

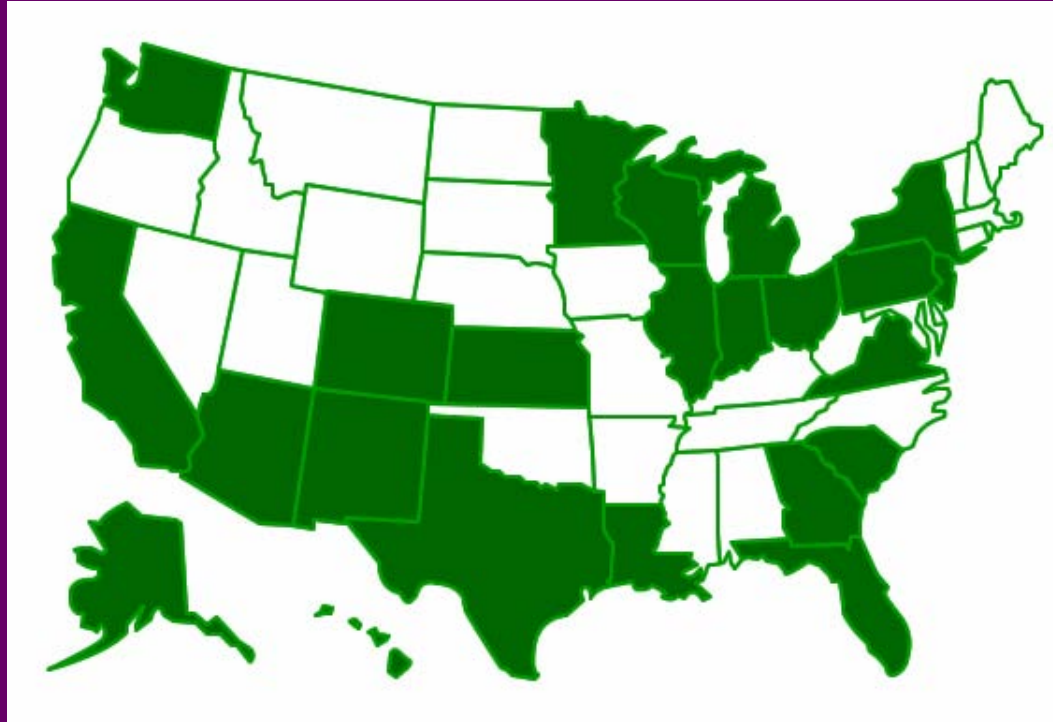
A Food Safety Education Program for Farm Workers and Their Families

Elizabeth A. Bihn and Robert B. Gravani
National GAPs Program, Cornell University

