Rooted in Communities

The Scholarship, Practice and Engagement of the Expanded Food and Nutrition Education Program (EFNEP)

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Learning Outcomes

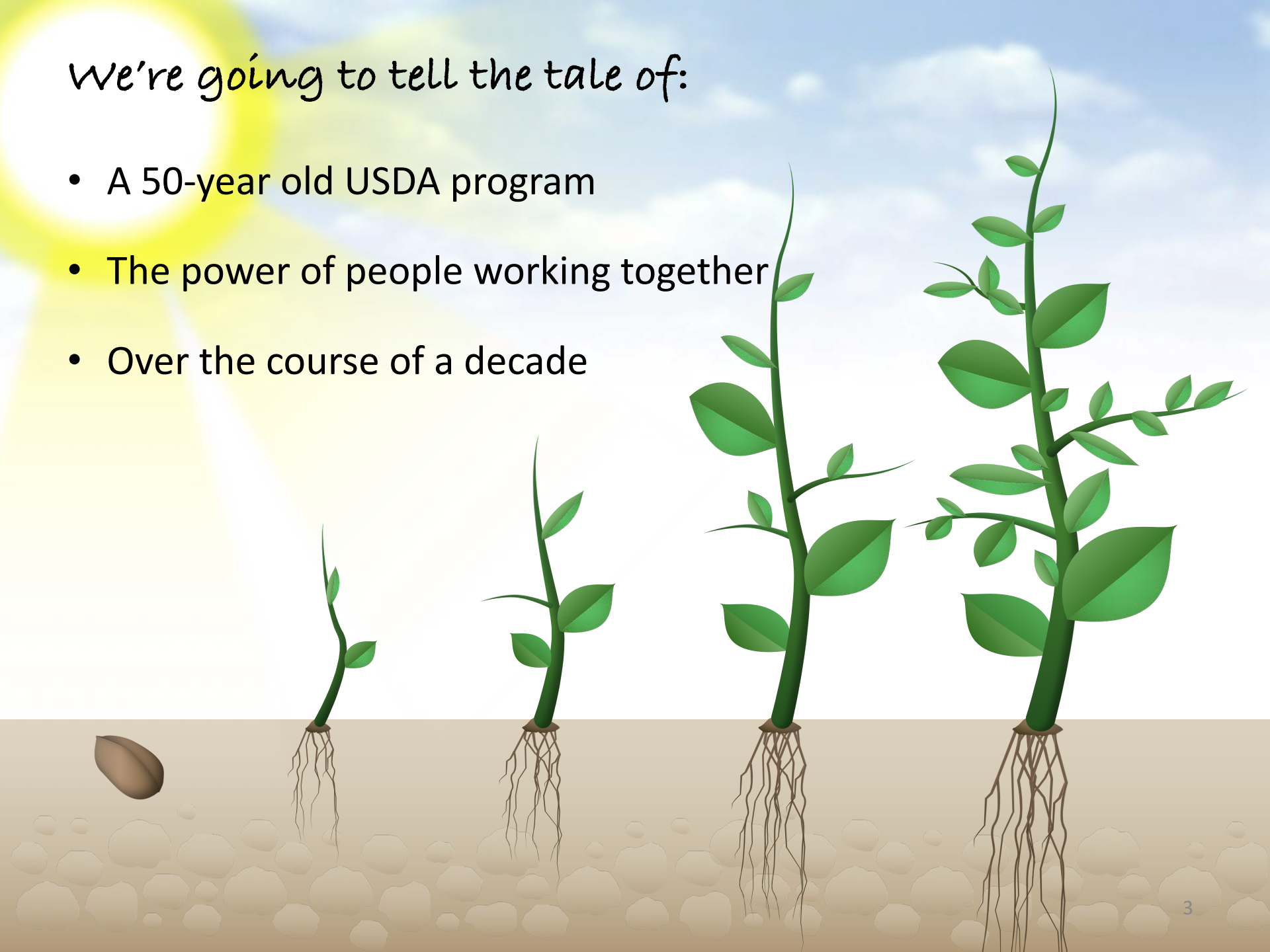
1. Describe the current evidence base for the USDA NIFA Expanded Food and Nutrition Education Program (EFNEP)

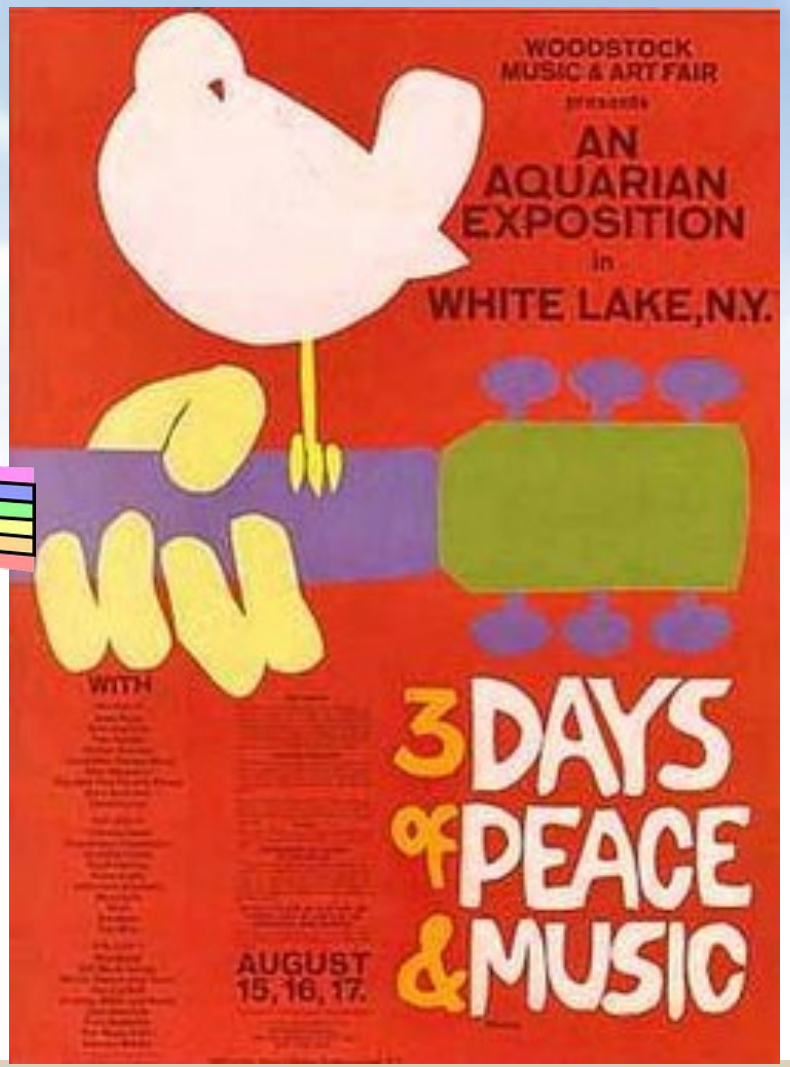
2. Identify the role of multi-state partnerships in developing the evidence base for future Extension programs

3. Understand the methodology used to develop and validate evaluation tools for EFNEP

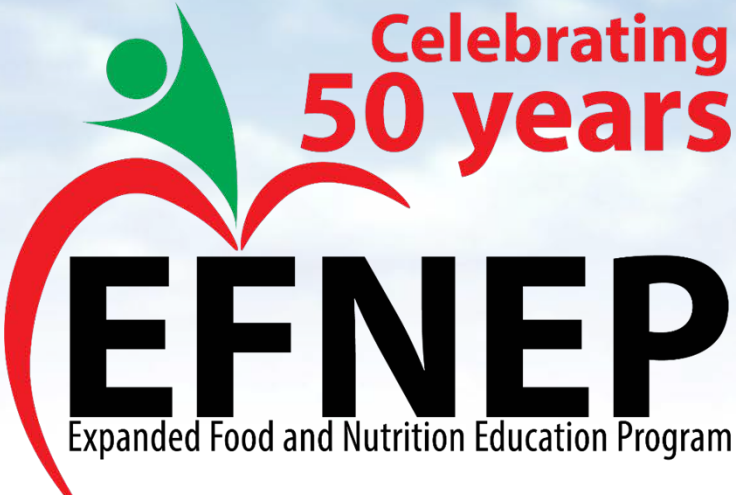
We're going to tell the tale of:

- A 50-year old USDA program
- The power of people working together
- Over the course of a decade




WOODSTOCK
MUSIC & ART FAIR
presents
AN
AQUARIAN
EXPOSITION
in
WHITE LAKE, N.Y.
WITH
3 DAYS
of PEACE
& MUSIC
AUGUST
15, 16, 17.

