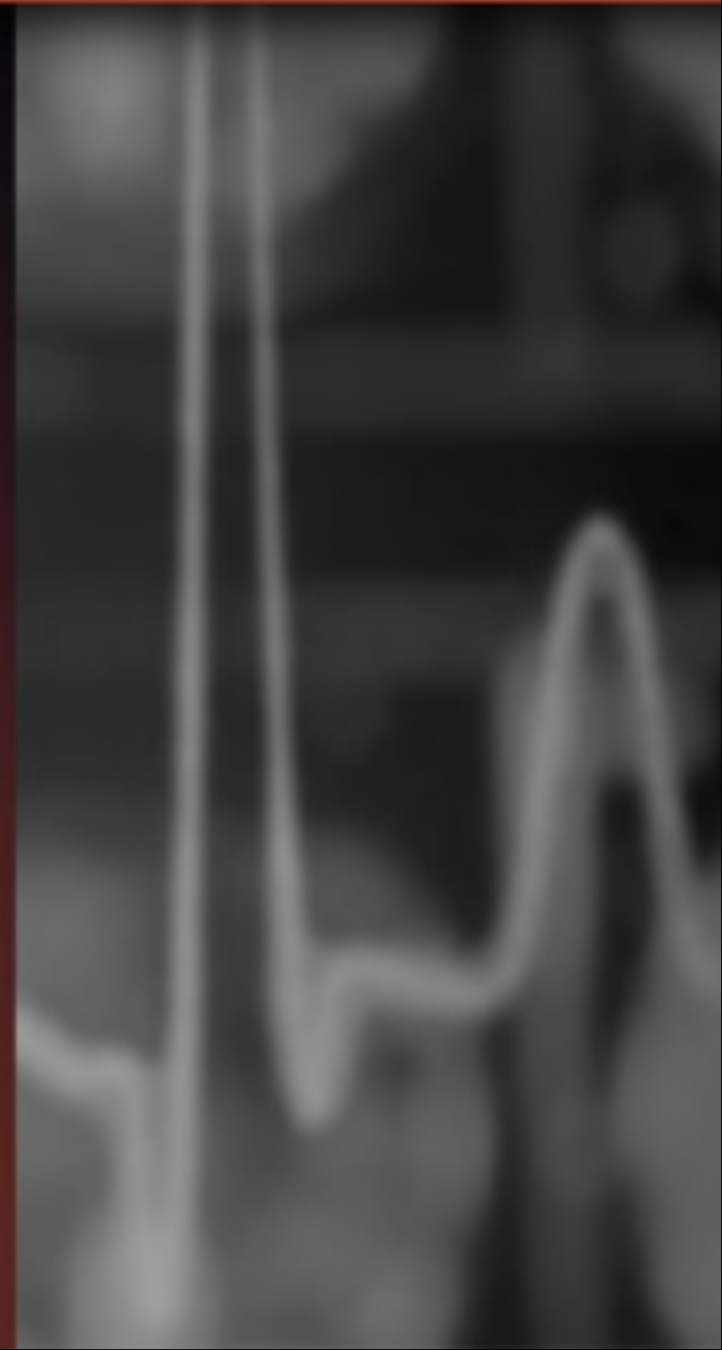


Food Safety, It's In Your Hands



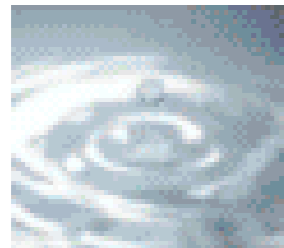
Food Contamination

Physical
Chemical
Biological

SOURCES OF FOOD CONTAMINATION



RAW MATERIALS / INGREDIENTS



WATER



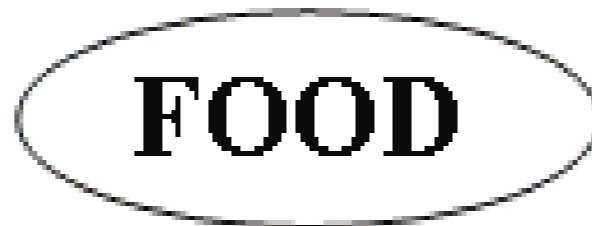
AIR / DUST



SOIL



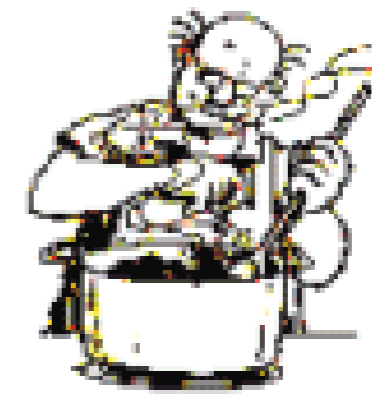
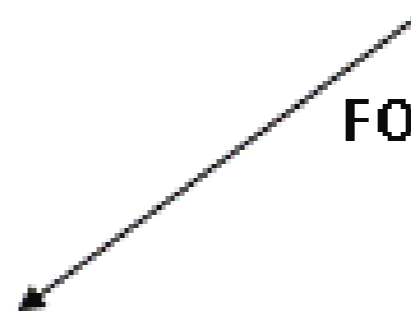
GARBAGE & SEWAGE



