

## Three years of repeated exposure to fruits and vegetable changes eating behavior

### AT A GLANCE

University of Idaho Extension offers Eat Smart Idaho repeated exposure of fruits and vegetables at schools in north Idaho with great success and writes implementation protocol.

### The Situation

Low-income children in Idaho are affected with high rates of food insecurity and obesity placing them at risk for poor health outcomes. Diets that are rich in fruit and vegetable intake are associated with many health benefits and reduced obesity rates. However, Idaho youth do not consume the nationally recommended amounts of fruits or vegetables each day. Research shows that consumption is low because children often will not try food they are unfamiliar with, in particular vegetables. Additionally, low-income families will not spend their limited food dollars on foods they are unsure their children will eat.

### Our Response

One way to decrease neophobia and increase fruit and vegetable purchases by low-income households is to introduce fruits and vegetables to youth during the school day with fruit and vegetable taste testing. UI Extension's Eat Smart Idaho program in the northern district adopted a preschool curriculum from Portland State University called Harvest for Healthy Kids and morphed it into a successful program at two schools in the Coeur d'Alene School District in the 21/22 school year and again in the 22/23 school year. Eat Smart Idaho continued the program into 23/24 school year to



Ponderosa Elementary student enjoys fresh rainbow carrots during Healthy Harvest.

include an elementary school in the Post Falls School District. Over the last three years, Eat Smart Idaho has used repeated exposures to a variety of fruits and vegetables, provided morning announcements to each school site, emailed newsletters to families about the fruit or vegetable highlight and shared educational materials about the produce for teachers to use in the classroom. On the day of each offer cafeteria tables are decorated with pop-up art showing how the highlighted fruit or vegetable grows and different varieties of each fruit and vegetable. Youth are then enticed with samples during the school lunch service along with nutrition education, visuals on the varieties of specific produce items and descriptive words enticing them to try the samples.

## Program Outcomes

In 21/22, the entire student body (339 youth) at Fernan Stem Academy in the Coeur d’Alene School District received 12 repeated exposures in 12 weeks to four different fruits and nine different vegetables. Participation was collected through a simple survey asking youth to evaluate if they liked the produce sample or if they were “not sure about it yet.” The number of students (n=339) who tried the sample was documented.

Produce Highlight	Food Offered	# of students who tried
Tomatoes	Fresh local salsa	299
Winter Squash	Pumpkin bread	280
Carrots	Rainbow carrots with greens & 100% carrot juice	339+
Cabbage	Coleslaw	281
Sweet Potatoes	Baked fries	298
Beans	Hummus and bean chips	282
Apples	Cosmic crisp apples, 100% apple juice, apple muffins	339+
Cucumber	Mini cucumbers	301
Cauliflower	Purple variety	298
Watermelon	Watermelon cubes	299
Pineapple	Fresh pineapple chunk & 100% pineapple juice	339+
Berries	Blueberry muffins	278

In 22/23, at Lakes Middle School over 700 youth were offered four repeated exposures in four weeks. Infused

### FOR MORE INFORMATION

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waters, pomegranates and pomegranate juice, berry and mango smoothies, and 100% fruit juices were shared. A change in behavior among students was evident with each exposure.

In 23/24, the entire student body (428 youth) at Ponderosa Elementary in the Post Falls School District received seven repeated exposures in seven weeks to one fruits and six different vegetables. Participation rate was collected through the same simple survey.

Produce Highlight	Food Offered	# of students who tried
Carrots	Fresh rainbow carrots and 100% carrot juice	213
Peppers	Sweet mini fresh peppers	239
Corn	Corn Salad	255
Tomatoes	Fresh local salsa	249
Cauliflower	Purple cauliflower	363
Cucumbers	Mini cucumbers	267
Apples	Cosmic crisp apples, 100% apple juice, apple bread	428

## The Future

In 2023, Eat Smart Idaho (ESI) wrote a Healthy Harvest protocol targeting primary through secondary schools and submitted it for publication. The protocol outlines why and how to offer the healthy harvest concept. In 2024, ESI added to the protocol document including cost and equipment needs for each offer. ESI will be offering this program in the 24/25 school year.

## Cooperators and Co-Sponsors

ESI team: Annie Roe, Joey Peutz, Siew Guan Lee, Kristin Hansen, Cammie Jayo and Becky Woodhouse.