

Evaluate your work

Evaluating your farm to school program can demonstrate impact, communicate the value of your work and help you more effectively target resources. Information on your program, activities and outcomes are invaluable when seeking support from policy makers, community funders or grant programs. Evaluation data can demonstrate both strengths and successes worthy of ongoing support, as well as areas requiring further attention. In addition, by evaluating your program, you are adding to the pool of collective farm to school data at the state and national levels that is increasingly critical for illustrating the positive outcomes of farm to school programming and addressing policy and funding needs.

For example, the most recent Wisconsin statewide evaluation effort demonstrated the following results:

- Farm to school increases knowledge and attitudes, as well as consumption, of fruits and vegetables among children by providing more access to fruit and vegetables through lunch meals.
- Improvements in student behavior tend to increase incrementally with more years of farm to school programming.
- The above implies that farm to school programs may have a gradual, yet sustaining, positive impact on student health behaviors.

Following is the full **Farm to school program evaluation report** coordinated through the University of Wisconsin-Madison.



Wisconsin Farm to School program evaluation report

What to evaluate:

The following criteria are commonly evaluated in farm to school programs:

1. Student knowledge and attitudes about fresh fruits/vegetables and other local foods
2. Student behaviors when consuming fresh fruits/vegetables and other local foods
3. Serving frequency and variety of fresh fruits/vegetables and other local foods
4. Local food purchases in volume and dollars
5. Student meal participation rates in connection with farm to school educational and engagement activities

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6. Frequency/duration of educational activities in classrooms
7. Frequency/duration of student engagement activities, such as farm field trips, tastings, cooking demos or contests, etc.
8. Frequency/duration of school garden or greenhouse activities

While robust evaluation can demonstrate the educational, health, economic and community impacts of a farm to school program, a comprehensive evaluation program is no small undertaking. If you lack outside funding or support for evaluation activities, don't give up. You can still evaluate your program if you start small. Begin by establishing a baseline of information, and build your evaluation program each year. Consistency is key. It's important to continue to track the same measures over multiple years in order to show long-term impact. Once you have established successful evaluation practices for one or more indicators, then build in new evaluation components.

The following evaluation tools can be used in tandem or individually to help you collect and organize data illustrating various impacts of your farm to school program.

Student outcomes

Knowledge, attitudes and consumption behavior survey—This set of questionnaires is intended to assess students' knowledge about basic nutrition concepts, attitudes and perceptions toward fresh fruits and vegetables, general healthy eating habits and exposure to agricultural concepts. Each survey comes with a scoring guide to aid in the assessment process.



Tool

Knowledge, attitudes and consumption behavior survey

Height and weight measurements—One long-term, desired public health outcome for farm to school is to decrease the prevalence of overweight and obesity among all



Fresh fruit and vegetable bars help to reinforce student choices and healthy portion sizes.

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age groups and within all socioeconomic groups. Farm to school has the potential to be part of the solution, by way of improving dietary habits. If your school has an interest in monitoring the student population as a whole (not at the individual level), measuring students' heights and weights, and calculating BMI z-scores or percentiles can be a long-term surveillance strategy for farm to school and other health-related programming.



Tool

Height and weight measurements



Mini nacho bar lunch at Chilton High School

Lunch tray photo observation—If your school has the capacity to take and analyze photos of lunch trays before and after a meal, the resulting data can be used to estimate amounts of fruits and vegetables and/or local foods consumed on that day. Results can also indicate daily waste patterns. Photo analysis as a tool requires significant person power, and schools need to determine if this approach is manageable.

Program activity

Monthly activity reports —This spreadsheet tracks farm to school activities, grouped according to the following program areas: procurement, classroom lessons, engagement activities and garden activities. This data can be used to describe a program's implementation level and analyze the relative importance of the program areas to observed student outcomes.



Tool

Monthly activity reports user guide



Tool

Monthly activity reports

Local purchasing tracking tool—This simple chart can be customized to record annual purchases of local foods including fruits, vegetables, meats, dairy, grains, etc.



Tool

Local purchasing tracking

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Key participant attitudes

Teacher, parent, administrator and farmer interviews—This is a guide for interviewing key stakeholder groups generally involved in farm to school. Results can be used to better meet the needs of the people involved.



Key stakeholder interviews

Student focus groups—This guide aids in documenting the student experience with farm to school, and can inform the process of adjusting program areas to better reach students.



Student focus groups

Nationally, the USDA is tracking farm to school activities in each state. Watch for the **USDA Farm to School Census** and be sure to participate. The current USDA Farm to School Census results are available at <https://farmtoschoolcensus.fns.usda.gov/>.

In order to comprehensively evaluate farm to school programs, especially those with multiple activities occurring simultaneously, evaluation tasks must be shared across program areas and cannot be accomplished by the school nutrition staff alone. Nutrition staff, teachers, students, administrators, community partners and others can all collect information on a diverse, extensive program. The agencies and organizations listed in the Additional Resources section may be able to help you identify sources of financial and technical support for in-depth program evaluation.

Evaluation can be a critical part of sustaining farm to school programs. As you segue into the next section of this toolkit, consider how evaluation can help you build a sustainable program over time.

“Farm to school programs in Wisconsin are clearly showing positive impacts on students’ understanding of key nutritional and agricultural concepts, as well as increases in student consumption of fresh fruits and vegetables. Positive impacts increase with the number of years a program exists within a school or community.”

Bontrager Yoder A, Liebhart J, McCarty DJ, Meinen A, Schoeller D, Vargas C, LaRowe TL. “Farm to School Elementary Programming Increases Access to Fruits and Vegetables and Increases Their Consumption Among Those with Low Intake.” Under review, *Journal of Nutrition Education and Behavior*.



WISCONSIN PREVENTION OF OBESITY AND DIABETES
UNIVERSITY OF WISCONSIN – MADISON

Wisconsin Farm to School: One year evaluation report

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EXECUTIVE SUMMARY

With obesity rates increasing in large proportions among US children, it is necessary to identify effective strategies that create supportive environments to improve healthy lifestyle behaviors. The Centers for Disease Control and Prevention (CDC) has identified improvement of fruit and vegetable (FV) consumption as a key obesity prevention strategy. A school meal is a prime opportunity to establish this supportive environment for healthy eating through increased access to and consumption of fresh FV. Comprehensive Farm to School (F2S) programs aim to further develop children's understanding of nutrition and agriculture through educational activities such as school gardening, produce taste-testing, and farm field trips.

The purpose of this research is to report on the first evaluations from the state-wide Wisconsin AmeriCorps F2S program. The aims of this report are to describe: 1) baseline overweight and obesity prevalence, 2) changes in knowledge and attitudes pertaining to food, nutrition, agriculture and FV consumption, and 3) FV availability and consumption during school lunch meals. 1,191 students participated in evaluation for the academic year of 2010-2011 at the nine Wisconsin AmeriCorps F2S program sites. Of these schools, two schools were new to F2S and others had one (n=2), two (n=4) or three (n=4) previous year(s) of F2S programming. Baseline evaluations took place in Fall 2010 and follow-up evaluations in Spring 2011.

At baseline, the combined prevalence of overweight and obesity was 39.1%, almost 4% higher than the national average for children this age. Students' knowledge and attitudes on food, nutrition and agriculture generally increased over the year. Schools with previous F2S programming showed higher scores, compared to schools new to F2S, both at baseline and at follow-up. Results from the lunch tray photo observations (LTPO) showed little or no FV on students' lunch trays at schools new to F2S and the highest number of FV on trays at schools with more than one year of F2S programming. Results from this first report show that F2S increases knowledge and attitudes as well as consumption of FV among children through improved access to FV in school lunches. Improvements in student behaviors tended to increase incrementally with more years of F2S programming. This implies that F2S programs may have gradual, yet sustaining positive impacts on student health behaviors.

Future analysis will expand on these conclusions and delve deeper to identify what additional factors positively impact student health. Further coding of stakeholder interviews and self-reported challenges and opportunities will help inform recommendations for best F2S program practices and policies. Upcoming reports will better capture school, community and economic benefits of these programs.

BACKGROUND

The Problem. Recent statistics (2007-2008) indicate that 12.5 million children (17%) between the ages of 2 and 17 are obese with an additional 15% classified as overweight.¹ Among children between ages of 6 and 11 years, 19.8% were obese in 2008 compared to 4.2% in 1963. The growing concern regarding this trend has resulted in many nationally recognized campaigns, such as the Let's Move campaign, rolled out by First Lady Michelle Obama, and National Football League's Play 60.

Obesity rates among Wisconsin children are slightly better than those nationally, but the differences are generally not large. In 2009, approximately 23% of Wisconsin high school students were overweight or obese.² 13.8% of children ages 2 to 4 participating in the Women, Infants and Children (WIC) are obese and 16.7% are overweight.³ Childhood obesity has been linked to the development of chronic diseases including cardiovascular disease, hypertension, cancer, and type II diabetes at an increased rate and at an earlier age.⁴ Because childhood obesity predicts obesity in adulthood,⁵⁻⁸ the risk for obesity-related health problems and diseases also increases later in life.

With obesity rates occurring among all aged children, it is evident that obesity prevention efforts must start early. The causes of excess weight in children are multi-factorial, but most consider poor nutrition and lack of physical activity as major causes. During early childhood, adequate nutrition is important for growth and development, but excess nutrition is linked to obesity.⁹ In general, US children are not meeting national dietary and physical activity recommendations.^{10,11} In this regard, the Centers for Disease Control and Prevention (CDC) has identified increasing fruit and vegetable (FV) consumption as a key obesity prevention strategy.¹² In Wisconsin, only 20% of high school students eat the recommended daily amounts of FV, while sugar intakes and consumption of high energy density snack foods are high.² With children spending a large proportion of the day in school, the school setting provides an important opportunity to improve children's health and nutrition environment.

Background. Farm to School (F2S) programs have been identified by the CDC as one of the recommended strategies to prevent obesity in the United States.¹³ F2S programs incorporate

locally grown foods into school meal and snack programs by encouraging schools to buy directly from local growers. Implementation of these programs varies widely, but most comprehensive F2S programs include the following components in addition to local procurement: 1) nutrition and agriculture education 2) school gardening and 3) student engagement activities such as food taste-testing and farm field trips.

Although the primary aim for F2S is to improve student health and eating behaviors, F2S may have additional benefits that can impact schools, local producers and communities. Schools report a 3 – 16% increase in meal participation when farm-fresh food is served that can help support diminishing school meal budgets.¹⁴ Farmers may have better income stability and may even see increased revenues as schools are a guaranteed market. Overall, more dollars spent locally could provide opportunities for community economic development.

In Wisconsin, a coalition of state agencies, non-profit organizations and local partners have been dedicated to establishing the F2S concept. The establishment of the AmeriCorps Farm to School Program in 2008 was a major benchmark, as it was the first funded initiative within the Wisconsin F2S movement. This program provides direct training and technical assistance for F2S implementation by pairing AmeriCorps members at school sites interested in starting or maintaining a F2S program. The popularity of this program exceeds its funding capacity. Each year there are many more schools that apply than can be funded.

In 2010, the Wisconsin legislature passed a statewide F2S Bill (Assembly Bill 746) that laid infrastructure to further support the growth of F2S across the state. This legislation created a statewide position for a F2S Coordinator and established a F2S Advisory Council. This council is a formal body of state and local partners charged with the responsibility to expand and improve F2S policy. The Wisconsin F2S movement continues to expand and gain momentum.

While a growing number of Wisconsin farmers and school districts are implementing F2S, there is only limited evaluations of the effectiveness and impact of such programs in relation to improved health and economic benefits. Specifically, little is known about the direct relationship of strategies that increase access to FV and their ability to increase consumption. Therefore, this evaluation aims to bridge this assessment gap through an extensive evaluation

of nine Wisconsin AmeriCorps F2S sites. In this first-year report, we present findings on the prevalence of overweight and obesity, the impact of F2S on students' knowledge of food/nutrition and agriculture, their exposure to and liking of various FV, and observed consumption of FV during school lunches. Reported FV within students' total diet as well as local economic impact of F2S programs will also be evaluated along with qualitative assessment of the barriers and opportunities for F2S implementation.

METHODS

The aims of the WI F2S evaluation are to examine the effectiveness of F2S programs on students' knowledge, attitudes, and behaviors with respect to nutrition, health, and food systems, while simultaneously increasing understanding the dynamics surrounding F2S program implementation. Secondary aims are to document current rates of overweight and obesity and dietary behaviors in a cohort of school-aged children living in Wisconsin, as there is little state-level data available for children ages 6-12 years. Objectives for the Wisconsin F2S evaluation reports are to: 1) describe current program activities, 2) assess student health indicators, 3) describe challenges and opportunities, and 4) assess the potential economic impact on local communities. In this first F2S report, student demographic and health behaviors are reported.

Participating Schools. Nine AmeriCorps F2S sites participated in the statewide F2S evaluation. Two schools are new to F2S while others have one (n=2), two (n=4), or three (n=1) previous years of F2S programming. From these schools, a total of 1,191 children with an average age of 9.6 years participated in the evaluation at baseline. Of these children, 53.1% were male and 80.9% were white/Caucasian. Detailed F2S student and site characteristics are found in *Appendix A (Table 1)*. Prior to participation, each school site signed a Memorandum of Understanding (*Appendix B*) that outlined expectations and responsibilities for the school's participation in the evaluation, for which they received an incentive honorarium.

Design. Baseline and follow-up measures were collected in participating F2S sites in the academic year of 2010-2011. Baseline measures were conducted in September 2010 prior to F2S programming activities and follow-up measures were collected in May and June of 2011.

Measures and Tools. Measures and resources used in the Wisconsin F2S evaluation were largely adapted and modified from the Farm to School Evaluation Toolkit, developed by the Center for Health Promotion and Disease Prevention at the University of North Carolina at Chapel Hill.¹⁵

Data Collection. Data collection was conducted by AmeriCorps members at each site. AmeriCorps members received one, four-hour training on measurement protocols prior to baseline data collection (September 2010). These members received ongoing technical assistance from the F2S evaluation team and were provided with a timeline for implementation of evaluation activities. When needed, AmeriCorps members enlisted and trained community volunteers to assist in data collection. Actual implementation among sites varied due to scheduling and/or technical difficulties.

Student Measures. Student health behaviors and attitudes were assessed at baseline (Fall 2010), prior to F2S activities, and at follow-up, or the end of the academic year (Spring 2011). For student measures, all individual information was de-identified by AmeriCorps members by assigning a unique identification number to be used throughout the evaluation. See *Appendix A, Table 2* for a summary of student physical and health behavior measures collected from each participating F2S site.

Height, Weight, and Body Mass Index (BMI)

Six schools participated in measuring student heights and weights. Schools were instructed to measure heights and weights according to *To Weigh and Measure*, created by the Wisconsin Department of Health Services (WI DHS) (*Appendix C*). BMI percentiles and classifications for overweight and obesity were calculated using CDC guidelines.¹⁶

Knowledge, Attitudes, and Beliefs

The Knowledge and Attitudes Survey (KA) assesses children's knowledge of nutrition and food systems, exposure to FV, liking and willingness to try FV. This survey was adapted and modified from previous survey instruments evaluating the United States Department of Agriculture's (USDA) Fresh Fruit and Vegetables Snack Program.^{17,18} Six constructs were identified in the 60-item questionnaire and composite scores were calculated. These

constructs included: 1) Knowledge of food, nutrition and agriculture, 2) Attitudes toward liking and trying new FV, 3) Perception and self-efficacy for eating healthy, 4) Exposure to previously tasted FV, 5) Liking of the FV that they reported having tasted, and 6) Willingness to try the FV that they reported not having tasted. The survey, along with construct scoring details, is found in *Appendix D*. This survey was administered by AmeriCorps members to children in grades three, four, and five. Eight schools completed the survey via computer and one school completed the survey in paper format.