Farm Worker Health and Hygiene

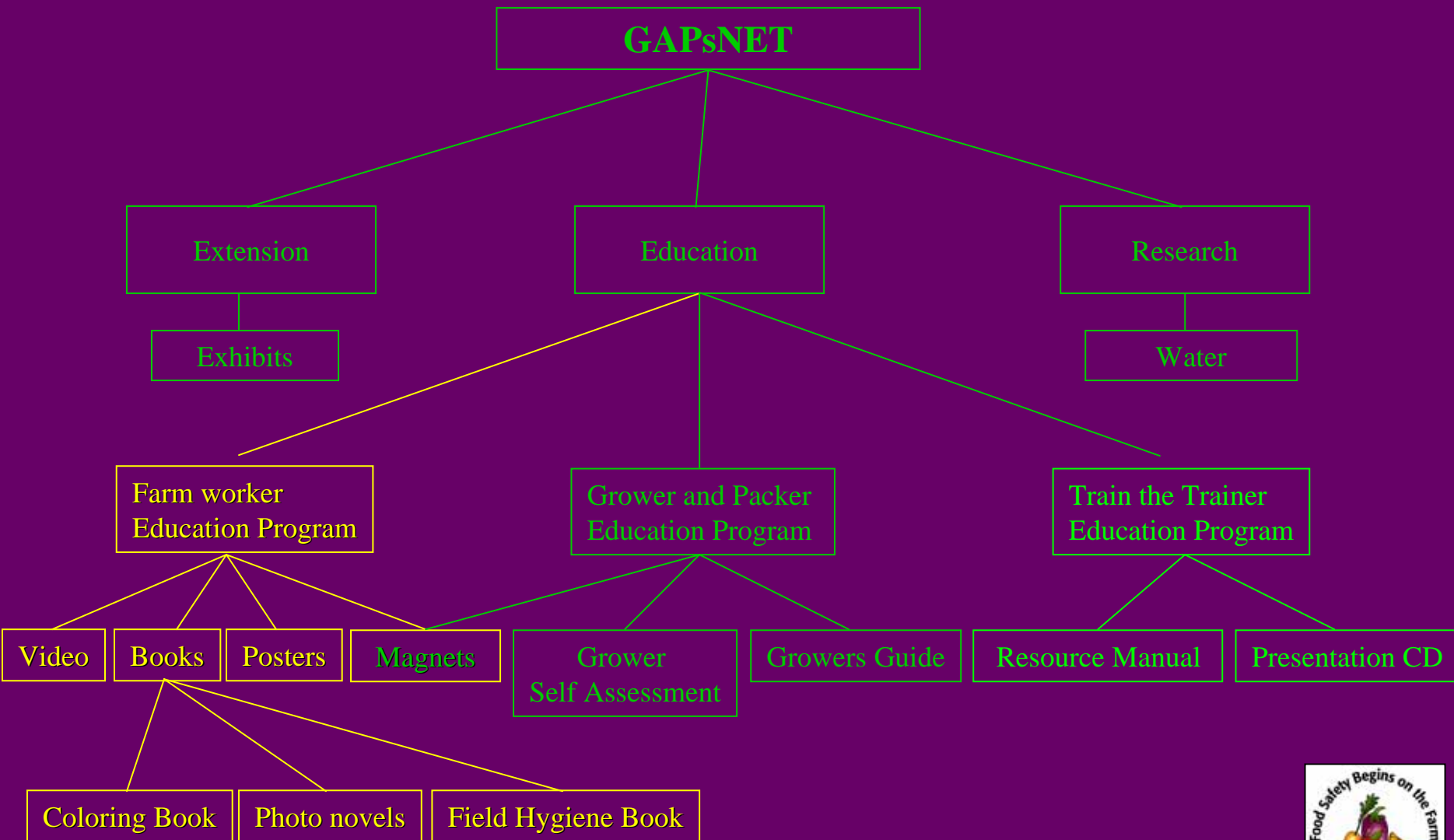
- Critical to the safety of fresh fruits and vegetables.
 - Harvesting
 - Culling
 - Packing
 - Only people to touch produce before consumers
- Health issues exist
 - Exposure to certain diseases more often
 - Access to medical services

National GAPs Program



- Initially funded by CREES-USDA and US-FDA in 1999.
- Reduce microbial risks in fruits and vegetables.
- Collaborators in 25 states.

National GAPs Program Model



Farm Worker Education and Training: A Foundation of GAPs Implementation

- 2000 began telling growers they needed to train their workers about food safety
- Growers not confident and not prepared to teach people about hygiene issues....
“Can’t you make a video or something?”
- 2001 funding from CSREES-USDA



Farm Worker Education in the Context of GAPs

- Language barrier: employer and employee.
- Cultural norms clash with required practices.
- Various arrival times during season.
- Differences in employer requirements.