RODENTS



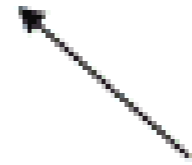
INSECTS



FOOD HANDLERS / MAN



PACKAGING MATERIAL



ANIMALS & BIRDS

Keeping Food Safe

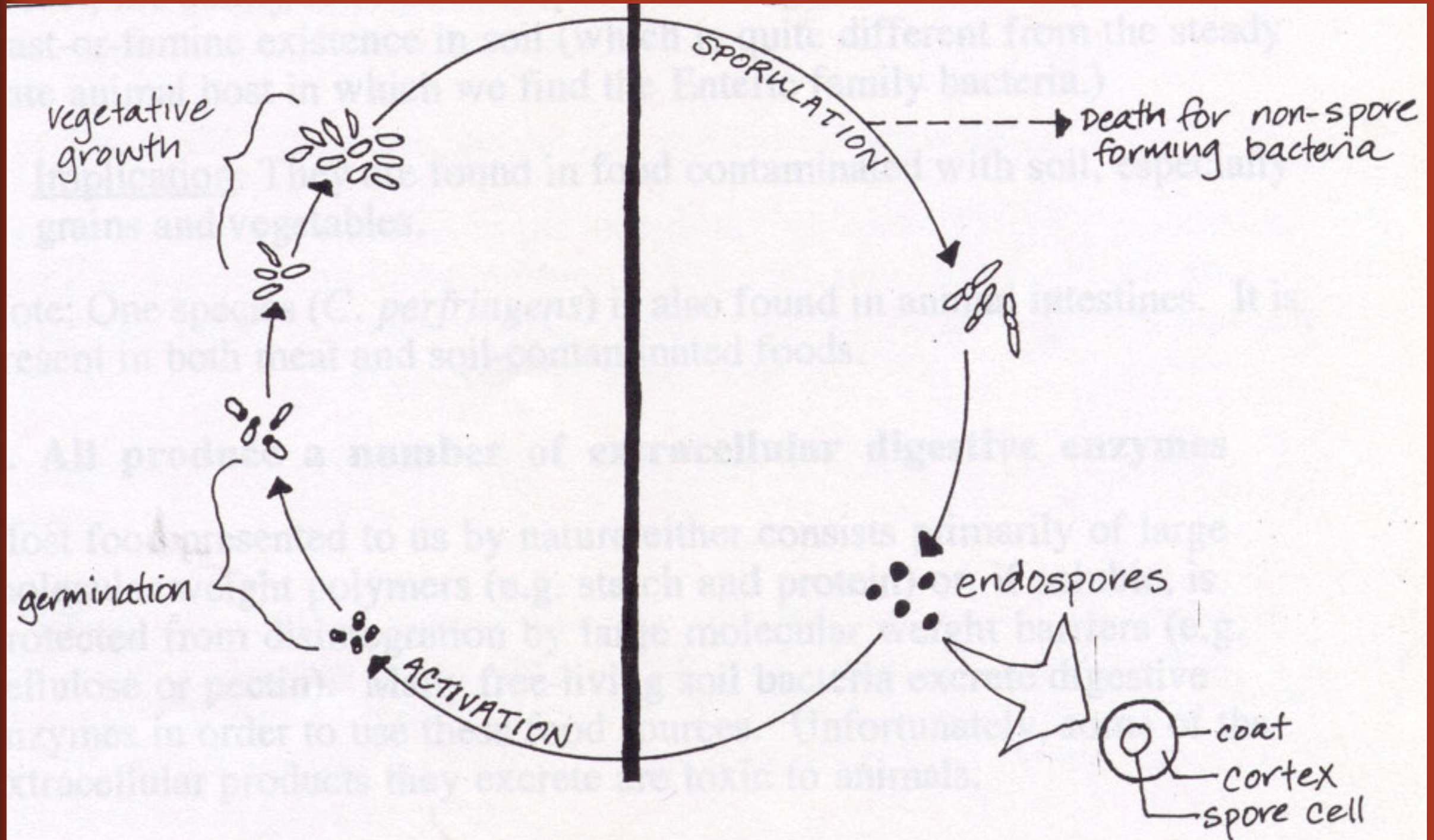


<http://courses.washington.edu/z490/gmo/gmo.jpg>

- Consider FAT TOM to control food born illness
 - F. Food
 - A. Acidity
 - T. Temperature

