, effective catalysts on these issues. This should include specific information about foods and farms that are featured in their F2CC program.
- Child care providers may not necessarily see themselves as drivers of children’s nutrition or be fully versed in the available data on childhood obesity and attendant long-term health consequences. Assisting providers in recognizing their potential to be catalysts of good eating habits can be an important step in empowering and mobilizing providers around Farm to Child Care.
- Provider training requirements and opportunities tend to vary by state and even county. This can make it more challenging to design standardized training formats that can be used broadly.
- Training activities should be designed to address the daily realities of provider staff, including challenges they may have in leaving their site during the work day for training purposes. Over half of the providers surveyed by Nanney and LaRowe<sup>35</sup> indicated their willingness to use technology such as DVDs for training purposes. Developing this type of training might be a way to work with child-care providers at their sites and reduce reliance on in-person events.
- Designing training opportunities so that they help providers meet professional education requirements can be a helpful strategy for encouraging participation.
- Efforts to build a strong Farm to Child Care movement could be aided by the development of a strategically designed support system for child-care providers, akin to the various training, technical assistance, peer learning and mentoring efforts developed for K-12 foodservice providers who participate in Farm to School in locations around the United States.



Minnesota farmer John Svihel of Svihel Vegetable Farm in his cantaloupe field.

## Farmer engagement

- As with Farm to School, crafting workable partnerships between farmers and buyers is key, particularly as it relates to the geography of production, scale of demand, processing needs and so on. The goal should be to develop scale-appropriate relationships that meet the needs of both buyer, grower and where needed, allied businesses “in the middle” of the supply chain.
- It is essential that Farm to Child Care strategies are rooted in a solid relationships with the local farming community and a thorough understanding of growing conditions, on-farm food safety and handling practices, distribution issues and the like. Providers can benefit from partnerships with organizations that bring these relationships and knowledge base to the table.
- Organizers should collaborate with interested farmers to identify and address the various challenges and opportunities of the F2CC marketplace. Educational opportunities for farmers should convey the unique qualities of child-care providers as buyers and assist farmers in identifying appropriate “fits” between their farm operation and various types of child-care buyers.
- In some cases, it may be helpful for a third party to provide a vehicle for building relationships between child-care buyers and farmers, catalyzing buy/sell relationships, and integrating farmers into educational opportunities with children and parents.

Farmers should also play an integral role in evaluation efforts so that intended and actual benefits to participating farmers can be accurately assessed.

## Appendix: Interviewees

- **Gail Birch**, CEO, Providers Choice, Minnetonka, Minn.
- **Jamie Bonczyk**, Director of Health and Nutrition, Pica Head Start, Minneapolis, Minn.
- **Joan Bulfer M.S., R.D., L.N**, Bloomington Public Health, Bloomington, Minn.
- **Katy Chase**, Executive Director, Minnesota Licensed Family Child Care Association, St. Paul, Minn.
- **Chad Dunkley**, CEO, New Horizon Academy, Plymouth, Minn., Past President Minnesota Child Care Association
- **Laurie Haenke**, Community Health Specialist, Dakota County Public Health, Dakota County, Minn.
- **Diane Harris**, PhD, MPH, CHES, Division of Nutrition, Physical Activity and Obesity, Centers for Disease Control and Prevention, Atlanta, Ga.
- **Betty Izumi**, PhD, MPH, RD, Assistant Professor, Portland State University, School of Community Health, College of Urban and Public Affairs, Portland, Ore.
- **Emily Jackson**, Program Director, Appalachian Sustainable Agriculture Project, Southeast Regional Lead for the National Farm to School Network, Asheville, N.C.
- **Cisa Keller**, Director of Advocacy and Government Relations, New Horizon Academy, Plymouth, Minn.
- **Gayle L. Kelly**, Executive Director, *Minnesota Head Start* Association
- **Wendy Knight**, RD, LD, SNS, Coordinator of Food and Nutrition Services, Independent School District #196, Eagan, Minn.
- **Susan Nanney**, PhD, MPH, RD, Dept. of Family Medicine & Community Health, Program in Health Disparities Research, University of Minnesota, Minneapolis, Minn.
- **Jim Nicholie**, Program Manager, Abbott Pre-school, YWCA, Minneapolis, Minn.
- **Molly Nicholie**, Growing Minds Program Coordinator, Appalachian Sustainable Agriculture Project; Asheville, N.C.
- **Joyce O’Meara**, Early Childhood Specialist, Minnesota Department of Health, St. Paul, Minn.
- **Jekeia Murphy**, Academic Specialist, C.S. Mott Group, Michigan State University, Lansing, Mich.
- **Amanda Peden**, Graduate Student, Portland State University, School of Community Health, College of Urban and Public Affairs, Portland, Ore.
- **Stefania Patinella**, Children’s Aid Society, New York, N.Y.
- **Zoe Phillips**, MPH, CHES, Farm to Preschool Program Manager; Chair, Los Angeles Collaborative for Healthy, Active Children; Urban & Environmental Policy Institute, Occidental College, Los Angeles, Calif.
- **Rosa Romero**, Farm to Preschool Program Coordinator, Urban & Environmental Policy Institute Occidental College, Los Angeles, Calif.
- **Stacey A. Sobell**, MPH, Farm to School Program Manager, Food & Farms, Ecotrust, Portland, Ore.
- **Deb Spaeth**, Community Outreach Coordinator, Child Care Resource & Referral Network, Montevideo, Minn.
- **Mary Story**, PhD, RD, Professor, Division of Epidemiology and Community Health, Associate Dean for Student Life, School of Public Health, University of Minnesota, Minneapolis, Minn..
- **Lara Tiede**, Manager, Statewide Health Improvement Program, Minneapolis Department of Health & Family Support, Minneapolis, Minn.
- **Marguerite Zauner**, Project Manager at Blue Cross and Blue Shield of Minnesota, Eagan, Minn.