NY Farm Worker Survey

- **689 surveys collected**
- **Between June and October, 2002**
- **Determine worker understanding of personal hygiene practices**
- **Assess the current status of sanitary facilities on farms & in packing houses in New York**
- **Verbal interviews by 6 students**



FARM WORKER SURVEY

Language of Survey

Language	No.	Percentage
English	54	7.8
Spanish	602	87.4
Creole	33	4.8
Total	689	100.0



Bilingual Materials

- Primarily translated into Spanish, but also have materials in Hmong and Chinese.
- Significant time, editing, and at times, confusion.
 - Many Spanish speaking workers from different Spanish speaking countries, areas, etc.
 - Complete dependence on others and inability to understand a single translated word (written and spoken).



FARM WORKER SURVEY

A Desire to Learn

Would you be interested in receiving information and training on proper hand washing for your own protection and to protect the fruits and vegetables you harvest and pack?

73.7 %

Yes

26.3 %

No



LÁVESE LAS MANOS FRECUENTEMENTE

ANTES Y DESPUES DE USAR EL SANITARIO (BAÑO), COMER, BEBER, O FUMAR

NO

NO



SI

YES



BEFORE AND AFTER USING THE BATHROOM, EATING, DRINKING, OR SMOKING

WASH YOUR HANDS OFTEN!



Original hand washing poster

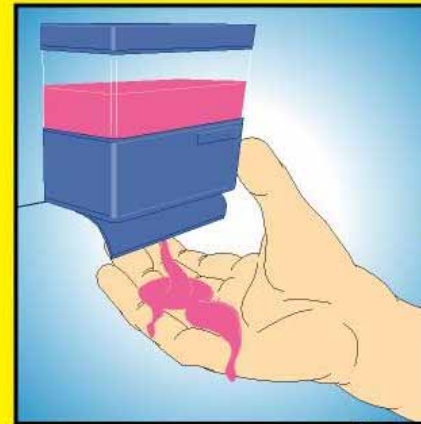
USE TOILET FACILITIES IN FIELD



This poster was produced by the Good Agricultural Practices Program at Cornell University with support from USDA-CSREES and FDA Agreement No. 99-41560-0821.

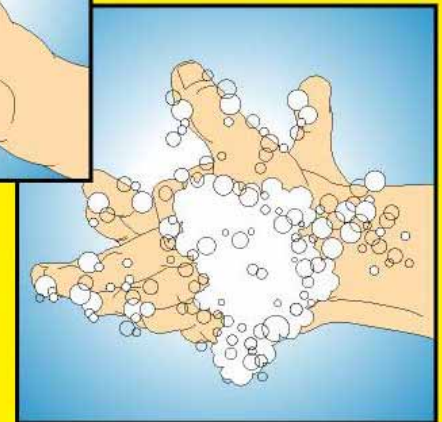
USE LOS BAÑOS DESPONIBLE EN EL CAMPO

LÁVESE LOS MANOS FRECUENTEMENTE



ANTES Y DESPUES DE USAR EL BAÑO, COMER, BEBER, O FUMAR

BEFORE AND AFTER USING THE TOILET, EATING, DRINKING, OR SMOKING



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WASH YOUR HANDS OFTEN!



Final Posters

A perfect opportunity arises from a real on-farm concern

Growers and Packers have often commented that they see USED toilet paper deposited in the corner of the bathroom or portable toilet.

In a field toilet situation, this paper can be dragged out into the field on the bottom of boots. So, we decided to ask the workers...



FARM WORKER SURVEY

Where do you put used toilet paper?

Next to the toilet	1.6
In a trash can	44.8
In toilet	46.6
On ground	0.9
Other places	0.2

Disposing of used toilet paper is a critical issue for sanitation and safety.



