

## Cut Waste, Not Nutrition, in School Meals

In the United States, over one-third of all available food is uneaten due to loss or waste,<sup>1</sup> costing an estimated \$218 billion annually,<sup>2</sup> and food waste in the school meals program (also known as plate waste) is consistent with this overall trend. In FY 2019, the National School Lunch Program (NSLP) served 4.9 billion lunches<sup>3</sup> and the School Breakfast Program (SBP) served 2.5 billion breakfasts,<sup>4</sup> providing key nutrition for millions of kids annually. According to U.S. Department of Agriculture (USDA) data, **nearly one-third of all vegetables and milk served is wasted** in NSLP.<sup>5</sup> The World Wildlife Fund estimates that **530,000 tons of food and 45 million gallons of milk is wasted per year in school cafeterias.**<sup>6</sup>

Addressing the issue of food waste has important implications for increasing food security and saving resources. The reduction of food waste can also mitigate climate change — food is the single largest category of material in U.S. municipal landfills, where it emits methane, a potent greenhouse gas, as it decomposes.<sup>7</sup>

### Food Waste and Strong Nutrition Standards

After the passage of the Healthy, Hunger-Free Kids Act of 2010 (HHFKA), the USDA updated requirements for school meals, establishing age-appropriate calorie and safer sodium limits, requiring a variety of fruits and vegetables, more whole grains, and less fat.<sup>8</sup> Critics have claimed that the stronger standards are to blame for the amount of waste in school cafeterias. However, research does not support this claim. In fact, a regional plate waste study on the impact of the HHFKA standards on food selection, consumption, and waste in schools found that entrée and vegetable consumption increased after the stronger nutrition standards were implemented, with no increase in meal waste for vegetables, entrées, or fruit.<sup>9</sup> These findings are consistent with the findings of the USDA's nationally representative School Nutrition and Meal Cost Study (SNMCS), which found **that the quantity of food waste before and after the implementation of HHFKA were similar.**<sup>10</sup> A 2021 systematic review analyzing strategies to improve school meal consumption concluded that “concerns regarding an increase in food waste following the HHFKA were not supported.”<sup>11</sup>

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**Weakening nutrition standards is not an evidence-based strategy to reduce food waste.**

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### Evidence-Based Recommendations

There are evidence-based strategies to reduce waste without weakening the nutritional quality of school meals. Policymakers, school administrators, and school foodservice staff can work together to help students enjoy their meals and reduce food waste in cafeterias.

## **Policymakers and school administrators:**

### **Mandate a minimum of 20 minutes of time to eat during lunch periods and require recess to be scheduled before lunch for elementary schools.**

An adequate amount of time to eat, also known as seat time, is essential to ensure that students can enjoy their meal and consume its nutrients. Students need a minimum of 20 minutes of seat time to eat their meal and socialize with peers, in addition to the time needed to walk to the cafeteria, receive and pay for their food, and clean up after.<sup>12</sup> Students with a lunch period longer than 20 minutes increased consumption of their meal and placed less of their meal in the trash,<sup>13</sup> and students with a lunch period of 25 minutes were more likely to consume 13 percent more of their entrée, 10 percent more of their milk, and 12 percent more of their vegetables, compared to students with a lunch period of 20 minutes.<sup>14</sup> A 30-minute lunch period can provide an adequate amount of time to eat lunch, as well as to socialize and clean up.<sup>15</sup>

Schools can encourage parent or community volunteers to provide lunchtime supervision to reduce burdens on school staff, as well as implement strategies to reduce wait time in lines such as adding more easily accessible points of service.<sup>16</sup>

For elementary schools, scheduling recess before lunch can increase students' meal consumption.<sup>17</sup> The majority of relevant studies analyzed in a systematic review found that students at schools with recess before lunch consumed more of differing meal components than students with recess after lunch.<sup>18</sup> A plate waste study referenced in the systematic review found that implementing recess before lunch resulted in less waste for fruits, grains, and meat/meat alternatives.<sup>19</sup>

For more information on time to eat, see CSPI's resource, *No Time to Eat: The Need to Provide Children with Sufficient Time to Eat* at <https://www.cspinet.org/resource/no-time-eat>.