Diet Behaviors

Student diet behaviors were assessed through a Lunch Tray Photo Observation (LTPO). Eight schools participated in the LTPO. Four days of observations (consecutive days, when possible) were conducted at baseline and at follow-up. Digital photos were taken of students' numbered lunch trays before and after students consumed their meal. Side-by-side paired trays were assessed for: 1) FV selection and variety of different FV, 2) amount of FV on student's trays (reported as cups of FV), and 3) consumption of FV (as a percentage of FV on tray that disappeared). For the latter, the fraction of each FV item consumed was visually categorized by one evaluator as 100, 75, 50, 25 or 0%. FV identified from the photographs were verified against the schools' menus. Estimated serving sizes were provided by food service directors through a brief phone interview at the start of the school year. Trays that could not be paired or were too blurry were excluded from the analysis ($n \sim 238$, estimated). A complete protocol of the LTPO is described in *Appendix E*.

Data Analysis. All analyses were performed with SAS software (version 9.2, SAS Inc., Cary, NC). Descriptive statistics (mean and SD) were used to assess baseline and follow-up student measures. All variables were examined with regard to their distributional properties by visual inspection and assessment of kurtosis and skew.

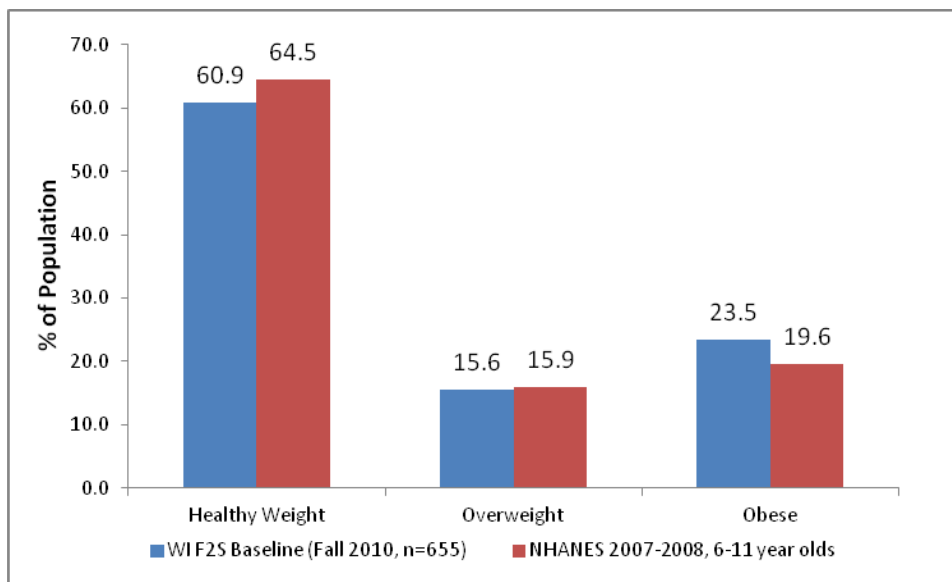
Differences in student outcomes between baseline and follow-up measures were evaluated using mean difference t tests, matched pairs t tests ($n=894$ student pairs), and Tukey's test using general linear modeling (GLM). The GLM procedure uses least square means to fit general linear model and was used to determine partial correlations of variables. Preliminary student-level analyses revealed significant differences among students with one or

more years of previous F2S programming, therefore subsequent analyses using the PROC MIXED procedure for pair-wise multiple comparisons was used controlling for grade and baseline student health behavior measure value. An alpha level of 0.5 was set for all significance testing.

RESULTS

Prevalence of Overweight and Obesity. At baseline, 655 children from six F2S sites provided height and weight data. *Figure 1* shows the BMI-for-age-and-gender distribution according to weight status categories of healthy (< 85th percentile), overweight (≥85th to < 95th percentile) and obese (≥ 95th percentile) among students participating in F2S and from a nationally representative sample of US children age 6 to 11 years. 60.9% of children participating in the Wisconsin F2S were of healthy weight, while 15.6% were overweight and 23.5% were obese. The distribution was similar between genders (data not shown). Compared to national data, children from the Wisconsin sample were more overweight and obese.

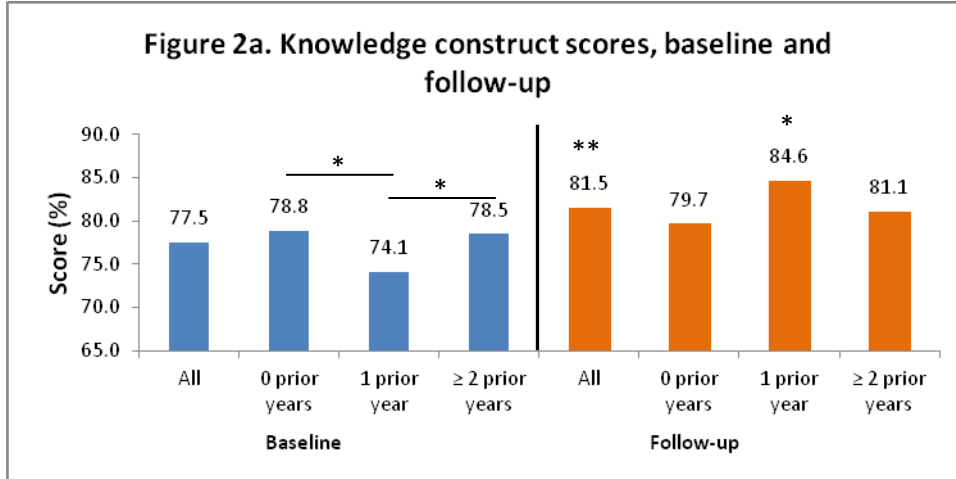
Figure 1. BMI distribution among students participating in F2S Evaluations (n=655 students, n=6 schools) and from the National Health and Nutrition Examination Survey, 2007-2008¹



Student Fruit and Vegetable Knowledge and Attitudes (KA)

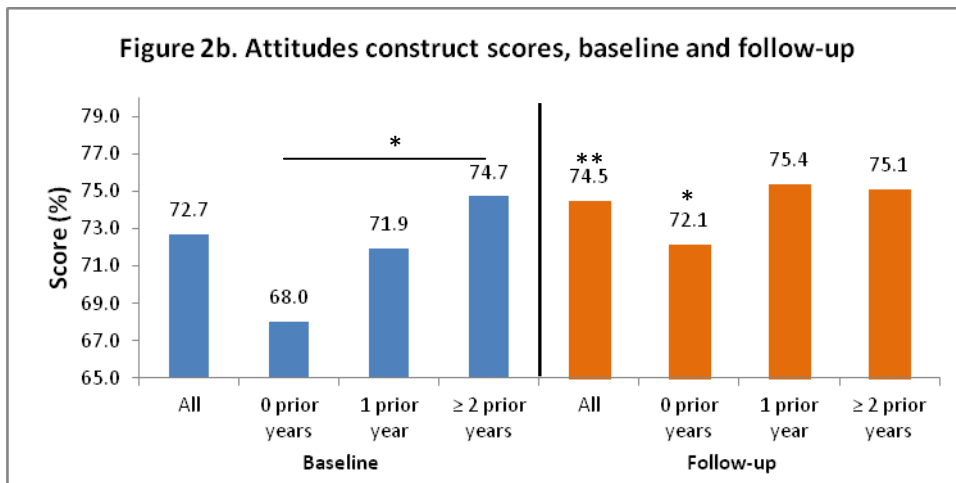
Baseline and follow-up results for the six constructs measuring student’s knowledge and attitudes on FV are shown in *Figures 2a-f* (schools: n=9; students: n=1,013 baseline; n=1,014

follow-up). These figures are shown by the full sample and by previous years of F2S. Complete data tables are shown in *Appendix F*. At baseline, on average, students were 78% accurate on questions related to food and agriculture (*Figure 2a*).



For Figures 2a-f, * alone signifies that the group is significantly different than both other groups. * with a line stretching across two or three groups signifies that the groups under the line are significantly different. **, in follow-up, signifies that the group is significantly different from its baseline counterpart and † represents ≥ 2 prior years is significantly different than 0 prior years.

Students scored an average of 73% on the Attitudes scale for liking or trying new FV (*Figure 2b*) and 58% on the Perception/Self-efficacy scale for eating healthy (*Figure 2c*).



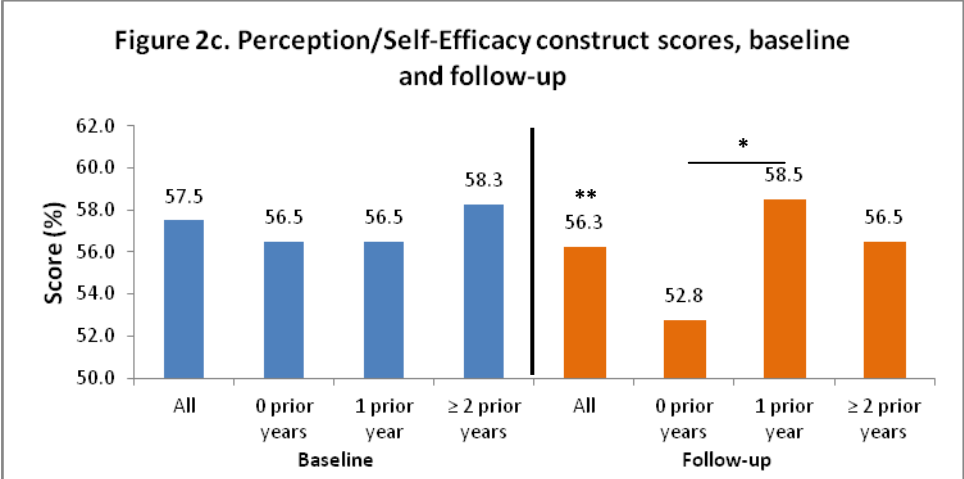
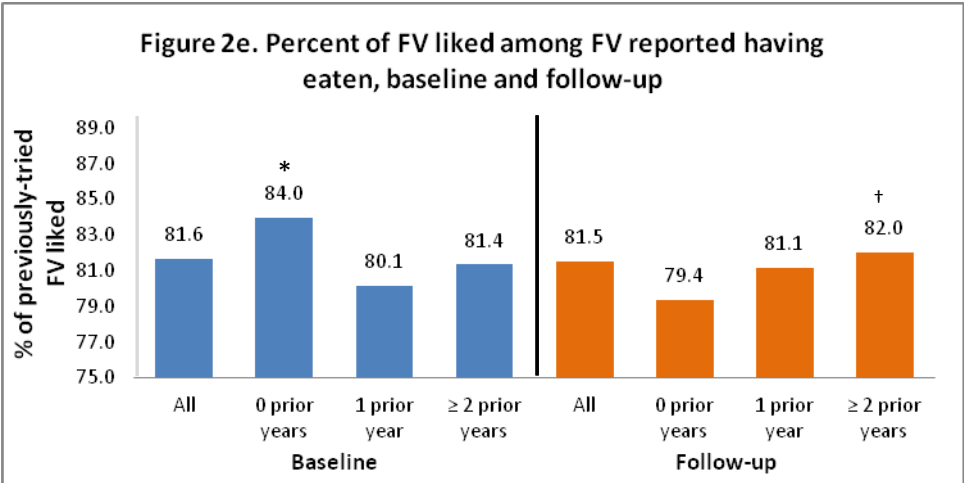
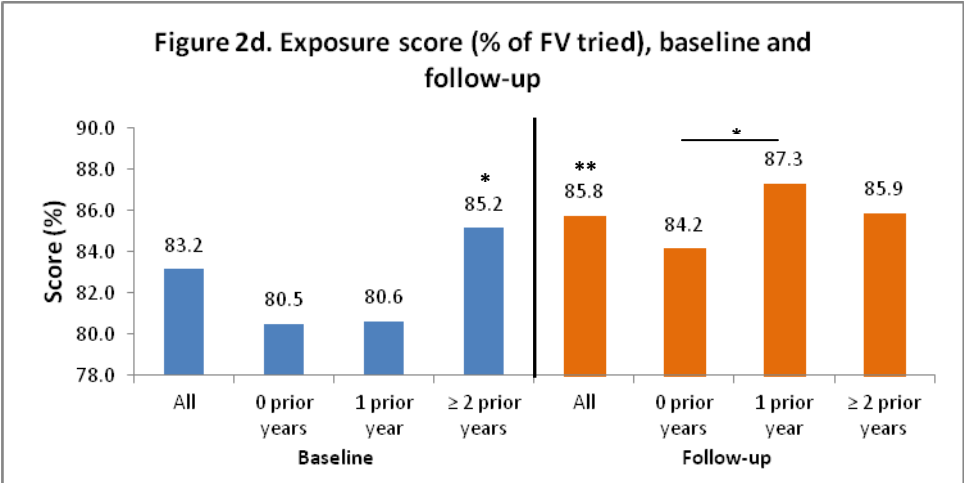
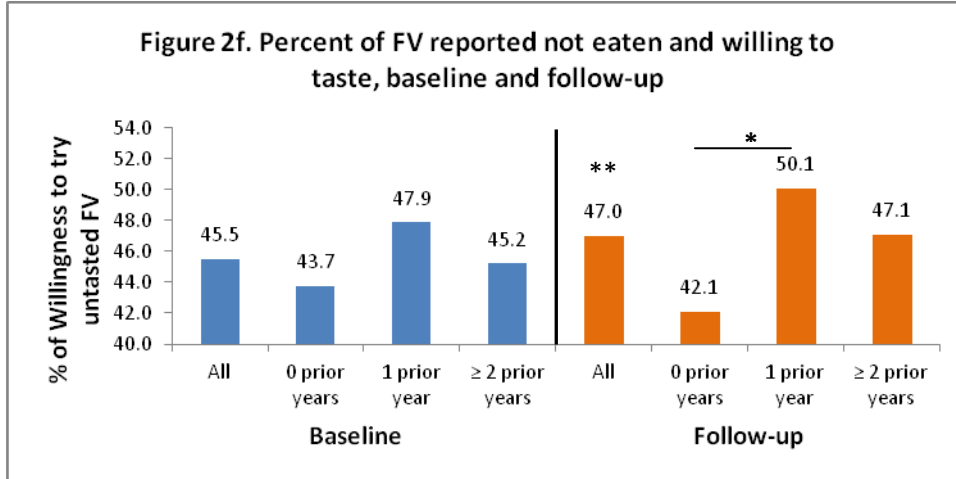


Figure 2d shows that students were exposed to 83% of the FV surveyed. Of the exposed FV, students responded liking them 82% of the time (Figure 2e).



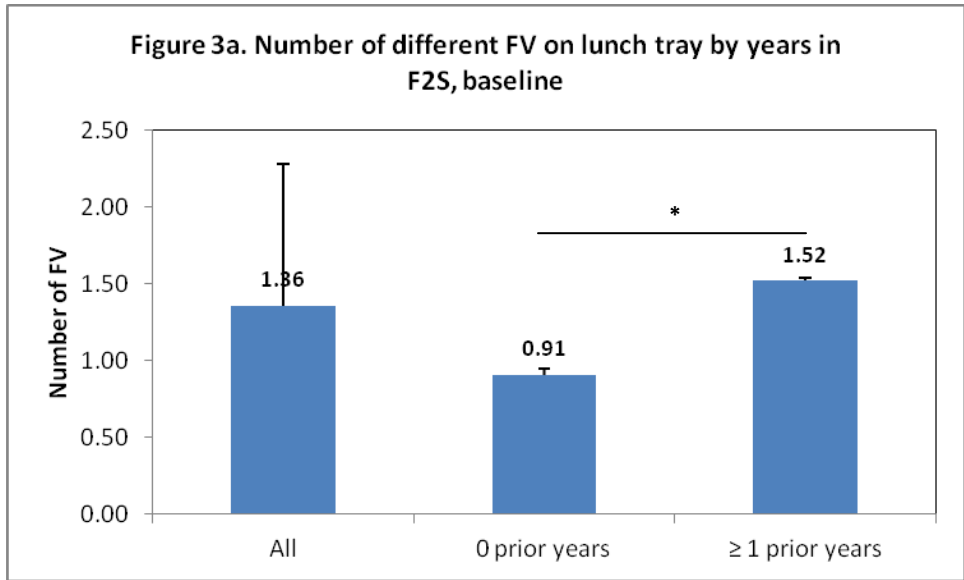
Students were also 46% willing (“yes” or “maybe”) to taste the FV they had not previously tasted (*Figure 2f*). Lastly, students in schools with previous years of F2S versus those new to F2S scored more favorably at baseline for attitudes and exposure.