Our roots



- Founded in 1969
- Implemented in all 50 states and six territories
- Serves low-income families with children
- Committed to program evaluation & reporting

- Healthy eating and active living education
- For limited resource families and youth
- Delivered through Land-Grant Universities
- Peer educator model
- Almost 4 million adult participants since 1969

With TENS OF MILLIONS spent on EFNEP each year, it's important to make sure the effort is EFFECTIVE. To do this, RESEARCHERS & EXTENSION educators from 20+ land-grant universities are designing methods & tools to MEASURE CHANGES in food-related behaviors.

EFNEP Subject Matter Areas

Nutrition

Food Security

Physical Activity

Food Safety

Food Resource Management

Why does this work matter?

HELPS ASSESS how well EFNEP and other nutrition programs work

SHOWS how food choices affect health

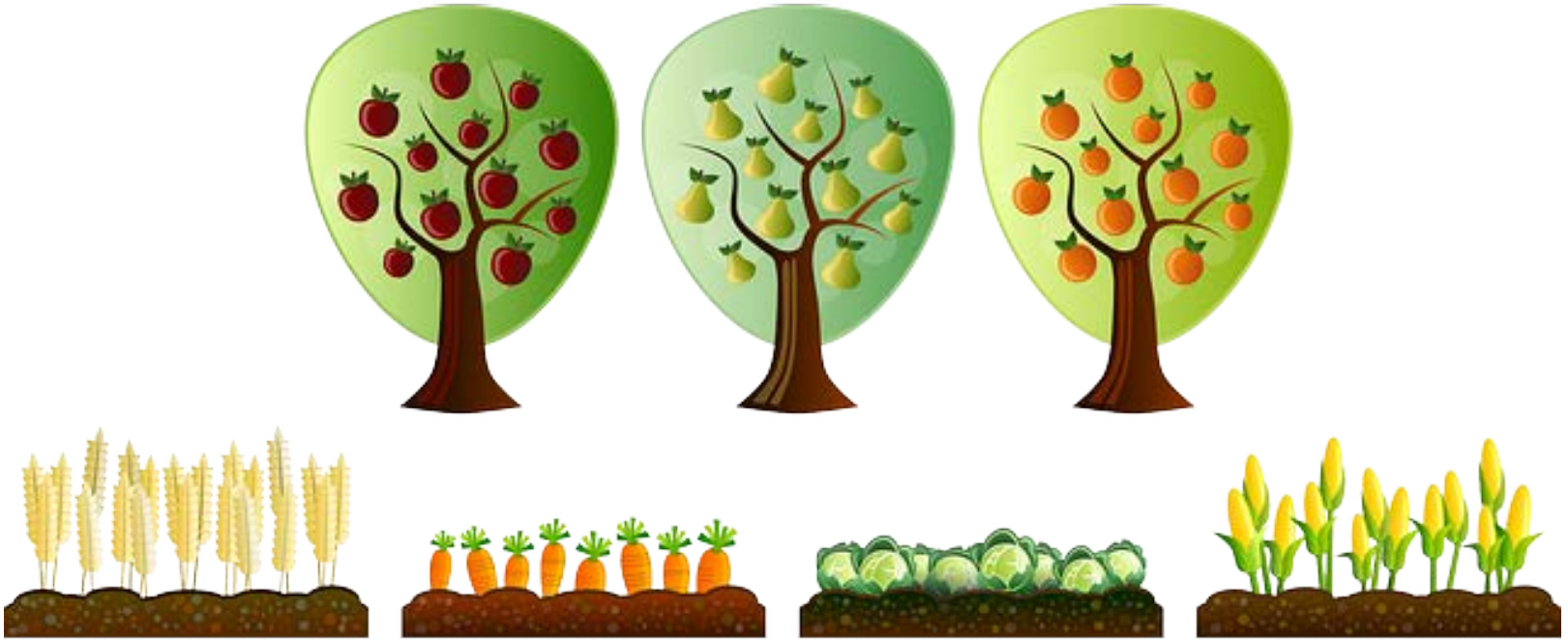
PINPOINTS how to improve nutrition programs

ENSURES nutrition programs lead to changes in behavior that improve the health of people across the country. Better health can improve quality of life, increase productivity, lower healthcare costs, and reduce pressure on government assistance and emergency care.

EFNEP
Program Implementation Research

High Quality Program Evaluation

- Measures how well a program works
- Requires tested tools
- Provides input for program improvement
- Identifies program outcomes and impacts



History of EFNEP Evaluation

1969
- Began Collecting Dietary Recalls

1990
- Behavior Checklist Developed

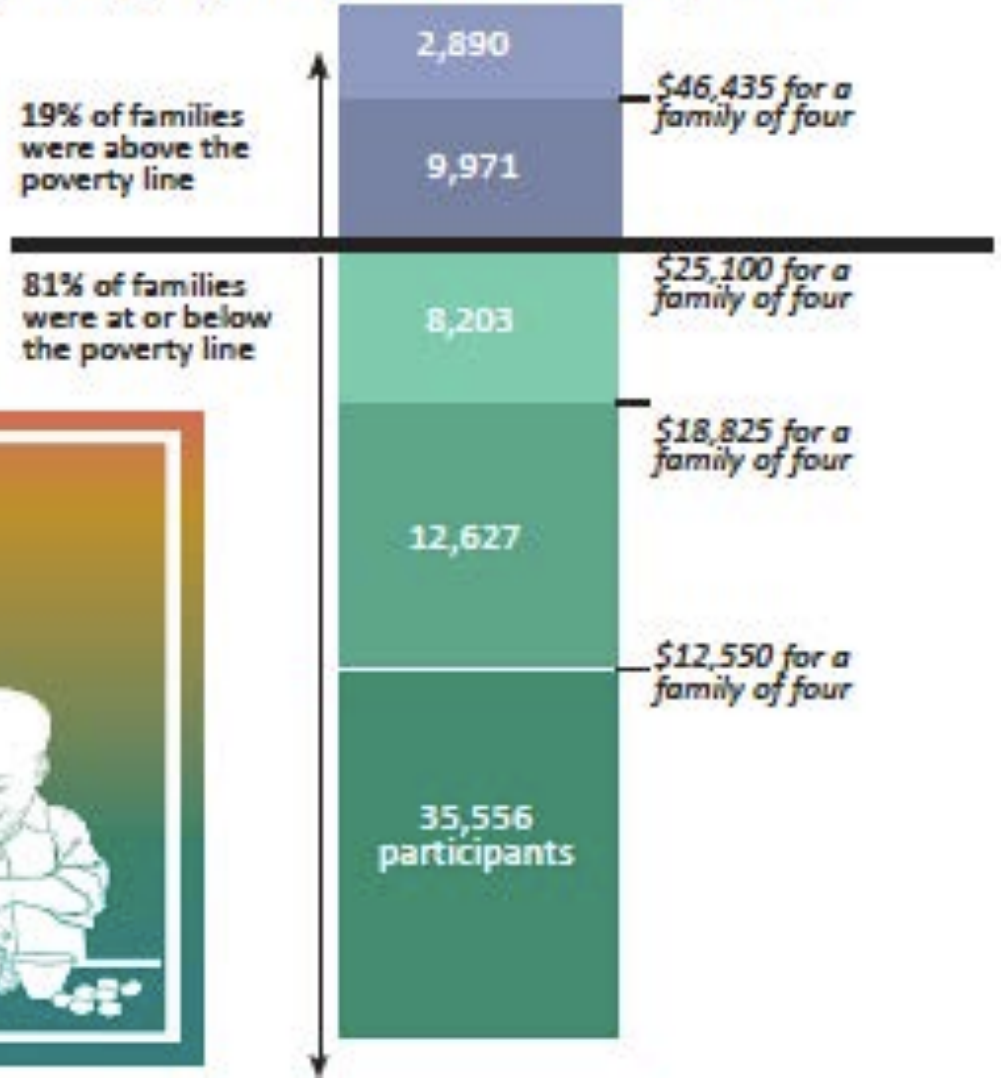
1997
- Behavior Checklist Revised

2017
- Food and Physical Activity Questionnaire Implemented

IMPROVING LIVES

REACHING LOW-INCOME FAMILIES

81% of EFNEP participants who reported income are at or below the poverty line, earning $25,100 a year or less for a family of four.



