

The U.S. Food and Drug Administration

Protecting Public Health

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Welcome to the Summer 2017
FDA Professional Development
Program in Food Science!



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Presentation Outline

- ▶ FDA Mission
- ▶ Keystones of U.S. Food and Drug Administration (FDA) History
- ▶ Government Roles in Food Safety
- ▶ What FDA Does
- ▶ Overview: Foodborne Illness
- ▶ Consumer Outreach and Resources on Safe Food Handling
- ▶ FDA Professional Development Program in Food Science

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The FDA's Mission

- ▶ The core of the FDA's mission is protecting the public's health by assuring the safety, efficacy, and security of human and veterinary drugs, biological products, medical devices, our nation's food supply, cosmetics, and products that emit radiation.



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Keystones of FDA History

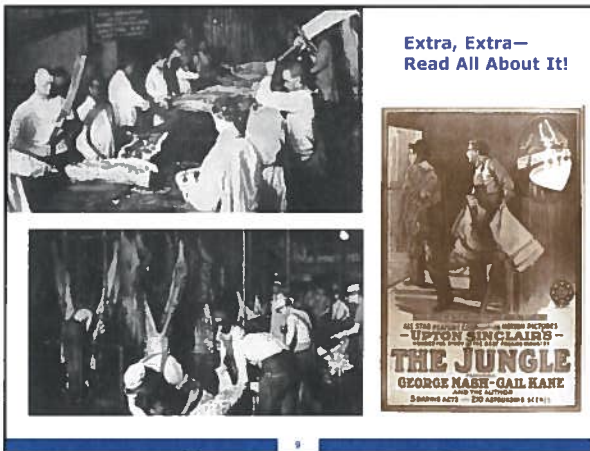
- ▶ 1862: Single chemist in the U.S. Department of Agriculture
- ▶ 1906: Pure Food and Drugs Act
- ▶ 1938: Food, Drug, and Cosmetic Act
- ▶ 2011: Food Safety Modernization Act (FSMA)



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Public Health Heroes

› Dr. Harvey Wiley

› President Theodore Roosevelt



New Drug Law!

An passed by Congress under the Pure Food Act of June 3, 1906, has not affected our business. We accept our motto, "Make the Best," being before Congress through at death of Asa. Call on us for fresh Colgate's Tuffy Tubs and Dr. Hoor's stink and chicken powder.

LYNE BROS, Cash Orchard Duggles.

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The Harvey Wiley Story



Philadelphia, Pa.

Dear Sir:

I read in the paper of your experiments on diet. I have a stomach can stand anything. I have a stomach that will surprise you. I am afflicted with 7 seven diseases. Never went to a doctor for 18 years. They told me 18 years ago that I could not live 6 months. What do you think of it? My stomach can hold anything,

Yours truly,

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The Poison Squad

NONE BUT THE BRAVE CAN EAT THE FARE



On the Menu:

- Borax
- Sulfuric acid
- saltpeter
- Formaldehyde
- Copper sulfate



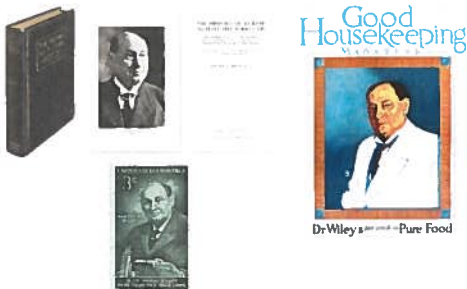
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1906 Pure Food and Drug Act

- ▶ "Truth and labeling" law for the food and drug industries
- ▶ Banned foreign and interstate traffic in adulterated or mislabeled food and drug products
- ▶ Required drug labeling: active ingredients
- ▶ Established drug purity levels
- ▶ Signed the same day as the Meat Inspection Act
- ▶ Led to the creation of the FDA

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The Father of the FDA: Harvey W. Wiley



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1930: New Law Needed!