One Educational Approach

**POR FAVOR, DEPOSITE EL PAPEL
HIGIÉNICO USADO DENTRO DEL INODORO**



**EL PAPEL
HIGIÉNICO NO
ATORA LOS
INODOROS**

**TOILET PAPER
WILL NOT
OBSTRUCT
TOILETS**




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**PLEASE PUT USED
TOILET PAPER IN THE TOILET**

Frutas, Hortalizas y la Seguridad de los Alimentos: Salud e Higiene en el Campo



Programa Nacional de BPA
(Buenas Prácticas Agrícolas)
de la Universidad de Cornell

 Department of Food Science
Stocking Hall
Cornell University
Ithaca, NY 14853



Training Video

Fruits, Vegetables, and Food Safety: Health and Hygiene on the Farm



National GAPs Program
at Cornell University

 Department of Food Science
Stocking Hall
Cornell University
Ithaca, NY 14853
Cornell University ©2004



- Re-translated as a result of focus group testing.
- One focus group wanted to see more information about health related issues such as hepatitis A.



Coloring Book Development

- Create something for farm worker children as part of our farm worker education program.
- Since children are more susceptible to foodborne illnesses, teaching them proper hand washing and food preparation is important.
- The coloring book needed to be bilingual and cover a broad age range (5-10 years).

Fun Fruit & Very Vegetable Tour

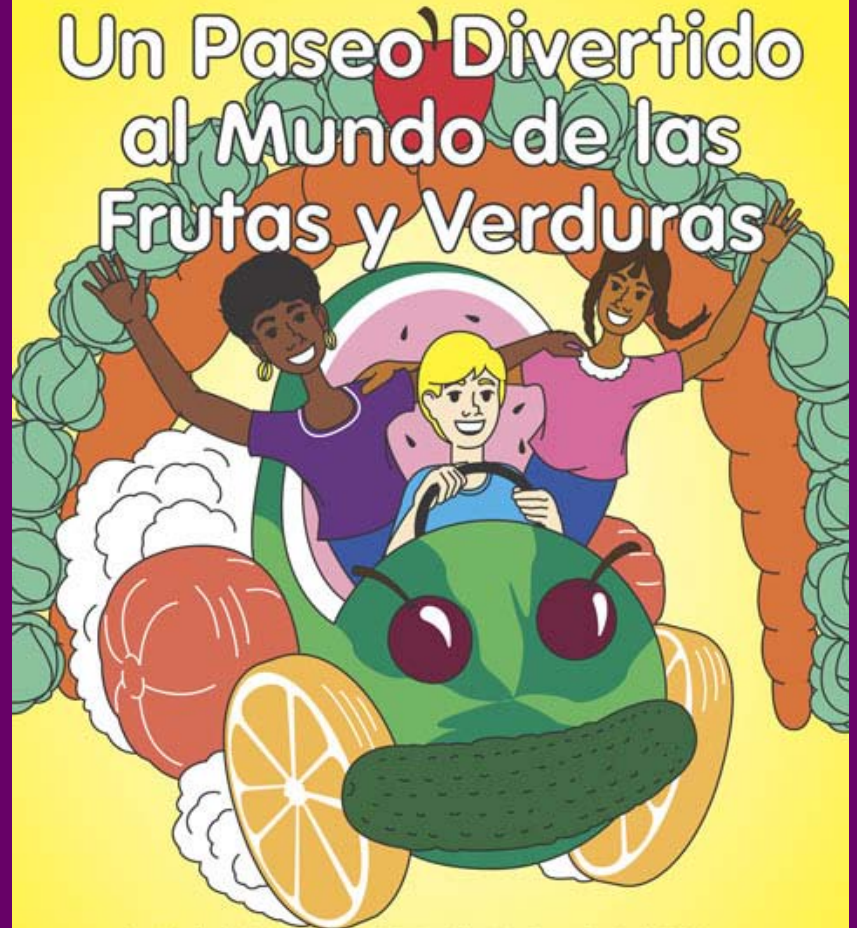


By Elizabeth A. Bihn, Donna L. Scott, Robert B. Gravani, and Karin Rosberg
Illustrated by Mark Kogut • Translation to Spanish by Laura E. Acuña-Maldonado
National Good Agricultural Practices Program
Department of Food Science • Cornell University • Ithaca, NY 14853

