

What Bacteria Need to Grow



F

Food



A

Acidity



T

Temperature



T

Time



O

Oxygen



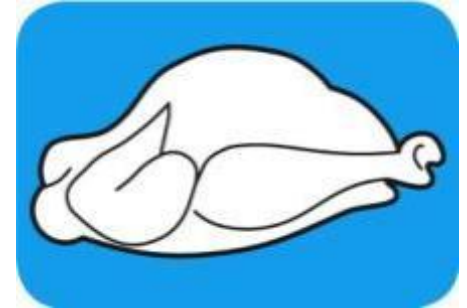
M

Moisture

What Bacteria Need to Grow

- Food:

- Most bacteria need nutrients to survive
- TCS food supports the growth of bacteria better than other type of food

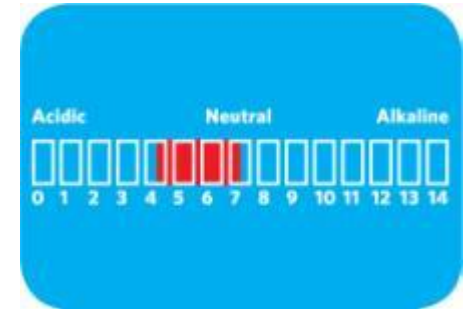


F
Food

What Bacteria Need to Grow

- Acidity:

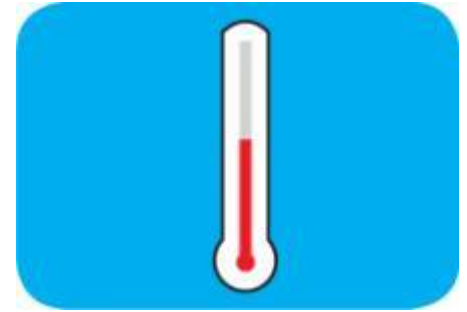
- Bacteria grow best in food that contains little or no acid



A
Acidity

What Bacteria Need to Grow

- Temperature:
 - Bacteria grow rapidly between 41°F and 135°F (5°C and 57°C)
 - This range is known as the temperature danger zone
 - Bacteria growth is limited when food is held above or below the temperature danger zone



Temperature

What Bacteria Need to Grow

Time:

- Bacteria need time to grow
- The more time bacteria spend in the temperature danger zone, the greater chance they have to grow to unsafe levels



Time

What Bacteria Need to Grow

- Oxygen:
 - Some bacteria need oxygen to grow, while others grow when oxygen isn't there



Oxygen

What Bacteria Need to Grow

- Moisture:

- Bacteria grow well in food with high levels of moisture
- a_w = water activity; the amount of moisture available in food for bacterial growth
- a_w scale ranges from 0.0 to 1.0
- Water has a water activity of 1.0



M

Moisture

Control FAT TOM

- The conditions you can control:

- Temperature

- Keep TCS food out of the temperature danger zone

- Time

- Limit how long TCS food spends in the temperature danger zone

