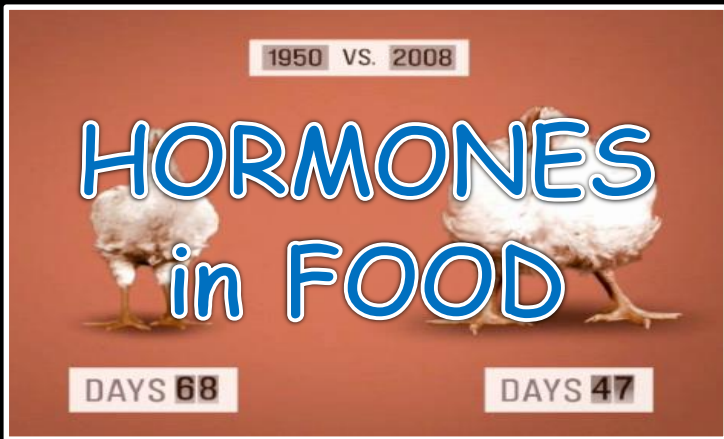


# FOOD SAFETY



10 b. FOOD RUDE TRUTHS QUALITY



QUALITY

A green tractor is shown from a rear-quarter perspective, pulling a chemical applicator through a field. The applicator has a large white tank with a red triangle hazard symbol and the word 'DANGER' and the number '1005' on it. The tractor has a driver in a blue shirt visible in the cab. The background shows a field of dry grass under a cloudy sky.

**CHEMICALLY  
GROWN FOOD**

A person wearing a white protective suit, a white respirator mask, and safety glasses is spraying a tree with a yellow backpack sprayer. The word "PESTICIDE" is overlaid in large white letters.

PESTICIDE

A scanning electron micrograph (SEM) showing numerous green, rod-shaped bacteria, likely Bacillus spores, scattered across a complex, brown, fibrous network. The bacteria are in various orientations, some appearing as single rods and others as small chains. The background is a dense, interwoven mesh of fibers, possibly representing a food matrix or a natural substrate. The overall color palette is dominated by the green of the bacteria and the brown of the fibers.

**PATHOGENS  
CONTAMINATED FOOD**



# FOOD ADULTERATION

1950 VS. 2008



DAYS 68

# HORMONES in FOOD



DAYS 47



*Genetically  
Modified  
Food*



# FOOD SAFETY



Estimated 250 food borne pathogens

Food borne illness

two or more cases of a similar illness resulting from ingestion of a common food

Bacteria most common cause

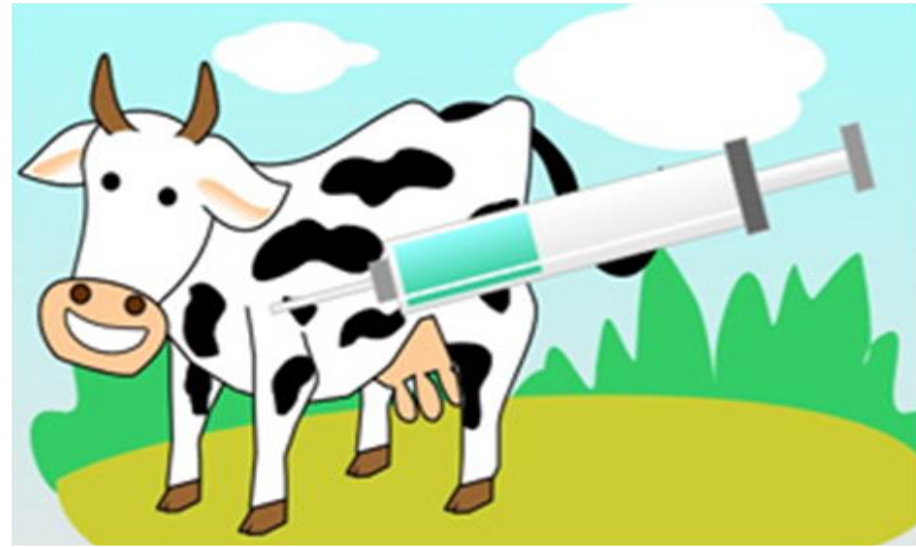
Also viruses, parasites, natural and manufactured chemicals, and toxins from organisms