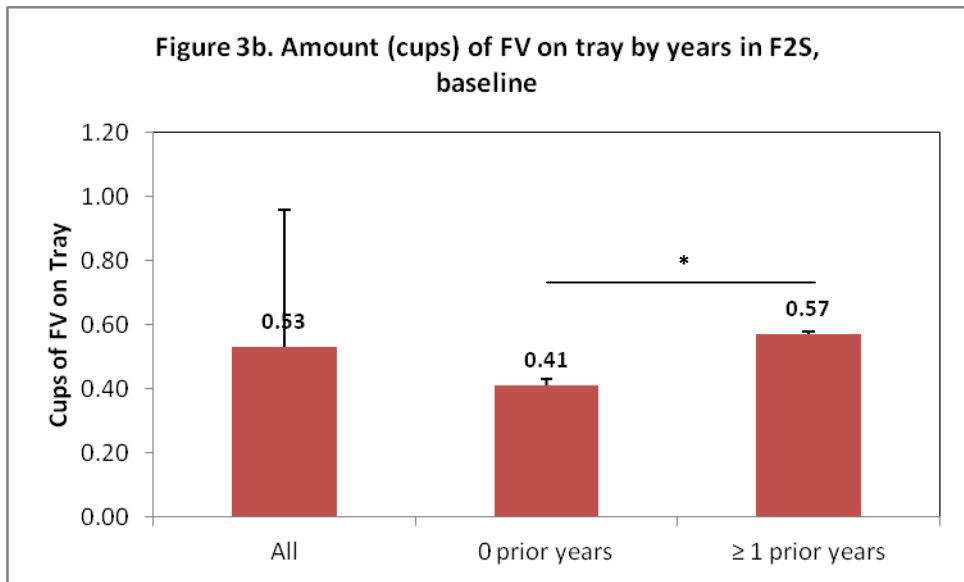
At follow-up evaluations, scores improved among students in schools with previous years of F2S for questions probing Knowledge (*Figure 2a*), Attitudes (*Figure 2b*), FV Exposure (*Figure 2d*), and FV Willingness as a percentage of FV not previously eaten and/or tried (*Figure 2f*). Furthermore, improvements among these constructs were significant among those schools with one previous year of F2S. Perception/self-efficacy decreased slightly from baseline to follow-up (*Figure 2c*) and no significant change was observed for FV liking as a percentage of FV previously eaten and/or tried (*Figure 2e*).

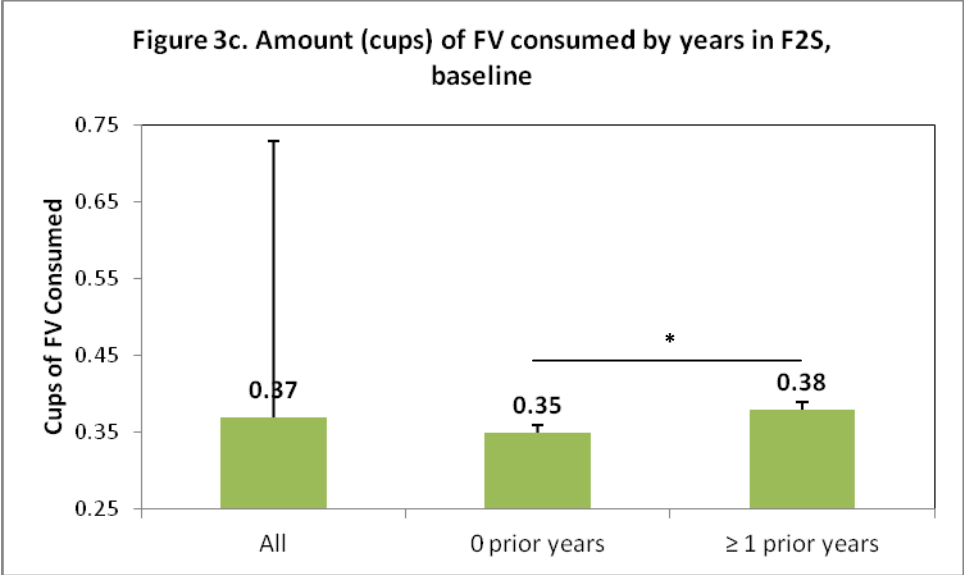
Lunch Tray Photo Observation (LTPO). The LTPO for baseline evaluations yielded 2,214 paired trays of before and after lunch consumption. At baseline evaluations, an average of 1.4 FV was observed on lunch trays (*Figure 3a*). Student trays from schools with one or more previous years of F2S had significantly more FV on the tray compared to schools new to F2S (1.5 vs. 0.9, respectively, $p < 0.05$). Similar trends were observed for cups of FV observed as well as FV consumption. *Figure 3b* shows an average of 0.53 cups of FV was selected/served on students’ trays and 0.37 cups were consumed (*Figure 3c*). Schools with one or more prior years of F2S were observed to have more cups and consumption of FV versus schools new to F2S.

Figures 3a-c. Baseline LTPO evaluation: Number, amount, and consumption of FV and by years in F2S

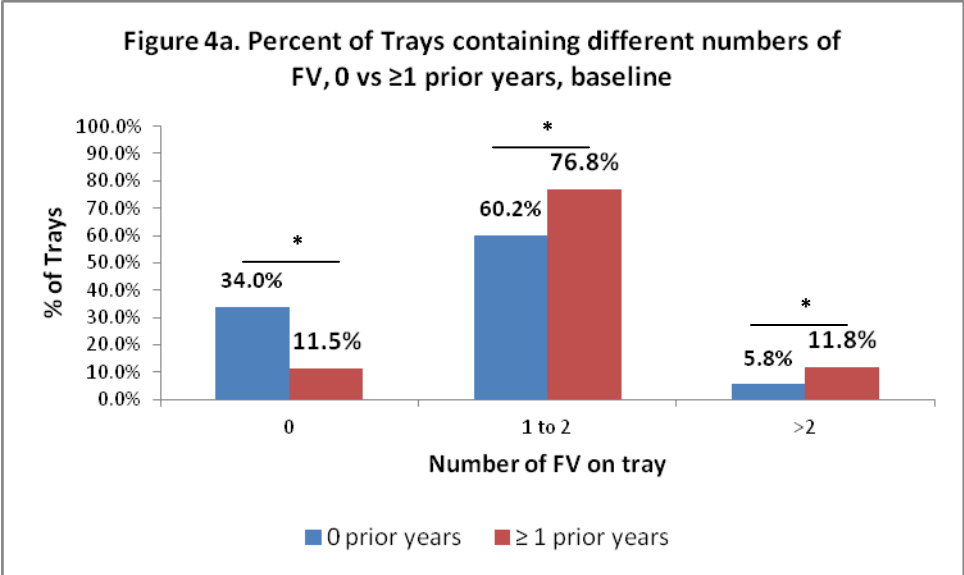


For Figures 3a-c, * with a line stretching across two or three groups signifies that the groups under the line are significantly different.

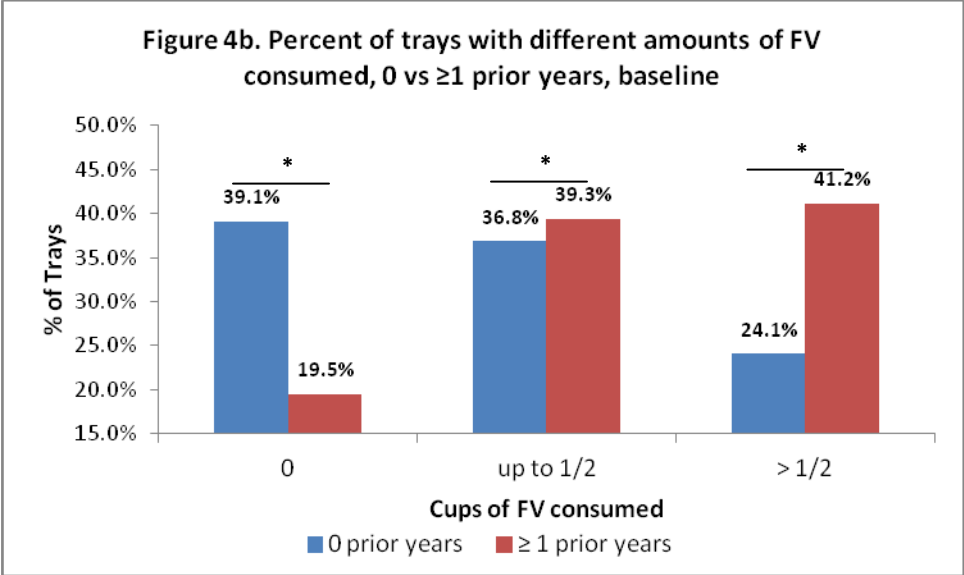




The LTPO data was further analyzed to describe the percent of trays containing different numbers of FV and by amounts consumed. *Figures 4a and 4b* show these results by previous years in F2S. *Figure 4a* shows that a higher percentage of trays from schools new to F2S had no FV (34.0%) versus trays from schools with previous F2S programming (11.5%). Likewise, a higher proportion of trays with no FV consumption (*Figure 4b*) was observed among schools new to F2S (39.1%) than among schools with one or more prior years (19.5%). Furthermore, trays showing the highest FV consumption came from schools with one or more previous years of F2S (41.2%) versus schools new to F2S (24.1%).



For Figures 4a-b, * with a line stretching across two or three groups signifies that the groups under the line are significantly different.



CONCLUSION

Results from this one year evaluation show that obesity prevalence is 23.5% among Wisconsin children in grades 3rd through 5th compared to the national average of 19.6% for 6-11 year olds.¹

Food and agriculture knowledge at baseline was relatively high, but students’ scores did improve during the 2010-2011 F2S program. Grade level was a significant factor to knowledge scores and the number of previous years in the F2S program also positively impacted scores. At baseline, Attitudes for liking, trying, and tasting FV increased as the number of years in F2S programming increased.

Attitudes scores improved from baseline to follow-up, particularly among students in schools that had participated in one or two previous years of F2S. Exposure to FV (tasting) also increased from baseline to follow-up. However, these results may not reflect actual F2S impact on FV exposure, but rather on the types of FV that were on the survey. This may be due to discrepancies between FV specified on the KA survey and FV introduced as part of the F2S-curricula. Willingness to try not-yet-eaten FV increased from baseline to follow-up.

The most significant changes regarding student knowledge and attitudes about food, agriculture and FV occurred among students in schools in their second year of F2S

programming. These results are similar to other programs promoting FV to school-aged children that also showed increases in student willingness to try new FV^{17,18} and preferences and attitudes towards trying, liking and tasting FV.¹⁸ Being willing to try FV is the first step toward liking FV, and liking FV is a step in the direction of choosing FV over energy-dense, nutrient-poor foods, which may contribute to overweight and obesity.

The LTPO baseline results show that students new to F2S have smaller amounts and less variety of FV on their lunch trays and consume less FV overall. In particular, more than twice the percent of trays among new schools have no FV and indicate no consumption of school lunch FV in comparison with schools with one or more prior years of F2S programming. The converse is also true: almost twice the percent of trays have high FV variety and consumption for schools with one or more prior years compared with new schools.

Students with at least one year of prior F2S choose a greater variety of FV and consume more than students who had zero previous years of F2S. This is most likely due to greater FV access and availability to students during lunch, resulting in selecting more FV and eating more. These results also indicate that F2S programs may have a significant impact on FV consumption among children whose diets include little or no FV.

In conclusion, results from this report indicate that Wisconsin F2S programs favorably impact third- through fifth-graders' attitudes, knowledge, and food behaviors, and that improvements were particularly observed among students in schools with one previous year of F2S programming. Improvements in student behaviors tended to increase incrementally with more years of F2S programming. This implies that F2S programs may have gradual, yet sustaining positive impacts on student health behaviors.

Future reports for the Wisconsin F2S evaluation will address baseline and follow-up changes of student behaviors including LTPO and student FV consumption, measured via food frequency questionnaires. Furthermore, future reports will examine other key objectives for the Wisconsin F2S evaluation to ascertain whether additional factors positively impact student health or school/community. These factors include F2S program activities, challenges and opportunities for implementing and sustaining F2S programs, and local economic growth.

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APPENDIX

- A F2S Characteristics and Data Collection
- B Sample Site Memorandum of Understanding
- C Weigh and Measurement Collection Form
- D Knowledge & Attitudes Survey and Construct Scoring Procedure
- E Lunch Tray Photo Observation Baseline Protocol
- F Baseline Knowledge & Attitude Constructs
- G Baseline and Follow-up Knowledge & Attitude Constructs
- H Baseline Lunch Tray Photo Observation

APPENDIX A

F2S Characteristics and Data Collection

Table 1. F2S Student and Site Characteristics

School	N	Mean age, Baseline (SD)	Gender (% Male/% Female)	Race/ Ethnicity ¹		Mean BMI percentile, Baseline (SD) ²	# Prior yrs of F2S programs
Overall	1191	9.62 (0.85)	53.13 / 46.88	80.90% C 4.48% AfAm 3.21% H	7.27% AI 1.94% AsAm 2.20% O	68.02 (28.46) 1.5% U 15.6% O 59.4% H 23.5% Ob	1.41
1	N=113 3 rd =55 4 th =57	9.10 (0.62)	46.90 / 53.1	77.88% C 6.19% AfAm 11.50% H	1.77% AI 0.00% AsAm 2.65% O	N/A	1
2	N=80 4 th =42 5 th =38	10.10 (0.65)	51.25 / 48.75	31.25% C 27.50% AfAm 12.50% H	3.75% AI 16.25% AsAm 8.75% O	64.57 (29.54) 0.0% U 14.9% O 64.9% H 20.3% Ob	2
3	N=88 3 rd =27 4 th =27 5 th =34	9.79 (0.95)	47.73 / 52.27	14.77% C 2.27% AfAm 3.41% H	73.86% AI 1.14% AsAm 4.55% O	69.67 (35.20) 6.0% U 14.5% O 36.1% H 43.4% Ob	0
4	N=171 3 rd =86 4 th =85	9.20 (0.66)	52.63 / 47.37	90.06% C 2.34% AfAm 1.17% H	2.92% AI 1.75% AsAm 1.75% O	N/A	3
5	N=223 3 rd =60 4 th =85 5 th =88	9.81 (0.88)	52.65 / 47.35	96.90% C 1.33% AfAm 0% H	1.33% AI 0% AsAm 0.44% O	N/A	0
6	N=210 3 rd =60 4 th =71 5 th =79	9.83 (0.87)	53.81 / 46.19	92.86% C 1.90% AfAm 1.90% H	0.95% AI 0.95% AsAm 1.43% O	67.82 (26.47) 0.5% U 18.6% O 64.3% H 16.7% Ob	2
7	N=88 3 rd = 24 4 th =30 5 th =34	9.89 (0.93)	53.41 / 46.59	86.21% C 0% AfAm 2.30% H	5.75% AI 1.15% AsAm 4.60% O	71.51 (25.02) 0.0% U 10.6% O 65.9% H 23.5% Ob	2
8	N=83 3 rd =26 4 th =27 5 th =30	9.86 (0.92)	57.83 / 42.17	98.8% C 0% AfAm 0% H	0% AI 0% AsAm 1.20% O	61.25 (30.91) 3.6% U 16.9% O 61.5% H 18.1% Ob	2
9	N=125 3 rd =57 4 th =68	9.34 (0.60)	60.80 / 39.20	85.80% C 8.80% AfAm 3.20% H	0% AI 2.40% AsAm 0.80% O	71.57 (25.83) 0.8% U 14.2% O 57.5% H 27.5% Ob	1