- ▶ **Banbar** — a worthless "cure" for diabetes
- ▶ **Lash-Lure** — an eyelash dye resulting in a number of women suffering injuries to their eyes, including one confirmed case of permanent blindness
- ▶ **Radithor** — a radium containing tonic that sentenced users to a slow and painful death
- ▶ **Wilhide Exhaler** — falsely promised to cure tuberculosis and other pulmonary diseases.



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1938 Food, Drug, and Cosmetic Act

- ▶ **1937 Disaster: Sulfa “Wonder” Drug** — highly toxic chemical analog of antifreeze

New Law:

- Cosmetics & medical devices
- Drug labeling
- Pre-market approval of all new drugs
- Prohibited false therapeutic drug claims
- Corrected abuses in food packaging and quality
- Mandated legally enforceable food standards



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Strengthening the U.S.'s Food Safety Foundation: Food Safety Modernization Act (FSMA)

- Signed into law by President Barack Obama in January 2011.
- Core principle: shifting FDA's focus from responding to contamination to preventing it.

FDA Rules Under FSMA:

- ▶ Preventive controls for human food
- ▶ Preventive controls for animal food
- ▶ Produce safety standards
- ▶ Sanitary transportation of human and animal food
- ▶ Placing responsibility for meeting U.S. safety standards on *importers* of food

FSMA Framework for Food Safety



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Government Roles in Food Safety



through its Food Safety and Inspection Service is responsible for the safety and labeling of raw meat, poultry, and certain egg products.



through its Center for Food Safety and Applied Nutrition, works to assure that the rest of the food supply is safe, sanitary, wholesome, and honestly labeled.



licenses all pesticide products distributed in the United States and establishes maximum residue limits in food and feed.



provides the vital information link between foodborne illness in people and the food safety systems of government agencies and food producers.

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U.S. Department of Health and Human Services

FDA Office of the Commissioner:
Scott Gottlieb, MD

27 FDA Offices Report to the Commissioner

7 FDA Centers

- Center for Food Safety and Applied Nutrition (CFSAN)
- Center for Veterinary Medicine
- National Center for Toxicological Research
- Center for Biologics Evaluation and Research
- Center for Tobacco Products
- Center for Drug Evaluation and Research
- Center for Devices and Radiologic Health

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How Does FDA Accomplish Its Work?

- Regulatory science
- Research
- New product review and pre-market approval
- Monitoring
 - Safe manufacturing
 - Safe handling
 - New risks
- Enforcement/Compliance

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Did You Know?

FDA regulates all:

- Foods (except meat & poultry and certain processed egg products)
- Tobacco products
- Cosmetics
- Animal drugs and feed
- Prescription and non-prescription drugs
- Blood products, vaccines, and tissues for transplantation
- Medical equipment
- Devices that emit radiation—including microwave ovens

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Did You Know?

FDA:

- ▶ Advances public health by helping speed innovations that make products more effective, safer, and more affordable
- ▶ Helps the public get accurate, science-based information about these products



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Did You Know?

The FDA does not:

- ▶ Dictate medical practice, service, or the price of medical products
- ▶ Regulate advertising (excluding RX-only drugs and medical devices), alcohol, consumer products (unless emits radiation), drugs of abuse, health insurance, meat and poultry, pesticides, restaurants, grocery stores, and water

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CFSAN

Center for Food Safety and Applied Nutrition

The Center for Food Safety and Applied Nutrition (CFSAN), directed by Dr. Susan Mayne, works to ensure that the nation's food (including dietary supplements), cosmetics, and colors are safe, sanitary, and properly labeled.

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How Serious Is Foodborne Illness?

- ▶ In otherwise healthy people with well-functioning immune systems, foodborne illness may only cause a mild illness, usually lasting a day or two, although certain pathogens may cause a longer illness.
- ▶ However, it can cause life-long chronic disease, such as reactive arthritis or kidney failure and, in pregnant women, spontaneous abortions or stillbirths.