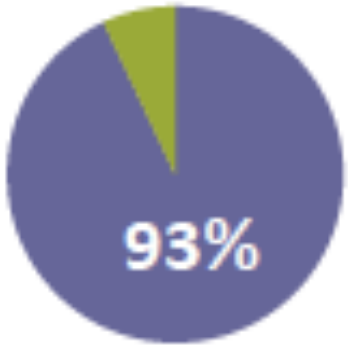
EFNEP Impacts 2018

SAVING MONEY

EFNEP graduates reported a collective food cost savings of:

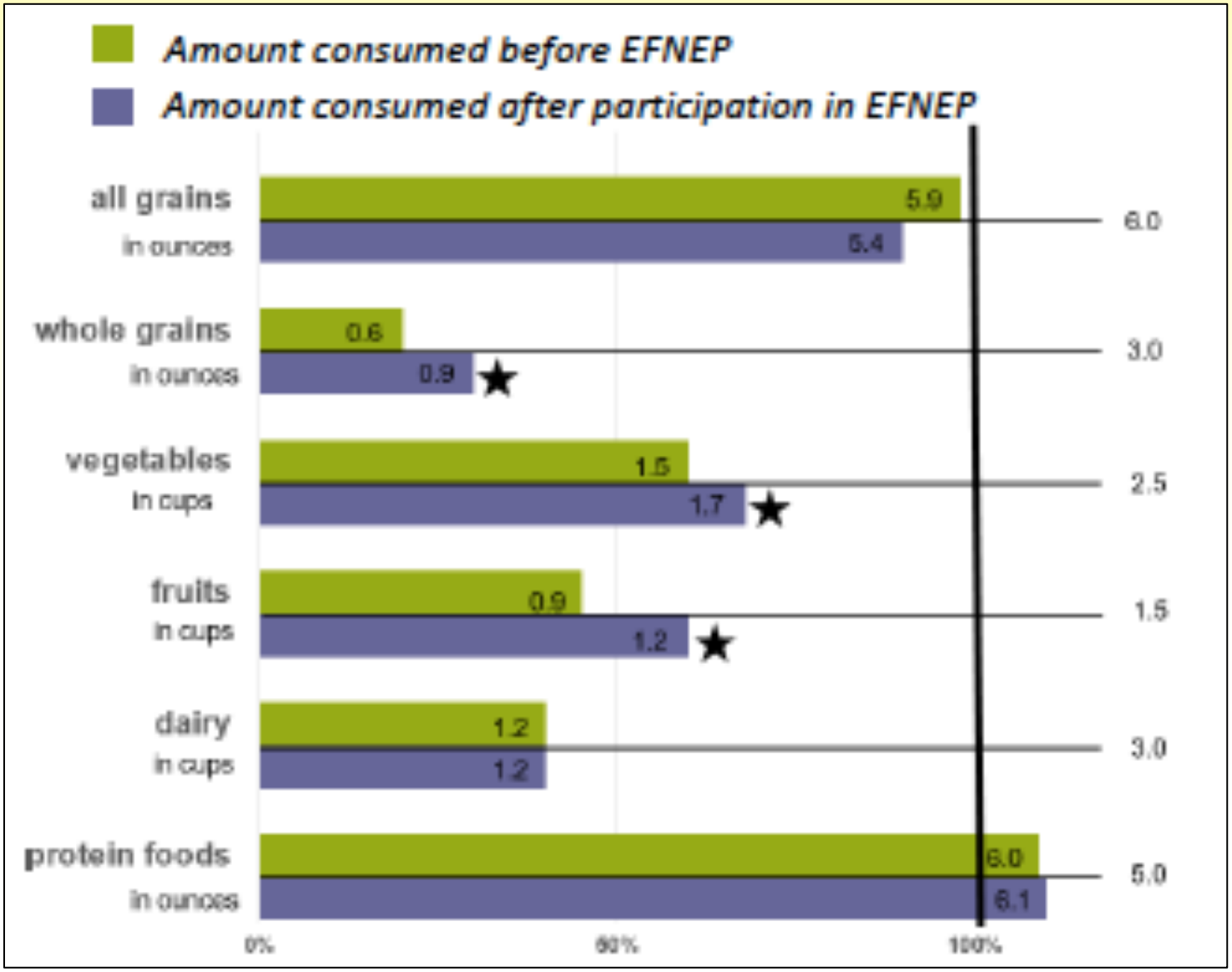
$1,218,861

IMPROVING DIETS



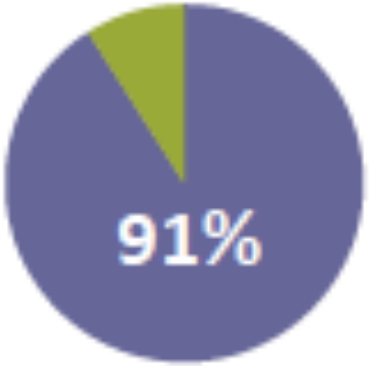
93% of adults improved their diet, including consuming additional fruits and vegetables.

EFNEP Impacts 2018 – Demonstrating Results



EFNEP Impacts 2018

CHANGING ADULT BEHAVIOR



Percentage of adults improving diet quality practices

INFLUENCING YOUTH

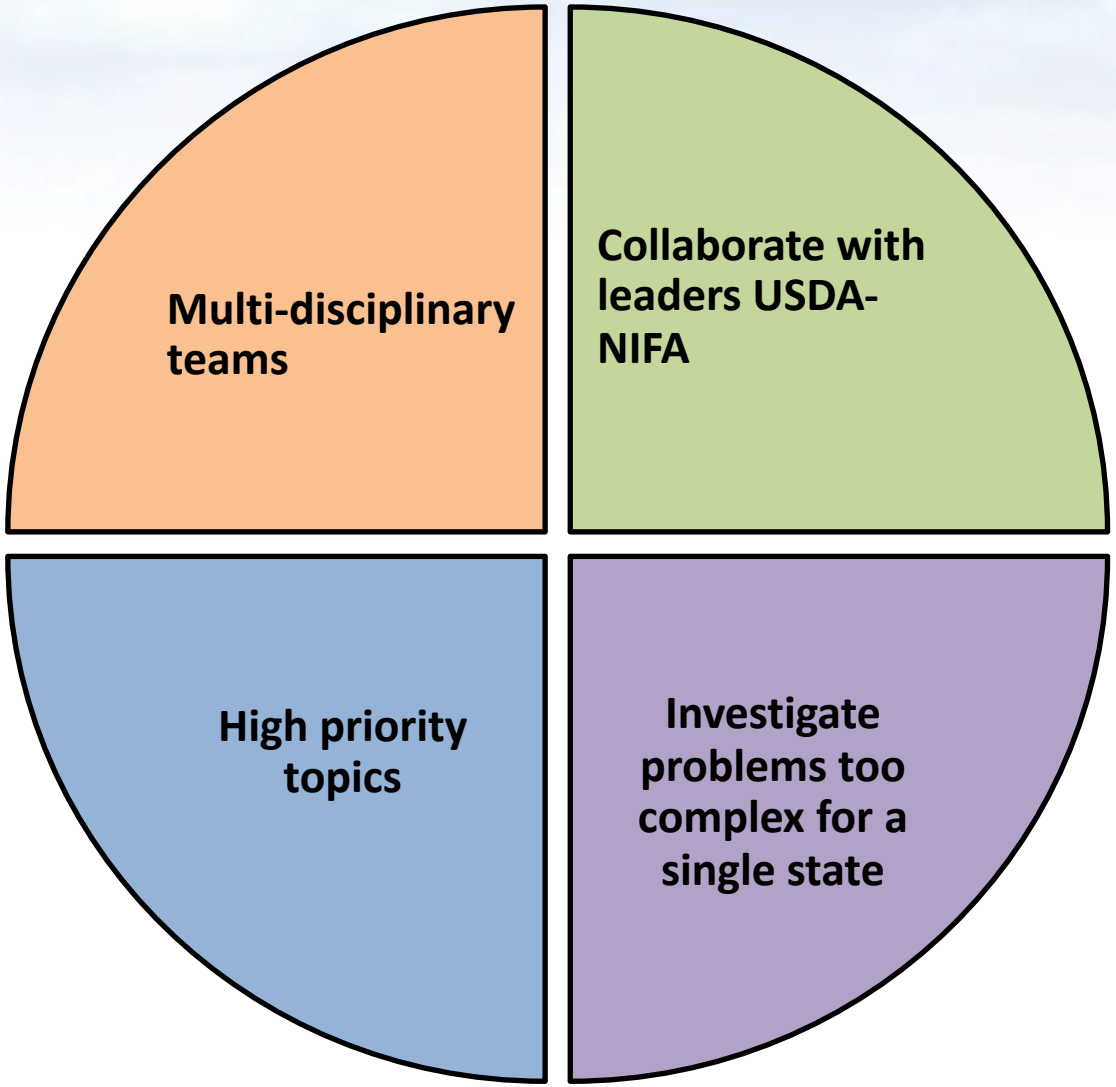
Percentage of youth increasing knowledge or ability to choose healthy foods