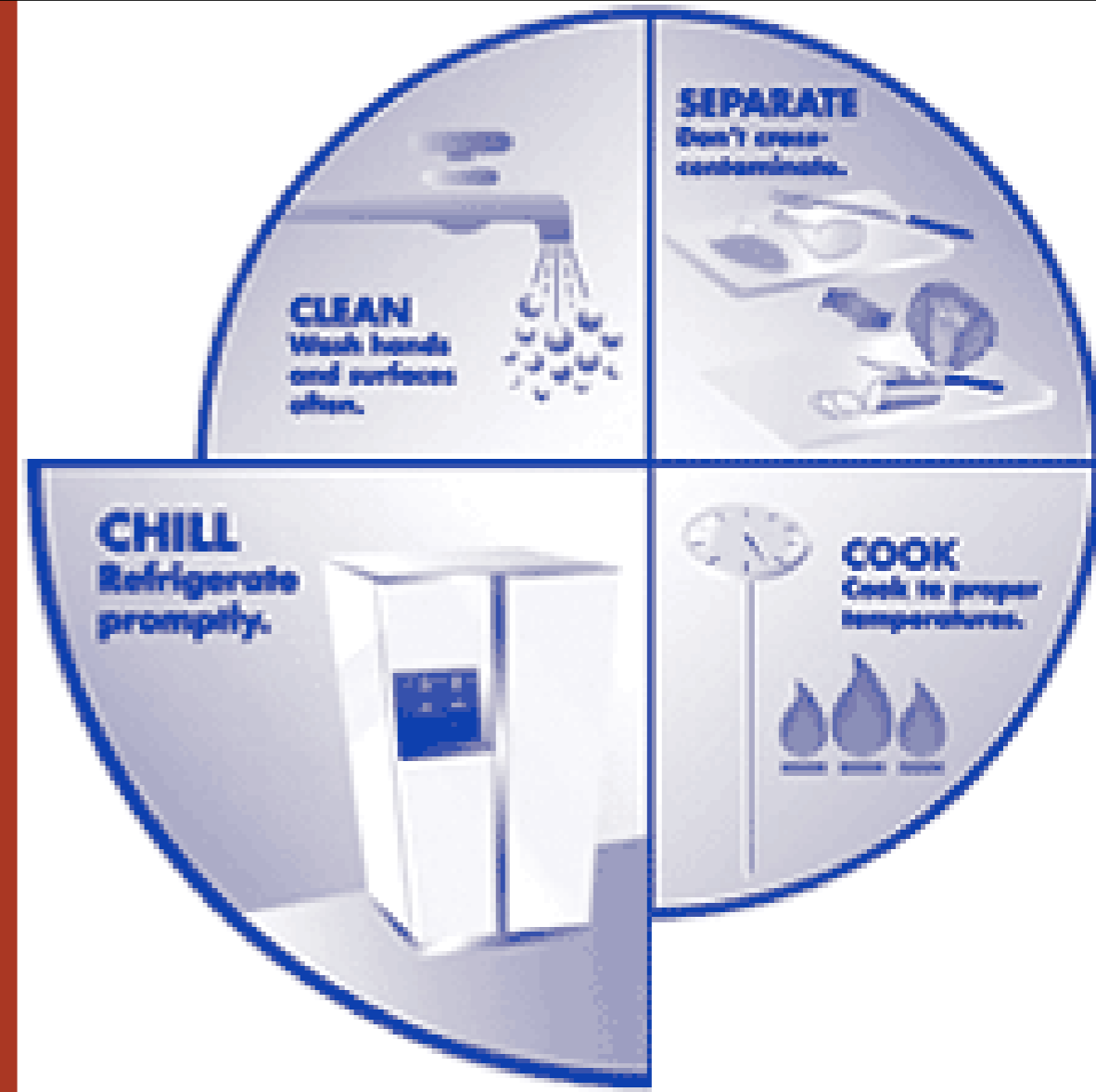
 - T. Time
 - O. Oxygen
 - M. Moisture

Bacteria



Taken from: Barrett, 1998: FST 104 Course Syllabus, Dept of Food Science & Technology, UC Davis

Proper handling of food



1. *Clean* – Wash hands and surfaces often
2. *Separate* – Don't cross contaminate
3. *Cook* – Cook to proper temperatures
4. *Chill* – Refrigerate promptly

1. Wash hands & surfaces

- Wash hands, put bandages, wear gloves
- Hot running water, soap, scrub 20 sec (ABC's) to clean under nails
- Clean work surfaces, dishes, and equipments

