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Linking Education, Activity and Food (LEAF) Report on Fresh Produce Purchases by School Food Service Executive Summary

BACKGROUND

In response to the child obesity epidemic the California legislature passed Senate Bills 19 and 56, titled the Pupil Nutrition, Health and Achievement Act of 2001. In accordance with the legislation, 16 middle and high schools were provided grants to pilot test the implementation of SB 19/56 as well as to promote the consumption of California grown fresh produce. A multi-component evaluation of this pilot project, Linking Education Activity, and Food (LEAF), was conducted by the Center for Weight and Health (CWH) at the University of California, Berkeley. The component of the evaluation designed to assess the impact of LEAF on the purchase of fresh produce by food service departments is summarized below.

KEY FINDINGS¹

- **LEAF schools, as a whole, increased per meal purchases of fresh fruits and vegetables in all categories except potatoes². Depending on the category, purchases increased from 9% to 64% by weight.**
 - The largest increases were seen in the “other fruit³” and “other vegetable⁴” categories, suggesting that schools were successful in increasing the variety of fresh produce offered to students.
 - Middle and junior high schools, as a whole, experienced increases in all categories of fresh produce except potatoes.

¹ Comparisons were made for average monthly purchases by weight for several months near the beginning of LEAF to the same or similar time period near the end of LEAF. All figures are adjusted for number of meals served. Only fresh (no frozen, canned or dried) produce purchases were included. Purchases of individual types of fresh produce items were combined into 6 groups: basic fruits (apples, bananas & citrus), all other fruit, carrots and celery, potatoes, salad greens, all other vegetables.

² Declines in fresh potato purchases may reflect a decrease in the provision of potatoes served in the form of french fries; overall trends in the provision of french fries can not be determined given that french fries are often prepared from frozen potatoes which were not included in this analysis.

³ “Other fruit” category indicates fruits other than apples, bananas and citrus. This category includes fruits such as grapes, melons, peaches, nectarines, apricots, pears, plums, strawberries, watermelon, kiwi, pineapple, mango, papaya, mixed fruit, and fruit salads.

⁴ “Other vegetable” category indicates vegetables other than carrots, celery, salad greens and potatoes. This category includes vegetables such as tomatoes, squash, onions, mushrooms, peas, radishes, peppers, broccoli, cucumbers, parsley, sprouts, green beans, jicama, cauliflower, avocado, and vegetable mixes (stir fry, oriental, salad, and fajita).

- High schools, as a whole, experienced increases in both categories of fresh fruit and a slight (3%) decline in all categories of fresh vegetables except “other vegetables⁴” (excluding potatoes).
 - Despite the decline, the absolute amount of fresh vegetables (excluding potatoes) purchased on average at high schools at the end of LEAF was greater than that purchased by middle/junior high schools.
 - The absolute amount of fresh fruit purchases at the end of LEAF was slightly greater at middle/junior high schools than at high schools.
- **Three schools exceeded 4 oz of fresh produce per meal served at the end of LEAF.**
- These 3 schools purchased 8.07, 5.63 and 4.32 oz of fresh produce per meal served compared to the 3.1 oz average for all LEAF schools.
 - These 3 schools also experienced some of the largest increases in per meal purchases of fresh produce.
 - The addition of salad/fruit bars, direct and consistent input from students on menu offerings, promotional activities, and to a lesser extent other upgrades in the cafeteria and to the nutrition curricula, appear to have contributed to the increase in produce purchases at these sites.
- **Most LEAF schools increased their fruit and vegetable offerings through the reimbursable meal program by adding a fruit/salad bar, expanding the existing meal offerings, and/or enhancing the presentation of food.**
- Those sites that did not have a fruit and/or salad bar or only limited salad bar service tended to see decreases and/or low absolute levels of fresh produce purchases.
 - Districts that reported the most substantive improvements and upgrades to food presentation and consistency also posted some of the highest increases within various produce categories.
- **Cross site trends suggest that addition of the following during LEAF contributed to increases in purchases of fresh produce by school food service:**
- Fresh salad/fruit bars*
 - Cooking and gardening classes offered after school*
 - Field trips to farms or farmer’s markets
 - Improved kitchen facilities
 - Gardening classes offered during school
- *clearest trends

- **Promotional activities such as health fairs, taste-testing and profiling of California grown produce were viewed as important by LEAF teams despite a lack of clear association with fresh produce purchases.**
 - Taste-testing activities with students were considered especially critical for increasing student acceptance of new offerings. It was noted that funding would be needed to cover expenses associated with preparation, storage, and taste-testing of produce when LEAF funding is not available.

- **Meal program improvements in general, and increased provision of fruits and vegetables in particular, were well-received by stakeholders.**
 - Students, parents and teachers were enthusiastic about these improvements in the meal program.
 - Food service directors embraced the concept of providing more fresh fruits and vegetables while expressing concern regarding the increased costs associated with produce preparation, storage and refrigeration.

- **According to the LEAF food service directors, increased provision of fresh produce and increased variety of produce involves increases in both ongoing costs and one-time capital expenditures.**
 - The more unusual produce tends to cost more.
 - The preparation and handling of fresh produce is labor-intensive and therefore can lead to increased labor costs.
 - More fresh produce requires increases in storage space and refrigeration.
 - Adding salad bars generally requires the purchase of new serving equipment/facilities.
 - At the LEAF schools some of these costs were offset by increased meal revenues as a result of increased participation rates.
 - Schools may require additional funds to cover the one-time capital expenditures (that were paid for by the LEAF grant at the LEAF schools).

- **Districts will need assistance if they are expected to increase the purchase of California grown produce.**
 - All produce would need to be labeled as to state and country of origin.
 - Food service directors will need assistance in identifying vendors/farmers that can provide a sufficient variety of California grown produce year-round at affordable prices that can be accommodated given current meal reimbursement rates.
 - Assistance is needed, possibly from produce boards or others, to facilitate much needed communication between farmers, distributors, food service directors and cafeteria managers.