AES Multi-State Research Project

NC 3169

EFNEP-Related

- Research
- Program Evaluation
- Outreach



Why a *multistate* effort?

Access to a **VARIETY** of communities so researchers can see how employment, education, age, income, location, ethnicity, and other factors affect EFNEP's success

AGREEMENT that methods and tools are reliable because they've been tested in diverse settings.

Working together, researchers can develop **CONSISTENT** training protocols for new methods and tools

Enables **WIDESPREAD OUTREACH**

Collaboration helps researchers **SHARE RESOURCES** and **FUNDING**

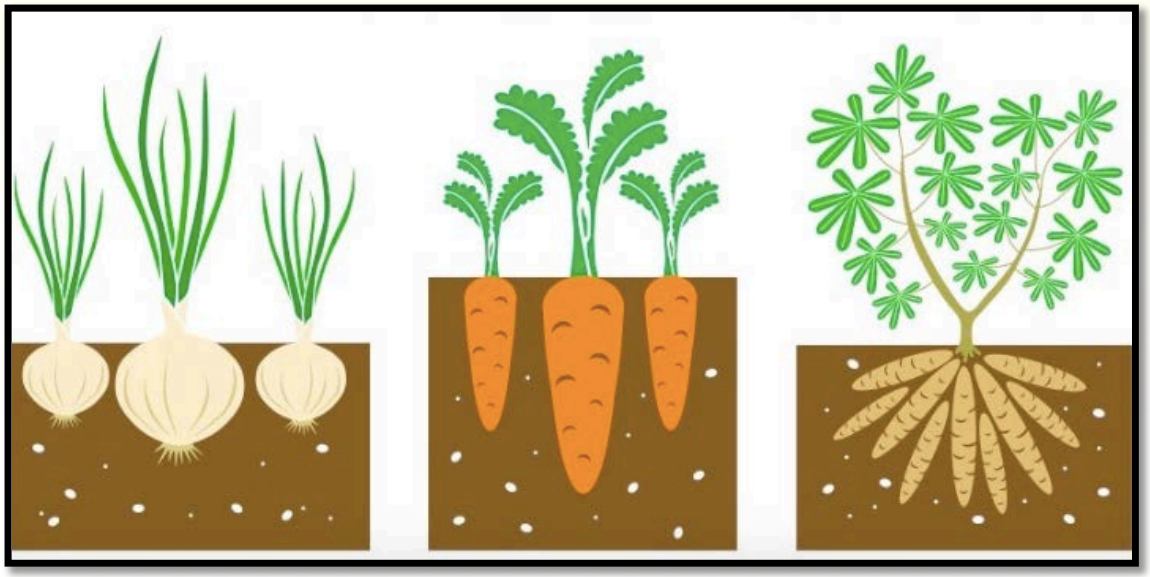
Many hands make light work.

~ Shaker Proverb

Why did EFNEP need new tools?

- New research findings
- 2015-2020 Dietary Guidelines for Americans
- 2008 Physical Activity Guidelines

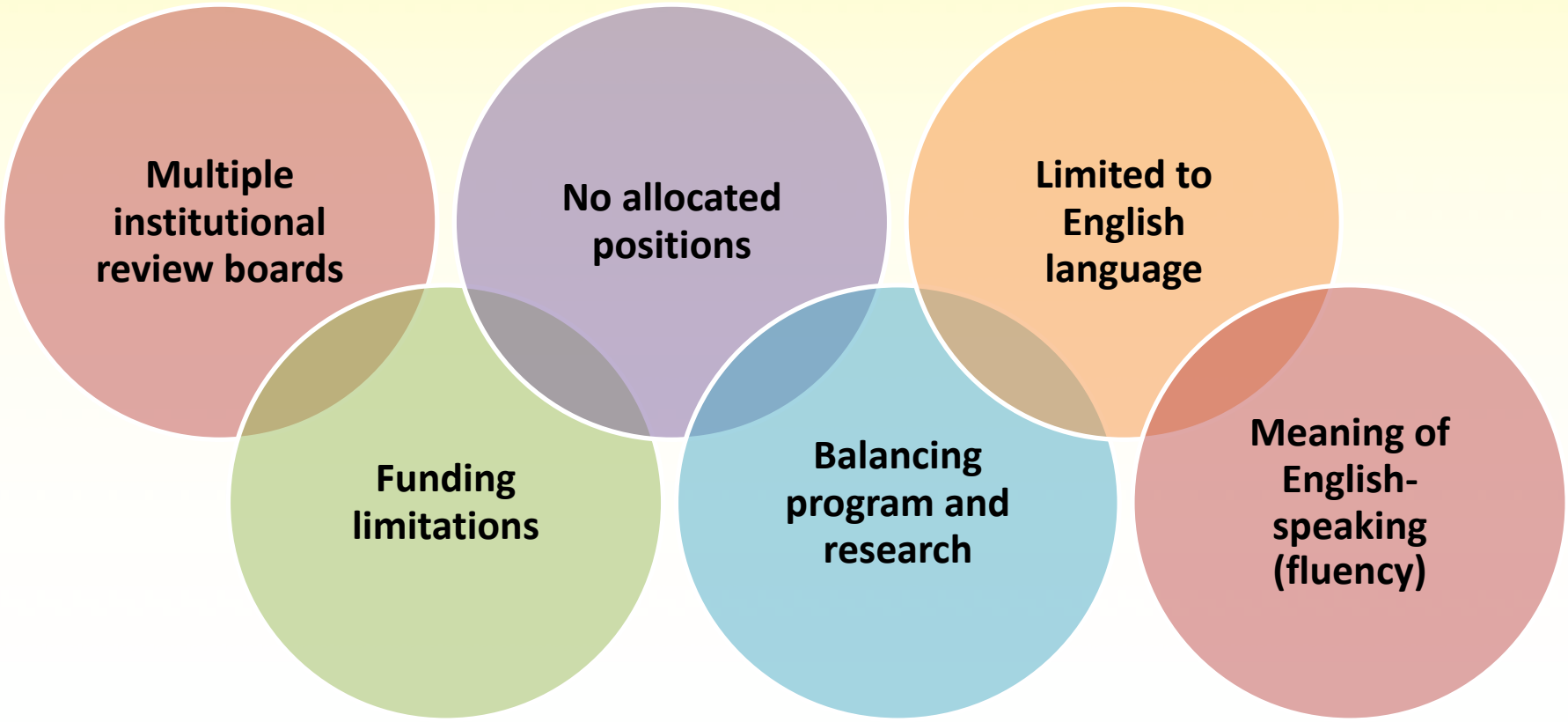
Strong program evaluation strengthens the evidence base and helps sustain successful programs.



