This report is formatted for those who need a printed copy. It is also available in a horizontal format with type and layout optimized for on-screen reading.

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Sustainability in Schools

Keys to a Strong School Wellness Policy

to help students build a foundation for lifelong health, while protecting the environment and responding to climate disruption

by Amanda Heron, Sarah Mengel, and Corena Munroe

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prepared as part of a project on "Rethinking the Food System"
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Alliance for Sustainable Communities *lehigh valley*

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Introduction

Rethinking the Food System

The current food system is one of the largest contributors to global climate change and environmental destruction. Agriculture emits one third of global greenhouse emissions and consumes 70% of our fresh-water resources.[1] The food system that is depleting our natural resources relies heavily on large industrial farms—farms that use practices such as tilling and heavy use of synthetic fertilizers, both of which are very harmful to the environment as they deplete soil nutrients and release high amounts of carbon emissions. Farms of this size require the clearing of major forests, which should act as a space to sequester carbon from the atmosphere, but once they are deforested, they begin to act as a source of carbon emissions. Food is then picked and typically packaged into plastic packaging, then shipped across state and sometimes national borders, releasing tons of carbon emissions. In total, agricultural landscapes occupy about 40% of earth's land cover. The majority of this space is not used to grow food for humans but for the animals that humans eat.[2]

The food we eat comes from this system and has been shown to be detrimental to our health. To maximize yield, industrial farm production utilizes synthetic fertilizers and pesticides with little to no regard for human or planetary health. Pesticides can have severe negative side effects, especially in children,[3] as they have a higher concentration in smaller bodies. Industrial farms also produce foods with low nutritional densities due to the depleted soil and from picking the food prematurely so they can be shipped longer distances.[4]

> *Unhealthy diets pose a greater risk to morbidity and mortality than does unsafe sex, and alcohol, drug, and tobacco use combined.*
>
> *EAT-Lancet Commission*[6]

We are in dire need of a food system that treats our bodies and our planet better. This is possible by changing the food system into one that focuses more on local, regenerative, and organic agriculture. Planting regionally native fruits and vegetables allows people to eat fresh foods high in nutrients that will support their health. Also, these organic systems use 45% less energy and produce 40% fewer carbon emissions.[5] According to the EAT-Lancet Commission, a whole food, plant-based diet is best for our bodies and the planet.[6,7]

With all of this in mind, the Alliance for Sustainable Communities initiated a comprehensive project called Rethinking the Food System where student interns have made critical connections between food, health, sustainability, environmentalism, and social justice.

Schools and Food

While there are many aspects to the food system that need to be improved, the project team found that K-12 schools appear to be a great space to encourage change. Educational systems pride themselves in being at the forefront of change, as their students are the leaders of the future.

Not only do students deserve better food, but a nutritious and delicious meal served by the school improves academic performance. Despite this evidence, the health of the new generation is currently being compromised.

School lunch is not the only problem. The current nutrition curriculum covers major topics, but some key points are neglected. Most schools do not teach students about the importance of eating organic and local food, meat and dairy alternatives, or the dangers of pesticides. Incorporating such topics would help to increase overall wellness.

A detailed evaluation of the Berkeley School Lunch Initative[8] discovered that although many schools have a strong wellness policy, there are certain essential areas that are either weak or nonexistent. The research throughout the project showed that in order for students to thrive, there must be an emphasis on farm-to-school and local food, hands-on school gardening, more time for lunch, and waste reduction through composting and recycling. The key idea is to show how all aspects of the food system contribute to sustainability; climate, processed food, organic food, and numerous other matters collectively impact the future of the Lehigh Valley.

The current food system reflects racism, classism, and other major inequalities. Imagine enhancing equity and belonging in the community through student participation in group activities such as gardening, cooking diverse cuisines, and prioritizing sustainable waste reduction. Students would build relationships with one another that highlight their cultural differences, exemplifying how diversity and unity go hand-in-hand. The process of inclusion builds a food system that encourages food sovereignty, accessibility, and nutritious foods. By adopting a school wellness policy that covers the key topics in depth, schools can simultaneously combat social injustice. Teaching students how purchasing local food directly supports members of the community, about government food assistance programs—and why they are necessary—while feeding them diverse cuisines at lunch are just three ways that schools can promote social justice. By discussing these sometimes uncomfortable topics, schools help break the cycle of a food system that is no longer working, giving students the tools to build a stronger, more just food system that advocates for inclusion.