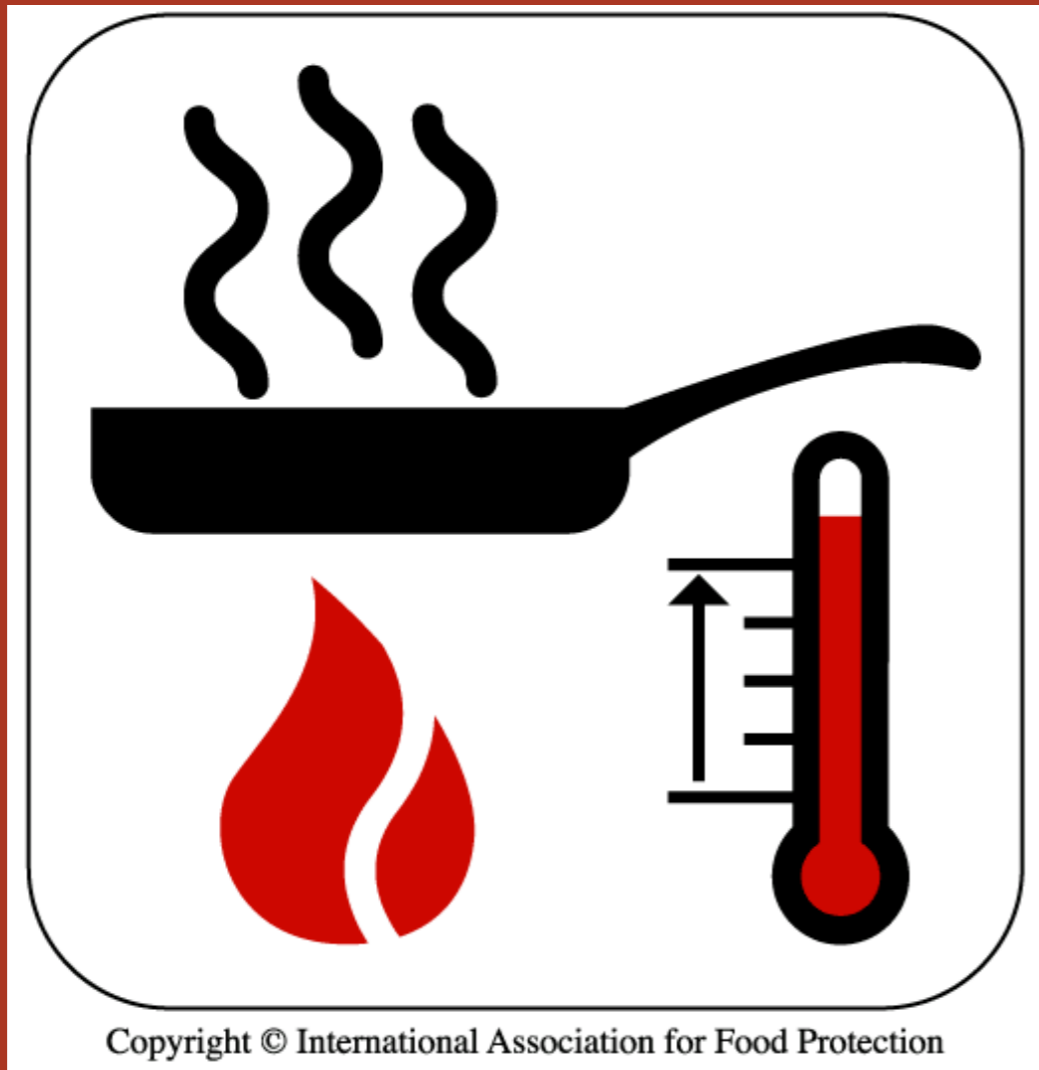


2. Don't cross contaminate

- Dirty cloth, unclean surfaces, contaminated cutting boards, dirty hands, poor storage
- Store ready-to-eat food above raw ingredients