# FOOD SAFETY

Food safety is a scientific discipline describing handling, preparation, and storage of food in ways that prevent food borne illness. This includes a number of routines that should be followed to avoid potentially severe health hazards. The tracks within this line of thought are safety between industry and the market and then between the market and the consumer. In considering industry to market practices, food safety considerations include the origins of food including the practices relating to food\_labeling, food hygiene, food additives and pesticide residues, as well as policies on biotechnology and food and guidelines for the management of governmental import and export inspection and certification systems for foods. In considering market to consumer practices, the usual thought is that food ought to be safe in the market and the concern is safe delivery and preparation of the food for the consumer.



# THE EFFECTS OF GROWTH HORMONES IN FOOD



Growth hormones are given to animals, such as cattle, in order to make them gain weight faster, thus producing meat products for consumers at a faster rate. Growth hormones also increase milk production in animals. While dairy and meat industries depend on the use of growth hormones for increased productivity and profit, these hormones hold negative health repercussions for humans.

# EARLY PUBERTY IN GIRLS



Early puberty may be associated with certain growth hormones used in meat and dairy products. According to Cornell University, research findings are mixed and limited. Thus, it is difficult to determine the specific impact growth hormones in food have on young women's development. However, some researchers believe that steroid hormones, in particular, cause girls to undergo puberty prematurely, an occurrence associated with increased risk for breast cancer later in life. If you are concerned about this potential side effect of growth hormones, seek hormone-free meat and dairy products or switch to meat and dairy-free food alternatives.

# INCREASED RISK FOR BREAST CANCER

Researchers and consumers are concerned that breast cancer risk may increase due to use of hormones in food. According to natural health expert, Andrew Weil, M.D., the concern is legitimate, as hormone residue in certain foods can raise breast cancer risk. However, Weil explains that the U.S. Department of Agriculture does not allow the use of hormones in raising hogs, chickens and turkeys or other fowl. If you are concerned about breast cancer risk associated with growth hormones, you may consume meats and other foods derived from these animals without such worry. Growth hormones, such as estrogen and testosterone, are used in cattle and sheep. According to Weil, they are used in up to two-thirds of all American cattle. If you wish to continue eating products derived from cattle or sheep, seek products clearly labeled, "no hormones administered."

Such foods are more expensive, but they are free of hormone-related risks. Red meat and whole milk contain saturated fats, which increase risk for heart disease and other conditions, so consuming them on an occasional, moderate basis may allow you to spend a bit more when purchasing them.

# Increased Risk for Prostate Cancer

Another concern of researchers and consumers is that growth hormones in food may increase risk for prostate cancer. According to an article published in "Medical News Today," September 23, 2007, Australian researcher, Mike Waters, from the Institute for Molecular Bioscience, University of Queensland, found that blocking certain growth hormones may reduce risk for certain types of cancer, such as prostate cancer. Thus, consuming foods that contain hormone residue may increase a person's likelihood of developing prostate cancer. Though additional research is needed to determine the specific impact growth hormones have on prostate cancer risk, people concerned about this possibility may wish to avoid or limit intake of foods affected by hormones. Experts at Cornell University suggest increasing your intake of fruits, vegetables and grains; consuming meat and dairy products in moderation; cooking meats well, without burning or charring them, and choosing the leanest cuts of meat to reduce your intake of growth hormones and improve overall health.

# BT

Bt stands for *Bacillus thuringiensis*, which is a natural soil bacteria, which secretes a toxin that is deadly to two pests - fruit and shoot borer (FSB, *Leucinodes orbonalis*) and fruit borer (*Helicoverpa armigera*).



Eggplant  
borer :  
*Helicoverpa  
armigera*



Cotton  
bollworm:  
*Leucinodes  
orbonalis*

# VITRO MEAT



*In vitro* meat, also known as cultured meat, cruelty-free meat, test tube meat, tubesteak, or shmeat, is an animal flesh product that has never been part of a complete, living animal. Alternative names include hydroponic meat, vat-grown meat, victimless meat and *in vitro* meat.