**72 pages with an
interesting storyline
and activities**

Children's coloring book

Un Paseo Divertido al Mundo de las Frutas y Verduras



Por Elizabeth A. Bihn, Donna L. Scott, Robert B. Gravani, y Karin Rosberg
Ilustraciones de Mark Kogut
Traducción al Español por Laura E. Acuña-Maldonado
Programa Nacional 'Buenas Prácticas Agrícolas'
Departamento de Ciencias de los Alimentos • Universidad de Cornell • Ithaca, NY 14853

Focus Groups

- Five summer education programs with children ranging in age from 3-16 years old.
- 96 children were given an 11 question survey along with the demonstration coloring book and a package of crayons
 - One survey was discarded and not used in calculations due to incompleteness.
- Nine children were too young to take the survey, so were asked verbal questions.



Selected Child Survey Results

- **Do you like this coloring book?**

Yes: 91 students (95.7%) No: 4 students (4.3%)

- **Is the coloring book fun?**

Yes: 87 student (91.6%) No: 8 students (8.4%)



Selected Child Survey Results

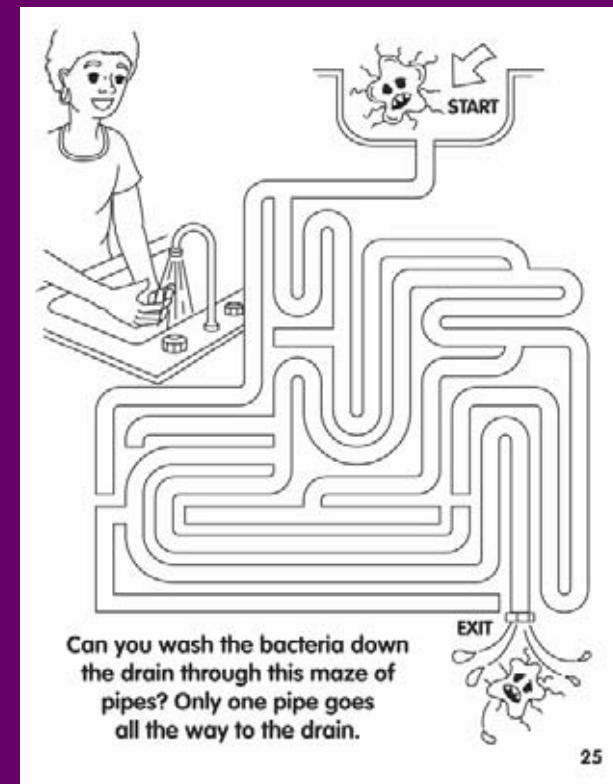
- **What pages do you like the best?**

- ✓ Varied responses but the US map, word search, and wash the bacteria down the drain received the most positive responses.

- ✓ Many children also responded all or most

- **What pages do you not like?**

- ✓ Varied responses but no one page got more than 2 responses in any single classroom.



What did you learn from this coloring book?

“How to stay healthy and kill germs”

“About food and it’s hard to tell what’s good/bad bacteria”

“Vegetables help you grow and everything has bacteria”

“You need to wash your hands”

“Wash your hands for 20 seconds”

“Some fruits and vegetables are transported by trucks”

“Have clean hands when you eat or your food will be dirty;
wash with soap”

Selected Child Survey Results

- **Would you like to show the coloring book to your mom, dad or other family members?**

Yes: 86 students (90.5%)

No: 7 students (7.4%)

No answer: 2 students (2.1%)

- **Does your mom or dad work on a farm?**

Yes: 49 students (51.6%)*

No: 45 students (47.4%)