¹ C=Caucasian; AfAm=African American; H=Hispanic; AI=American Indian; AsAm=Asian American; O=Other

² U=underweight; H=healthy weight; O=overweight; Ob=Obese

Table 2. Collected Student Health Behaviors Nine Participating F2S Sites by Grade

School	N	KA Baseline	KA Follow-up	BMI Baseline	LTPO Baseline (# paired trays)
1	3 rd = 56 4 th = 57	3 rd = 52 4 th = 55	3 rd = 49 4 th = 46	Opted out	3 rd , 4 th combined = 159 (4 days, aggregate)
2	4 th = 42 5 th = 38	4 th = 35 5 th = 36	4 th = 23 5 th = 29	4 th = 39 5 th = 35	Opted out
3	3 rd = 27 4 th = 27 5 th = 34	3 rd = 0 4 th = 20 5 th = 26	3 rd = 0 4 th = 19 5 th = 29	3 rd = 26 4 th = 26 5 th = 31	4 th = 53 (4 days, individual)
4	3 rd = 86 4 th = 85	3 rd = 63 4 th = 80	3 rd = 80 4 th = 77	Opted out	4 th = 145 (3 days, grade aggregate)
5	3 rd = 86 4 th = 85 5 th = 88	3 rd = 50 4 th = 49 5 th = 70	3 rd = 48 4 th = 74 5 th = 78	Opted out	4 th , 5 th = 523 (4 days, aggregate)
6	3 rd = 60 4 th = 71 5 th = 79	3 rd = 56 4 th = 70 5 th = 75	3 rd = 55 4 th = 69 5 th = 71	3 rd = 60 4 th = 71 5 th = 79	3 rd /4 th (1 day) = 111 3 rd = 149 (3 days) 4 th = 178 (3 days) 5 th = 282 (4 days) (grade aggregate)
7	3 rd = 26 4 th = 27 5 th = 34	3 rd = 23 4 th = 29 5 th = 30	3 rd = 22 4 th = 29 5 th = 28	3 rd = 23 4 th = 29 5 th = 33	4 th = 71 (4 days, individual)
8	3 rd = 26 4 th = 27 5 th = 30	3 rd = 23 4 th = 26 5 th = 28	3 rd = 24 4 th = 26 5 th = 28	3 rd = 26 4 th = 27 5 th = 30	3 rd = 70 4 th = 92 5 th = 112 (4 days, individual)
9	3 rd = 57 4 th = 68	3 rd = 53 4 th = 63	3 rd = 53 4 th = 57	3 rd = 54 4 th = 66	3 rd = 137 4 th = 140 (4 days, grade aggregate)

Abbreviations: KA=Knowledge & Attitudes Survey; FFQ= Food Frequency Survey; BMI=Body Mass Index; LTPO=Lunch Tray Photo Observation.

APPENDIX B
Sample Site Memorandum of Understanding

University of Wisconsin—Madison: Center for Integrated Agricultural Systems

Memorandum of Agreement (MOA)

AmeriCorps Farm to School Program Evaluation

This MOA is made and entered into by and between the University of Wisconsin, Madison Center for Integrated Agricultural Systems (hereinafter called "CIAS"), and XXXX Elementary School (hereinafter called "XES").

In consideration of their mutual promises and other good and valuable consideration, CIAS and XES agree as follows:

1. PURPOSE

The purpose of this contract is to set forth the terms and conditions for the parties to help implement and carry out established evaluation protocol in conjunction with the AmeriCorps Farm to School Program. The goal of the program is to increase the availability and consumption of healthy, locally grown foods in schools.

2. SCOPE OF PROJECT; OBLIGATIONS OF PARTIES

XES agrees to provide the services as outlined on the attached proposal contained in Appendix A. Except as otherwise provided in this MOA, each party agrees to provide all necessary personnel, equipment, materials and other resources needed to complete the evaluation project.

3. ADDITIONAL TERMS AND CONDITIONS

This agreement is subject to all terms and conditions set forth in Appendix A and B, which are attached and incorporated into this contract by reference.

For XXXX Elementary School

By _____ Date _____
Name of School Administrator

For The Center for Integrated Agricultural Systems:

By _____ Date _____
Doug Wubben, Wisconsin Farm to School Specialist

Please FAX the signed Memorandum of Agreement to the University of Wisconsin—Center for Integrated Agricultural Systems:

Attention Doug Wubben; F: (608) 265-3020, dwubben@wisc.edu

Please indicate below where UW-CIAS should return the final copy of the Memorandum of Agreement to:

NAME: _____

ADDRESS: _____

EMAIL: _____

Please direct MOA inquiries to your AmeriCorps Member:

NAME	PHONE	EMAIL
------	-------	-------

APPENDIX A (MOU)
AmeriCorps Farm to School Evaluation
SCOPE OF PROJECT WORK

1. OBLIGATIONS OF PARTIES

A. The XES shall:

- Implement the Farm to School Evaluation Program tools and activities in grades 3—5 (or grades in this range housed at XES), outlined in Appendix B, in partnership with the designated Farm to School AmeriCorps Member, with oversight from the Member’s identified on-site supervisor.
- Agree to maintain the Farm to School Evaluation Program timeline and reporting schedule, outlined in Appendix B.
- Assist with the recruitment of any additional labor needed to assist the AmeriCorps Members in the timely completion of the Farm to School Evaluation Program.
- Work with identified teachers and other necessary school officials to schedule required time slots for implementing student questionnaires and other surveys.
- Agree to alert the AmeriCorps Member in a timely way if problems should arise in conjunction with the evaluation procedures.
- Agree to problem solve with Farm to School Evaluation Program experts to overcome any identified barriers during the evaluation period.
- Manage the budget of \$1,000 award to compensate evaluation efforts on the part of the school. Budget due to AmeriCorps Member by 12/1/10.

B. The UW CIAS shall:

- Provide \$1,000 Honorarium, payable to XES, to compensate for costs related to the Farm to School Evaluation Program.
- Provide guidance (not requirements) to XES on evaluation honorarium budget for successful outcome
- Provide all evaluation tools and guidance documents necessary to complete the required evaluation activities.
- Provide training and technical assistance to the AmeriCorps Member and others involved in collecting evaluation data for the Program.
- Provide back to XES summary of the completed Farm to School Evaluation. (completion date TBD)

2. EVALUATION MEASURES

For each evaluation measure, students will only be identified by an evaluation identification number. These are to be assigned per protocol by school and maintained by

only the school and AmeriCorps member. Any further handling or modification of evaluation data will only be done using identification numbers.

- Student Knowledge & Attitudes Survey
 - Online survey (paper copies available if necessary)
 - ~15-20 minutes to implement
 - Given to 3rd—5th grader students
- Block Kids' Food Frequency Questionnaire
 - Online survey
 - ~15-20 minutes to implement
 - Given to 4th grade students only
- Health Indicators
 - FitnessGram (where available) or;
 - Height, weight and birthdate (To Calculate BMI) and
 - Ethnicity
- Plate Waste Observation
 - Digital photos of cafeteria plates only
- Interviews
 - Stakeholders
 - Food Service Directors
 - Farmers
 - Student Focus Groups
- School Food Service Data

3. PROJECTED PROJECT TIMETABLE

This project will take place in the 2010-2011 academic school year.

APPENDIX B (MOU)

Farm to School Evaluation Program ADDITIONAL TERMS AND CONDITIONS

1. Reporting Requirements

- i. AmeriCorps monthly reports including descriptions and quantifications of Farm to School program activities
- ii. WI DPI claim forms of school food service information
 - Participation rates
 - Menus with local foods identified
 - Revenue and cost data to enable economic analysis
- iii. Absentee rates, 2009-10 versus 2010-2011
 - Collected from administration
- iv. Volunteer hours logged, 2010-2011
 - Collected from administration

APPENDIX C

Weight and Measurement Collection Form

Wisconsin Farm-to-School Evaluation
2010-2011

Student Demographics and Measurement

**Please be sure to have read and reviewed To Weigh and Measure prior to collecting this data.*

Student ID

--	--	--	--	--	--	--	--

Date of birth _____
mm/dd/yyyy

Today's date _____
mm/dd/yyyy

Gender Male Female

Ethnicity African-American
 Asian-American
 Caucasian
 Hispanic
 Other – please describe: _____

Measurement data:

Note: Clearly indicate if you are using measurements other than pounds and inches.
If the difference between height measurements 1 and 2 is greater than ¼ inch, re-measure.
If the difference between weight measurements is greater than ¼ pound, re-measure.

1st height: ____&____/8th inches

2nd height: ____&____/8th inches

1st weight: _____.____pounds

2nd weight: _____.____pounds

Unable to assess:

Check a reason below if measurement or student data cannot be obtained:

- Parent refused
- Physical disability
- No longer at this school
- Student refused
- Could not get two height measurements within ¼ inch or two weight measurements within ¼ pound
- Other: _____

School information: Scale make/model: _____

Last calibration date: _____

Stadiometer make/model: _____

APPENDIX D

Knowledge & Attitudes Survey and Construct Scoring Procedure

Wisconsin Farm-to-School

2010-2011

Student Survey

Welcome to the Wisconsin Farm to School Student Survey. We want to hear what you think about fruits and vegetables - thank you for helping us!

This is not a test and it will not affect your grades. Please answer every question, telling us what you really think. If you have questions you may ask your teacher or AmeriCorps member.

Student Evaluation ID:

--	--	--	--	--	--	--	--

Today's date: _____
month / day / year

What is your gender? Male Female

What ethnic group do you belong to?

- African-American
- Asian-American
- Caucasian
- Hispanic
- Other – please describe: _____

What is your birthdate?

Month: _____

Day: _____

Year: _____

Please tell how you feel about fruit.

- | | a lot | a little | not very
much | not at all |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 How much do you like fruit ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 When you try a new fruit for the first time, how much do you usually like it? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 How much do you like tasting new fruits ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please tell how you feel about tasting new fruit.

- | | definitely | probably | probably | definitely |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| | | | not | not |
| 4 Will you taste a fruit if you don't know what it is? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Will you taste a fruit if it looks strange? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Will you taste a fruit if you have never tasted it before? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 When you are at a friend's house , will you try a new fruit ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 When you are at school , will you try a new fruit ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 When you are at home , will you try a new fruit ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- | | Never | 1 time | 2 times | 3 times | at least 4
times |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 10 How many times have you tried a new fruit since school started this year? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please tell how you feel about vegetables.

- | | a lot | a little | not very
much | not at all |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 11 How much do you like vegetables ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 When you try a new vegetable for the first time, how much do you usually like it? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 How much do you like tasting new vegetables ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please tell how you feel about tasting new vegetables.

- | | definitely | probably | probably | definitely |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| | | | not | not |
| 14 Will you taste a vegetable if you don't know what it is? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 Will you taste a vegetable if it looks strange? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 Will you taste a vegetable if you have never tasted it before? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 When you are at a friend's house , will you try a new vegetable ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 When you are at school , will you try a new vegetable ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19 When you are at home , will you try a new vegetable ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- | | Never | 1 time | 2 times | 3 times | at least 4
times |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 20 How many times have you tried a new vegetable since school started this year? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. How many times in your life have you been to a farm?

- Never
- 1 time
- 2 times
- 3 times
- 4 times or more

22. How do tomatoes grow? *Please check one.*

- As plants
- As animals
- As minerals
- Something else

23. What part of a plant is a carrot? *Please check one.*

- Leaf
- Root
- Stalk
- Flower

24. Where do eggs come from? *Please check one.*

- Cows
- Goats
- Chickens
- Something else

25. What is a benefit of using compost?

- Compost feeds wild animals.
- Makes farmers use more chemical fertilizers.
- Compost keeps food out of landfills.
- None of the above.

26. Do insects play an important role in growing plants?

- Yes
- No
- I don't know

27. Do TOMATOES grow in Wisconsin?

- Yes
- No
- I don't know

28. Do ORANGES grow in Wisconsin?

- Yes
- No
- I don't know

29. Do APPLES grow in Wisconsin?

- Yes
- No
- I don't know

30. Does SQUASH grow in Wisconsin?

- Yes
- No
- I don't know

31. Do BANANAS grow in Wisconsin?

- Yes
- No
- I don't know

32. Imagine a meal with a hotdog in a bun and a glass of milk. What food group is missing?

Please check one.

- Dairy
- Fruits & Vegetables
- Meat
- Grains

33. What food group does the pear belong to? Please check one.

- Dairy
- Fruits & Vegetables
- Meat
- Grains

34. Why do I need to eat food?

- I need food for energy and to grow.
- I need food **ONLY** because it tastes good.
- I don't need food.
- I don't know.

35. Why do I need to eat different kinds of foods?

- I can get a lot of the **SAME** nutrients.
- I can get many **DIFFERENT** nutrients.
- I don't need to eat different kinds of food.
- I don't know.

36. Healthy eating is:

- eating fruits but **not** vegetables.
- not** eating fruits or vegetables.
- eating **both** fruits **and** vegetables.
- I don't know.

37. The foods that I eat for meals and snacks are healthy. (Choose one.)

- Yes, all of the time
- Yes, sometimes
- No

38. How likely are you to eat fresh fruit instead of candy? (Choose one.)

- Not likely
- Likely
- Very Likely

39. Have you ever eaten an apple?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



40. Have you ever eaten an orange?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



41. Have you ever eaten watermelon?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



42. Have you ever eaten a pear?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



43. Have you ever eaten a kiwi?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



44. Have you ever eaten a strawberry?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



45. Have you ever eaten a blueberry?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



46. Have you ever eaten cantaloupe?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



47. Have you ever eaten a grape?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



48. Have you ever eaten a cranberry?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



49. Have you ever eaten asparagus?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



50. Have you ever eaten broccoli?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



51. Have you ever eaten a cucumber?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



52. Have you ever eaten a green pepper?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



53. Have you ever eaten a sweet potato?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



54. Have you ever eaten peas?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



55. Have you ever eaten spinach?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



56. Have you ever eaten green beans?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



57. Have you ever eaten avocado?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



58. Have you ever eaten a tomato?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



59. Have you ever eaten a carrot?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



60. Have you ever eaten a radish?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



Thank you for taking the time to complete this survey!

Knowledge and Attitudes Survey Scoring Procedure

Six constructs from the Knowledge and Attitudes (KA) survey were measured from students' responses.