## Endnotes

1. Steve Martinez et al., "Local Food Systems: Concepts, Impacts, and Issues," *U.S. Department of Agriculture, Washington, DC: GPO, (May 2010).*
2. Cynthia Ogden Ph.D. and Margaret Carroll, M.S.P.H., "Prevalence of Obesity Among Children and Adolescents: United States, Trends 1963–1965 Through 2007–2008," *Division of Health and Nutrition Examination Surveys, Healthy People (2010).* [http://www.cdc.gov/nchs/data/hestat/obesity\\_child\\_07\\_08/obesity\\_child\\_07\\_08.htm](http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.htm).
3. "2010 National Pediatric Nutrition Surveillance Report," *Centers for Disease Control and Prevention, (June 2011):42.* [http://www.cdc.gov/pednss/pednss\\_tables/pdf/national\\_table18.pdf](http://www.cdc.gov/pednss/pednss_tables/pdf/national_table18.pdf) (accessed May 8, 2012).
4. B. Polhamus, K. Dalenius, H. Mackintosh, B. Smith, and L. Grummer Strawn, "Pediatric Nutrition Surveillance 2009 Report," *Department of Health and Human Services, Centers for Disease Control and Prevention, (2011),* <http://www.cdc.gov/pednss/>.
5. "2010 National Pediatric Nutrition Surveillance Report," *Centers for Disease Control and Prevention, (June 2011):42.* [http://www.cdc.gov/pednss/pednss\\_tables/pdf/national\\_table18.pdf](http://www.cdc.gov/pednss/pednss_tables/pdf/national_table18.pdf) (accessed May 8, 2012).
6. Mary Kay Fox, MEd; Elizabeth Condon, MS, RD; Ronette R. Briefel, DrPH, RD; Kathleen C. Reidy, DrPH, RD; and Denise M. Deming, PhD, "Food Consumption Patterns of Young Preschoolers: Are They Starting Off on the Right Path?," *JADA, J Am Diet Assoc. (2010): 110, S52-S59.*
7. "What We Know About Childhood Obesity," *American Public Health Association, http://www.apha.org/programs/resources/obesity/proresobesityknow.htm* (accessed May 8, 2012).
8. "Childhood Obesity Facts," *Center for Disease Control, http://www.cdc.gov/healthyyouth/obesity/facts.htm,* (accessed May 8, 2012).
9. "What We Know About Childhood Obesity," *American Public Health Association, http://www.apha.org/programs/resources/obesity/proresobesityknow.htm* (accessed May 8, 2012).
10. EA. Finkelstein, JG. Trogon, JW. Cohen JW, and W. Dietz, "Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates," *Center for Disease Control, RTI (2009)* <http://www.cdc.gov/media/pressrel/2009/r090727.htm> (accessed May 8, 2012).
11. Leann L. Birch, "Development of Food Preferences," *Annual Review of Nutrition, (July 1999): Vol. 19:41–62.*
12. "Statement on the Link between Nutrition and Cognitive Development in Children," *Tufts University School of Nutrition Science, (1998)* [http://www.eecom.net/mfsp/projects\\_school\\_links.pdf](http://www.eecom.net/mfsp/projects_school_links.pdf) (accessed May 8, 2012).
13. C. Knai, J. Pomerleau, K. Lock, and M. McKee, "Getting children to eat more fruit and vegetables: A systematic review," *Preventive Medicine 42, (2006).*
14. "Preventing Obesity Among Preschool Children: How Can Child-care Settings Promote Healthy Eating and Physical Activity?" Research Synthesis, *Robert Wood Johnson Foundation's Healthy Eating Research and Active Living Research Programs, (October 2011)* [http://www.healthyeatingresearch.org/images/RS\\_ChildCare\\_For\\_posting\\_on\\_web\\_FINAL\\_10-27-11.pdf](http://www.healthyeatingresearch.org/images/RS_ChildCare_For_posting_on_web_FINAL_10-27-11.pdf) (accessed May 8, 2012).
15. "Child Care in the State of Minnesota Fact Sheet," *National Association of Child Care Resource & Referral Agencies and Minnesota Resource and Referral Network, (March 2012)* <http://www.naccrra.org/randd/data/docs/Minn..pdf> (accessed May 8, 2012).
16. "Minnesota KIDS COUNT 2011 Economic Security and Child Well Being," *Minnesota Childrens Defense Fund and The Annie E. Casey Foundation, http://www.cdf-mn.org/sites/default/files/2011\_Minn.\_KC\_DB\_0.pdf* (accessed May 8, 2012).