Teachers, administrators, and parents can inspire students to want to reclaim their food system through meals that utilize local food, more time to each such meals, a well-rounded education with a focus on intersectionality and waste reduction, and hands-on experiences that immerse them into a taste of what change can look like. Schools can and should provide students with the knowledge and tools to develop a more sustainable perspective on food, which will allow all aspects of student health to flourish long term.

A Pioneering School Lunch Initiative

In 2004, the Berkeley Unified School District created a School Lunch Initiative that included developing school gardens, classroom lessons, and a change to healthier school food. The schools that participated in the initiative reported that their students were making healthier food choices, had a higher preference for fruits and vegetables, and scored higher on nutrition knowledge tests. This initiative emphasizes the importance of creating comprehensive change in schools and ensuring that the education students are receiving aligns with the school's practices.[8]

Food Served in Schools

Farm-to-School Programs and Organic Agriculture

One key step in building a sustainable food system is supporting the local community. Purchasing local food, supporting local farms and neighborhood small businesses, and getting involved in community gardening enhances

Prioritizing Local Food

Over 600 schools in Connecticut have prioritized serving local food at mealtimes, says a recent *CT Mirror* article. With $2 million toward farm-to-school connections from the USDA and other state funds, to support school purchasing of "locally or regionally unprocessed food products." Connecticut schools involved in these farm-to-school efforts and programs have recognized its positive impact on health, hands-on education, and inclusion.[9]

physical and mental health, helps local businesses and institutions thrive, and overall increases the livelihood of the community.

Farm-to-school programs are one way institutions can contribute to building the "ideal" food system. Farm-to-school builds relationships between schools and local farms to ensure access to local, healthy, culturally-appropriate food for all, as well as foster health and nutrition within the community. Farm-to-school also provides fresh, natural, local, healthful, and sustainable food to schools, while supporting local farms and teaching students about the importance and nutrition of eating this way. Knowing where your food is coming from and how it is being grown is an important aspect of eating that many people have lost sight of.

"Schools can integrate farm-to-school into their current systems gradually."

Purchasing food in the grocery store can be cheaper, more convenient, and sometimes more accessible, but creates a barrier between people and the food they are consuming. These foods may be subject to common industrial farming practices, such as monoculture, tilling, pesticide use, hormone use, and unethical treatment of poultry and livestock, which are just a few of many harmful industrial farming practices. These practices harm not only the animals and the land, but the consumer as well. Getting food — or some of it — from a more trustworthy, local source can provide schools with the security of knowing that they are serving their students and faculty food that is fresh, natural or organic, nutrient-rich, environment and climate-friendly, and part of the local food system.

Some schools are intimidated by the thought of changing programs or the systems to implement a farm-to-school program. Cost can be a concern, but the cost of farm-to-school programs vary, and in most states, schools are able to apply for farm-to-school grants that can help with making this transition. It is also important to remember that a shift to farm-to-school does not need to be made all at once.

Schools can gradually integrate aspects of a farm-to-school program into their current systems. For example, a school could start out by trying to serve local produce or another farm product in the cafeteria at least one day of the week, every week. Once they have settled into this routine, they could then try to increase this to two or three days a week, and go forward from there. Another way that a school could ease their way into implementing farm-to-school programs is to simply start out by developing a relationship between your school and a local farm/farmer. This could mean reaching out to schedule student field trips to visit the farm, or asking the farmer to come in and give a lesson to the students on the importance of eating natural, local food. Both options support the local food system and improve the health, knowledge, and nutrition of the school and the local community. Efforts like this have a greater impact on the schools and the students themselves, the community at large, and the environment as a whole, than many people realize.

Serving Healthy & Diverse Food Options

Schools should strive to serve as much natural, locally-sourced food as possible in their cafeterias. All food served in schools, whether coming from local sources or not, should be healthful, nutritious, and appetizing; this includes serving food that represents various cultures and cuisines, which will help students feel a sense of belonging through the food that the cafeteria has to offer.

There are many ways that schools can bring healthy, delicious, and diverse food options into their cafeterias, but plant-based eating should be a priority. A menu with plant-based options serves both students and the environment. One example of such efforts includes the Whitehall-Coplay School District, which started serving falafel in their school cafeteria. This introduced a culturally-diverse meal that many students were not familiar with, but have grown to love and enjoy. By showing kids that plant-based options can taste just as good as meat-based meals, they are more likely to choose these options for themselves. The Palisades School District, located in Bucks County, strives to prioritize student wellness. Palisades' kitchens prepare fresh-

ly-made smoothies, salads, and hummus to serve at mealtimes, offering their students healthy and tasty food options that they may not get, or choose to get, outside of school.