What it takes…

- A village
- A common long-term vision
- Ability to measure collective impact
- Administrative commitment
- Federal support
- Commitment by people who care about the communities they serve

Some of Our Challenges



Issue

Healthy diets play a major role in preventing **obesity** and **chronic diseases**.

Many Americans, particularly those with ***lower incomes***, do **NOT** eat healthy diets.

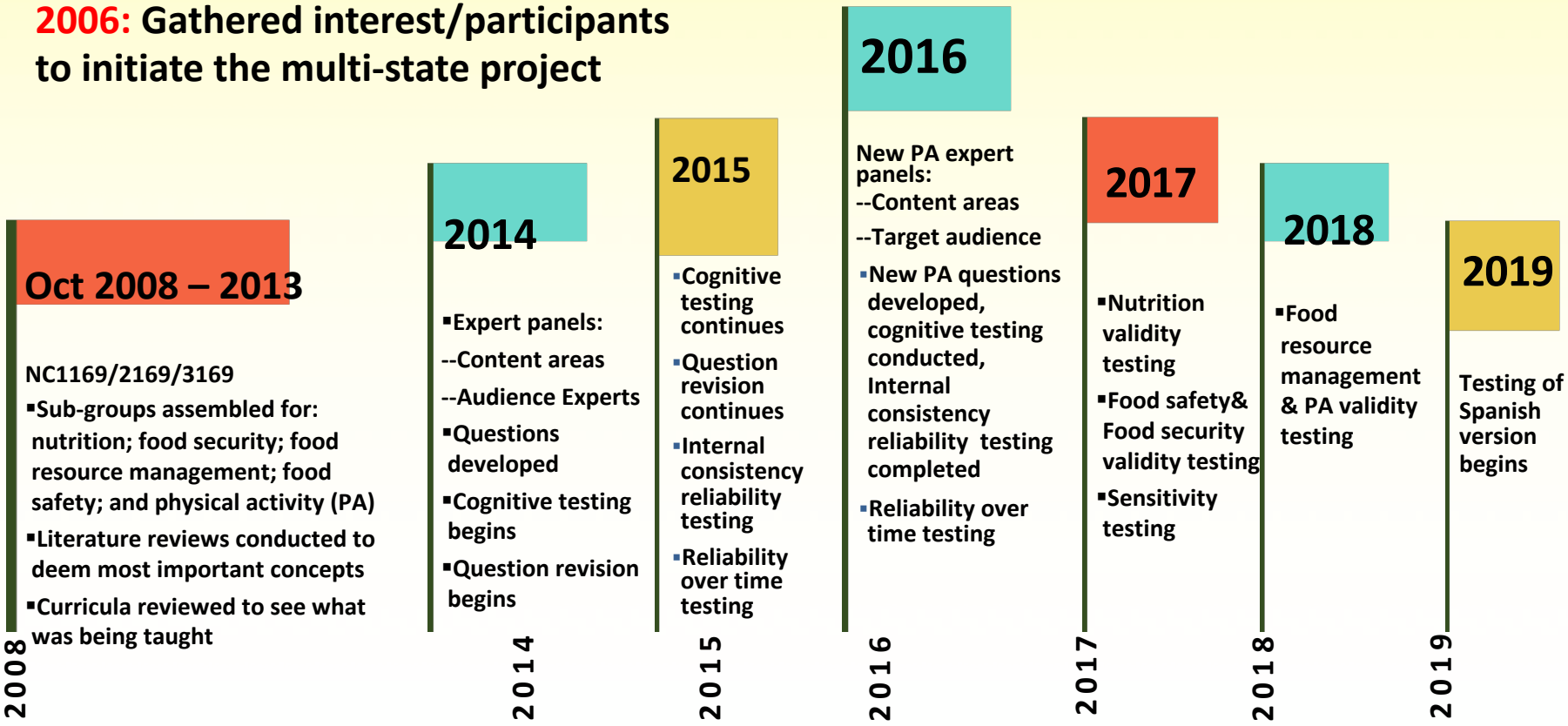
Need for valid and reliable tools to assess the scope of topics taught in nutrition education classes for low income audiences.

Survey Tool Development

A Labor Intensive and Lengthy Process

(2006-2019…so far)

2006: Gathered interest/participants to initiate the multi-state project



Process for New Survey Tool Development

- Literature Review
- Content Review
- Identification of Questions
- Cognitive Interviews
- Reliability Testing
- Validity
- Sensitivity

EFNEP Curricula for 80% of Graduates

1. Eating Smart • Being Active
2. Eating Smart & Moving More
3. Healthy Food & Healthy Family

EATING SMART
BEING ACTIVE

EFNEP's Families
Eating Smart AND Moving More

AgriLIFE EXTENSION
Texas A&M System

Content Review

- Review of content in educational materials
- Compares content with national program guidelines and/or expert recommendations
  - Confirms content
  - Identifies missing content

Content Validity

- Does the tool represent the breadth and scope of the topic of interest?
- Typically determined by “expert” panel
  - Researchers/NIFA Sub-committee members
  - State EFNEP Coordinators
  - NC2169 members

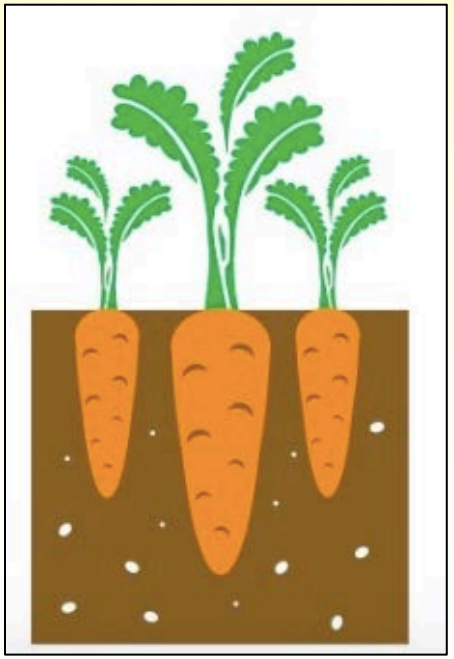
1. Murray, E., et al. (2015).
2. Murray, E., et al. (in press).

Identify Questions

- Questions identified from research and literature or developed as needed
- Expert panels provided feedback and suggestions on all questions:
  - How representative is the question?
  - How clear is the question?
  - What questions are missing?
  - What questions do not need to be included?

Face Validity

- Items appear to measure what they are supposed to AND
- Everyone interprets the item in the same way
- Typically use cognitive interviews



3. Willis, Gordon B. (1999).

From the testing vaults…

What word describes ‘allowing the ice to melt into water in a frozen food’?

A. Thawing
B. Unfreezing
C. Defrosting

Cognitive Interviews

- Identify/evaluate sources of response error in questionnaires
- Explore reasons for the problems
- Obtain information to fix the problems
- Revise questions
- Test the revisions

Example: Food Safety

- Phase 1 – How often do you leave food sitting out on the counter to thaw?
- Phase 2 – Do you leave food sitting out at room temperature to thaw?
- Phase 3 – How often do you defrost frozen food on the counter or in the sink?
- Phase 4 – How often do you thaw frozen food on the counter or in the sink?
- Phase 5 – How often do you thaw frozen food on the counter or in the sink at room temperature?