- 1) Knowledge (questions 21-36, 15 questions): Fifteen questions focused on material typically covered in the curricula used by AmeriCorps F2S members. Correct responses received a score of 1, and incorrect answers received a score of 0. Students who selected *I don't know*, when it was a response option, received a score of 0. Scores ranged from 0 to maximum of 15.

$$\text{Knowledge} = \sum (\text{correct responses, Q22-36})$$

- 2) Attitudes (questions 1-20): Six questions ask how much a student likes FV and how much a student likes *new* FV. Response options included *a lot* (score = 4), *a little, not very much*, or *not at all* (score= 1). Twelve questions asked a student how willing he/she is to try a FV in a variety of situations, with a response scale ranging from *definitely* (score = 4) to *definitely not* (score = 1). Finally, two questions asked how many times a student had tried a new FV since the start of the school year, with a response scale ranging from *never* (score= 1) to *at least 4 times* (score= 5). The total *Attitudes* score summed the values for the 20 questions, with a possible score range from 20 to 82.

$$\text{Attitudes} = \sum (\text{scored responses, Q1-20})$$

- 3) Perception/Self-efficacy (questions 37-38): Two questions asked students' perception of their own diets – whether the foods they eat are healthy: *yes, all the time* (score = 2), *yes, sometimes* (score= 1), or *no* (score= 0); and whether they are likely to eat fresh fruit instead of candy: *very likely* (score=2), *likely* (score = 1), or *not likely* (score= 0). Possible scores are 0 to a maximum of 4.

$$\text{Perception/self efficacy} = \sum (\text{scored responses, Q37-38})$$

- 4) Exposure (questions 39-60, part 1a): 22 questions asked if a student had tried particular FV. (In the final scoring, two foods were omitted (broccoli, asparagus) due to

discrepancies between the paper and electronic versions of the survey as well as an error in the electronic version.) Each question included a photograph of the food to aid with recognition. *Yes* responses (score=1) were summed to create the Exposure construct score; *no* responses scored 0. The response to the Exposure question then led to either a Liking (if the response was *yes*) or Willingness (if the response was *no*) follow-up question. Exposure scores ranged from 0 to 20.

$$Exposure = \sum (\text{yes' responses, Q39-60 parts a})$$

- 5) Liking (questions 39-60, part b): Among the previously FV, students were asked whether they liked it (*yes/no* response options; *yes*=score 1). The sum of *yes* responses were divided by the total number of F/V the student tried (=the Exposure score) and represented as a percentage. The likeness scores ranged from 0 to 100.

$$Liking = \frac{\sum (\text{yes' responses, Q39-60, parts b})}{Exposure\ score}$$

Exposure score

- 6) Willingness (questions 39-60, part c): Among the FV reported in the Exposure questions to have not been previously eaten, students were asked whether they would try it. Response options were *yes* (score= 2), *maybe* (score =1), and *no* (score= 0). The sum of responses were divided by twice the number of *no* responses to Exposure questions (or 20-Exposure score, x 2; because students could score up to two points per Willingness question asked) and reported as a percentage. The willingness scores ranged from 0 to 100.

$$Willingness = \frac{\sum (\text{scored responses, Q39-60, parts c})}{2 \times (20-Exposure\ score)}$$

2 x (20-Exposure score)

APPENDIX E

Lunch Tray Photo Observation – Baseline Protocol (Fall 2010)

Digital photography will assess fruit and vegetable consumption in third- through fifth-grade students at schools participating in F2S, both at the beginning and the end of the 2010-2011 school year, for four consecutive days each time (Tuesday through Friday) in order to obtain a wide variety of menus and consistency. If possible, the menus should be the same in the fall and spring to reduce variability, but it is not mandatory.

AmeriCorps Members should engage 1-3 volunteers (depending on the number of students being observed) to help take photographs of “before” and “after” school lunch trays each day (preferably the same volunteers each day, but that is not mandatory). Each volunteer should use their own digital camera that has the capability to directly upload to a computer immediately following the observation day (a total of 4 digital cameras are likely to be needed, depending on the size of the memory card; batteries should be new or freshly charged, and extras should be available just in case). At least one previous study has found this method to not disrupt the school cafeteria setting, and analysts’ estimations of consumption levels agreed with each other well (1).

On Site:

1. AmeriCorps Member will provide large (2 to 3 inches in diameter) stickers:

-color-coded by grade: 3rd grade = red, 4th grade = blue, 5th grade = yellow

-pre-numbered (1 through xx) so that there is one for each student eating a school lunch

-It would be ideal if each child had the same number each day (for example, alphabetical order) but it is not mandatory. (Please indicate this to the evaluation team if you manage it, especially if you can correspond it specifically to a student evaluation ID number both in the fall and in the spring.)

2. Either (a) In classrooms prior to lunch, teachers will place stickers on students' wrists, palm-side *and instruct all students to be sure they dump their own trays when they have finished eating.*
or (b) Trays will be labeled in advance by AmeriCorps members and/or volunteers with numbered, color-coded dots or tape (labeled as described in #1 above) that will dissolve in the school dishwasher.
3. Digital photographs should be taken from a height of approximately 16 inches above the tray and at approximately a 45° angle.
 - a) As students exit the lunch line, volunteers will take a digital photograph of each "before" tray, with the student's wrist and sticker showing (no faces).
 - b) Just before students dump their tray at the end of the meal, volunteers will take a digital photograph of the "after" tray with the student's wrist and sticker showing (no faces).
 - (i) Adjustments may need to be made to differentiate between eaten and uneaten portions, for example orange peels remaining versus uneaten orange slices ought to be clearly distinguishable. The photographers may ask the children to move the food themselves, or the photographers may wear gloves and adjust the layout themselves.
 - (ii) If time constraints do not allow for "after" photos **and** if lunch trays are disposable (stickers can be placed directly on the trays), students may leave trays on the table for photographs to be taken after children have left the cafeteria.
4. Volunteers and AmeriCorps Member will upload digital photos to computer (or directly to Dropbox – see # 5) to clear cameras for the next day.
5. The AmeriCorps Member will subsequently upload all photos to the appropriate Dropbox folder (specific to school and day; separate by camera if possible) to submit to the evaluation team.
6. AmeriCorps Member will provide notes and observations to the evaluation team, such as:
 - a) any problems that arose during data collection (photography slowing the serving line, or students disposing of trays prior to photography)
 - b) cameras used (make, model, year)
 - c) whether or not students received same numbers for ID sticker each day

- d) whether or not sticker numbers correspond exactly to an evaluation ID each day
- e) any other observations that you think may be helpful for analysis and interpretation.

Evaluation:

1. Evaluation team will receive school menus as part of monthly data collection from school food service directors.
2. Evaluation team will match “before” and “after” trays according to grade color and number, and compare to visually estimate the percent of each fruit and vegetable consumed (to the nearest 10% increment), and enter data into the appropriate spreadsheet.

The ideal data collection is for each participating school to take “before” and “after” photographs of school lunch trays:

- *for all third through fifth graders*
- *on four consecutive days (see timeline)*
- *by AmeriCorps member plus 3 volunteers each day, with volunteer/borrowed digital cameras.*

If volunteers are not available, we will leave it up to the AmeriCorps member to decide how many grades are possible (target 5th grade first, then add 4th grade, then add 3rd grade). It is intended that the same groups are photographed both in the fall and in the spring.

Reference:

Swanson, M. (2008) Digital Photography as a Tool to Measure School Cafeteria Consumption. J School Health, 78(8): 432-437.

APPENDIX F
Baseline Knowledge & Attitude Constructs

Table 3. Baseline Knowledge and Attitude Constructs by Previous Years in F2S

KA Construct	Group	N, Baseline	Baseline Mean (SD or SE) [‡]	p for model [*]
Knowledge	Full sample	1012	11.63 (2.12)	<0.0001 [*]
	Previous years in F2S[†]: 0	215 (of 321)	11.82 (0.14) ^a	
	1	223 (of 238)	11.11 (0.14) ^{a,b}	
	≥ 2	574 (of 632)	11.77 (0.08) ^b	
Attitudes	Full sample	1013	59.60 (11.53)	<0.0001 [*]
	Previous years in F2S[†]: 0	215 (of 321)	55.76 (0.79) ^a	
	1	223 (of 238)	58.97 (0.79) ^a	
	≥ 2	575 (of 632)	61.28 (0.78) ^a	
Perception/ Self-efficacy	Full sample	1012	2.30 (0.82)	0.0333 [*]
	Previous years in F2S[†]: 0	215 (of 321)	2.26 (0.06)	
	1	223 (of 238)	2.26 (0.06)	
	≥ 2	574 (of 632)	2.33 (0.03)	
Exposure	Full sample	1009	16.63 (3.34)	<0.0001 [*]
	Previous years in F2S[†]: 0	215 (of 321)	16.10 (0.23) ^a	
	1	222 (of 238)	16.12 (0.23) ^b	
	≥ 2	572 (of 632)	17.03 (0.14) ^{a,b}	
Liking	Full sample	1009	81.64 (15.45)	0.8558 [*]
	Previous years in F2S[†]: 0	215 (of 321)	83.97 (1.07) ^{a,b}	
	1	222 (of 238)	80.13 (1.07) ^a	
	≥ 2	572 (of 632)	81.35 (0.65) ^b	
Willingness	Full sample	798	45.53 (31.19)	0.0171 [*]
	Previous years in F2S[†]: 0	177 (of 321)	43.73 (2.39)	
	1	196 (of 238)	47.88 (2.31)	
	≥ 2	425 (of 632)	45.20 (1.53)	

[†] Differences tested by PROC TTEST.

^{*} Means according to Previous years in F2S and significance calculated using PROC MIXED, controlling for Grade and Baseline construct score, and treating School as a random effect.

[‡]SD used for simple means; SE presented for mixed models data.

^{a, b, c, d, ...} Pairwise differences were evaluated using PROC MIXED with Tukey's adjustment for multiple comparisons. Significant differences ($p < 0.05$) within each KA construct are indicated by matching superscripts.

APPENDIX G
Baseline and Follow-up Knowledge & Attitude Constructs

Table 4. Baseline and Follow-up Knowledge and Attitude Constructs by Previous Years in F2S

KA Construct	Group	N, Baseline	Baseline Mean (SD or SE) [‡]	N, Follow-up	Follow-up Mean (SD or SE) [‡]	Difference (SD or SE) [‡]	p
Knowledge	Full sample	1012	11.63 (2.12)	1012	12.22 (2.17)		
	Matched pairs	894	11.66 (2.09)	894	12.23 (2.18)	0.56 (2.10)	<0.0001*
	<i>Previous years in F2S⁺: 0</i>	186	11.82 (0.14) ^a	186	11.95 (0.14) ^{ab}	0.28 (0.14) ^a	
	1	193	11.11 (0.14) ^{a,b}	193	12.69 (0.14) ^a	1.02 (0.14) ^{a,b}	
	≥ 2	515	11.77 (0.08) ^b	515	12.16 (0.08) ^b	0.49 (0.08) ^b	
Attitudes	Full sample	1013	59.60 (11.53)	1014	61.08 (11.63)		
	Matched pairs	897	59.33 (11.47)	897	61.12 (11.69)	1.79 (9.97)	<0.0001*
	<i>Previous years in F2S⁺: 0</i>	187	55.76 (0.79) ^a	187	59.14 (0.67) ^{a,b}	-0.18 (0.67) ^{a,b}	
	1	192	58.97 (0.79) ^a	192	61.82 (0.67) ^a	2.49 (0.67) ^a	
	≥ 2	518	61.28 (0.78) ^a	518	61.58 (0.40) ^b	2.25 (0.40) ^b	
Perception/ Self-efficacy	Full sample	1012	2.30 (0.82)	1011	2.25 (0.87)		
	Matched pairs	893	2.32 (0.82)	893	2.25 (0.86)	-0.07 (0.99)	0.0333*
	<i>Previous years in F2S⁺: 0</i>	186	2.26 (0.06)	186	2.11 (0.06) ^a	-0.20 (0.06) ^a	
	1	192	2.26 (0.06)	192	2.34 (0.06) ^a	0.02 (0.06) ^a	
	≥ 2	515	2.33 (0.03)	515	2.26 (0.04)	-0.05 (0.04)	
Exposure	Full sample	1009	16.63 (3.34)	1009	17.15 (3.14)		
	Matched pairs	889	16.59 (3.39)	889	17.16 (3.12)	0.57 (2.13)	<0.0001*
	<i>Previous years in F2S⁺: 0</i>	184	16.10 (0.23) ^a	184	16.83 (0.14) ^a	0.25 (0.14) ^a	
	1	192	16.12 (0.23) ^b	192	17.46 (0.14) ^a	0.87 (0.14) ^a	
	≥ 2	513	17.03 (0.14) ^{a,b}	513	17.17 (0.09)	0.58 (0.09)	
Liking	Full sample	1009	81.64 (15.45)	1009	81.54 (15.90)		
	Matched pairs	889	81.36 (15.53)	889	81.28 (16.05)	-0.08 (13.31)	0.8558*
	<i>Previous years in F2S⁺: 0</i>	184	83.97 (1.07) ^{a,b}	184	79.36 (0.93) ^a	-2.00 (0.93) ^a	
	1	192	80.13 (1.07) ^a	192	81.14 (0.92)	-0.22 (0.92)	
	≥ 2	513	81.35 (0.65) ^b	513	82.02 (0.54) ^a	0.66 (0.54) ^a	
Willingness	Full sample	798	45.53 (31.19)	748	46.98 (31.71)		
	Matched pairs	609	43.68 (31.08)	609	46.68 (31.09)	3.00 (30.98)	0.0171*
	<i>Previous years in F2S⁺: 0</i>	136	43.73 (2.39)	136	42.09 (2.35) ^a	-1.59 (2.35) ^a	
	1	144	47.88 (2.31)	144	50.05 (2.31) ^a	6.37 (2.31) ^a	
	≥ 2	329	45.20 (1.53)	329	47.10 (1.48)	3.42 (1.48)	

[†] Differences tested by PROC TTEST.

[‡] Means according to Previous years in F2S and significance calculated using PROC MIXED, controlling for Grade and Baseline construct score, and treating School as a random effect.

[§] SD used for simple means; SE presented for mixed models data.

^{a, b, c, d, ...} Pairwise differences were evaluated using PROC MIXED with Tukey's adjustment for multiple comparisons. Significant differences (p < 0.05) within each KA construct are indicated by matching superscripts.

APPENDIX H
Baseline Lunch Tray Photo Observation

Table 5. LTPO by FV Variety, Cups and Consumption by Previous Years in F2S

Group	N (# of paired trays)	Variety of FV on tray (selected/served) (SD or SE ^y) ⁺	N (# of paired trays)	Amount of FV on tray (selected/served), cups (SD or SE ^y) ⁺	N (# of paired trays)	Amount of FV consumed from tray, cups (SD or SE ^y) ⁺
All	2214	1.36 (0.92)	2213	0.53 (0.43)	2214	0.37 (0.36)
Previous Years in F2S:						
0	573	0.91 (0.04) ^a		0.41 (0.02) ^a		0.35 (0.01) ^a
≥1	1641	1.52 (0.02) ^a		0.57 (0.01) ^a		0.38 (0.01) ^a

⁺ Differences tested by PROC TTEST.

⁺ LS Means according to Previous years in F2S and significance calculated using PROC MIXED, controlling for Grade, and treating School as a random effect. Additionally, consumption values were calculated while controlling for the starting amount of FV on tray.

^ySD used for simple means; SE presented for mixed models data.

^{a, b, c, d, ...} Pairwise differences were evaluated using PROC MIXED with Tukey's adjustment for multiple comparisons. Significant differences ($p < 0.05$) within each variable are indicated by matching superscripts.

Table 6. LTPO: Percent of Trays by FV Variety and Consumption by Previous Years in F2S

	0 prior yrs F2S		≥ 1 prior yrs F2S		p^1
	N (# trays)	% of trays	N (#trays)	% of trays	
Number of Fruits/vegetables selected					<0.0001
0	195	34.03	188	11.46	statistic = 142.5890 on 2 df
1-2	345	60.21	1260	76.78	
>2	33	5.76	193	11.76	
Total cups of Fruits/vegetables consumed from lunch tray					<0.0001
0	224	39.09	321	19.56	statistic = 96.5323 on 2 df
>0, <1/2	211	36.82	648	39.49	
≥1/2	138	24.08	672	40.95	

¹ p value calculated using the Likelihood Ratio Chi-Square Test.

Table 7. LTPO: T-tests to compare 0 and ≥ 1 Previous Years in F2S

	Mean (SD), 0 prior years	Mean (SD), ≥ 1 prior years	Difference (SD)	p
FV variety	0.99 (0.90)	1.50 (0.89)	-0.51 (0.90)	<0.0001
FV cups selected/ on tray	0.40 (0.42)	0.57 (0.42)	-0.17 (0.42)	<0.0001
FV cups consumed	0.27 (0.30)	0.41 (0.37)	-0.14 (0.35)	<0.0001

Unadjusted means.

Tool: Knowledge, Attitudes, and Consumption Behavior Survey

Thank you for your interest in administering the Knowledge, Attitudes, and Consumption Behavior (“KA”) Survey to your students. It is an 83-item survey designed to assess six areas (attitudes, knowledge, perception/self-efficacy, exposure, liking, and willingness) that part of the typical paradigm used in many nutrition education to improve people’s dietary habits: increase knowledge about, to improve attitudes toward, healthy eating habits. A final section, the fruit/vegetable screener, is a very cursory look at children’s dietary habits, specific to fruit and vegetable consumption. The KA survey can be conducted as a pre/post to evaluate potential changes in any of the areas assessed.