17. "Minnesota State Factsheet," *Child Policy Research Center, National Initiative for Childrens Healthcare Quality, Data Resource Center for Child and Adolescent Health. http://www.childhealthdata.org/docs/nsch-docs/minnesota-pdf.pdf* (accessed May 8, 2012).
18. "Child Care Resource and Referral Strengthens Minnesota Families and the Economy," *Minnesota Child Care Resource & Referral Network, http://www.mnchildcare.org/pdfs/CCR&R\_Overview.pdf* (accessed May 8, 2012).
19. Richard Chase and Jennifer Valorose, "Child Care Use in Minnesota; Report of the 2009 Statewide Household Child Care Survey," *Minnesota Department of Human Services, (November 2010).* <https://edocs.dhs.state.mn.us/lfsrver/Public/DHS-6278-ENG> (accessed May 8, 2012).
20. "Child Care 101," *Minnesota Resource and Referral Network. http://www.mnchildcare.org/families/101.php,* (accessed May 8, 2012).
21. "Child Care in the State of Minnesota Fact Sheet," *National Association of Child Care Resource & Referral Agencies and Minnesota Resource and Referral Network, (March 2012).* <http://www.naccrra.org/randd/data/docs/Minn..pdf> (accessed May 8, 2012).
22. Richard Chase and Jennifer Valorose, "Child Care Use in Minnesota; Report of the 2009 Statewide Household Child Care Survey," *Minnesota Department of Human Services, (November 2010).* <https://edocs.dhs.state.mn.us/lfsrver/Public/DHS-6278-ENG> (accessed May 8, 2012).
23. "Child Care in the State of Minnesota Fact Sheet," *National Association of Child Care Resource & Referral Agencies and Minnesota Resource and Referral Network, (March 2012)* <http://www.naccrra.org/randd/data/docs/Minn..pdf> (accessed May 8, 2012).
24. "Facts about Child Care Use in Minnesota; Highlights from the 2009 Statewide Household Survey," *Minnesota Department of Human Services. http://www.wilder.org/download.0.html?report=2352* (accessed May 8, 2012).
25. Richard Chase and Jennifer Valorose, "Child Care Use in Minnesota; Report of the 2009 Statewide Household Child Care Survey," *Minnesota Department of Human Services, (November 2010).* <https://edocs.dhs.state.mn.us/lfsrver/Public/DHS-6278-ENG> (accessed May 8, 2012).
26. "USDA Child and Adult Care Food Program," *United States Department of Agriculture, Food and Nutrition Service, http://www.fns.usda.gov/cnd/care/CACFP/aboutcacfp.htm* (accessed May 8, 2012).
27. Jeannette Johnson Reed (Minnesota Department of Education), personal correspondence, 2010.
28. "Farm to Preschool End of Year Report: 2010-2011 School Year," *Urban and Environmental Policy Institute, Occidental College, Los Angeles, Calif.*
29. S. Nanney and T. LaRowe, "Supporting Healthy Food and Activity Environments in Child Care Setting: A Report to Minnesota Early Child Care and Education Stakeholders," (March 24, 2011).
30. Dr. Betty Izumi (Portland State University), personal correspondence, April 2012.
31. Dr. Betty Izumi (Portland State University), personal correspondence, February 2012.
32. S. Nanney and T. LaRowe, "Supporting Healthy Food and Activity Environments in Child Care Setting: A Report to Minnesota Early Child Care and Education Stakeholders," (March 24, 2011).
33. "National Farm to School Networks," [www.farmtoschool.org](http://www.farmtoschool.org) (accessed on April 13, 2012).
34. Our Community Our Kids website: "Harvest of the Month Farm to Child Care Curriculum," <http://www.ourcommunityourkids.org/domains--committees/early-childhood/farm-to-preschool-.aspx> (accessed May 8, 2012).
35. S. Nanney and T. LaRowe, "Supporting Healthy Food and Activity Environments in Child Care Setting: A Report to Minnesota Early Child Care and Education Stakeholders," (March 24, 2011).