## **School foodservice directors:**

### **Adopt Offer versus Serve (OVS).**

OVS allows students to decline some of the food items offered in the NSLP and SBP.<sup>20</sup> It is mandatory for high schools and optional for elementary and middle schools. In elementary schools, the use of OVS is correlated with significantly lower levels of waste for calories and fruits and vegetables when compared to serve-only schools.<sup>21</sup> Additionally, offering a greater variety of entrées is correlated with less food waste.<sup>22</sup>

Menu planners can study participation and preference trends to determine which food items to prepare and in what quantities, in order to decrease food waste and save on food costs.<sup>23</sup> Providing clear communication about which meal components are required and optional for

students will facilitate quicker lunch lines, as well as help students transition away from the serve model.<sup>24</sup>

### **Offer food options informed by student taste tests and feedback.**

Palatability and familiarity of foods are key factors related to food consumption, so serving foods informed by student taste tests may increase consumption of school foods.<sup>25</sup> Taste tests provide an opportunity to expose students to new foods and ask for their feedback. A majority of the relevant studies analyzed in a 2021 systematic review of strategies to improve school meal consumption found a positive association between taste tests and consumption.<sup>26</sup>

NSLP and SBP participants come from a variety of racial and ethnic backgrounds.<sup>27</sup> The Centers for Disease Control and Prevention recommends food service teams to conduct observations, surveys, interviews, or focus groups to determine the cultural backgrounds present at schools and food preferences.<sup>28</sup> The school community can also be a valuable resource for finding genuine recipes that reflect the diversity of participants and are in line with dietary guidelines, cost-effective, and feasible to prepare.<sup>29</sup>

*This fact sheet serves as a guide for reducing food waste in schools and is not intended to be a comprehensive overview of all food waste strategies. More peer-reviewed research is needed to identify additional evidence-based strategies to reduce plate waste in school meals, and research on the effect of offering culturally appropriate foods on consumption is still nascent.*

*It is also important to note that while the 2019 SNMCS analyzed factors associated with plate waste, those analyses were conducted using unweighted, tray-level data. The authors cautioned against generalizing findings to the full population.<sup>30</sup> This fact sheet cites the SNMCS for data on waste trends in NSLP and after the implementation of HHFKA, the effect of OVS on food waste, and on NSLP and SBP participant racial and ethnic backgrounds.*

**For more information, contact [policy@cspinet.org](mailto:policy@cspinet.org).**

August 2023

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<sup>1</sup> U.S. Department of Agriculture. *Food Loss and Waste*. n.d. <https://www.usda.gov/foodlossandwaste>.

<sup>2</sup> United States Environmental Protection Agency. *International Efforts on Wasted Food Recovery*. Last updated December 2022. <https://www.epa.gov/international-cooperation/international-efforts-wasted-food-recovery>.

<sup>3</sup> U.S. Department of Agriculture. *National School Lunch Program*. Last updated August 2022.

<https://www.ers.usda.gov/topics/food-nutrition-assistance/child-nutrition-programs/national-school-lunch-program/#:~:text=In%20FY%202020%2C%20the%20NSLP,more%20than%20in%20FY%202019>.