The KA survey is easy to administer. Students should complete the survey at the beginning of the farm to school program (ideally, before any programming happens; alternatively, as early in the school year as possible), and again at the end of the planned program activities (for example, at the end of a defined unit of nutrition education lessons, or at the end of the school year). The information below provides background information on this evaluation tool, including a description of where the tool comes from, a history of its development, and suggestions for administering the survey.

About This Tool

The Wisconsin Farm to School Evaluation (beginning fall 2010) began using a student survey to assess factors believed to predict or influence fruit and vegetable consumption:

- *Attitudes* toward eating fruits and vegetables: fruit/vegetable neophobia, or fear of trying new fruits/vegetables (in various settings, with different/unknown names, if it looks strange, etc.)
- *Knowledge* about nutrition and agricultural concepts
- *Perception/Self-efficacy* for making healthy eating choices
- *Exposure* to a series of specific fruit and vegetable items
- *Liking* of the specific fruits and vegetables students have tasted (as reported in *Exposure*)
- *Willingness* to try the specific fruits and vegetables (i.e., if they hadn’t previously tried it, or if they had tried it and not liked it).
- *Fruit and Vegetable Screener* – a brief series of questions about what fruit/vegetable items (grouped) students remember eating in the past day, and how much of each.

Scoring procedures are included at the end of this document, following the survey pages, and are generally sums within respective sections. Even in the first survey administration, students’ average construct scores were high. Because of this, the Wisconsin F2S Evaluation Team added additional questions to the Knowledge and to the Exposure/Liking/Willingness sections to improve the survey’s ability to assess change over time.

History of This Tool

The original version comprised a fruit/vegetable neophobia scale¹ which was adapted for use with the University of North Carolina-Chapel Hill Farm to School Evaluation from a validated food neophobia scale²; questions from the Wisconsin Fresh Fruit & Vegetable Program evaluation (based on previously validated measures)³; and questions from the AmeriCorps Farm to School survey (not

published). The surveys were combined and limited to 60 items. As mentioned above, initial survey construct scores were high, indicating a ceiling effect, so the Evaluation Team pilot-tested additional questions (Knowledge; Exposure/Liking/Willingness) with a small cohort in May 2012. The final group of added questions included (a) two knowledge questions, where most students did not know the answer and where the concepts were easy to include in F2S curricula, (b) two additional fruits, and (c) two additional vegetables. For the added fruit and vegetable items, the Evaluation Team selected items that had potential to be grown locally *and* where 55% or fewer of students had tasted the item. Additionally, we decided to ask *all* students for the Willingness construct if they would be willing to try FV items again so that we could capture whether students who previously tasted and disliked an item would be willing to taste again. Finally, in the revised version, we added FV screener questions that originated in the *Got Dirt?* curriculum evaluation⁴. The FV screener questions were included with the purpose of replacing an additional Food Frequency Questionnaire tool (used only in the 2010-2011 evaluation year), as well as to enhance the Perception/Self-Efficacy construct. The final KA survey is an 83-item survey, which students have completed in a median time of approximately 30 minutes.

KA Survey Administration

This tool can be administered in four ways:

KA Survey Administration Option	Attitudes	Knowledge	Perception/ Self-efficacy	Exposure	Liking	Willingness	Fruit/ Vegetable Screener
<i>Questions</i>	1-20	22-37, 40	37-38; pg 12	41-66 (a)	41-66 (b)	41-66 (c)	page 11
Complete survey	X	X	X	X	X	X	X
Attitudes	X						
Knowledge		X					
FV screener							X

The complete survey, designed for upper-elementary students, has historically taken students approximately 30 minutes to complete when administered via an online platform. The survey has been administered on paper to a limited degree; average time for completion is not available.

The survey, or portions thereof, should be administered during class time with an adult available to assist students as needed. This survey can assess change in the construct sections (see table, above) across the course of F2S program implementation. Ideally, administer it at the start and end of the school year to evaluate the program’s effectiveness in improving scores in the above constructs.

Please also refer to the [KA Survey Scoring Procedure](#), which follow the survey in this tool.

A script has been used to introduce this survey in previous evaluations:

“This survey asks what you think about food. The first part of this survey asks what you think about fruits and vegetables, and if you are willing to try new ones. The second part asks questions about where food comes from and how we eat. The third part of the survey asks whether you have ever tried specific fruits and vegetables. The last part of the survey asks if, and how much, you have eaten different types of foods. This survey should take about 30 minutes. If you have questions, ask [*whoever is administering the survey*].”

Wisconsin Farm to School Student Survey

Welcome to the Wisconsin Farm to School Student Survey. We want to hear what you think about fruits and vegetables - thank you for helping us!

This is not a test and it will not affect your grades. Please answer every question, telling us what you really think. If you have questions you may ask your teacher or the adult in charge during this survey.

Student Evaluation ID:

--	--	--	--	--	--	--	--

Today's date: _____
month / day / year

I am a: **Boy** **Girl**

I am in: **3rd grade** **4th grade** **5th grade**

What ethnic group do you belong to?

- African-American**
- Asian-American**
- Caucasian**
- Hispanic**
- Native American/American Indian**
- Other – please describe:** _____

When is your birthday?

Month: _____ **Day:** _____
Year (that you were born): _____

Please tell how you feel about fruit.

- | | a lot | a little | not very much | not at all |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 How much do you like fruit ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 When you try a new fruit for the first time, how much do you usually like it? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 How much do you like tasting new fruits ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please tell how you feel about tasting new fruit.

- | | definitely | probably | probably not | definitely not |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 4 Will you taste a fruit if you don't know what it is? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Will you taste a fruit if it looks strange? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Will you taste a fruit if you have never tasted it before? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 When you are at a friend's house , will you try a new fruit ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 When you are at school , will you try a new fruit ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 When you are at home , will you try a new fruit ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- | | Never | 1 time | 2 times | 3 times | at least 4 times |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 10 How many times have you tried a new fruit since school started this year? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please tell how you feel about vegetables.

- | | a lot | a little | not very
much | not at all |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 11 How much do you like vegetables ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 When you try a new vegetable for the first time, how much do you usually like it? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 How much do you like tasting new vegetables ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please tell how you feel about tasting new vegetables.

- | | definitely | probably | probably | definitely |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| | | | not | not |
| 14 Will you taste a vegetable if you don't know what it is? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 Will you taste a vegetable if it looks strange? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 Will you taste a vegetable if you have never tasted it before? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 When you are at a friend's house , will you try a new vegetable ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 When you are at school , will you try a new vegetable ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19 When you are at home , will you try a new vegetable ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- | | Never | 1 time | 2 times | 3 times | at least 4
times |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 20 How many times have you tried a new vegetable since school started this year? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. How many times in your life have you been to a farm?

- Never
- 1 time
- 2 times
- 3 times
- 4 times or more

22. How do tomatoes grow? *Please check one.*

- As plants
- As animals
- As minerals
- Something else

23. What part of a plant is a carrot? *Please check one.*

- Leaf
- Root
- Stem
- Flower

24. Where do eggs come from? *Please check one.*

- Cows
- Goats
- Chickens
- Something else

25. What is a benefit of using compost?

- Compost feeds wild animals.
- Makes farmers use more chemical fertilizers.
- Compost keeps food out of landfills.
- None of the above.

26. Do insects play an important role in growing plants?

- Yes
- No
- I don't know

27. Do TOMATOES grow in Wisconsin?

- Yes
- No
- I don't know

28. Do ORANGES grow in Wisconsin?

- Yes
- No
- I don't know

29. Do APPLES grow in Wisconsin?

- Yes
- No
- I don't know

30. Does SQUASH grow in Wisconsin?

- Yes
- No
- I don't know

31. Do BANANAS grow in Wisconsin?

- Yes
- No
- I don't know

32. Imagine a meal with a hotdog in a bun and a glass of milk. What food group is missing?

Please check one.

- Dairy
- Fruits & Vegetables
- Meat
- Grains

33. What food group does the pear belong to? Please check one.

- Dairy
- Fruits & Vegetables
- Meat
- Grains

34. Fruits and vegetables that are high in Vitamin A are _____ in color.

- Red and white
- Blue and light brown
- Yellow-orange and dark green
- Brown and purple
- I don't know

35. Why do I need to eat food?

- I need food for energy and to grow.
- I need food **ONLY** because it tastes good.
- I don't need food.
- I don't know

36. Why do I need to eat different kinds of foods?

- I can get a lot of the **SAME** nutrients.
- I can get many **DIFFERENT** nutrients.
- I don't need to eat different kinds of food.
- I don't know.

37. Healthy eating is:

- eating fruits but **not** vegetables.
- not** eating fruits or vegetables.
- eating **both** fruits **and** vegetables.
- I don't know.

38. The foods that I eat for meals and snacks are healthy. (Choose one.)

- Yes, all of the time
- Yes, sometimes
- No

39. How likely are you to eat fresh fruit instead of candy? (Choose one.)

- Not likely
- Likely
- Very Likely

40. Which of these is the HEALTHIEST way to eat potatoes?

- Potato salad
- French fries
- Baked potato
- I don't know

For the remaining questions, please answer all parts of each question.

41. Have you ever eaten an apple?

- Yes** Did you like it? yes no
- No** Would you try one?
 - yes
 - no
 - maybe



42. Have you ever eaten an orange?

- Yes** Did you like it? yes no
- No** Would you try one?
 - yes
 - no
 - maybe



43. Have you ever eaten a mango?

- Yes** Did you like it? yes no
- No** Would you try one?
 - yes
 - no
 - maybe



44. Have you ever eaten watermelon?

- Yes** Did you like it? yes no
- No** Would you try one?
 - yes
 - no
 - maybe



45. Have you ever eaten a pear?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



46. Have you ever eaten a kiwi?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



47. Have you ever eaten a strawberry?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



48. Have you ever eaten a blueberry?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



49. Have you ever eaten cantaloupe?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



50. Have you ever eaten a grape?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



51. Have you ever eaten papaya?

- Yes** Did you like it? yes no
- No** Would you try it?
- yes
- no
- maybe



52. Have you ever eaten a cranberry?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



53. Have you ever eaten asparagus?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



54. Have you ever eaten broccoli?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



55. Have you ever eaten beets?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



56. Have you ever eaten a cucumber?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
- no
- maybe



57. Have you ever eaten a green pepper?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
 - no
 - maybe



58. Have you ever eaten a sweet potato?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
 - no
 - maybe



59. Have you ever eaten peas?

- Yes** Did you like them? yes no
- No** Would you try them?
- yes
 - no
 - maybe



60. Have you ever eaten eggplant?

- Yes** Did you like it? yes no
- No** Would you try it?
- yes
 - no
 - maybe



61. Have you ever eaten spinach?

- Yes** Did you like it? yes no
- No** Would you try it?
- yes
 - no
 - maybe



62. Have you ever eaten green beans?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
 - no
 - maybe



63. Have you ever eaten avocado?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
 - no
 - maybe



64. Have you ever eaten a tomato?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
 - no
 - maybe



65. Have you ever eaten a carrot?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
 - no
 - maybe



66. Have you ever eaten a radish?

- Yes** Did you like it? yes no
- No** Would you try one?
- yes
 - no
 - maybe



Think about everything you ate or drank yesterday. Remember what you had for breakfast, lunch, dinner, after school, while watching TV, and at bedtime.

	Did you eat or drink it yesterday?	How much did you eat?
67. Apples, bananas, or oranges	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> ½ <input type="checkbox"/> 1 <input type="checkbox"/> 2
68. Applesauce, fruit cocktail	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
69. Any other fruit, like strawberries, grapes	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
70. French fries, hash browns, tater tots	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
71. Other potatoes, like mashed or boiled	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
72. Ketchup or salsa	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
73. Lettuce salad	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
74. Tomatoes, including on salad	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> ¼ tomato <input type="checkbox"/> ½ tomato <input type="checkbox"/> 1 tomato
75. Green beans or peas	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
76. Other vegetables, like corn, carrots, greens, broccoli	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
77. Vegetable soup, tomato soup, any soup or stew with vegetables in it	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
78. Chili beans, pinto beans, black beans, including in burritos	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot
79. Refried beans	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> A little <input type="checkbox"/> Some <input type="checkbox"/> A lot

How sure are you that you can do the following:

80. Eat vegetables at dinner.

- I know I can
- I think I can
- I'm not sure I can
- I know I can't

81. Eat my favorite fruit instead of my usual desert with dinner.

- I know I can
- I think I can
- I'm not sure I can
- I know I can't

82. Eat a vegetable that's being served with my lunch at school.

- I know I can
- I think I can
- I'm not sure I can
- I know I can't

83. Eat a fruit that's being served with my lunch at school.

- I know I can
- I think I can
- I'm not sure I can
- I know I can't

Thank you for taking the time to complete this survey!

Knowledge and Attitudes Survey Scoring Procedure

Updated December 18, 2013

The scoring procedures described here apply to both pre- and post-test administration scoring. To evaluate pre/post change, calculate the difference in construct scores by subtracting the pre-test score from the post-test score (each section separately).

Scoring procedure

Students' responses from the KA survey were categorized into different scores.

- 1) **Knowledge:** There are seventeen questions in this section. The questions focus on material typically covered in farm to school programs. Score the questions accordingly:
 - Correct responses = score 1
 - Incorrect answers = score 0 (including the response *I don't know*, when that is a response option)

Scores can range from 0 to maximum of 17. To determine a student's Knowledge score, add the sum of all questions in this section (Q22-37, Q40).

$$\text{Knowledge} = \sum(\text{correct responses, Q22} - 37, \text{Q40})$$

- 2) **Attitudes:** There are twenty questions in this section. Six questions (Q1-3, Q11-13) ask how much a student likes F/V and how much a student likes *new* F/V. Score the responses as:

a lot	a little	not very much	not at all
4	3	2	1

Twelve questions (Q4-9, Q14-19) ask students' willingness to try a F/V in a variety of situations. Score responses as:

definitely	probably	probably not	definitely not
4	3	2	1

Finally, two questions (Q10, Q20) ask how many times a student had tried a new F/V since the start of the school year. Score responses as:

Never	1 time	2 times	3 times	At least 4 times
1	2	3	4	5

Scores can range from 20 to a maximum of 82. To determine a student's Attitudes score, add the sum of all the questions in this section (Q1-20).

$$\text{Attitudes} = \sum(\text{scored responses, Q1} - 20)$$

- 3) **Perception/Self-efficacy:** There are six questions in this section. Two questions (Q38-39) ask students' perception of their own diets – whether the foods they eat are healthy. Score responses as:

Q38	Yes, all the time	Yes, sometimes	no
Q39	Very likely	Likely	Not likely
Score	2	1	0

Four additional questions (Q80-83) ask students to reflect on their ability to make healthy choices: eat vegetables at dinner; eat fruit instead of dessert at dinner; eat a vegetable being served at school lunch; and eat a fruit being served at school lunch. Score responses as:

I know I can	I think I can	I'm not sure I can	I know I can't
4	3	2	1

Scores can range from 4 to a maximum of 20. To determine a student's Perception/Self-Efficacy score, add the sum of all the questions in this section (Q38-39, Q80-83).

$$\text{Perception/self efficacy} = \sum(\text{scored responses, } Q38 - 39, Q80 - 83)$$

- 4) **Exposure:** There are 26 questions in this section (Q41-66, parts a). Each question asks if a student has tried a particular fruit or vegetable. Each question includes a photograph to aid with food recognition. Score responses as:

Yes	No
1	0

Scores can range from 0 to a maximum of 26. To determine a student's Exposure score, add the sum of all the questions in this section (Q41-66, parts a)).

$$\text{Exposure} = \sum(\text{yes responses, } Q41 - 66, \text{ parts } a)$$

The student's response to the Exposure question branches to either a Liking (response yes) or Willingness (response no) follow-up question for each F/V.