3. Cook to proper temperature

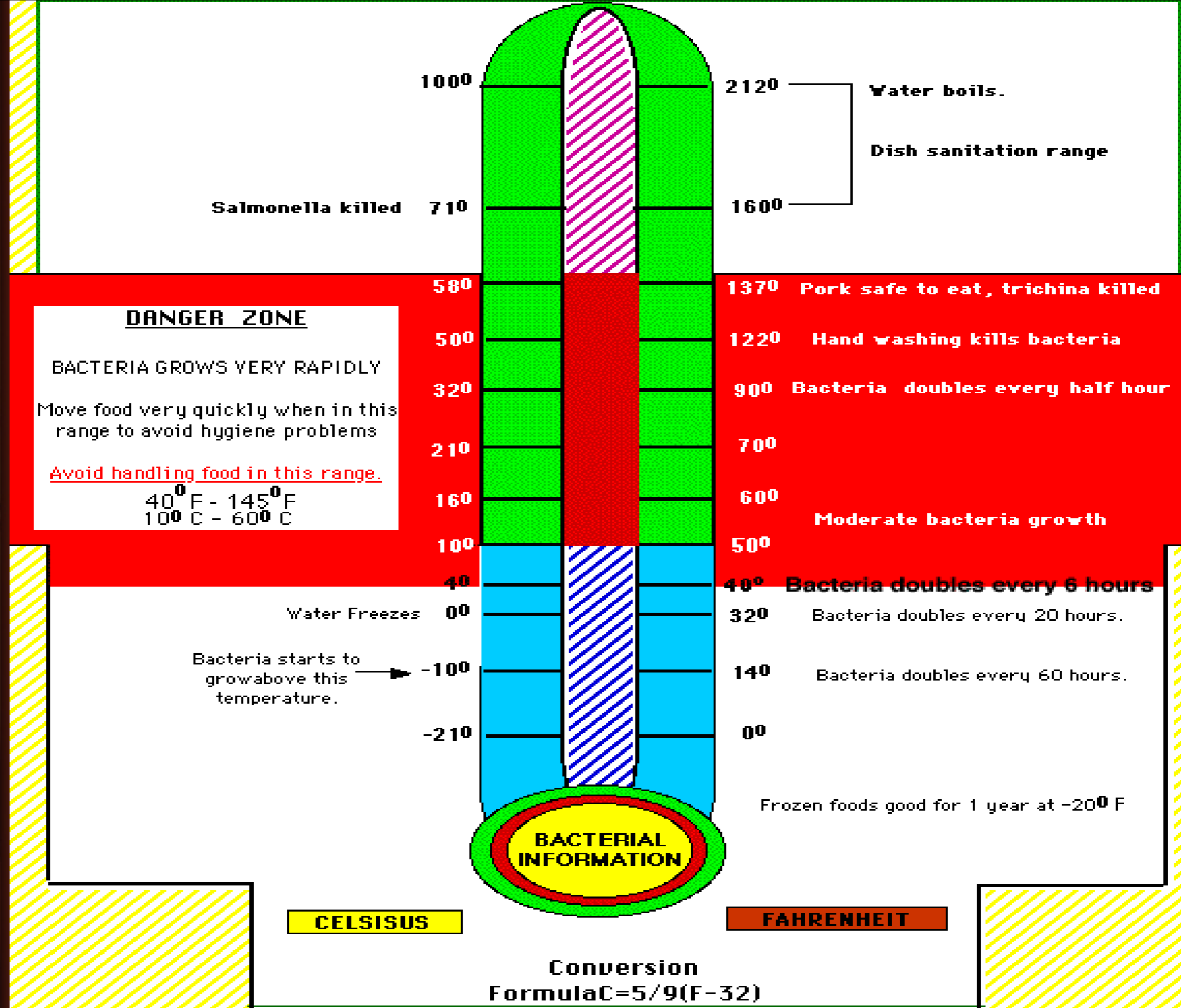


- Improve sensory and kill pathogens
- “Color” is not a good indicator for meat
- Trust your thermometer?
CALIBRATE

4. Refrigerate promptly



- Danger zone: 40 – 140° F
- “Keep hot food hot and cold food cold”
- Preparation + service + cooling < 4 hours
- Refrigerator: at or below 38°F
- *Rapid cooling:*
 - Cut or separate into smaller portion
 - Use shallow container, less than 2 inches deep
 - Put in refrigerator promptly



**Remember, keep your
food safe: Protect your
guests.**

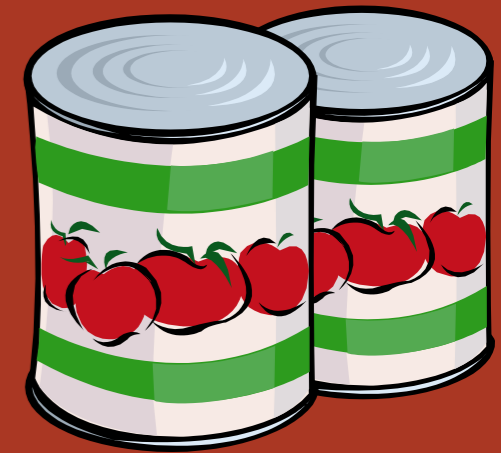
<http://courses.washington.edu/z490/gmo/gmo.jpg>



Food Preservation

- Prevent or delay microbial decomposition
 - Keeping microorganisms out (asepsis)
 - Hinder growth & activity by manipulation of pH, T, A_w , anaerobic, chemicals
 - Kill the microorganisms
- Prevent or delay self-decomposition
 - Destroy or inactivate enzyme by manipulation of pH, T, A_w
 - Prevent or delay chemical reaction by antioxidant, edible coating, packaging

Methods of Preservation



- Temperature control
 - High temperature: destroy microbes & enzymes
 - Low temperature: control growth of microbes
- Moisture control
 - Drying, freezing, sugaring, salting
- Preservative
 - Acid, antioxidants, propionates, etc
- Ionizing radiation