Cognitive Interviews Completed

- Over 350 cognitive interviews conducted in 15 states with EFNEP participants
- All items tested all regions

Reliability

Consistency, repeatability of a measure

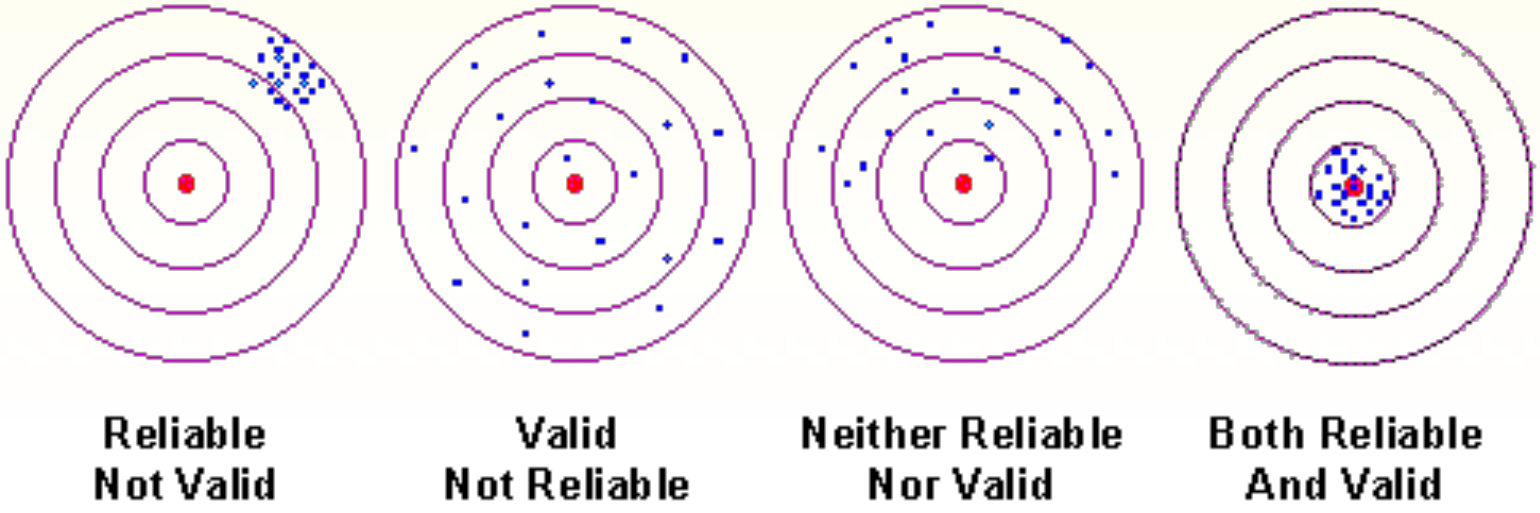
- Assuming nothing has changed, do you get the same response?

Two important types of reliability to test

- Reliability over time - Test/retest
  (correlations and paired t-tests)
- Internal consistency
  (Cronbach's alpha)

Reliability vs. Validity?

- Reliability = consistency
- Validity = questions measure the thing you are trying to measure



From the testing vaults…

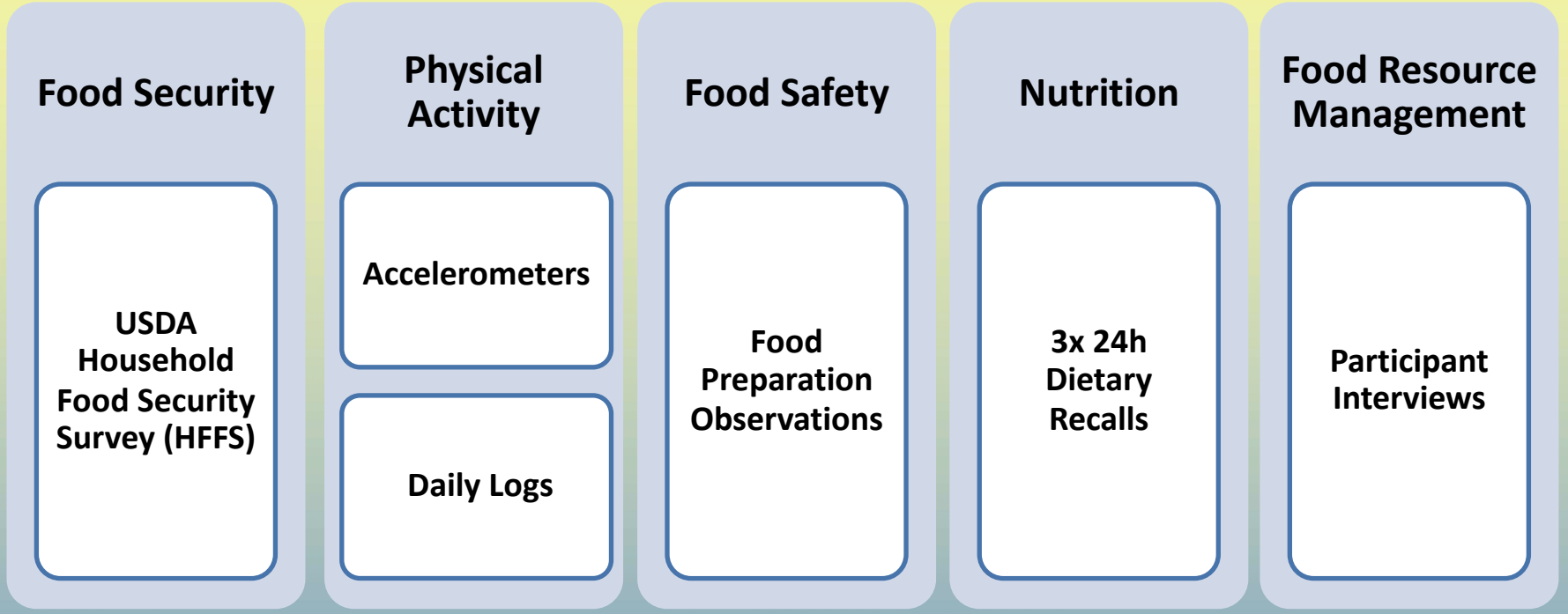
When discussing differences between cardio and aerobic, some participants thought cardio was more ***masculine*** and aerobics were more ***feminine***…

Criterion/Construct Validity

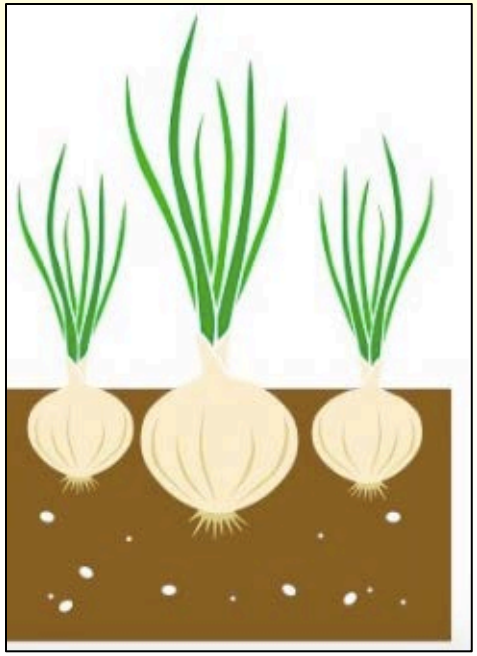
- Compare to an objective or valid measure (e.g., accelerometer data vs. "*I exercise 150 minutes per week*")

- Gold standard not practical day to day use
  - expensive
  - complex
  - poor acceptance by target audience

Content Standards



Sensitivity



- What is sensitivity?
  - What size of difference or change is detectable?
  - Meaningful?
- What needs to be done?
  - Power calculation
  - Pre/Post with intervention