Sharing a meal together can help students care for and relate to others.

Student Mealtime

The amount of time that schools allot for students to eat, whether that be breakfast, lunch, or even a snack time, is an important aspect of student health and nutrition that is often overlooked. While rigid daily schedules and timetables may be difficult to change, student meals are not the place for timing to be cut short.

Students are given an average of just 20 minutes to eat lunch.[10] Meal time, particularly lunch, is more than just a feeding period for the students, and Action for Healthy Kids expands on the importance of sufficient student lunchtime. In order for students to perform their best in the classroom, they must be given the time to fuel themselves, both nutritionally and socially, in the cafeteria. They also explain how increasing student lunchtime leads to an increase in student nutrition, stating that students not only enjoy their food more, but may even be more open to trying newer, healthier options if granted the sufficient time to eat, relax, and socialize without feeling rushed for time. Scarfing down food hinders students realizing the benefits that come from serving fresh, natural, healthy, unprocessed food options in the first place[11]. Furthermore, feelings of rush and stress to get one's food down on time also inhibits students' ability to form bonds and connections with their peers. In her piece on "Upgrading the Lunch Period,"[12] Karen Stout explains how sharing a meal together can help students to better care for and relate to others, with the school lunch period as a "community experience, one in which students learn from the positive interactions with their peers."

Another aspect of mealtime that can contribute to a better experience is a calmer environment in the cafeteria. Using soothing colors such as blue on the cafeteria walls, opting for circular lunch tables instead of rectangular ones to foster face-to-face conversation, or encouraging a softer noise volume in the cafeteria may ease some of the stress that often accompanies lunchtime.

A CALMER APPROACH

The Haverford Township School District (near Philadelphia), has been making huge leaps toward a better lunch experience, replacing the rectangular tables with circular ones so students can see each other as they talk. And sixth-graders at the middle school can participate in the Literary Lunch Club, where they eat lunch in the library as the librarian reads to them.

A calmer approach to lunch is a great step that schools can integrate into their lunch periods.[13]

Education

Nutrition Education

Nutrition education is one of the most important aspects of wellness. While standard nutrition education teaches students about different food groups, portion control, and how to read nutrition labels, the boundaries can stretch much further. Schools should expand this to teach students about the benefits of local, organic, and plant-based foods to support the changes being made in the cafeteria. Curriculum should go more in depth into topics such as GMOs, pesticides, and soil health as students get older so they can fully understand the complexities of these topics and make informed nutrition decisions in and outside of school. Teaching students how to cook various meals is a critical skill that may not be taught at home. Learning how to prepare their own food, lets students make more conscious choices on what they consume. Additionally,

teaching more advanced skills such as drying, canning, and pickling allows seasonal foods to be enjoyed all year long.

Although the different food groups, portion control, and how to read nutrition labels are essential topics to discuss, too many matters are glazed over or neglected. Many current school nutrition education programs lack intersectionality. Nutrition education should reach beyond health and science classes—social studies, foreign language, or even English classes could all use food and nutrition in fruitful ways. By discussing food topics such as history, traditions, and celebrations, students gain exposure to other cultures, time periods, experiences, and more. Students should also be taught about complex food-related topics such as food assistance programs that the government offers and why they are needed, why food deserts are a serious issue, the health benefits of organic food, and why locally grown food is important. If classes emphasize the importance of such topics, more adults will also become aware of some of the fundamental, intersectional concepts of sustainability.

Hands-On Education

School Gardens

School gardens have been shown to have a multitude of benefits for both physical and mental health. Students are more likely to enjoy vegetables if they grow them themselves. Foods grown in school gardens can be served in the cafeteria, tasted during class time, or taken home to their families. This is a huge benefit, as when kids are choosing what to eat in the cafeteria, fruits and veggies may not be a top priority for them. A diet with increased fruits and vegetables helps to decrease rates of obesity, diabetes, and even cancer.[14] Accessibility to such foods can lead to monumental health benefits.