- 5) **Liking:** (Q41-66, parts b) Where students answered "yes" to part a (above), students are asked whether they liked the fruit/vegetable item that they reported tasting. Score responses as:

Yes	No
1	0

To determine a student's Liking score, divide the sum of the responses for the questions in this section (Q41-66, parts b) by the student's Exposure score (= the total number of fruits/vegetables the student tried); finally, express it as a percentage by multiplying by 100. Scores can range from 0 to a maximum of 100.

$$\text{Liking} = \frac{\sum(\text{yes responses, } Q41 - 66, \text{ parts } b)}{\text{Exposure score}} \times 100$$

- 6) **Willingness:** See footnote for old scoring.¹ New scoring (as of May 2013) involved asking all students whether they would try the 26 specific F/V (Q41-66, parts c).

Yes	Maybe	No
2	1	0

To determine a student's Willingness score, add the sum of all the questions in this section (Q41-66, parts c) and divide by 2. Scores can range from 0 to a maximum of 26.

$$\text{Willingness} = \frac{\sum(\text{scored responses, } Q41 - 66, \text{ parts } c)}{2}$$

¹ Old scoring: Among the previously not-tasted F/V, students were asked whether they would try it (yes, score=2, maybe, score=1, no, score=0). Additionally, for each F/V students reported trying and liking, they received a score of 2 (because it was assumed that they would try a F/V they had previously tried and liked). The collective sum of all responses was divided by two. Scores can range from 0 to 20.

- 7) **FV Screener:** There are 13 questions in this section (Q67-69). For a variety of groups of fruit or vegetable items, students are asked to report (a) whether they ate the item(s) in the past day, and (b) if so, how much (a relative amount). Score section (a) responses as:

Yes	No
1	0

Section (b) response scoring strategies are included within each subsection below. The Evaluation Team suggests scoring and assessing the information from this FV screener as follows:

- Calculate the percent of students who report having eating *any* food from the subsections (each separately). For example, 85% of students reported eating any fruit in pre-test, and 100% of students reported eating any fruit at post-test; or 25% of students reported eating any legumes in the pre-test, and 30% of students reported eating any legumes in the post-test.) *Compare the percent of students with a subsection total score greater than 0 to the percent of students with a subsection total score of exactly 0.*
- For each subsection, calculate the average relative amount students reported consuming and relate it back to the terms used for that subsection.

FV Screener Subsections:

a. Fruit (Q67-69)

- Ate fruit at all = score > 0, parts *a*
- Relative amount: Score responses as:

Response	"½"	"1"	"2"
Q67	0.5	1	2
Response	"A little"	"Some"	"A lot"
Q68-69	0.5	1	2

To determine a student's relative consumption of fruits, add the responses in this subsection and divide by 3.

b. Potatoes (Q70-71):

- Ate potatoes at all = score > 0, parts *a*
- Relative amount: Score responses as:

Response	"A little"	"Some"	"A lot"
Q70-71	1	2	3

To determine a student's relative consumption of fruits, add the responses in this subsection and divide by 2.

c. Vegetables (non-potato; Q72-77):

- Ate vegetables at all = score > 0, parts *a*
- Relative amount: Score responses as:

Response	"A little"	"Some"	"A lot"
Q72-73, 75-77	1	2	3
Response	"¼ tomato"	"½ tomato"	"1 tomato"
Q74	0.25	0.5	1

To determine a student's relative consumption of fruits, add the responses in this subsection and divide by 5.

d. Legumes:

- i. Ate legumes at all = score > 0, parts *a*
- ii. Relative amount: Score responses as:

Response	"A little"	"Some"	"A lot"
Q78-79	1	2	3

To determine a student's relative consumption of fruits, add the responses in this subsection and divide by 2.

References

1. *Farm to School Evaluation Toolkit*. University of North Carolina at Chapel Hill: Center for Health Promotion and Disease Prevention; 2010.

2. Pliner P, Hobden K. Development of a scale to measure the trait of food neophobia in humans. *Appetite*. 1992;19:105–120.

3. Jamelske E, Bika LA, McCarty DJ, Meinen AM. Preliminary Findings from an Evaluation of the USDA Fresh Fruit and Vegetable Program in Wisconsin Schools. *Wis. Med. J.* 2008;107(5):225–230.

4. Wisconsin Department of Health Services- Division of Public Health- NPAOP, Wisconsin Department of Public Instruction, University of Wisconsin Extension. Got Dirt? Garden Toolkit for implementing youth gardens. 2013.

Tool: Height/Weight Tracking

Body Mass Index (BMI) Percentile

In 2000, the Centers for Disease Control established age- and gender-specific growth curves for children, based on data from the 1970s (prior to the start of the increasing prevalence of obesity). That data established a normal distribution curve to which we compare children today. According to that distribution, the following definitions of children's weight status were established:

- Healthy weight BMI <85th percentile
- Overweight BMI ≥85th percentile and <95th percentile
- Obese BMI ≥95th percentile

Because children grow at different rates, we chart children's BMI values against the CDC growth curves and rank them according to "percentile" (according to the set normal distribution curve from earlier data). As the prevalence of obesity has grown in recent decades, the distribution curve of a given US population today no longer coincides with the established distribution curve. Currently, 15% of 6 to 11 year olds in the USA are now overweight or and 18% are obese (versus 10% and 5%, respectively, of children from the 1970s that established the distribution curve).

More information about children's BMI can be found at

http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html

BMI percentile should be calculated for children specifically for their sex and exact age on the measurement date. An easy way to do this is to use the BMI percentile calculator available from the CDC at: <http://apps.nccd.cdc.gov/dnpabmi/>. Although this is easy, it does require individual calculation (one student at a time) and, at a large school, this would be time consuming. For a large group of students, if you have access to SAS (Statistical Analysis Software, Cary, NC), there are programs available and instructions from the CDC at this web site:

<http://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/sas.htm>

If collected, this information may be used to compare to national childhood healthy weight, overweight, and obesity prevalence rates. It can also be used to monitor long-term effectiveness of the collective group of health-promoting initiatives in your school and community. Good practices for measuring heights and weights are described in the Wisconsin Department of Health Services publication, *To Weigh and Measure*, available online at

<http://www.dhs.wisconsin.gov/publications/P4/p40152.pdf>.

A script has been used to describe this process and its purpose in previous evaluations:

"Today, [*name the person – school nurse? PE teacher? other?*] is going to measure how tall you are and how much you weigh. We want to see how the students at [*this school*] compare to students in other Wisconsin schools. We want to learn whether students in schools that participate in farm to school programs are healthier than students in schools that do not participate in farm to school."

If there are questions about whether we'll know who they are:

"We will not put your name with your height and weight, only your evaluation ID number. Lots of students all around Wisconsin are being measured at their schools."

Tool: Activity Tracking

This interactive spreadsheet permits your school to articulately describe the scope and depth of activities you choose to uniquely implement and offer your students through your farm to school program during one school year.

Because farm to school is implemented differently in each community, the spreadsheet is designed to be customizable to your site. The Activity Tracking spreadsheet can track activity in school gardens, classrooms, and cafeterias. Activity tracking can be completed at the school level (elementary-middle-high), at the grade level, or at the classroom level. It also could include tracking activities specific to an after-school group if that meets your needs.

The User Guide follows, here, for a detailed description of how to use and complete the Activity Tracking spreadsheet.

Introduction

Farm to school programs seek to connect schools with local producers to facilitate use of locally-grown foods in school cafeterias, in combination with nutrition and agricultural education through classroom lessons, engagement activities, and gardens. Farm to school programs vary considerably between communities. The unique ideas developed and fostered within each community make farm to school programs a rich experience for the students (and teachers!) involved. However, this diversity makes it difficult to compare programs and ascertain program effectiveness. Demonstrating that programs are effective is one way to communicate with administrators and policymakers, to garner broader support and funding for programming.

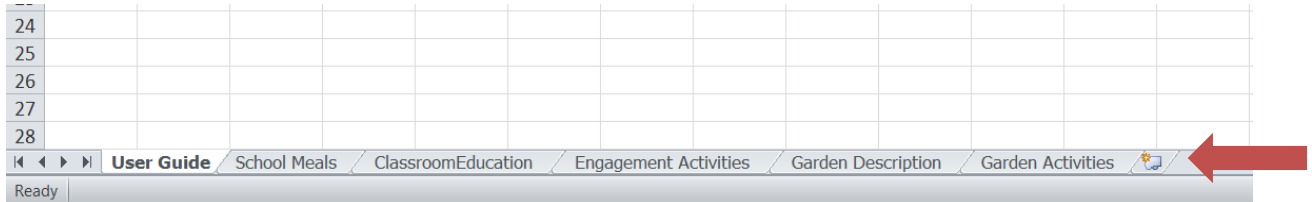
Farm to school program evaluators believe that capturing program activity in the face of broad diversity is an important undertaking. Accurate activity tracking can accomplish two main goals. First, it can serve as a means for summarizing and describing the scope of activities taking place in a school or community over the course of a school year (with longer-term tracking, it can also chart the course of program development). Second, it can provide insight into any specific activities, or groups of activities, that may have greater or lesser influence on students' learning experiences and corresponding outcomes. This insight can improve understanding of the impact of current activities, and may help inform future programming.

In essence, this tool helps you describe the "dose" or intensity of the programming happening at your school. It will give insight into the frequency, duration, and variety of activities incorporated in your farm to school program. It is particularly important to track activities across an entire school year since programming typically varies across that time to align with seasonal differences. An even better approach is tracking activities multiple school years (using new copies of the tracker each year) to track

program development. Sustainability of effort, though challenging, is important to consider when choosing to use this tool.

“Excel 101”

This Activity Tracking tool uses Microsoft Excel. There are multiple tabs (worksheets); they are named according to the major sections of this User Guide. You can see the tab/worksheet names across the bottom of your screen:

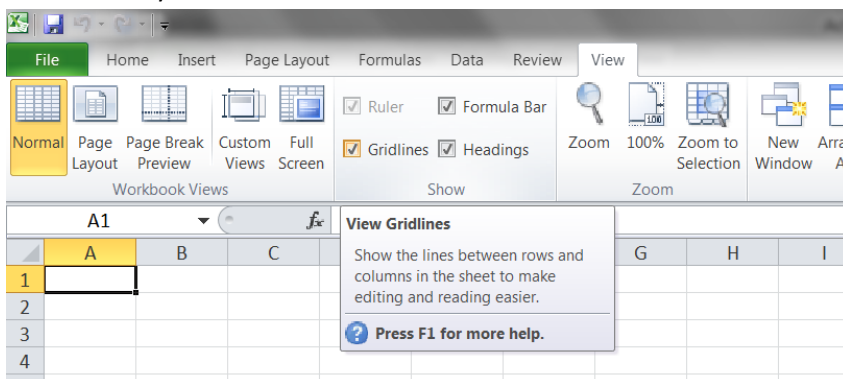


There are different colors of cells to help guide you through the worksheets. The key colors are:

- uncolored cells - for entering activity tracking data
- blue cells - for entering group names (i.e., school name/level; grade; or classroom)
- peach cells - contain formulas that will automatically (a) calculate scores based on information (numbers) in the white cells or (b) label group names by drawing from what you enter in the blue cells.

Another note about using Excel: The spreadsheet is currently set, on most pages, to show the gridlines that are the boundaries to each cell. If you prefer to use the worksheet without seeing these boundaries, you can turn off the gridlines (each worksheet page separately) by doing the following:

- Go to the “View” menu tab at the top of the screen
- Towards the left-hand side of the screen is a group of check boxes including formula bar, ruler, headings, and gridlines. UNCHECK the box next to “gridlines” and that will remove the cell boundary lines.



- You may change this setting at any time.

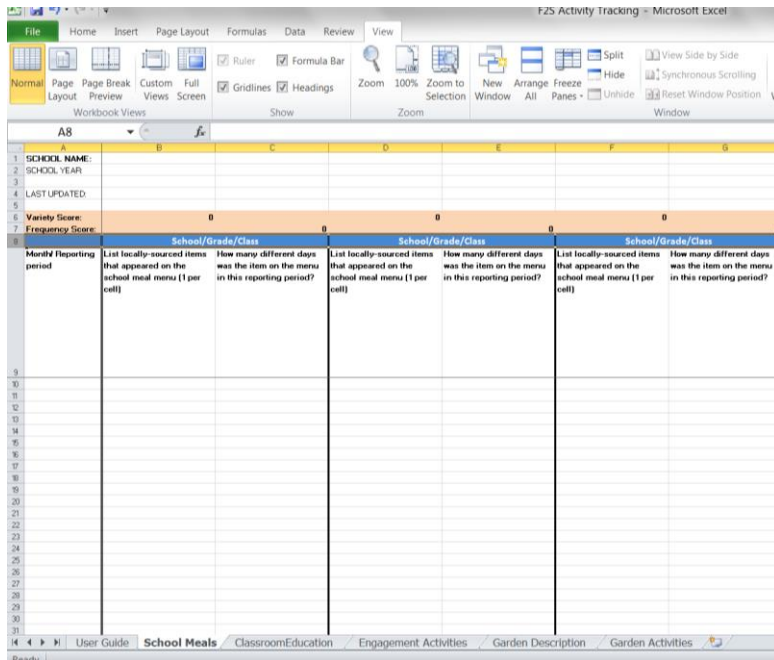
Activity Domains

In this activity tracker, activities are categorized into four broad domains: Local Food Offerings in School Meals, Classroom Education, Engagement Activities, and Gardens. For each domain, it is important to document the activities that apply and some additional information regarding the number of activities, the amount of time spent on activities, and which school(s), grade(s), or classroom(s) participated. In this section of the User Guide, you will learn the information needed for each domain and which cells to complete in the Excel document/activity tracking tool.

Domain: Local Food Offerings in School Meals

Tab: School Meals

In this domain, document locally-sourced items that appear on the school meal menu.



Cells to complete:

- B1 (School Name), B2 (School Year), B4 (Last Updated). *School Name and School Year will copy into the other worksheets.*

	A	B	C	D	E	F
1	SCHOOL NAME:					
2	SCHOOL YEAR:					
3						
4	LAST UPDATED:					
5						

- Blue-colored cells (row 8) say School/Grade/Class. For each group of students for which you are tracking activities, type the title in one of these cells. Thirteen sets are prepared with the appropriate columns and formulas.
 - Note: For this domain, it may be feasible to track at the school level (elementary, middle, high). For the other domains, it may be more appropriate to track activities specific to a grade, or even a classroom.

8	School/Grade/Class	School/Grade/Class	School/Grade/Class	School/Grade/Class	School/Grade/Class
Month/Reporting period	List locally-sourced items that appeared on the school meal menu (1 per cell)	How many different days was the item on the menu in this reporting period?	List locally-sourced items that appeared on the school meal menu (1 per cell)	How many different days was the item on the menu in this reporting period?	List locally-sourced items that appeared on the school meal menu (1 per cell)
9					
10					
11					

- Blank cells, beginning in row 10. For each group, report:
 - Column A - the reporting period/date/month corresponding to information in that row
 - Pairs of columns for each group (examples, columns B and C) - document the following:
 - locally-sourced items appearing on the school meal menu (one item per row)
 - for each item, document the number of times that the item appeared on the school menu.
 - example: October - apples – 5

8	Month/Reporting period	List locally-sourced items that appeared on the school meal menu (1 per cell)	How many different days was the item on the menu in this reporting period?	List locally-sourced items that appeared on the school meal menu (1 per cell)	How many different days was the item on the menu in this reporting period?	List locally-sourced items that appeared on the school meal menu (1 per cell)	How many different days was the item on the menu in this reporting period?
9							
10	October	Apples	5				
11							
12							
13							
14							

At the top of this worksheet, the peach-colored cells (rows 6 and 7) contain formulas that give two types of scores for each group involved: variety, and frequency. The Variety score totals the number of items appearing on the school menu, and the Frequency score totals the number of times a local item appeared on the school menu.