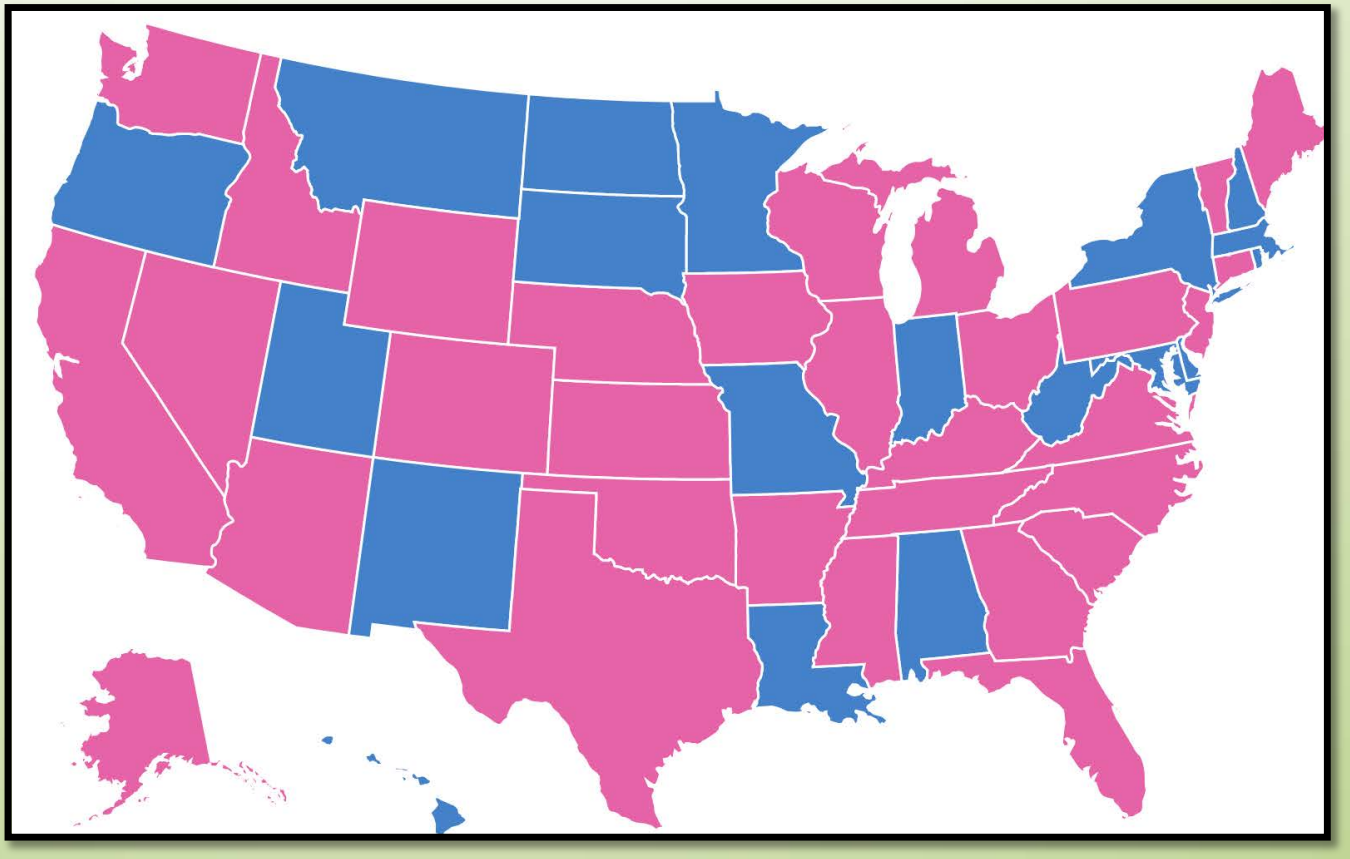
2018 EFNEP Food and Physical Activity Questionnaire

- 32 Questions tested
- 20 Questions selected for nationwide use

EFNEP Food and Physical Activity Questionnaire (FPAQ)
(previous tool was EFNEP Behavior Checklist or BCL)

Development and Testing of the Food and Physical Activity Questionnaire

Participating States Highlighted in Pink

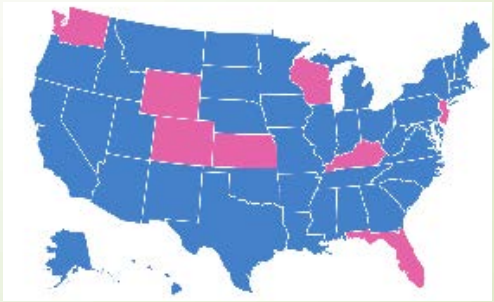


Internal Consistency

	Number of People Tested	Number of Items	Cronbach's Alpha
Nutrition	181	14	0.68
Food Safety	181	4	0.40
Food Security	181	2	n/a
Physical Activity	85	3	0.58
Food Resource Management	181	10	0.79

SENSITIVITY TO CHANGE

A representative sample of EFNEP participants (n=382) were recruited from 8 states



Matched surveys were collected at both pre- and post- EFNEP

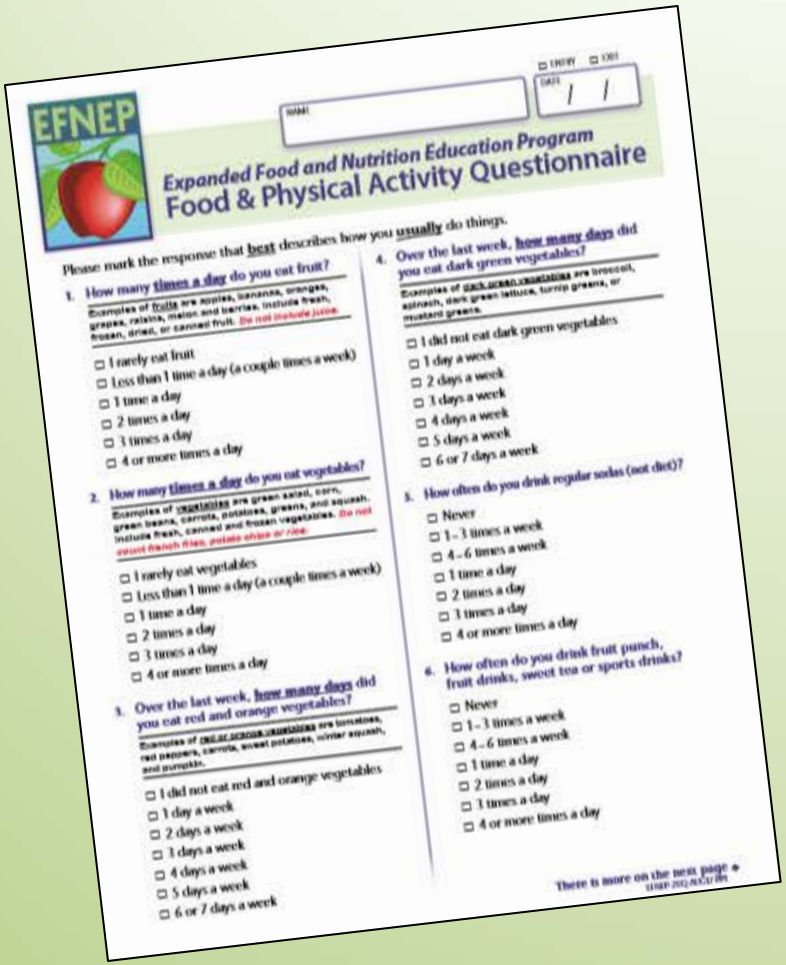
28 of the 32 items showed significant changes using paired t-tests ($p<0.05$)

From the testing vaults…

Got milk? EFNEP participants were challenged to recall various types and times milk products were consumed.

Problematically, most participants didn't "count" the milk used on breakfast cereal as part of their total intake.

The Food and Physical Activity Questionnaire (FPAQ)



EFNEP

Expanded Food and Nutrition Education Program
Food & Physical Activity Questionnaire

Please mark the response that best describes how you usually do things.