Gardening is another often-overlooked source of physical activity. Continuously moving while they garden, squatting to plant and pull weeds, carrying soil, and other gardening activities burn calories, improve strength, and increase flexibility throughout the school day.[15]

Hands-on learning also can lead to an increase in self-esteem and problem-solving ability.[16] Although learning about plants and soil in the classroom is essential, experiencing the processes first-hand is more rewarding. Students can see examples of how the food web and photosynthesis work, along with where the food they eat comes from. Experimenting with different soil types, water amounts, and seed varieties can allow students to learn from trial and error. The combination of different learning styles that a school garden allows will ensure that all students may learn effectively.[17]

School gardens also provide a space for social and emotional learning. Gardening can act as a calm space for students to have a few moments of introspection throughout their fast-paced school day. People tend to breathe deeper when they are outside, which leads to lower levels of stress and anxiety. Another mental-health benefit is the rewarding feeling students get when they watch something they've cared for grow and produce something tangible. This sense of pride and accomplishment can help students' self-esteem. Schools that practice these social and emotional learning programs have shown an improvement in test scores, classroom behavior, and a decrease in conduct problems.[18]

Hector Bonilla, Supervisor of Curriculum and Instruction at Easton Area School District, says, "Our current Superintendent was instrumental in establishing the district relationship with our partner The Kellyn Foundation—and in creating gardens connected with some of our elementary schools. During my time as Principal at March

Jordan-Elbridge School District

Students are educated on what is considered compostable in class. Custodians then guide students to dispose of trash, recyclables, and compostables in color-coded bins. Compost containers from each school are dumped into a 20-yard compost bin at the high school after each school day, which is transported to the Onondaga County Resource Recovery Agency, where it completes the natural decomposition process. Teachers also play a key role in the district's success because they emphasize handling waste sustainably in class.[19]

Elementary School, we had a working garden and produce tasting program for our students in conjunction with their food education program. The choice for our District's current food service provider was determined in part by their commitment to serving more wholesome food options as well as lessening processed food offerings for our students."

Composting and Recycling Systems

Implementing successful composting and recycling systems is extremely important for environmental sustainability, especially since schools produce substantial amounts of waste each year. The first and most important step in this process is minimizing the amount of waste that is produced. Cafeterias should use reusable plates, silverware, and packaging containers rather than disposables. The second step includes diverting as much waste from the landfill as possible through recycling and composting.

Recycling bins are already standard in most schools, but are often misused as students are not properly educated in how to separate trash and recycling. Recycling companies don't sort trash out from recyclables, so if there is too much trash in a recycling bin, it all goes to a landfill.[20] There are local variations as to what types of plastics can be recycled and if they need to be washed or the bottle cap removed. Students should be taught the importance of recycling along with the regulations to ensure the bins are filled correctly. Education refreshers should be given once a year along with catchy and informative signage on and/or above all bins.

Composting is an educational activity that can be another great way to teach children about how the natural world works. On-site composting provides opportunities for students to truly understand how decomposition turns food into mineral-rich soil. Students can experiment with different ratios of food to brown matter to understand which works best.

Having a composting system on-site complements having a school garden, as the compost can be used to fertilize the garden. Students gain a new perspective of the food system as they watch the food grow, eat it, then observe the food scraps as they turn back into soil for the next season. It is likely that an entire cafeteria's food waste will create more compost than is necessary for a school garden, therefore, schools should consider donating excess food waste to farms or other facilities that could benefit from it.

Putting It All Together

It is critical to consider all of these components when changing a food system. Every part of the process, from local and organic foods to nutrition and composting education, must work together for optimal results.

Implementing these practices in the classroom can be beneficial to students' learning and growth, but it is most effective when integrated with behavior outside of the classroom. The school should provide parents with proper resources that would allow them to be as involved in these learning practices as much as they are able.

Berkeley's School Food Initiative[8] showed that sending students home with information about the importance of local and organic meals, eating meals as a family, and plant-based diets is a great way to inform parents about what is being taught and facilitate conversations about food in the home. Additionally, sending home the recipes for meals served in schools was successful in creating consistency between education and practice. Families may also complete projects at home that compliment hands-on learning at school. Having a composting system in their backyard or growing a small garden, even if it is just flowers, will work to enforce what students are learning in school.

The research supporting these changes is overwhelming. Changing to local and sustainable food sourcing, healthy and delicious menu options, increased mealtime, enhanced nutrition education, and hands-on learning through gardens and composting has been shown to increase student performance and energy levels throughout the day, lead to healthier food choices, a higher preference for fruits and vegetables, and an overall increase in physical and mental health.

We hope to inspire Lehigh Valley schools to rethink their relation to the food system and how improving their school wellness policies will initiate a better food system for the future of the Lehigh Valley.

Recommendations for School Wellness Policies

Purpose

For students to thrive academically, personally, and socially, it is important to encourage a positive relationship with food and other aspects of wellness. Revitalized education will cover more nutrition topics, new guidelines pertaining to meals, and waste reduction efforts. The school district should inspire students to make healthy choices that they can apply at home and in years to come.