6	Variety Score:	0	0	0	0
7	Frequency Score:	0	0	0	0

Domain: Classroom Education

Tab: ClassroomEducation

In this domain, document the classroom lessons that focus on farm to school themes but are integrated into a traditional lesson plan format.

1	SCHOOL NAME:											
2	SCHOOL YEAR:											
3												
4	LAST UPDATED:											
5												
6												
7	Scores	F2S - number of contacts	0	0	0	0	0	0	0	0	0	0
8		F2S - duration of contact	0	0	0	0	0	0	0	0	0	0
9	Month/ Reporting period	Lesson Description	Grade/Classroom		Grade/Classroom		Grade/Classroom		Grade/Classroom		Grade/Classroom	
10			# lessons	minutes per lesson	# lessons	minutes per lesson	# lessons	minutes per lesson	# lessons	minutes per lesson	# lessons	minutes per lesson
11	Farm to School (beyond the core curriculum) - lesson description											
12	Options: Food-based; Food-systems;											
13												
14												
15												
16												
17												
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41												

Cells to complete:

- B4 (last updated)

1	SCHOOL NAME:						
2	SCHOOL YEAR:						
3							
4	LAST UPDATED:						
5							

- Blue-colored cells (row 9), with the name of each group of students for which you are tracking activities. This will most likely be a grade level (i.e., 4th grade) or a classroom (i.e., Mr Smith's classroom)

9	Month/ Reporting period	Lesson Description	4th Grade		Grade/Classroom		Grade/Classroom		Grade/Classroom		Grade/Classroom	
10			# lessons	minutes per lesson	# lessons	minutes per lesson	# lessons	minutes per lesson	# lessons	minutes per lesson	# lessons	minutes per lesson
11	Farm to School (beyond the core curriculum) - lesson description											

- Blank cells, beginning in row 13. For each entry, report:
 - *Column A* - Month/Date
 - *Column B* - a brief description of the lesson theme
 - *Groups of two columns for each student group (example, columns C and D):*
 - number of lessons received by the group of students
 - number of minutes *per lesson* received by the group of students

8	F2S - duration of contact		4th Grade		Grade/Classroom		Grade/Classroom		Grade/Classroom		Grade/Classroom	
	9	Lesson Description	minutes per lesson	lessons per lesson	minutes per lesson	lessons per lesson	minutes per lesson	lessons per lesson	minutes per lesson	lessons per lesson	minutes per lesson	lessons per lesson
10												
11	Farm to School (beyond the core curriculum) - lesson description											
12	Options: Food-based, Food-systems:											
13	November	Food-based Cranberries	2	30								
14												
15												
16												
17												

At the top of this worksheet, above each group (rows 7 and 8), the peach-colored cells contain formulas that give two types of scores. The *F2S - Number of Contacts* score totals the number of unique lessons related to Farm to School received by each student group. The *F2S - Duration of Contact* score totals the number of minutes spent in Farm to School-related classroom lessons by each student group.

6												
7	Scores	F2S - number of contacts	0	0	0	0	0	0	0	0	0	0
8		F2S - duration of contact	0	0	0	0	0	0	0	0	0	0
	Month/ Reporting	Lesson Description	Grade/Classroom	Grade/Classroom	Grade/Classroom	Grade/Classroom	Grade/Classroom	Grade/Classroom	Grade/Classroom	Grade/Classroom	Grade/Classroom	Grade/Classroom

Domain: Engagement Activities

Tab: Engagement Activities

This tab tracks several different types of activities and details about each. The activities included in this domain, and the corresponding needed information, are described below.

	A	B	C	D	E	F	G	H
1	SCHOOL NAME:		0					
2	SCHOOL YEAR:		0					
3								
4	LAST UPDATED:							
5								
6								
7	Overall Scores:							
8	Number of Contacts	Includes: farmer visits; field trips; number of tastings	0	0	0	0	0	0
9	Number of Food items highli	Includes number of different foods included in tastings	0	0	0	0	0	0
10								
11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/	School/Grade/	School/Grade/
12		Farmer Visits to classrooms	0	0	0	0	0	0
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23		Field trips to farms	0	0	0	0	0	0
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35	Tastings scores	Classroom	0	0	0	0	0	0
36		Cafeteria	0	0	0	0	0	0
37		On-farm	0	0	0	0	0	0
38		In-garden	0	0	0	0	0	0
39		Tastings - Classroom - list foods	# of different tastings	# of different tastings	# of different tastings	# of different tastings	# of different tastings	# of different tastings
40								

Cells to complete:

- B4 (last updated)

	A	B	C	D
1	SCHOOL NAME:		0	
2	SCHOOL YEAR:		0	
3				
4	LAST UPDATED:			
5				

- Blue-colored cells (row 11), with the name of each student group (as described for the previous domains).

10							
11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/	School/Grade/
12		Farmer Visits to classrooms	0	0	0	0	0

- Blank cells, in several areas (described below).

Farmer Visits (lines 13-22)

- Grouped according to student groups you assign (row 11, blue cells)
- In Column A, report the month/date
- In Column B, make a brief note about the visit (i.e., topic of the farmer’s presentation)
- In Columns C/D/E/(etc), note the number of visits received by a student group for the reporting period
- The peach cells in row 12 sum (with formulas) the total number of farmer visits received by each student group over the course of the school year.

10							
11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/	School/Grade/
12		Farmer Visits to classrooms	0	0	0	0	0
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

Field Trips to Farms (lines 24-34)

- In Column A, report the month/date
- In Column B, make a brief note about the field trip
- In Column C/D/E/(etc), enter the number of field trips received by a student group.
- The peach cells in row 23 sum (with formulas) the total number of field trips received by each student group over the course of the school year.

10							
23	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/	School/Grade/
24		Field trips to Farms	0	0	0	0	0
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							

Tastings (rows 35-82)

- Tasting activities are categorized into four groups: Classroom, Cafeteria, On-farm, and In-garden. Each has their own set of rows, starting with a green row. Peach cells at the top of the section (rows 35-38) sum the number of tasting activities in each sub-location. For each group, document the following:
 - Column A - month/date
 - Column B - list the food tasted
 - Column C/D/E/(etc) - list the number of tasting activities received by a student group over the course of the school year.

11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/
35	Tastings scores		Classroom	0	0
36			Cafeteria	0	0
37			On-farm	0	0
38			In-garden	0	0
39	Tastings - Classroom - list foods		# of different tastings	# of different tastings	# of different tastings
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50	Tastings - Cafeteria - list foods		# per grade	# per grade	# per grade
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61	Tastings - On-farm - list foods		# per grade	# per grade	# per grade
62					
63					

Information sent home to parents (rows 84-94)

- Examples: Farm to School Newsletter, web site, Facebook page, emails, other.
 - In Column A - month/date
 - In Column B - list the format(s) disseminated in the reporting period
 - In Column C/D/E/(etc) - enter the total number of pieces sent home/communicated to parents in the reporting period.
- Peach cells (row 83) give the total number of pieces of information sent home/communicated to parents (formulas) over the course of the school year.

11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/
83	Information sent home - list format (e.g., F2S Newsletter, web site, Facebook page, emails, other (please describe))		0	0	0	0
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						

Local Foods Fundraiser (rows 96-106)

- This is for fundraising activities that involve local foods. It may be a local foods meal, or a traditional gift-type fundraiser (root vegetable or cheese package, for example).
 - In Column A, report the month/date
 - In Column B, briefly describe the fundraiser scope
 - In column C/D/E/(etc), enter the number of fundraiser activities in the reporting period.
- Peach cells (row 95) sum (with formulas) the number of local foods fundraising activities received by each student group over the course of the school year.

11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/ S
95		Local Foods Fundraiser (please describe)	0	0	0	0
96						
97						
98						
99						
100						
101						
102						
103						
104						
105						
106						

Cooking Activities (rows 108-118)

- This is for activities where students participate in hands-on cooking activities.
 - In Column A, report the month/date
 - In Column B, enter a brief description of the activity(ies) that took place that month. Be sure to include a note about where the activity took place (in a classroom, the cafeteria, or the school garden, for example).
 - In Column C/D/E/(etc), enter the total number of activities for the reporting period.
- Peach cells (row 107) sum (with formulas) the number of cooking activities received by each student group over the course of the school year.

11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/ S
107		Cooking Activities - In-classroom, In-garden, In-cafeteria (please describe)	0	0	0	0
108						
109						
110						
111						
112						
113						
114						
115						
116						
117						
118						

Other Activities (starting in row 120)

- This is for activities that do not fall into the above activity types, nor the other domains. Examples: cafeteria promotional materials [posters, table-top displays, etc], school assemblies, or including community events which directly involve students. Please describe any activities entered in this section.
 - In Column A, report the month/date
 - In Column B, briefly describe the activity.
 - In Column C/D/E/(etc), enter the number of “other” activities completed in the reporting period.
- The peach cells (row 119) sum (with formulas) the number of “other” activities received by each student group over the course of the school year.

11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/
		Other (examples: cafeteria promotional materials [posters, table-top displays, etc], school assemblies, or including community events which directly involve students): Please describe	0	0	0	0
119						
120						
121						
122						
123						
124						
125						
126						
127						
128						
129						
130						
131						
132						
133						
134						
135						

At the top of the Engagement Activities worksheet, the peach cells (rows 7-9) contain formulas that sum, for each student group (over the course of the school year):

- Number of Contacts (number of activities) - *farmer visits; field trips; number of tasting activities; information sent home; local foods fundraisers; cooking activities; "other"*
- Number of Foods Highlighted - *number of different foods included in tasting activities*

4	LAST UPDATED:								
5									
6									
7	Overall Scores:								
8	Number of Contacts	Includes: farmer visits; field trips; number of tasting	0	0	0	0	0	0	0
9	Number of Food items highlighted	Includes number of different foods included in tastin	0	0	0	0	0	0	0
10									
11	Month/ Reporting	Activity (scroll down to see all activities)	School/Grade/	School/Grade/	School/Grade/	School/Grade/	School/Grade/	School/Grade/	School/Gr

[*do we need any other screen shots?]

Domain: Garden Activities

Tab: Garden Description

This worksheet tab is designed to describe the size and type of garden at your school, and how the produce is used. Tracking this over multiple years can help document concretely the development of the garden. Part 1 (rows 6-35) only needs to be completed once each school year; Part 2 (beginning with row 36) is ongoing.

	A	B	C	D	E	F	G	H	I	J	K	L
1	SCHOOL NAME:		0									
2	SCHOOL YEAR:		0									
3												
4	LAST UPDATED:											
5	PART 1 OF 3: GARDEN DESCRIPTION											
6	Is there a garden in this school?	Yes/No										
7												
8	If yes, select the characteristics that apply:		Response	Additional notes (optional)								
9	Size of garden											
10	Garden characteristics											
11	Raised bed											
12	In-ground											
13	Container											
14	Cold-frame											
15	Micro-farm/garden cart											
16	Orchard											
17	Greenhouse											
18	Other - describe											
19												
20	Theme garden: pizza											
21	Theme garden: salsa											
22	Theme garden: 3 sisters											
23	Herbs											
24	Native Plants											
25	Fruit trees/shrubs											
26	Other - describe											
27												
28												
29												
30												
31												
32												
33												
34												
35												
36	PART 2 OF 3: GARDEN PRODUCE USE											
37	Is garden produce used for procurement, either within the school meal program or for donations to food pantries/other community program?											
38	If yes, please complete the following.											
39	Month/reporting period	List Item (1 per row - there may be multiple rows per reporting period)	Estimated weight of produce in	School meal use	School snack use	Other school educational activity	Donation					
40	Totals		0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
41												
42												
43												

Cells to complete:

- B4 (Last Updated)

	A	B	C
1	SCHOOL NAME:		0
2	SCHOOL YEAR:		0
3			
4	LAST UPDATED:		

Part 1: Garden Description

- B6: Is there a school garden (yes/no)
- Column C, rows 9-26: describe the size of the garden and select (for example, with an X) any garden characteristics that apply to your school's garden.
- Column H, rows 9-34: select which items are grown in the garden.

5	PART 1 OF 3: GARDEN DESCRIPTION			
6	Is there a garden in this school?		Yes/No	
7				
8	If yes, select the characteristics that apply:		Response	Additional notes
9	Size of garden			
10	Garden characteristics			
11	Raised bed			
12	In-ground			
13	Container			
14	Cold-frame			
15	Micro-farm/garden cart			
16	Orchard			
17	Greenhouse			
18	Other - describe			
19				
20	Theme garden: pizza			
21	Theme garden: salsa			
22	Theme garden: 3 sisters			
23	Herbs			
24	Native Plants			
25	Fruit trees/shrubs			
26	Other - describe			
27				
28				
29				
30				
31				
32				
33				
34				

Items Grown in the garden
Beets
Broccoli
Cabbage
Cauliflower
Corn
Cucumbers
Eggplant
Kale
Lettuce
Melons
Mustard Greens
Onions
Peas
Peppers
Potatoes
Pumpkins
Radishes
Spinach
Swiss Chard
Tomatillos
Tomatoes
Winter squash
Zucchini
Other: list at right

Part 2: Garden Produce Use

- This part of the *Garden Description* tab documents how produce grown in the garden is used.
- In Column A, enter the month/date (beginning with row 41)
- In Column B, list one item (per row) grown in the garden that is used for:
 - School meals (mark with an x or a 1 in Column D)
 - School snacks (mark with an x or a 1 in Column E)
 - Other school activity educational use (mark with an x or a 1 in Column F)
 - examples: taste tests, cooking activity, during classroom lessons, science projects, or other similar activities
 - OR Donating (mark with an x or a 1 in Column G)
 - examples: to a food pantry or other community organization, or sharing with families in the school community (teachers, parents, etc.)
- In Column C, enter the estimated weight of the produce harvested and used/donated in that reporting period.

	A	B	C	D	E	F	G	H
36	PART 2 OF 3: GARDEN PRODUCE USE							
37	Is garden produce used for procurement, either within the school meal program or for donations to food pantries/other community program?							
38	<i>If yes, please complete the following.</i>							
	Month/reporting period	List Item (1 per row - there may be multiple rows per reporting period)	Estimated weight of produce (in pounds)	School meal use	School snack use	Other school educational activity use	Donation	
39								
40	Totals		0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
41								
42								
43								

- Blank cells, beginning row 12.
 - Column A - enter the month/reporting period
 - Column B - enter the general time of the activity: School day, after-school, summer, or lunchtime
 - Column C - enter a brief description of the activity
 - Pairs of columns (one pair for each student group; example, columns D and E):
 - number of visits (i.e., that an individual student within the group would receive)
 - number of minutes *per visit* (total for reporting period entry)

Peach-colored cells (row 11) contain formulas to calculate the total number of visits and the total number of minutes received by each student group over the course of the school year.

7	Date	Garden use time	Garden Activity Description	School/Grade/Classroom	School/Grade/Classroom
8	<i>sample entries:</i>			# of visits	# minutes p
9	October	School day	F2S lesson; planting seeds (or core curricular lesson that integrates F2S concept)	2	35
10	April	After-school program	Gar Veggies? Curriculum, lesson 1/Unit 1	6	30
11	Scores:	Total		0	0
12					
13					
14					
15					
16					
17					

A Caveat

This tool can provide valuable information about the number and types of activities taking place in your farm to school program. It is clear that this farm to school Activity Tracking tool requires significant effort and time on the parts of personnel who are admirably committed to students while working on extremely limited financial and time budgets. We provide this tool as an opportunity for schools who are committed to more comprehensive evaluation efforts, who have ample capacity for collecting this information, or who may be participating in more formal research or evaluation efforts.

If your school is concerned about sustainability of tracking, perhaps consider using individual sections of the Activity Tracker depending on your own evaluation priorities - for example, perhaps it is most important to you to track garden use and activities, or to track procurement of local foods and their use in school meals. As mentioned above, be sure that your school has sustainable capacity for tracking across an entire school year (or more) in order to obtain meaningful information describing your farm to school program activities.