# SYNTHETIC FOOD

Food coloring, or color additive, is any dye, pigment or substance that imparts color when it is added to food or drink. They come in many forms consisting of liquids, powders, gels and pastes. Food coloring is used both in commercial food production and in domestic cooking. Due to its safety and general availability, food coloring is also used in a variety of non-food applications including cosmetics, pharmaceuticals, home craft projects and medical devices.



Fresh Apple



Colored Apple

# MEAT SAFETY



Meat of a healthy animal is clean and contains very few bacteria. Any invading bacteria will be destroyed by the animal's immune system. Once the animal is slaughtered these defense mechanisms are destroyed and the meat tissue is subjected to rapid decay. Although unaware of the process, early sausage makers knew that once the animal was killed, it was a race between external preservation techniques and the decomposition of the raw meats to decide the ultimate fate of the issue.

# STEPS TO HANDLE IN FOOD SAFETY



**Cleaning  
& Sanitizing**



**Time & Temperature  
Management**



**Preventing Contamination**



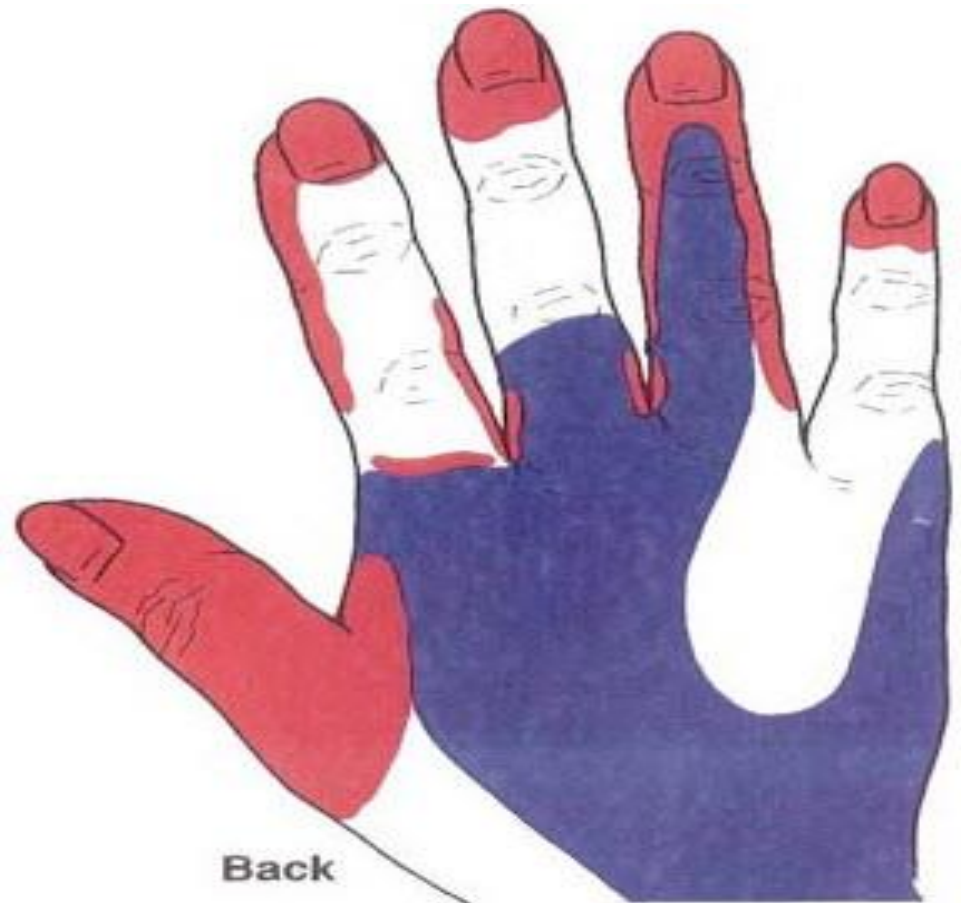
**Proper Personal Hygiene**

# Cleaning and sanitizing




Hand wash is the most important in sanitation and cleanliness.