We recommend that you include the following two points in your Purpose, Mission, or 'Whereas' statements to ensure an effective wellness policy for students:

1. **The District recognizes the lunch period as an integral part of the educational program of the district and encourages all faculty and staff to work to implement the goals of this policy.**
2. **The District recognizes its role to model and actively practice, through policies and procedures, the promotion of family health, physical activity, good nutrition, sustainable agriculture, and environmental restoration.**

Education & Promotion of Healthy Eating

The district recognizes learning about healthy food as an integral part of the educational program. Hands-on experiences reinforce traditional classroom education and contribute to a sustainable, healthy future for students.

1. **Each school will establish an instructional garden.**

   Students gain experience in planting, caring for a garden, harvesting, and teamwork through gardening. If the school does not have the ability to accommodate a garden, the school should make arrangements with a local farm or community garden.

   More information: see fact sheet on School Gardens (p. 13)

2. **Each school will develop student awareness of nutrition and the food system in science, social studies, ELA, family and consumer science, foreign language, and health classes.**

   To strengthen students' understanding of diversity within themselves, their peers, and the world around them, teachers should show how food expresses the customs, history, and traditions of various cultures. Foreign language and social studies courses are great places to discuss how food goes beyond nutrition.

3. **Each school will provide hands-on experiences for students surrounding food.**

   Hands-on experiences help students with different learning styles develop their understanding. Examples include cooking, sampling, tasting, planting, and garden upkeep, as well as how fresh vegetables and fruit can be preserved by canning, drying, or pickling.

4. **Schools will provide educational activities such as farmer's market tours, local farm tours, and community garden field trips.**

   These field trips will work to support the connection between food production and health. It is important for student understanding to be able to see how the system they are learning about works within a community.

5. **Food Services will use seasonal ingredients wherever possible.**

   Seasonal foods not only taste better, they are also more nutritious, less expensive, and more environmentally-friendly when sourced from local farms.

6. **Each school will provide grade-appropriate classes to discuss food, nutrition, and the food system.**

   Nutrition education should properly prepare students to make choices that will best support their health both in and outside of school. This should include the main macronutrients each person needs, complex vs. simple carbs, refined vs. natural sugar, different types of proteins (both animal and plant), how to read nutrition labels, and more. Classes also should discuss the difference between non-GMO and organic, whole foods vs. processed foods, how native produce and other native plants support health and local foods.

   Learning about the details of food labels can help students choose the healthiest foods for them in ways most adults are not able to do for themselves. Classes should also learn about government food assistance programs to understand the support resources that are available to them and their families.

7. **The school will introduce students to recycling practices when they enter school. Every year until high school graduation, schools provide a refresher on recycling.**

   Recycling practices may vary depending on regional practices, so educating students on the practices the recycling company each school uses is crucial for proper waste management.

8. **Science classes should teach about the positive impacts of composting and how to compost.**

   Teaching students about composting is an opportunity to show how important systems like the life cycle of a plant and biodegradation work.

   More information: see fact sheet on Composting (p. 16)

Meal Guidelines

Meals are a great way to build more understanding than classroom lessons alone, including how food can be delicious, nutritious, and culturally diverse. While expanding their palates and enjoying tasty food, students can make connections with one another through conversation and the food.

1. **Food Services will implement a system that protects the confidentiality of students who receive free or reduced-price meals, such as making all student payments by swiping their student ID.**

   Students who receive government food assistance are sometimes targets for harassment or bullying.

2. **Schools will provide students with at least fifteen (15) minutes to eat for breakfast and twenty-five to thirty (25–30) minutes for lunch (after sitting down).**

   By allowing students to have more time to eat, they have more time to enjoy their food, build connections, and digest their meal.

   More information: see fact sheet on Rethinking the Lunch Period (p. 15)

3. **Schools will schedule physical education and other physical activities before meals or at least 1 hour afterwards.**

   Students need time to digest their meal before they are required or encouraged to participate in physical activity. Students should not feel like they need to rush through their meal in order to spend time outside.

4. **Food Services will use food from local farms, to the extent possible.**

   Using at least one local farm food item for student meals each week will allow students to experience a taste of what farm-to-school programs can offer.

   More information: see Farm-to-School fact sheet (p. 14)

5. **Food Services will serve a plant-based diet providing fresh, whole foods and less meat.**

   A menu that prioritizes fruits and vegetables helps combat serious health issues related to meat.

   More information: see fact sheet on Importance of a Whole Foods, Plant-Based Diet. (p. 12)

6. **Food Services will ensure that food items are clearly marked to indicate dietary classifications such as vegetarian, vegan, halal, or kosher.**

   By using indicators, students and staff can make informed decisions about the food being served to see if it aligns with their diet.