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- <sup>4</sup> U.S. Department of Agriculture. *School Breakfast Program*. Last updated August 2022. <https://www.ers.usda.gov/topics/food-nutrition-assistance/child-nutrition-programs/school-breakfast-program/#:~:text=In%20FY%202020%2C%20the%20SBP,more%20than%20in%20FY%202019.>
- <sup>5</sup> U.S. Department of Agriculture. *School Nutrition and Meal Cost Study Volume 4: Student Participation, Satisfaction, Plate Waste, and Dietary Intakes*. April 2019. <https://fns-prod.azureedge.us/sites/default/files/resource-files/SNMCS-Volume4.pdf>.
- <sup>6</sup> World Wildlife Fund. *Food Waste Warriors: A Deep Dive into Food Waste in US Schools*. 2019. [https://c402277.ssl.cf1.rackcdn.com/publications/1271/files/original/FoodWasteWarriorR\\_CS\\_121819.pdf?1576689275](https://c402277.ssl.cf1.rackcdn.com/publications/1271/files/original/FoodWasteWarriorR_CS_121819.pdf?1576689275).
- <sup>7</sup> U.S. Department of Agriculture. *Why Should We Care About Food Waste?* n.d. <https://www.usda.gov/foodlossandwaste/why#:~:text=Greenhouse%20gases%20generated%20from%20food,metane%2C%20a%20powerful%20greenhouse%20gas.>
- <sup>8</sup> 77 Fed. Reg. 4087. Nutrition Standards in the National School Lunch and School Breakfast Programs.
- <sup>9</sup> Cohen JFW, et al. Impact of the New U.S. Department of Agriculture School Meal Standards on Food Selection, Consumption, and Waste. *American Journal of Preventive Medicine*. 2014;46(4):388-394.
- <sup>10</sup> U.S. Department of Agriculture, 2019.
- <sup>11</sup> Cohen JFW, et al. Strategies to Improve School Meal Consumption: A Systematic Review. *Nutrients*. 2021;13(10):3520.
- <sup>12</sup> Centers for Disease Control and Prevention. *Making Time for Lunch*. Last reviewed July 2019. [https://www.cdc.gov/healthyschools/nutrition/school\\_lunch.htm](https://www.cdc.gov/healthyschools/nutrition/school_lunch.htm).
- <sup>13</sup> Cohen, 2021.
- <sup>14</sup> Cohen JFW, et al. The Amount of Time to Eat Lunch is Associated with Children's Selection and Consumption of School Meal Entrée, Fruits, Vegetable, and Milk. *Journal of the Academy of Nutrition and Dietetics*. 2016;116(1):123-128.
- <sup>15</sup> Centers for Disease Control and Prevention, July 2019.
- <sup>16</sup> Centers for Disease Control and Prevention, July 2019.
- <sup>17</sup> Cohen, 2021.
- <sup>18</sup> Cohen, 2021.
- <sup>19</sup> Cohen, 2021.
- <sup>20</sup> U.S. Department of Agriculture. *Updated Offer vs Serve Guidance for the NSLP and SBP Beginning SY2015-16*. 2015. <https://www.fns.usda.gov/cn/updated-offer-vs-serve-guidance-nslp-and-sbp-beginning-sy2015-16>.
- <sup>21</sup> U.S. Department of Agriculture, 2019.
- <sup>22</sup> U.S. Department of Agriculture. *What You Can Do to Help Prevent Wasted Food*. Updated April 2023. <https://www.fns.usda.gov/tn/what-you-can-do-help-prevent-wasted-food>.
- <sup>23</sup> U.S. Department of Agriculture. *Offer Versus Serve: Guidance for the National School Lunch Program and the School Breakfast Program*. 2015. <https://osse.dc.gov/sites/default/files/dc/sites/osse/publication/attachments/NSLP%20Memo%20%2318-15%20OVS%20Manual%20SY15-16.pdf>.
- <sup>24</sup> U.S. Department of Agriculture. *Are You Adding to Meals from Home? Using Offer Versus Serve at School Lunch*. 2021. <https://content.govdelivery.com/accounts/USFNS/bulletins/2f63f91>.
- <sup>25</sup> Cohen, 2021.
- <sup>26</sup> Cohen, 2021.
- <sup>27</sup> U.S. Department of Agriculture, 2019.
- <sup>28</sup> Centers for Disease Control and Prevention. *Cultural Food Preferences in Food Service*. Last reviewed July 2022. <https://www.cdc.gov/nutrition/food-service-guidelines/strategize-and-act/cultural-food-preferences.html>.
- <sup>29</sup> Freedman A. *Serving Up Tradition: A Guide for School Food in Culturally Diverse Communities*. 2017. <https://www.massfarmtoschool.org/wp-content/uploads/2017/12/ServingUpTradition.pdf>.
- <sup>30</sup> U.S. Department of Agriculture, 2019.