1. How many times a day do you eat fruit?
Examples of fruits are apples, bananas, oranges, grapes, raisins, melon and berries. Include fresh, frozen, dried, or canned fruit. Do not include juice.
- ☐ I rarely eat fruit
- ☐ Less than 1 time a day (a couple times a week)
- ☐ 1 time a day
- ☐ 2 times a day
- ☐ 3 times a day
- ☐ 4 or more times a day

2. How many times a day do you eat vegetables?
Examples of vegetables are green salad, corn, green beans, carrots, potatoes, greens, and squash. Include fresh, canned and frozen vegetables. Do not count french fries, potato chips or rice.
- ☐ I rarely eat vegetables
- ☐ Less than 1 time a day (a couple times a week)
- ☐ 1 time a day
- ☐ 2 times a day
- ☐ 3 times a day
- ☐ 4 or more times a day

3. Over the last week, how many days did you eat red and orange vegetables?
Examples of red or orange vegetables are tomatoes, red peppers, carrots, sweet potatoes, winter squash, and pumpkin.
- ☐ I did not eat red and orange vegetables
- ☐ 1 day a week
- ☐ 2 days a week
- ☐ 3 days a week
- ☐ 4 days a week
- ☐ 5 days a week
- ☐ 6 or 7 days a week

4. Over the last week, how many days did you eat dark green vegetables?
Examples of dark green vegetables are broccoli, spinach, dark green lettuce, turnip greens, or mustard greens.
- ☐ I did not eat dark green vegetables
- ☐ 1 day a week
- ☐ 2 days a week
- ☐ 3 days a week
- ☐ 4 days a week
- ☐ 5 days a week
- ☐ 6 or 7 days a week

5. How often do you drink regular sodas (not diet)?
- ☐ Never
- ☐ 1 – 3 times a week
- ☐ 4 – 6 times a week
- ☐ 1 time a day
- ☐ 2 times a day
- ☐ 3 times a day
- ☐ 4 or more times a day

6. How often do you drink fruit punch, fruit drinks, sweet tea or sports drinks?
- ☐ Never
- ☐ 1 – 3 times a week
- ☐ 4 – 6 times a week
- ☐ 1 time a day
- ☐ 2 times a day
- ☐ 3 times a day
- ☐ 4 or more times a day

There is more on the next page ➔

- Rigorous research process
- Variety of content areas
- Beyond knowledge, it is behavior focused
- FPAQ has broad application

Future Steps

- Dissemination of English testing results and tool
- Spanish testing starting
- Continued revisions as standards are updated

Here is how you can access our research:

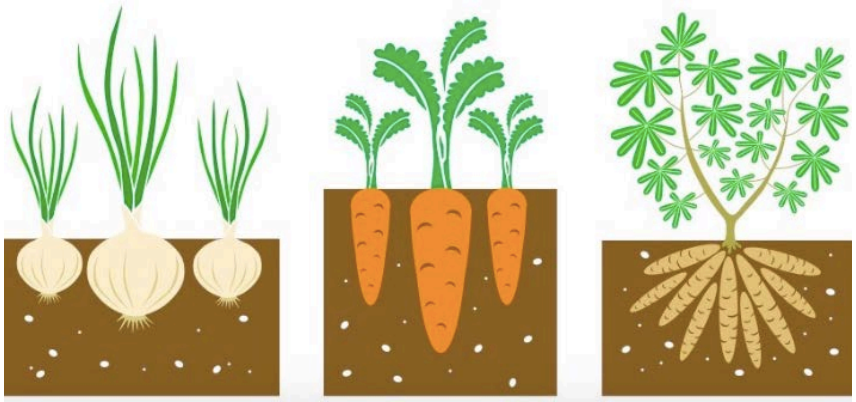
- Moore, C., Sweet, C., Harrison, J., & Franck, K. (in press). Validating responses to a food safety survey with observations of food preparation behaviors among limited resource audiences. *Journal of Food Protection*.
- Li, C., Auld, G., D'Alonzo, K., and Palmer-Keenan, D. "Communicating and Assessing Physical Activity: Outcomes From Cognitive Interviews With Low-Income Adults." Journal of Nutrition Education and Behavior.
- Murray, Erin & Auld, Garry & Baker, Susan & Barale, Karen & Franck, Karen & Khan, Tarana & Palmer-Keenan, Debra and Walsh, Jennifer. 2017. "Methodology for Developing a New EFNEP Food and Physical Activity Behaviors Questionnaire." Journal of Nutrition Education and Behavior.
- Murray, Erin K, Susan S. Baker, and Gary Auld. 2017. "Nutrition Recommendations from the US Dietary Guidelines Critical to Teach Low-Income Adults: Expert Panel Opinion". Journal of the Academy of Nutrition and Dietetics.
- Murray, Erin K, Gary Auld, Ruth Inglis-Widrick, and Susan S. Baker. 2015. "Nutrition Content in a National Nutrition Education Program for Low-Income Adults: Content Analysis and Comparison With the 2010 Dietary Guidelines for Americans". Journal of Nutrition Education and Behavior

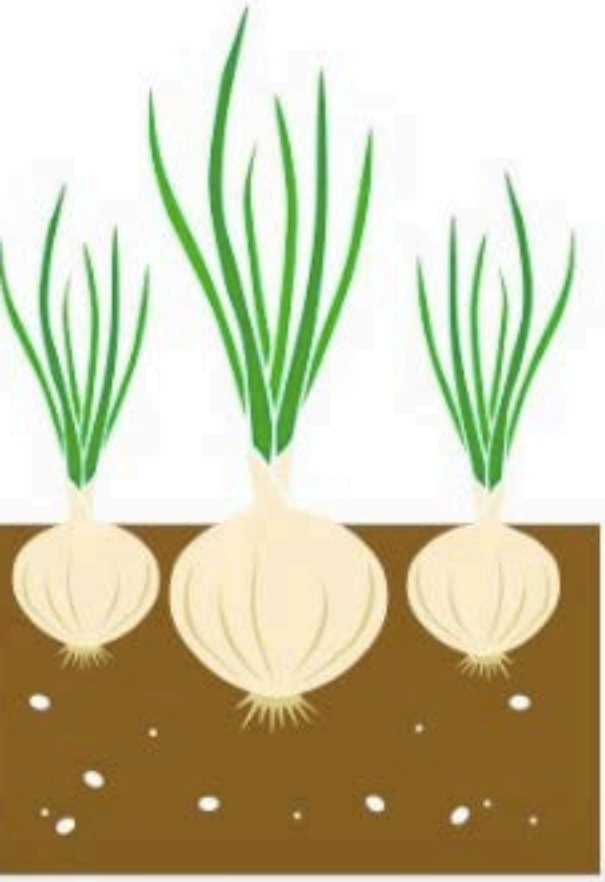
“If you want to go FAST, go alone. If you want to go FAR, go together” -African proverb

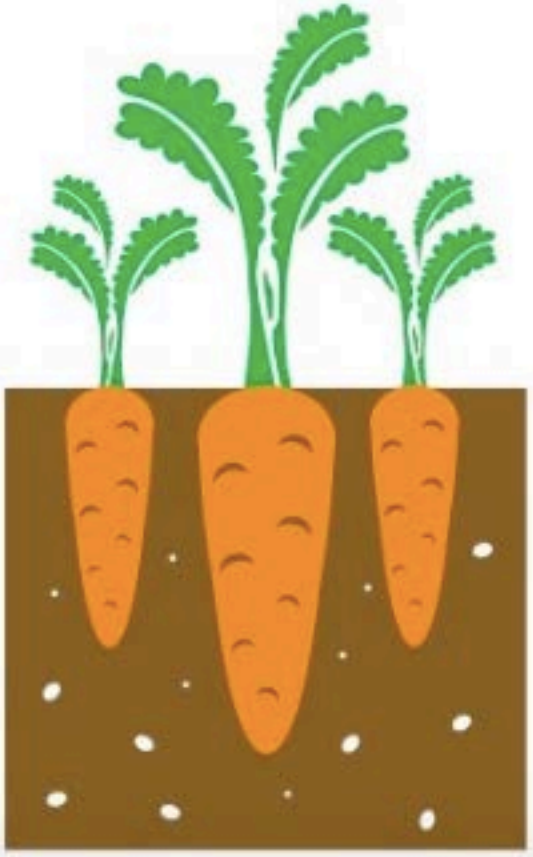
EFNEP
Expanded Food and Nutrition Education Program

USDA
United States Department of Agriculture
National Institute of Food and Agriculture

GRAPHICS








EFNEP
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