7. **Food Services will serve appropriate, culturally-diverse food to reflect various cuisines and flavors.**

   Serving a range of culturally-diverse food options gives students a sense of inclusion and belonging while also providing the opportunity to try new flavors and cuisines while connecting with their peers through food.

8. **If staff members, students, or parents bring in any food, nutritious treats from local shops, farms, and restaurants are encouraged.**

   The principal, supervisor of the event, or teacher of the class will make sure that they meet appropriate standards of nutrition as set by the District.

Waste Reduction

The school district considers waste reduction a priority and expects all students and staff to participate.

1. **Schools will ensure that a recycling bin is located adjacent to each trash bin and that all waste bins are clearly marked to separate recyclables, trash, and compostables, including food waste.**

   All bins being located next to one another eliminates the urge to dispose of waste in the closest bin. Clear signage enforces and reminds students of the waste practices taught in classes.

   More information: see fact sheet on composting. (p. 16)

2. **Cafeteria staff, lunch monitors, and custodians should guide students to properly separate their trash from recyclables and compostables.**

   This will help to reinforce proper waste disposal practices that students learn in class.

3. **Food waste and food scraps should be composted.**

   Compost can be used in the school garden program or landscaping. Arrangements should be made for surplus food waste to be delivered to (or picked up by) a local composting service or local farm.

4. **When possible, cafeteria staff should use drying, canning, and/or pickling to prolong the shelf-life of fresh produce.**

   Using methods such as drying, canning, and pickling can allow students to enjoy local, seasonal produce all year. Rather than purchasing canned vegetables, cafeteria staff can fruits and vegetables while demonstrating these practices to students.

Implementation and Assessment

1. **The principal of each school shall ensure full implementation of this Wellness Policy.**

2. **Before the end of each school year, the Superintendent shall evaluate each school's implementation and report the results to the Board, including plans for any needed improvements.**

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About the Rethinking the Food System Project

The Alliance thanks the interns responsible for this project: **Amanda Heron** (Lafayette College '24), **Sarah Mengel** (Kutztown University '23), and **Corena Munroe** (Lehigh University '24). The result will help to raise awareness of nutrition, food systems, and waste minimization, and encourage schools to provide students with nutritious, sustainably grown food that supports their health and wellness, protects the environment, and helps mitigate climate disruption.

Project website: https://rethinkingfoodsystems.wordpress.com
Project Team E-mail: food-project-2023@sustainlv.org

This report is also available in a horizontal format with type and layout optimized for on-screen reading. Both formats are available as free downloadable PDF files on the Alliance website.
https://www.sustainlv.org/focus-on/keys-to-a-strong-school-wellness-policy/

About the Alliance

The Alliance for Sustainable Communities–Lehigh Valley is a nonprofit organization that focuses on a wide variety of environmental and social justice issues that contribute to more-sustainable communities. The Alliance has been active since 2003 and works to create a more sustainable Lehigh Valley.

Previous projects have tackled topics such as Campus Sustainability, Climate Action Planning, Sustainability in Healthcare, Interdisciplinary Teaching on Climate and Sustainability, Brewing Sustainability (sustainability for the craft brewing industry), and Sustainability for Independent Cafés and Restaurants.

Internship coordinator: Peter Crownfield peter@sustainlv.org

Fact Sheets

Fact Sheet: Importance of a Whole Foods, Plant-Based Diet

A plant-based diet minimizes processed foods and emphasizes fruits, vegetables, whole grains, legumes, nuts, and seeds. Plant-based eating limits animal products such as dairy and eggs, as well as meat.[1] The terms plant-based and vegan are often considered interchangeable, but plant-based eating puts an emphasis on whole food, whereas a vegan diet describes the exclusion of all products that come from animals, including honey.

Fresh vegetables —Wikimedia Commons

What are the benefits?

Plant-based eating cuts down on carbon emissions from agriculture, conserves water, and reduces waste. Red meat negatively impacts the environment more than other food groups due to greenhouse gas emissions and land use.[2] By encouraging a plant-forward menu, schools can help combat the serious and detrimental influences of climate change.