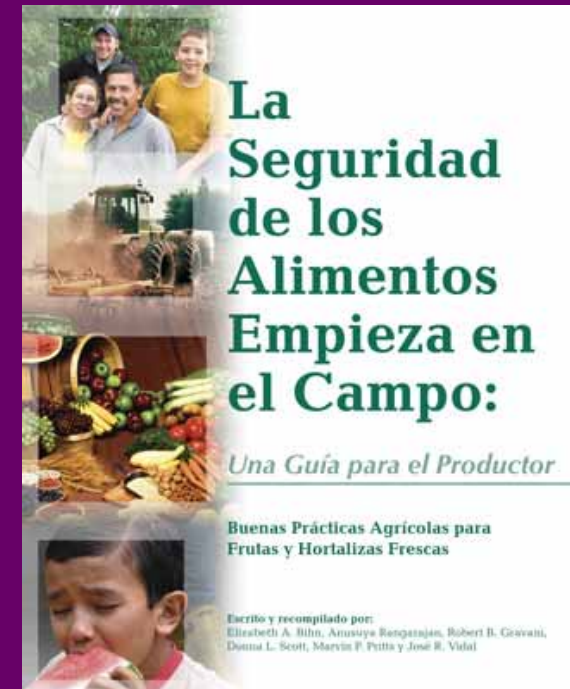
No answer: 1 student (1%)

***Many children commented on this response so this number may be higher than reported.**



Focus Groups and What We Learned

- Gender differences
- Size and composition matters
- Literacy is an issue
- Workers are concerned
- Desire for more materials



Farm Worker Education and Training Materials

POR FAVOR, LÁVESE LAS MANOS FRECUENTEMENTE



ANTES Y DESPUÉS
DE USAR EL BAÑO,
MANIPULAR FRUTAS Y
VERDURAS, COMER,
BEBER, O FUMAR

BEFORE AND AFTER
USING THE TOILET,
HANDLING FRUITS
AND VEGETABLES,
EATING, DRINKING,
OR SMOKING

**PLEASE WASH
YOUR HANDS OFTEN!**

**PLEASE USE TOILETS
PROVIDED IN THE FIELD**



YES SI



NO NO

**POR FAVOR, USE LOS BAÑOS
DISPONIBLES EN EL CAMPO**

**POR FAVOR, DEPOSITE EL PAPEL
HIGIÉNICO USADO DENTRO DEL INODORO**



**EL PAPEL
HIGIÉNICO NO
ATORA LOS
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**Fruits, Vegetables,
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**Frutas, Hortalizas y
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**National GAPs Program
at Cornell University**


**Programa Nacional de BPA
(Buenas Prácticas Agrícolas)
de la Universidad de Cornell**



Did you know?



**In the field,
there is a need
for hygiene too!**

 Department of Food Science • Cornell University
11 Stocking Hall • Ithaca, NY 14853

¿Sabía usted?



**¡Su cocina puede
ser fuente de
enfermedades!**

 Departamento de Ciencias de los Alimentos
Escuela de Cornell
11 Stocking Hall • Ithaca, NY 14853

¡Lava bien tus manos!

1. Moja tus manos.
2. Usa jabón.
3. Frota todas las superficies de las manos (interdigitales por 20 segundos).
4. Enjuaga tus manos con agua limpia y sécalas con una toalla limpia.

LAVA TUS MANOS FRECUENTEMENTE

GOOD HEALTH IS IN YOUR HANDS

Wash your hands properly!

1. Wet your hands.
2. Use soap.
3. Rub your hands against all surfaces of your hands (interdigitals for 20 seconds).
4. Rinse your hands with clean water and dry with a clean towel.


WASH YOUR HANDS OFTEN

Evaluation and Evaluation Design

- A serious need to evaluate educational materials post development to determine effectiveness and how they are being used.
- Move beyond quantitative surveys to qualitative interviews.
- New information hopefully will provide additional insight into need.



GAPsNET

 Cornell University
Department of Food Science

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Updated 7/26/06

**Good Agricultural Practices
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Summary

- Know the target audience by talking to the target audience. Give them what they need.
- Test the educational materials/program with the target audience.
- Build evaluation into the project at the very beginning so that the impact can be determined. Better focus new resources.



Thank you for your attention.

