Fermented Foods

1. What is a fermented food?

2. How do fermentative microorganisms impact the safety and quality of fermented foods?

3. For each of the fermented foods below, describe how their safety, shelf life, or sensory attributes have been impacted by the metabolic byproducts of fermentative organisms:

- Beer:
- Pickles:
- Bread:
- Yogurt:

4. For each of the products and places below, indicate a relevant fermented food:

- Cabbage (Germany):
- Cabbage (Korea):
- Soybeans (Indonesia):
- Soybeans (Japan):
- Soybeans (West Africa):
- Tea (China):

5. Why might fermented meat or soy products be important to a culture before the advent of refrigeration?

Protocol for making natto:

- Soak 1 cup of soybeans in water overnight.
- Bring water and soybeans to a boil, boil for 10 min.
- Drain beans and transfer to fermentation container.
- Mix in 2-3 Tbs of the starter culture and cover with a moist cloth, then lid.
- Transfer to incubator, store between 100-115ºF for 24 hrs.
- Transfer to the refrigerator for up to 24 hrs.

6. Note the changes in the soybeans after each step in production. How might you interpret the effect of the microbial growth on the macromolecular content in soybeans?