In addition to the positive impacts that plant-based diets have on the environment, schools may simultaneously prevent health concerns for both students and faculty — which may save the district money on insurance as well as decrease the amount of illness-related absences — through plant-based eating. Studies show that plant-based eating may lower cholesterol, blood pressure, and BMI.[3] Additionally, plant-based diets may strengthen the immune system, which can help the body combat serious illnesses, infections, and even cancer.[4] Other studies provide even more evidence.[5,6]

Most people are aware of the physical benefits of whole foods, but the mental health advantages are just as impressive. A 2022 survey, which asked students questions about their mental health, revealed that the leading cause for learning obstacles in both middle and high school students is feeling stressed, anxious, or depressed.[7] A recent article discusses the connection between mental health, specifically depression, and diet. A decreased risk for depression has been associated with a diet that emphasizes whole food, less refined sugar, quality fats, and plenty of fruit and vegetables.[8] Changes to school food system will support students and faculty in multiple aspects of their health.

How can schools start?

Plant-based eating is not nearly as intimidating as it appears to be. Many cuisines use plant-based ingredients in everyday meals. Mediterranean, Indian, Mexican, Spanish, and countless other cuisines and cultures highlight the importance of plant-based eating. Plant-Forward Kitchen is a resource mainly for restaurants, however, schools can find inspiration through the simple recipes listed on the website. Additionally, foods such as tofu and seitan are easy to cook with, as they can imitate most flavors and various meat textures.

Fact Sheet: School Gardens

A school garden is essentially a garden that is either on school grounds or is in close proximity to the school. Since it may be hard for some schools to have a garden, especially schools located in the city, there are plenty of alternatives to the traditional garden.

What are the benefits?

School gardens have plenty of pros, but the actual benefits are immeasurable. Learning about nutrition and food in classes is certainly helpful, but the opportunity to experience the process of planting, tending, growing, and harvesting food is an element of education that a traditional classroom setting cannot provide. Josh Parr, the manager of Lafayette College's farm, LAFarm, mentioned how hands-on learning is exciting and stimulating for students; *Kids Gardening* agrees in an article about school gardening.[9]

In addition to its educational benefits, school gardens highlight the labor and effort that gardening requires, which helps students understand the importance of supporting local businesses. As they learn, they may relay these findings to their parents, thus spreading the potential for a more sustainable food system. Gardening also has an array of health benefits. Sunlight provides an ample amount of vitamin D, which may help students who suffer from depression or anxiety. Gardening also requires a decent amount of physical activity, which may be an alternative to the traditional physical education class. Since many students feel anxious and pressured in group game-based PE classes, gardening could be a more therapeutic option.

Helping at the school garden —Flckr

How can schools start a garden?

As mentioned before, traditional gardening is not as easy for some schools due to lack of land, funding, enthusiasm/motivation from faculty, or other factors. Starting a school garden begins with an emphasis on the importance of fresh, local food in the classroom. If students and teachers are excited about gardening, administration will be more likely to start a garden. There are countless ways for schools to start a garden: an indoor herb garden, raised beds on school property with fruit and vegetables, an in-ground garden, a plot at a nearby community garden, and collaborations with local farmland are a few ways for schools to start their gardening journey. Many schools have greenhouses as well, such as Palisades High School in Bucks County.

According to the Wisconsin State Journal, Madison School District in Madison, Wisconsin has over 35 school gardens across the district. They refer to their gardens as outdoor classrooms because students have the opportunity to learn about plenty of different topics when in the garden. They describe how working in the garden is therapeutic, educational, and physically stimulating. During the summer, the district offers a summer camp where students can volunteer in the garden while school is not in session. The volunteers, who appear to be mostly retired or active teachers, also harvest, cook, and eat the food with the students as part of the camp. Culturally relevant crops are essential to the Madison district — they grow collard greens, okra, bok choy, and use indigenous growing methods in some areas of the garden. Their dedication to inclusivity and health is admirable.[10]

Fact Sheet: Farm To School

Many school districts use a food company to provide their food; however, the foundation of a sturdy food system begins with local food. Purchasing local food supports neighboring businesses, keeps nearby farms in operation, increases the availability of seasonal produce, and gives back to the community. Farm-to-school efforts provide healthful food to schools while supporting local farms.

Vegetables on table —*Flckr*

How can schools start?

Schools don't have get all food from local farms right off the bat. To start with, schools can try to use local food at least one day during the week. Catchy names such as "Farm Fridays" or "Local Lunch Day" can help students feel excited about the food they are eating. The cost of farm-to-school programs may vary, however, schools are able to apply for farm-to-school grants in most states.

There are countless examples and variations of the ways in which states and school districts across the country have implemented farm-to-school programs into their systems.