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Recent & Historical Major Recalls & Outbreaks

- ▶ General Mills Flour – *E. coli* (2016)
- ▶ Blue Bell Ice Cream – *Listeria monocytogenes* (2015)
- ▶ Caramel Apples – *Listeria monocytogenes* (2015)
- ▶ Bean Sprouts – *Salmonella* Enteritidis
- ▶ Hispanic-Style Cheese – *Listeria monocytogenes*
- ▶ Raw Clover Sprouts – *E. coli*
- ▶ Cantaloupes – *Listeria* (2011)
- ▶ Hamburgers (Jack in the Box) *E. Coli* (1993)

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CFSAN

What About the Home?



- ▶ Regulators have a responsibility to make sure that the foods consumers bring into their homes are as safe as they can be.
- ▶ But it's essential that consumers do their part to make sure that food in the home is safe as well. It isn't very hard or complicated to do.

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CFSAN: Consumer Outreach and Resources on Safe Food Handling



- ▶ Media Outreach (mass & social)
- ▶ Constituent Updates
- ▶ Recalls & Consumer Advisories
- ▶ CFSAN Education Resource Library
- ▶ Publications for Consumers
- ▶ Health Educator Kits
- ▶ Physician and Other Health Professional Resources
- ▶ Education and Outreach Initiatives
- ▶ Toll Free Hotline 1-888-SAFEFOOD
- ▶ Partnership for Food Safety Education
- ▶ FoodSafety.gov

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FDA's History Valent

BAC is 20 years old

CFSAN's Education Resource Library

- ▶ Downloadable, printable, and orderable materials on food safety, nutrition, and cosmetics
 - ▶ Science and Our Food Supply Curricula
 - ▶ Community program guides
 - ▶ News for Educators
- <http://www.fda.gov/education/resourcelibrary>



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FDA Social Media

- ▶ Facebook
- ▶ Twitter
- ▶ YouTube
- ▶ Flickr
- ▶ Pinterest
- ▶ FDA Email Updates
- ▶ Podcasts & News Feeds



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FDA's Professional Development Program in Food Science

NSTA



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18th year

Reaching Tweens and Teens at School

- › FDA's interest is to *improve public health* by decreasing foodborne illnesses.
- › Challenge: Encouraging behavior change to improve health.
- › Understanding the basics of food science and safety can motivate safer practices involving food handling, storage, etc.
- › Educators are key role models.



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Curriculum Development

- › Started in 1998
- › Worked with NSTA and an advisory committee of science teachers and food scientists
- › Added nutrition-based curriculum in 2015
- › *Science and Our Food Supply*
 - Challenging
 - Inquiry-based
 - Provides practical skills for pre-teens (tweens) and teens to use in preparing, handling, and storing food for:
 - themselves
 - family members
 - entry-level retail food jobs



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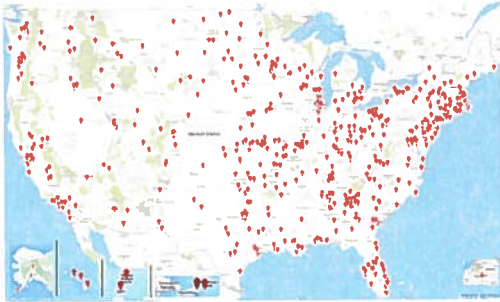
Program Reach

- 750 teachers completed summer program (2000 to 2016)
- Each trains ~20 other teachers:
≈ 15,000
- More than 75,000 curriculum kits distributed to date
- Reach: ≈8,000,000 students



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2000-2017 FDA/NSTA Professional Development Program in Food Science



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FDA Resources: Supplements for Your Classroom



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Teachers Make a Difference

- › Teaching science, microbiology basics, and public health concepts to **future** food service workers, restaurant owners and operators, chefs, and parents help them prepare and serve safer food.
- › Program presenters and guides for this week's program include food scientists from FDA, USDA, and academia, as well as food specialists working in the food industry. Many of these people chose their careers because of the inspiration, motivation, or encouragement of teachers like you.



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Thank you for joining us this summer and choosing to participate in our food science education program!

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