## IMPROPER HAND WASH



 Frequently missed

 Most frequently missed

# Good hand wash good health.

## PROPER HAND WASH



1. Rub palm to palm



2. Rub palm over back of hand,  
fingers interlaced



3. Palm to palm,  
fingers interlaced



4. Fingers interlocked  
into palms



5. Rotational rubbing of thumb  
clasped into palm



6. Rotational rubbing of  
clasped fingers into palm

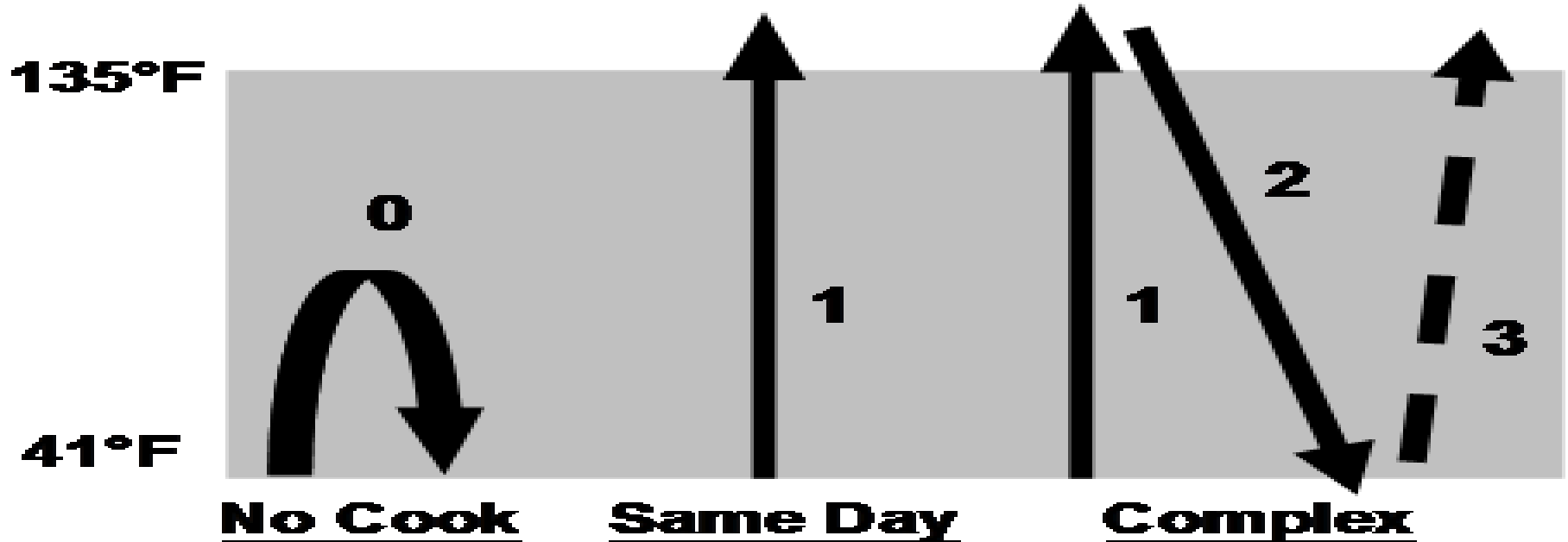
# Time and temperature management



# Quality time for cooking

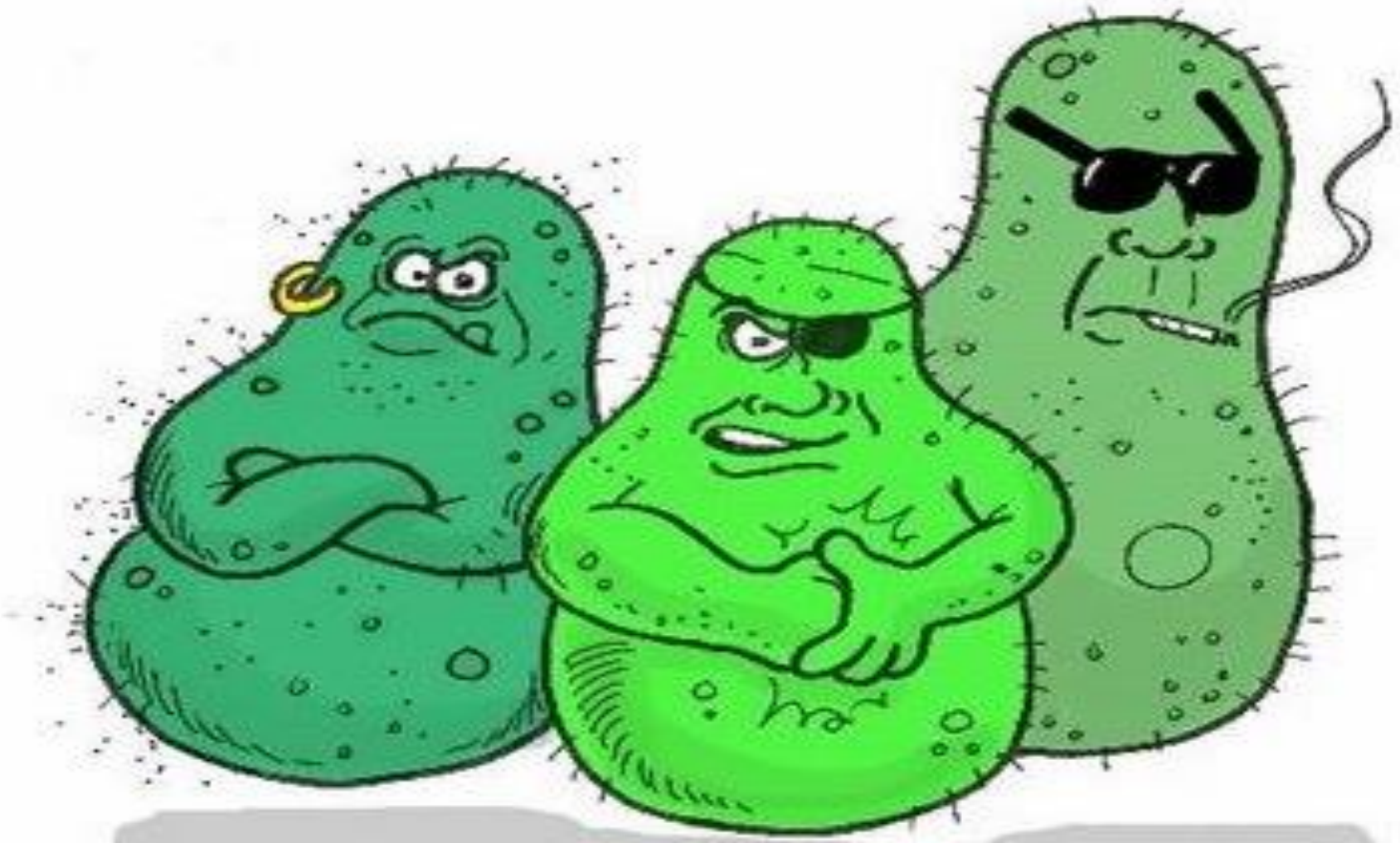
The given graph shows the information about critical time and perfect time management for cooking.

## Complete Trips Through the Danger Zone





# Preventing food contamination



# Stop germs so stop contamination

- **They spread through raw foods**



**Escape from germs by,**

- 1. Heating up to critical temperature**
- 2. Freezing the food.**

**BETTER WAY 😊**

**Pickling is the better way to stop the contamination of food.**



# PROPER PERSONAL HYGIENE



# Steps in personal hygiene



Health is wealth 😊



THANK YOU



# INNOVENTOR (INNOVATOR+ INVENTOR), CONCEPT CREATOR, NEOLEXIAN & AUTHOR



Exn Dr Nirmal Basu, **GPian**

7<sup>th</sup> Sense Master & Trainer (SINCE 1991)

**FOUNDER**- **ExNoRa** International (1989). 5<sup>th</sup> Pillar (1997),

7<sup>th</sup> Sense Society (1999), INNOVENTIONS (1999) & 40 more

**INNOVENTOR** (INNOVATOR+ INVENTOR), (since 1977) of  
nearly of 3000 IDEAS, CONCEPTS, SERVICES & PRODUCTS

**AUTHOR** (since 1964) 14 books & hundreds of articles, stories  
& research papers **PHOTO-JOURNALIST** (since 1964)

**NEOLEXIAN** (coiner of new words) in 3 languages (since 1980)