According to *The Fence Post*, school districts across Nebraska have been prioritizing their implementation of farm-to-school efforts, with The Nebraska Department of Education hiring a specific farm-to-school coordinator to help schools navigate farm-to-school programs. This support system for schools includes connecting them with local farms and producers, holding workshops that teach the schools and the students more about the importance of farm-to-school programs, assisting in crafting action plans for the future, and helping them find grant opportunities to get started.[11]

Fact Sheet: Rethinking the Lunch Period

Conversations about the adequate time for students to eat meals seem to be never-ending. There's a general consensus that students do not have enough time to eat meals, especially lunch, yet most schools are accustomed to daily schedules and do not intend to change the lunch period. However, lunchtime is more than just a feeding period; it's a time for students to connect, catch up, and learn from one another. However, more time to eat only addresses a few of the many issues surrounding modern school lunch periods.

One of the biggest complaints from students is that although The American Academy of Pediatrics recommends at least 20 minutes for lunchtime, most students' lunches are cut short due to long cafeteria lines and other factors. In order for students to thrive in the classroom, they need enough time to eat.[10] If students are fed healthier meals but do not have enough time to eat, they aren't getting the maximum nutrients possible, which may hinder their physical health. If they are focused strictly on eating, they may not be socializing enough, which could negatively impact their emotional and mental health as well.

Free lunch for all students would eliminate various current issues. It would create an inclusive environment, as children who receive free or reduced-price lunch would not feel inferior to students who do not receive benefits. It would also prevent bullying — since every child would be eating for free, nobody would know who was receiving prior benefits. Free lunch would also make lunch lines move much faster, as students would not have to waste eating time paying for their lunch.

How can schools start?

The first step is to recognize the importance of lunch for students' physical, emotional, and mental health. Then, schools can see where time can be adjusted during the school day. Creating a calmer eating environment can help also; using serene colors such as blue in the cafeteria, opting for circular lunch tables, or encouraging lower noise volume can help ease the stress that accompanies lunchtime.

Who has been successful?

According to the article "A healthier, more civil lunch period is on the menu at some schools", the Haverford Township School District in Philadelphia, PA has been making huge leaps toward a better lunch experience. The schools are replacing rectangular tables for circular ones so that students can see each other as they talk. Sixth-graders at the middle school can participate in the Literary Lunch Club, where they eat lunch in the library as the librarian reads to them. A calmer approach to lunch is a great step that schools can integrate into their lunch periods.

> Right here in the Lehigh Valley, students at Easton Area High School and Parkland High School have about 40 minutes for lunch, which is a great example for other schools to follow.

According to *NM Political Report*, New Mexican governor Lujan Grisham signed a school meal bill in March 2023. Not only does the bill allow all public school students in New Mexico to receive free lunch, but it requires elementary school students to have at least 20 minutes to eat lunch after they sit down to eat; this is surprisingly generous compared to most schools.

20 minutes is a great place to start, but it's important to provide time for students to eat, have conversation, and relax.

Fact Sheet: Composting

Compost is soil-enriching fertilizer that comes from decomposed organic matter.[11] There are a multitude of composting options: at home, compost services, community composting, and more.

Compost pile —*Flckr*

What CAN be composted?

According to Lehigh County's website, egg shells, coffee grounds, vegetable and fruit scraps, grass clippings, sawdust, straw, hay, shredded paper, cardboard, and more can be used in composting.

What can NOT be composted?

Avoid meat, dairy, fat, and bones, as they may attract animals or release odors as they decompose. Plastic, styrofoam, anf bioplastics cannot be composted.

How can schools start?

Schools have many options and can start in just one school can provide an ample amount of fertilizer and learning opportunities. Like residential composting, schools may fill buckets with food scraps, then dump the scraps in outdoor bins. After decomposition is complete, they may use the compost directly for a school garden or sell/donate the compost to local farms. Schools may also fill food scraps in buckets to give to composting services, who will complete the decomposition process for the school. At home, students can start small composts in their backyard.

What are the benefits?

Other than a nutrient-dense fertilizer for crops, the composting process is a great way to educate students on biology, chemistry, ecology, environmentalism, and more. Students can observe decomposition as it occurs.

In 2017, the Cornell Waste Management Institute published a School Composting Guide, which outlines multiple questions, examples, and other information regarding school composting. One of the examples they reported was how fifth and sixth grade students at Candor Elementary School in Candor, NY began learning about decomposition in science class. Since composting speeds up decomposition, students became interested in the organisms that aided in the process. Staff members and students helped younger children separate food scraps from trash, saved shredded paper, and even used excess sawdust from the wood shop. Not only were students able to see the decomposition process first-hand, but they were able to use their compost for perennial planting, thus seeing their efforts flourish.[12]

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